

KENNEDALE CITY COUNCIL AGENDA
REGULAR MEETING
August 15, 2016
CITY HALL COUNCIL CHAMBERS, 405 MUNICIPAL DRIVE

WORK SESSION at 5:30 PM
REGULAR SESSION at 7:00 PM

I. CALL TO ORDER

II. WORK SESSION

***NOTE: Pursuant to Section 551.071, Texas Government Code, the City Council reserves the right to adjourn into Executive Session at any time during the work session or the regular session to discuss posted executive session items or to seek legal advice from the City Attorney on any item posted on the agenda.**

A. Presentation by Halff and Associates of Streambank Erosion Study

B. Discussion of items on regular agenda

III. EXECUTIVE SESSION

A. The City Council may meet in closed session at any time during the work session or the regular session, pursuant to Section 551.071 of the Texas Government Code for consultation with the City Attorney pertaining to any matter in which the duty of the City Attorney under the Texas Disciplinary Rules of Professional Conduct may conflict with the Open Meetings Act, including discussion on any item posted on the agenda and the following matters:

1. Citizen's Petition

IV. REGULAR SESSION

V. ROLL CALL

VI. INVOCATION

VII. UNITED STATES PLEDGE AND TEXAS PLEDGE

"Honor the Texas Flag; I Pledge Allegiance to Thee, Texas, One State under God; One and Indivisible."

VIII. VISITOR/CITIZENS FORUM

At this time, any person with business before the City Council not scheduled on the Agenda may speak to the Council, provided that an official 'Speaker's Request Form' has been completed and submitted to the City Secretary prior to the start of the meeting. All comments must be directed towards the Mayor and Council, rather than individual council members or staff. All speakers must limit their comments to the subject matter as listed on the 'Speaker's Request Form.' No formal action or discussion can be taken on these items.

IX. REPORTS/ANNOUNCEMENTS

In addition to any specific matters listed below, the city council may receive a report about items of community interest, including but not limited to recognition of individual officials, citizens or departments, information regarding holiday schedules, upcoming or attended events, etc.

- A. Updates from City Council
- B. Updates from the Mayor
- C. Updates from the City Manager

X. MONITORING INFORMATION

- A. Executive Limitations
- B. Ends Review - Balanced Scorecard

XI. INCIDENTAL ITEMS

XII. REQUIRED APPROVAL ITEMS (CONSENT)

All matters listed under incidental items (consent) have been previously discussed, require little or no deliberation, or are considered to be routine by the council. If discussion is desired, then an item will be removed from the consent agenda and considered separately.

- A. Consider approval of minutes from July 18, 2016 regular meeting
- B. Approve Schedule of Investment Activity for quarter ending June 30, 2016
- C. Consider approval of Resolution 491 a financing agreement for the purpose of procuring "rolling stock and related equipment"
- D. Consider approval to extend the Interlocal Agreement for participation in Fort Worth's Environmental Collection Center/Household Hazardous Waste program through September 30, 2017
- E. Consider approval of bid awards for health, dental, vision and life and AD&D and voluntary life insurance and authorize the City Manager to sign the agreements
- F. Consider approval of contract for Municipal Judge
- G. Consider approval of contract for Municipal Court Prosecutor

H. Consider amendment to the developer agreement with Kennedale Seniors, LLC

XIII. DECISION ITEMS

A. Consider approval of Ordinance 607 authorizing the issuance, sale and delivery of the aggregate principal amount of \$3,720,725 for the City of Kennedale, Texas general obligation refunding bond, Series 2016; securing the payment thereof by authorizing the levy of an annual ad valorem tax; and approving and authorizing the execution of all instruments and procedures related thereto including an escrow agreement, a paying agent/registrar agreement and a purchase contract and investment letter. The final ordinance will be provided at the meeting on Monday night.

B. Public Hearing on Amendment of Water, Wastewater, and Roadway Impact Fees

1. Presentation by Freese and Nichols
2. Public Hearing
3. Response by Freese and Nichols
4. Action by Council

C. Consider approval of Ordinance 604 adopting the water and wastewater impact fees

D. Consider approval of Ordinance 606 adopting the roadway impact fees

E. Certification of Citizens Petition by City Secretary under Article XI of the City Charter; and Consideration and/or action regarding Citizens Petition under Article XI of the City Charter

F. Review and Consider Action to approve Ordinance No. 603, adopting the 2015 International Building Code, 2015 International Residential Code, 2015 International Plumbing Code, 2015 International Mechanical Code, 2015 International Fuel Gas Code with local amendments, 2015 International Energy Conservation Code, the 2015 International Fire Code with local amendments, and the 2015 National Electrical Code.

XIV. EXECUTIVE SESSION

The City Council may meet in closed session at any time during the work session or the regular session, pursuant to Section 551.071 of the Texas Government Code for consultation with the City Attorney pertaining to any matter in which the duty of the City Attorney under the Texas Disciplinary Rules of Professional Conduct may conflict with the Open Meetings Act, including discussion on any item posted on the agenda.

A. The City Council will meet in closed session pursuant to Section 551.072 of the Texas Government Code to deliberate the purchase, exchange, lease, or value of real property for the following:

1. 108 New Hope Road
2. 6727 Hudson Village Creek

B. The City Council will meet in closed session pursuant to Section 551.074 of the Texas Government Code to deliberate the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee.

1. City Manager's Annual Evaluation

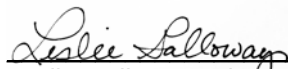
XV. RECONVENE INTO OPEN SESSION, AND TAKE ACTION NECESSARY PURSUANT TO EXECUTIVE SESSION, IF NEEDED

XVI. ADJOURNMENT

In compliance with the Americans with Disabilities Act, the City of Kennedale will provide for reasonable accommodations for persons attending City Council meetings. This building is wheelchair accessible, and parking spaces for disabled citizens are available. Requests for sign interpreter services must be made forty-eight (48) hours prior to the meetings. Please contact the City Secretary at 817.985.2104 or (TDD) 1.800.735.2989

CERTIFICATION

I certify that a copy of the August 15, 2016, agenda was posted on the City Hall bulletin board next to the main entrance of the City Hall building, 405 Municipal Drive, of the City of Kennedale, Texas, in a place convenient and readily accessible to the general public at all times and said agenda was posted at least 72 hours preceding the schedule time of said meeting, in accordance with Chapter 551 of the Texas Government Code.

A handwritten signature in cursive script, reading "Leslie Galloway", is written over a horizontal line.

Leslie Galloway, City Secretary



Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: WORK SESSION - A.

I. Subject:

Presentation by Halff and Associates of Streambank Erosion Study

II. Originated by:

Larry Hoover, Streets and Parks Supervisor

III. Summary:

The Streambank Erosion Control Study prepared by Halff Associates, Inc. will identify erosion issues that are occurring along Winding Creek. The study area is between Bowman Springs Road and runs southeast to Kennedale Sublett Road. The study will use hydrology, hydraulics, geotechnical information, shear stress and channel velocities to determine existing erosion hazards. An inspection by Halff of the current conditions was performed earlier this year and used to identify problem areas and correlate the findings with the data. The information presented can be used to plan, prioritize and budget existing erosion issues and assist with planning future developments throughout the city.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:



Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: WORK SESSION - B.

I. Subject:

Discussion of items on regular agenda

II. Originated by:

III. Summary:

Discussion of items on regular agenda.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:



Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: EXECUTIVE SESSION - A.

I. Subject:

The City Council may meet in closed session at any time during the work session or the regular session, pursuant to Section 551.071 of the Texas Government Code for consultation with the City Attorney pertaining to any matter in which the duty of the City Attorney under the Texas Disciplinary Rules of Professional Conduct may conflict with the Open Meetings Act, including discussion on any item posted on the agenda and the following matters:

1. Citizen's Petition

II. Originated by:

III. Summary:

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:



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Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: REPORTS/ANNOUNCEMENTS - A.

I. Subject:

Updates from City Council

II. Originated by:

City Council, City Council

III. Summary:

Updates and information from Council members .

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

None

VII. Alternative Actions:

VIII. Attachments:



Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: REPORTS/ANNOUNCEMENTS - B.

I. Subject:

Updates from the Mayor

II. Originated by:

III. Summary:

Updates and information from the Mayor.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:



Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: REPORTS/ANNOUNCEMENTS - C.

I. Subject:

Updates from the City Manager

II. Originated by:

Bob Hart

III. Summary:

Updates and information from City Manager, if any.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:



Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: MONITORING INFORMATION - A.

I. Subject:
Executive Limitations

II. Originated by:

III. Summary:
Reports are attached for review.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:

1.	Executive Limitations	Executive Limitations 08.2016.docx
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POLICY TYPE: EXECUTIVE LIMITATIONS
POLICY TITLE: GLOBAL EXECUTIVE CONSTRAINT

The City Manager shall not cause or allow any organizational practice, activity, decision, or circumstance that is either unlawful, imprudent, or in violation of commonly accepted business and professional ethics.

The utility system remains in a deficit cash position. The recent rate increase will bring the system back into compliance with the fiscal policies within 4 years. Other operations are in compliance with the global constraint policy.

POLICY TYPE: EXECUTIVE LIMITATIONS
POLICY TITLE: TREATMENT OF CUSTOMERS OF CITY SERVICES

With respect to interactions with customers, the City Manager shall not cause or allow conditions, procedures, or decisions that are unsafe, untimely, undignified, or unnecessarily intrusive.

The City Manager will not:

1. Elicit information for which there is no clear necessity.
2. Use methods of collecting, reviewing, transmitting, or storing customer information that fail to protect against improper access to the material
3. Operate facilities without appropriate accessibility and privacy.
4. Operate without establishing with customers a clear understanding of what may be expected and what may not be expected from the service offered.
5. Operate without informing customers of this policy or providing a way to be heard for persons who believe that they have not been accorded a reasonable interpretation of their rights under this policy.

Cyber security issues are a major concern in compliance with point 2. The city backs up files on a daily basis to avoid more common hacking attempts. Limitations have been placed on what websites can be accessed. Both the city manager and IT analyst are members of InfraGard to better understand the risks involved.

POLICY TYPE: EXECUTIVE LIMITATIONS
POLICY TITLE: TREATMENT OF STAFF

With respect to the treatment of paid and volunteer staff, the City Manager shall not cause or allow conditions that are unfair, undignified, disorganized, or unclear.

The City Manager will not

1. Operate without written personnel rules that (a) clarify rules for staff, (b) provide for effective handling of grievances, and (c) protect against wrongful conditions, such as nepotism and grossly preferential treatment for personal reasons.
2. Retaliate against any staff member for non-disruptive expression of dissent.

3. Allow staff to be unaware of City Manager's interpretations of their protections under this policy.
4. Allow staff to be unprepared to deal with emergency situations.

The city maintains current personnel policy and orientation handbook. City operations are in compliance with the treatment of staff policy. Kelly Cooper works well with staff to ensure policies are followed. Staff recently completed supervisory and leadership training. Succession planning is underway for public works, fire, and police.

POLICY TYPE: EXECUTIVE LIMITATIONS
POLICY TITLE: EMERGENCY CITY MANAGER SUCCESSION

In order to protect the Council from sudden loss of the City Manager Services, the City Manager shall not permit there to be less than one other person familiar enough with Council and City Manager issues and procedures to be able to maintain organization services.

Kelly Cooper is the most informed of staff members. Rachel Roberts is working closely with me on Village Creek and the salvage yards. The department heads collectively are aware of on-going activities and projects, and I have been more attentive to this in both budget reviews and staff meetings. Krystal Crump is providing excellent support insofar as city finances are concerned. Jack Thompson (EDC & Chamber) is familiar with the business development activities.



Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: MONITORING INFORMATION - B.

I. Subject:

Ends Review - Balanced Scorecard

II. Originated by:

III. Summary:

Reports are attached for review.

IV. Fiscal Impact Summary:

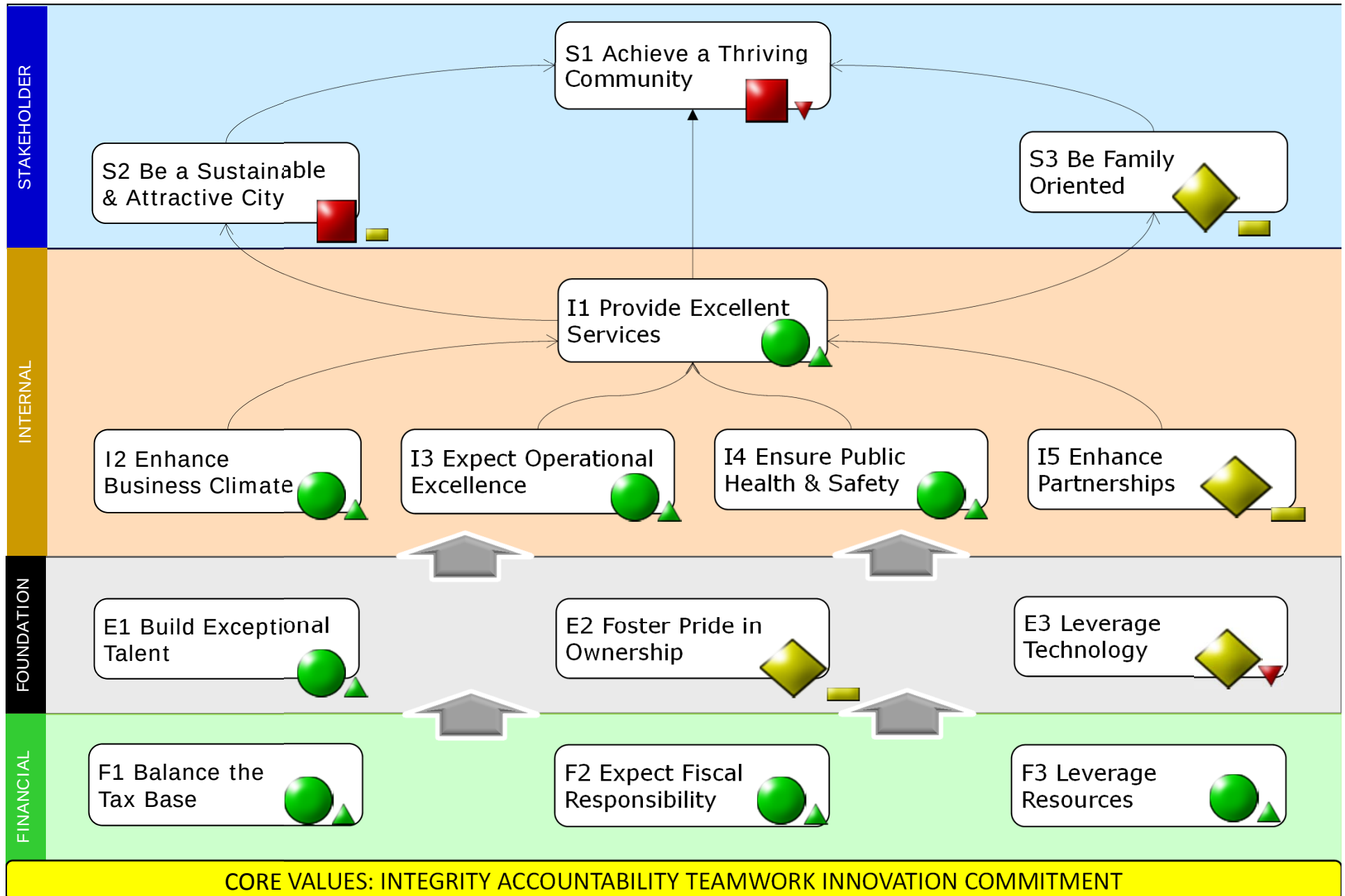
V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:

1.	July 2016	July Kennedale Strategy Map.pdf
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Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: REQUIRED APPROVAL ITEMS (CONSENT) - A.

I. Subject:

Consider approval of minutes from July 18, 2016 regular meeting

II. Originated by:

III. Summary:

Please see the attached minutes for your approval.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

Approve

VII. Alternative Actions:

VIII. Attachments:

1.	City Council Meeting Minutes - July 18, 2016	7-18-16.pdf
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KENNEDALE CITY COUNCIL

MINUTES

REGULAR MEETING

July 18, 2016

CITY HALL COUNCIL CHAMBERS, 405 MUNICIPAL DRIVE

WORK SESSION - 5:30 PM

REGULAR SESSION - 7:00 PM

I. CALL TO ORDER

Mayor Pro Tem Kelly Turner called the meeting to order at 5:30 p.m.

II. WORK SESSION

***NOTE: Pursuant to Section 551.071, Texas Government Code, the City Council reserves the right to adjourn into Executive Session at any time during the work session or the regular session to discuss posted executive session items or to seek legal advice from the City Attorney on any item posted on the agenda.**

A. Review the 2016 Board and Commission appointment process and calendar

City Manager Bob Hart provided an overview of the board and commission appointment process and calendar dates for the upcoming budget meetings, and board interviews and appointments. Councilman Frank Fernandez stated that he would be unavailable for interviews on October 1 - 5; but would be available on the 6th.

B. Discussion of items on regular agenda

No items were discussed at this time.

III. EXECUTIVE SESSION

Mayor Pro Tem Turner recessed into executive session at 5:47 p.m.

A. The City Council may meet in closed session at any time during the work session or the regular session, pursuant to Section 551.071 of the Texas Government Code for consultation with the City Attorney pertaining to any matter in which the duty of the City Attorney under the Texas Disciplinary Rules of Professional Conduct may conflict with the Open Meetings Act, including discussion on any item posted on the agenda and the following matters:

1. Citizen's Petition

B. The City Council will meet in closed session pursuant to Section 551.072 of the Texas

Government Code to deliberate the purchase, exchange, lease, or value of real property for the following:

1. 108 New Hope Road
2. 6727 Hudson Village Creek

IV. REGULAR SESSION

Mayor Pro Tem Kelly Turner opened the regular session at 7:00 p.m.

V. ROLL CALL

Present: Frank Fernandez, Kelly Turner, Liz Carrington, Charles Overstreet, Michael Walker

Absent: Mayor Brian Johnson

VI. INVOCATION

Pastor Greg Adams from Covenant Life Baptist Church provided the invocation.

VII. UNITED STATES PLEDGE AND TEXAS PLEDGE

"Honor the Texas Flag; I Pledge Allegiance to Thee, Texas, One State under God; One and Indivisible."

VIII. RECONVENE INTO OPEN SESSION, AND TAKE ACTION NECESSARY PURSUANT TO EXECUTIVE SESSION, IF NEEDED

Councilman Mike Walker made the following statement: There will be no action taken on the petition this evening. Since the petition was turned in, the City Secretary has twenty (20) days to certify the signatures on the validity of the petition. She is in that process, and once that report has been made to Council, we will take action at the next available Council meeting (the August 15th meeting). Please keep your eyes on the Kennedale News for an initiative by the Mayor to address the situation.

IX. VISITOR/CITIZENS FORUM

At this time, any person with business before the City Council not scheduled on the Agenda may speak to the Council, provided that an official 'Speaker's Request Form' has been completed and submitted to the City Secretary prior to the start of the meeting. All comments must be directed towards the Mayor and Council, rather than individual council members or staff. All speakers must limit their comments to the subject matter as listed on the 'Speaker's Request Form.' No formal action or discussion can be taken on these items.

Mayor Pro Tem opened the visitors forum.

Jan Joplin, 204 Hilltop, thanked the Kennedale police officers for their service. She stated that with the current tragedies in our world it puts the water rate issue in perspective. She added that it shouldn't be so difficult or require municipal committees to create a solution to the water rate problem. We aren't the first small city with an aging water system or financial difficulties. There are

plenty of small cities out there that have found solutions. She added that the root of this problem seems to be money and if we don't rectify the root issue, it will continue to return. She is thankful that council has heard the citizens and is working on a new plan; a plan that will hopefully help those with hardships.

Gail Uranga, 904 Bell Oak, requested that Council listen carefully to the citizens who signed the petition; to repeal the ordinance before citizens have to endure another month of these excessive bills. She stated that they gathered more than two times the necessary signatures within five days. She believes there are two options: adopt the proposed ordinance or put it to the voters. She added that by her calculations, the city has received \$0.5 million in revenues in the last four months since the increased rates. She noted that we have already recovered almost all of the costs of the emergency repairs from last year; she questioned, where does the excess money go? She added that she has heard comments from nearby towns that they wouldn't consider living in Kennedale because of the high cost to live here. Her last issue was with Fathom; she has tried to see her daily usage in the customer portal since last summer, but it still is not functional.

Rockie Gilley, 220 S. Dick Price Road thanked Kennedale police officers for their service. Continuing, he paraphrased a Verizon commercial, can you hear us now? He stated that council has the opportunity to correct this mistake and repair the mismanagement; that they have the ability to represent the citizens as a whole. He suggested council plan in the light of day; budget outlays for their plans; collect revenues in a conservative manner; entertain new ideas, such as bonds, increasing impact fees, getting rid of the recycling program; and redirecting revenues. He stated that how we've always done it, isn't going to work anymore. The City has the power of public office and legal advice, but we have the numbers and vote to overcome all that. Don't make us do it.

Cathy Brown, 808 Shady Bend Drive, provided handouts. She stated that she realized that her water bill was going to be about \$1,000 more this year, that's a lot of money; so she did some research. She provided an overview of her handout, stating that perhaps the most important of her action items is communication. Perception is reality, so if you don't respond, even wrong perceptions become reality. She added that the United Nations defines an undue burden as any water bill that exceeds 3% of the average household income; for those under \$48,000/year, this exceeds that 3%. If you believe this is the only option, you need to communicate that to the citizens. According to Texas Municipal League, our water is the 9th most expensive in the state (out of 83 cities our size). Everman is one of the lowest, what can we learn from them? She stated that this decision seems to be a very reactive decision. She continued to provide suggestions and to review the information listed on the handout she provided. In closing, she asked Council to look at some of the areas she spoke about.

Barbara Fleming, 900 Shady Bend Drive, thanked the city for adding the recycling program; she thinks it's a fabulous addition. The recycling program got her to thinking that perhaps one of the things we could change to save money would be to reduce the number of garbage pick-up days from two to one. She doesn't feel like there is the need for a two-day pick-up anymore, since so much of refuse goes to recycling.

Jill Conditt, 1224 Peggy Lane; Vinita Thomas, 412 W. 3rd Street; and Sandy Mata, 1209 Vera Lane; did not speak, but were in attendance in opposition of the water rate increase.

X. REPORTS/ANNOUNCEMENTS

In addition to any specific matters listed below, the city council may receive a report about items of community interest, including but not limited to recognition of individual officials, citizens or departments, information regarding holiday schedules, upcoming or attended events, etc.

A. Updates from City Council

Frank Fernandez stated that everyone on Council tries to be as accessible as possible to the citizens; noting that they are all very busy people with other responsibilities, yet they are all out in the community putting in extra time. He requested that everyone remember that just because you disagree with something doesn't mean the people on the other side are bad, corrupt or uncaring.

B. Updates from the Mayor

There were no updates from the Mayor.

C. Updates from the City Manager

City Manager Bob Hart stated that the city is dealing with the Health Department with a possible case of the Zika Virus; noting that It will take some time to confirm if it is the virus. Bob added that the first steering committee meeting of the Village Creek Watershed Committee will be tomorrow, and we'll also be having our first conference call with the Thriving Earth Exchange, the American Geophysical Union, and Dr. Sun regarding Village Creek.

XI. MONITORING INFORMATION

Monitoring information updates are in the agenda packet for review.

A. Monthly Financials - June 2016

B. Executive Limitations

C. Ends Review - Balanced Scorecard

XII. REQUIRED APPROVAL ITEMS (CONSENT)

All matters listed under incidental items (consent) have been previously discussed, require little or no deliberation, or are considered to be routine by the council. If discussion is desired, then an item will be removed from the consent agenda and considered separately.

A. Consider approval of minutes from June 27, 2016 regular meeting

B. Consider approval of Resolution 488 authorizing continued participation with the Steering Committee and authorize payment to Atmos Energy Corporation

Motion To approve all required approval Items on (Consent) agenda. **Action** Approve, **Moved By** Charles Overstreet, **Seconded By** Liz Carrington.

Motion passed Unanimously

XIII. DECISION ITEMS

A. Consider approval of Resolution 489 calling for a public hearing on August 15, 2016 on the amendment of water, wastewater, and roadway impact fees

City Manager Bob Hart stated that under state law, we are required to periodically update our impact fees. We typically do it every five years, but it can be stretched to eight years, and that's what we have done. He added that Freese and Nichols conducted an Impact Fee Study and we are ready to move forward with the Public Hearing at the August Council meeting. The impact fees are charged for the major transmission and collection lines for water and wastewater, and for major and minor arterials of streets. These fees fund the lines to subdivisions, not those within the neighborhoods. He noted that we have recently benefited because newer subdivisions have used already expanded lines. Councilman Walker questioned if the impact fees are what a developer would be charged for new construction? Bob replied yes, they pay for their portion of the allocated share to deliver service to their home; not directly, but to the neighborhood. He added that residential developments pay this as well as any new business.

Motion To approve Resolution 489 calling a public hearing to amend water, wastewater, and roadway impact fees. **Action** Approve, **Moved By** Charles Overstreet, **Seconded By** Frank Fernandez.

Motion passed Unanimously

B. Consider approval of Ordinance 602 adding Section 12-9 "Solicitation" to Chapter 12 of the City of Kennedale Code

Police Chief Tommy Williams stated that this ordinance deals with solicitations. He added that it has become a significant problem at the I-20/Kennedale Parkway intersection; he noted that the ordinance is needed to address the problem. He added that there are exceptions for fundraisers, if permission has been granted by the property owners. Council Fernandez questioned if we could get some assistance regarding the panhandlers under the bridge. He asked if we could possibly get assistance from Constable Clint Burgess. Tommy stated that he would look into that; however, Fort Worth has cleaned up that area twice, but it keeps coming back. There was a lengthy discussion concerning the growing issues for all cities regarding the homeless and panhandlers.

Motion To approve Ordinance 602 adding a solicitation section to Chapter 12 of the City of Kennedale code. **Action** Approve, **Moved By** Frank Fernandez, **Seconded By** Charles Overstreet.

Motion passed Unanimously

XIV. EXECUTIVE SESSION II

A. The City Council will meet in closed session pursuant to Section 551.074 of the Texas Government Code to deliberate the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee.

1. City Manager's Annual Evaluation

XV. RECONVENE INTO OPEN SESSION, AND TAKE ACTION NECESSARY PURSUANT TO EXECUTIVE SESSION, IF NEEDED

Second Executive Session was not held. Item will be moved to August 15, 2016 agenda. No action required.

XVI. ADJOURNMENT

Motion To adjourn. **Action** Adjourn, **Moved By** Liz Carrington, **Seconded By** Charles Overstreet.
Motion passed Unanimously

APPROVED:

ATTEST:

Brian Johnson, Mayor

Leslie Galloway, City Secretary



Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: REQUIRED APPROVAL ITEMS (CONSENT) - B.

I. Subject:

Approve Schedule of Investment Activity for quarter ending June 30, 2016

II. Originated by:

III. Summary:

In accordance with Public Funds Investment Act (PFIA), the investments should be reported quarterly. This is for the third quarter for FY 16 and subsequently will be presented for each quarter to Council to stay current with PFIA.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

Approve

VII. Alternative Actions:

VIII. Attachments:

1.	June 30, 2016 Quarterly Investment Report	June 30 2016 Qtrly Investment Report.pdf
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City of Kennedale, Texas

SCHEDULE OF INVESTMENT ACTIVITY

For The Quarter Ending June 30, 2016

**CITY OF KENNEDALE, TEXAS
INVESTMENT REPORT
FOR QUARTER ENDING June 30, 2016**

The Quarterly Investment Report provides the City's investment portfolio position as of the report period indicated above. Fund of the City are invested in accordance with the City of Kennedale Investment Policy as originally adopted on September 13, 2001 and subsequently reviewed on October 19, 2015.

SUMMARY OF INVESTMENTS FOR THE QUARTER

99.1% of the City of Kennedale's investments are owned by the Pooled Cash Fund. The remaining .9% goes to the \$2.0M 2010 CO Bond Fund, \$1.7M TX Leverage Fund, and Clearing Funds. As of the reporting quarter, 44.11% of the City's investments are in investment pools, and 55.89% are invested in money market savings accounts.

INVESTMENT STRATEGIES

The City's main objectives in managing the portfolio are as follows: suitability, preservation & safety of principal, liquidity, marketability, diversification, and yield.

For The Quarter Ending June 30, 2016

INVESTMENT PORTFOLIO ALLOWABLE BREAKDOWN

Certificates of Deposit (25%), Investment Pools (100%)*, Money Market Mutual Funds (100%)*, Repurchase Agreements (50%)*, Government Obligations (25%), US Treasury & US Agency Callables (25%), US Government Agencies & Instrumentalities (100%), and US Treasury Notes/Bills (100%)*
*(no more than 50% in any individual pool, fund, or repurchase agreement)

MONTHLY BALANCES- INVESTMENTS

Investment Pool	Account Name	Interest Rate	April 2016	May 2016	June 2016	Interest Earned
Texas Daily	Consolidated Cash	0.03%	\$ 31,433.80	\$ 31,445.32	\$ 31,456.68	\$ 33.76
TexStar	Consolidated Cash	0.03%	327,494.18	327,595.07	327,701.81	307.09
TexPool	\$1.7M TX Leverage	0.06%	19.25	19.25	19.25	-
TexPool	\$2.0M CO Bond	0.02%	29,484.19	29,492.70	29,501.49	25.51
TexPool	Central Deposit	0.04%	1,314,642.38	752,956.80	1,005,927.03	960.67
TOTAL INVESTMENT POOLS			\$ 1,703,073.80	\$ 1,141,509.14	\$ 1,394,606.26	\$ 1,327.03

MONTHLY BALANCES- WELLSFARGO

Bank	Account Name	Interest Rate	April 2016	May 2016	June 2016	Interest Earned
Wellsfargo	Consolidated Cash	N/A	\$ 1,136,093.81	\$ 1,531,542.47	\$ 1,766,356.01	\$ -
Wellsfargo	Payroll Clearing	0.04%-0.05%	39,366.48	42.21	184.96	1.76
Wellsfargo	Section 125 Flex	0.04%-0.05%	-	291.50	271.25	-
Wellsfargo	Dick Price Rd	0.005%	7.39	-	-	-
Wellsfargo	Employee Health Benefit Trust	N/A	12.26	12.50	12.61	0.48
TOTAL WELLSFARGO			\$ 1,175,479.94	\$ 1,531,888.68	\$ 1,766,824.83	\$ 2.24

TOTAL MONTHLY BALANCES- ALL	\$ 2,878,553.74	\$ 2,673,397.82	\$ 3,161,431.09	\$ 1,329.27
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TRANSACTION ACTIVITY- INVESTMENTS

Investment Pool	Account Name	Balance 4/1/2016	Deposits	Withdrawals	Interest	Balance 6/30/2016
Texas Daily	Consolidated Cash	\$ 31,422.92	\$ -	\$ -	\$ 33.76	\$ 31,456.68
TexStar	Consolidated Cash	327,394.72	-	-	307.09	327,701.81
TexPool	\$1.7M TX Leverage	19.25	-	-	-	19.25
TexPool	\$2.0M CO Bond	29,475.98	-	-	25.51	29,501.49
TexPool	Central Deposit	1,595,748.50	630,482.42	(1,221,264.56)	960.67	1,005,927.03
TOTAL INVESTMENT POOLS		\$ 1,984,061.37	\$ 630,482.42	\$ (1,221,264.56)	\$ 1,327.03	\$ 1,394,606.26

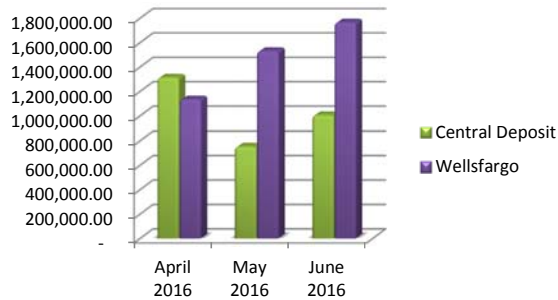
TRANSACTION ACTIVITY- WELLSFARGO

Bank	Account Name	Balance 4/1/2016	Deposits	Withdrawals	Interest	Balance 6/30/2016
Wellsfargo	Consolidated Cash	\$ 1,353,123.52	\$ 3,459,802.82	\$ (3,046,570.33)	\$ -	\$ 1,766,356.01
Wellsfargo	Payroll Clearing	50,430.68	852,039.69	(902,287.17)	1.76	184.96
Wellsfargo	Section 125 Flex	1,056.98	-	(785.73)	-	271.25
Wellsfargo	Dick Price Rd	7.39	-	(7.39)	-	-
Wellsfargo	Employee Health Benefit Trust	12.13	141,035.97	(141,035.97)	0.48	12.61
TOTAL WELLSFARGO		\$ 1,404,630.70	\$ 4,452,878.48	\$ (4,090,686.59)	\$ 2.24	\$ 1,766,824.83

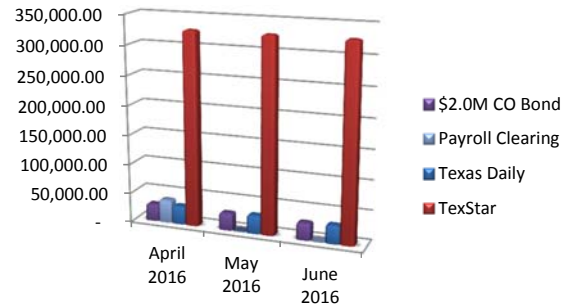
CASH BREAKDOWN BY FUND

	April 2016	May 2016	June 2016
01- General Fund	\$ 1,933,903.49	\$ 1,747,186.85	\$ 1,767,152.45
02- Debt Service Fund	109,532.22	77,499.45	110,467.29
04- Capital Project Fund	67,938.32	75,273.18	82,528.22
05- Capital Replacement Fund	(16,151.80)	(21,714.92)	(24,648.67)
07- Storm Drainage Utility Fund	154,394.96	156,052.31	146,384.44
10- Water/Sewer Fund	(591,618.45)	(412,424.69)	(250,875.22)
12- Court Security Fund	(10,505.91)	9,690.50	10,132.02
13- Capital Bond Fund	(62,219.00)	(177,120.56)	(177,120.56)
14- Park Dedication Fund	171,996.35	172,015.62	195,199.24
15- Economic Development Fund	(46,094.44)	(45,785.71)	(92,769.39)
16- Court Technology Fund	6,001.14	9,156.74	9,745.06
17- Streets Improvement Fund	378,621.34	296,661.71	387,628.41
18- Juvenile Case Manager Fund	19,995.54	26,554.70	26,368.97
19- EDC4B Capital Bond Fund	29,484.19	29,492.70	29,501.49
21- TIF #1 New Hope Fund	(17,261.67)	1.83	(16,646.63)
31- Police Seizure Fund	6,540.96	6,541.70	6,494.84
32- Library Building Fund	11,572.85	11,785.34	12,005.81
34- LEOSE Fund	1,767.85	(32.15)	-
41- Park Rec/Other Donation Fund	54,397.24	45,552.56	46,009.80
45- Roadway Impact Fee Fund	272,327.67	242,043.98	355,465.84
61- Water Impact Fee Fund	154,357.79	170,238.43	254,480.29
62- Sewer Impact Fee Fund	59,676.45	64,810.54	93,989.60
83- Tree Reforestation Fund	67,850.76	67,858.36	67,865.61
85- Unclaimed Property Fund	1,990.24	1,990.24	1,990.24
95- EDC Reserve Fund	120,055.65	120,069.11	120,081.94
TOTAL ALL FUNDS	\$ 2,878,553.74	\$ 2,673,397.82	\$ 3,161,431.09

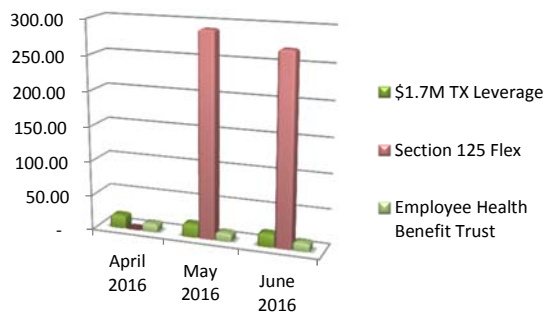
Main Accounts



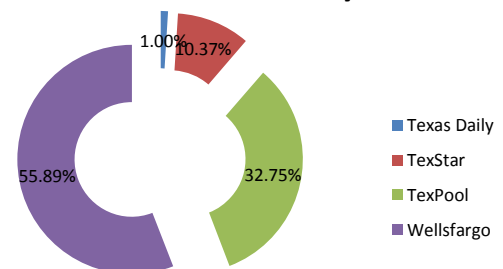
Other Accounts



Holding Accounts



Distribution of Money





Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: REQUIRED APPROVAL ITEMS (CONSENT) - C.

I. Subject:

Consider approval of Resolution 491 a financing agreement for the purpose of procuring "rolling stock and related equipment"

II. Originated by:

III. Summary:

It is recommended the city use a lease-purchase agreement to acquire 5 police vehicles (\$223,000), one asphalt roller and trailer (\$30,000), 3 pickup trucks for streets (\$102,000), a lift (\$35,000), and 1 utility vehicle for parks (\$18,000). The recommended lease-purchase agreement will be financed over a 4 year period and replaces vehicles that have exceed their useful life and buys new equipment to help with operations.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:

1.	Resolution 491	Resolution 491.pdf
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RESOLUTION NO. 491

**A RESOLUTION REGARDING A FINANCING AGREEMENT FOR THE
PURPOSE OF PROCURING "ROLLING STOCK AND RELATED
EQUIPMENT"**

WHEREAS, the City of Kennedale desires to enter into a certain Financing Agreement, by and between Government Capital Corporation and the City of Kennedale, for the purpose of financing "Rolling Stock and Related Equipment." The City of Kennedale desires to designate this Agreement as a "qualified tax exempt obligation" of the City of Kennedale for the purposes of Section 265 (b) (3) of the Internal Revenue Code of 1986, as amended. The City of Kennedale desires to designate the Mayor, as an authorized signer of the Agreement.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE
CITY OF KENNEDALE, TEXAS:**

SECTION 1. That the City of Kennedale enters into a Financing Agreement with Government Capital Corporation for the purpose of procuring "Rolling Stock and Related Equipment".

SECTION 2. That the Financing Agreement, by and between the City of Kennedale and Government Capital Corporation is designated by the City of Kennedale as a "qualified tax exempt obligation" for the purposes of Section 265 (b) (3) of the Internal Revenue Code of 1986, as amended.

SECTION 3. That the City of Kennedale designates the Mayor, as an authorized signer of the Financing Agreement, by and between the City of Kennedale and Government Capital Corporation.

PASSED, ADOPTED AND APPROVED by the City Council of the City of Kennedale, Texas, this the 15th day of August, 2016.

APPROVED:

Mayor, Brian Johnson

ATTEST:

City Secretary, Leslie Galloway

Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: REQUIRED APPROVAL ITEMS (CONSENT) - D.

I. Subject:

Consider approval to extend the Interlocal Agreement for participation in Fort Worth's Environmental Collection Center/Household Hazardous Waste program through September 30, 2017

II. Originated by:

III. Summary:

This is an annually renewed agreement that allows Kennedale residents to drop off Household Hazardous Waste at Fort Worth's Environmental Collection Center at no cost to the resident.

The agreement increases the cost to the city by \$2.00 per vehicle, from \$45.00 to \$47.00. Since October 2015, 29 residents have dropped off household hazardous waste. The greatest participation occurs at the annual Bring It Event scheduled for October 22, 2016 this year.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

Approve

VII. Alternative Actions:

VIII. Attachments:

1.	Interlocal Agreement with Fort Worth for Environmental/Household Hazardous Waste Program	ILA FORT WORTH.pdf
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INTERLOCAL AGREEMENT FOR PARTICIPATION IN FORT WORTH'S

ENVIRONMENTAL COLLECTION CENTER

HOUSEHOLD HAZARDOUS WASTE PROGRAM

FY2017

INTERLOCAL AGREEMENT FOR PARTICIPATION IN FORT WORTH'S
ENVIRONMENTAL COLLECTION CENTER
HOUSEHOLD HAZARDOUS WASTE PROGRAM

THIS AGREEMENT is entered into by and between the City of Fort Worth, Texas, a home-rule municipal corporation situated in Tarrant, Denton, Parker, and Wise Counties, Texas, hereinafter called "Fort Worth," acting by and through Fernando Costa, its duly authorized Assistant City Manager and the City of Kennedale, hereinafter referred to as "Participating City" and located in Tarrant County, Texas acting herein by and through Bob Hart its duly authorized City Manager.
(Name) (Title)

DELIVERY OF NOTICES

Any notices required to be given under this Agreement shall be delivered as follows:

If to Fort Worth:

Cody Whittenburg, Environmental Program Manager
Code Compliance – Environmental Management Division
City of Fort Worth
1000 Throckmorton
Fort Worth, Texas 76102

If to Participating City:

Sarah Quiett, Utility Billing Administrator

City of Kennedale

405 Municipal Drive

Kennedale, TX 76060

OPERATIONAL CONTACTS

Participating City's Operational Contact Persons:

Designated person is: Sarah Quiett telephone number: 817-985-2122
Mobile phone number (24-hour) where he/she can be reached: _____
Email Address: squiett@cityofkennedale.com

Alternate person is Kelly Cooper telephone number: 817-985-2106
Mobile phone number (24-hour) where he or she can be reached: 940-765-2236
Email Address: kcooper@cityofkennedale.com

VOUCHER UTILIZATION

The Participating City:

X DOES wish to use a voucher system for its residents visiting the ECC or a mobile event.

DOES NOT wish to use a voucher system for its residents visiting the ECC or a mobile event.

If a voucher system is used only residents with an official voucher provided by Participating City will be allowed to drop wastes off at the ECC or at mobile events in Participating City. **A copy of the official voucher must be attached to this agreement.**

INVOICE DELIVERY

Invoices to Participating City shall be delivered to:

Sarah Quiett

Name

Utility Billing

Department (if applicable)

405 Municipal Drive

Street Address or PO Box

Kennedale, TX 76060

City, State, ZIP

squiett@cityofkennedale.com

email address for billing questions and correspondence

Participating City shall notify Fort Worth in writing if the above contact information changes during the term of this Agreement.

WITNESSETH

WHEREAS, Texas Government Code, Chapter 791, authorizes the formulation of interlocal cooperation agreements between and among local governments; and

WHEREAS, Texas Government Code, §791.011 provides that a local government may contract with another local government to perform governmental functions and services, and §791.003(3)(H) defines waste disposal as a governmental function and service; and

WHEREAS, Texas Government Code, §791.025 provides that a local government may agree with another local government to purchase services; and

WHEREAS, Fort Worth and Participating City desire to enter into an interlocal agreement whereby Fort Worth will purchase the services of a waste disposal/recycling firm or firms and will administer a household hazardous waste collection program; and

WHEREAS, Fort Worth and Participating City mutually desire to be subject to the provisions of Texas Government Code, Chapter 791, also known as the Interlocal Cooperation Act.

NOW THEREFORE, it is agreed as follows:

1.

DEFINITIONS

- A. Unless a provision in this Agreement explicitly states otherwise, the following terms and phrases, as used in this Agreement, shall have the meanings hereinafter designated.

Act of God means an act occasioned by the direct, immediate, and exclusive operation of the forces of nature, uncontrolled or uninfluenced by the power of humans and without human intervention.

Bill of Lading lists the contents of the mobile collection unit.

Environmental Collection Center (ECC) means the City of Fort Worth Code Compliance-Environmental Management Division facility located at 6400 Bridge Street, Fort Worth, Texas, which is to be used by Fort Worth for the aggregation of household hazardous wastes that have been brought to the facility by participating cities' households for subsequent recycling, disposal, and/or reuse.

Environmental damages means all claims, judgments, damages, losses, penalties, fines, liabilities (including strict liability), encumbrances, liens, costs, and expenses of investigation and defense of any claim, whether or not such claim is ultimately defeated, and of any good faith settlement or judgment, of whatever kind or nature, contingent or otherwise, matured or un-matured, foreseeable or unforeseeable, including without limitation reasonable attorney's fees and disbursements and consultant's fees, any of which are incurred subsequent to the execution of

this Agreement as a result of the handling, collection, transportation, storage, disposal, treatment, recovery, and/or reuse of waste pursuant to this Agreement, or the existence of a violation of environmental requirements pertaining to same, and including without limitation:

- (a) Damages for personal injury and death, or injury to property or natural resources;
- (b) Fees incurred for the services of attorneys, consultants, contractors, experts, laboratories and all other costs incurred in connection with the investigation or remediation of such wastes or violation of environmental requirements including, but not limited to, the preparation of any feasibility studies or reports or the performance of any cleanup, remediation, removal, response, abatement, containment, closure, restoration or monitoring work required by any federal, state or local governmental agency or political subdivision, or otherwise expended in connection with the existence of such wastes or violations of environmental requirements, and including without limitation any attorney's fees, costs and expenses incurred in enforcing this Agreement or collecting any sums due hereunder; and
- (c) Liability to any third person or governmental agency to indemnify such person or agency for costs expended in connection with the items referenced in subparagraph (b) herein.

Environmental requirements means all applicable present and future statutes, regulations, rules, ordinances, codes, licenses, permits, orders, approvals, plans, authorizations, concessions, franchises, and similar items, of all governmental agencies, departments, commissions, boards, bureaus, or instrumentalities of the United States, states, and political subdivisions thereof and all applicable judicial, administrative, and regulatory decrees, judgments, and orders relating to the protection of human health or the environment, including without limitation:

- (a) All requirements, including but not limited to those pertaining to reporting, licensing, permitting, investigation, and remediation of emissions, discharges, releases, or threatened releases of hazardous materials, pollutants, contaminants, or hazardous or toxic substances, materials, or wastes whether solid, liquid, or gaseous in nature, into the air, surface water, groundwater, storm water, or land, or relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport, or handling of pollutants, contaminants, or hazardous or toxic substances, materials, or wastes, whether solid, liquid, or gaseous in nature; and
- (b) All requirements pertaining to the protection of the health and safety of employees or the public.

Force majeure means decrees of or restraints by a governmental instrumentality other than the Parties, acts of God, work stoppages due to labor disputes or strikes, failure of Fort Worth's contractor(s) to perform pursuant to their agreements with Fort Worth for the conduct of the collection of household hazardous waste, fires, explosions, epidemics, floods, extreme weather, riots, war, rebellion, and sabotage.

Household hazardous waste (HHW) means any solid waste generated in a household by a consumer which, except for the exclusion provided for in 40 CFR § 261.4(b)(1), would be classified as a hazardous waste under 40 CFR Part 261.

Manifest means the uniform hazardous waste manifest form(s) that must accompany shipments of municipal hazardous waste or Class 1 industrial solid waste.

Mobile collection event means a household hazardous waste collection event by Participating City utilizing a mobile collection unit.

Mobile Collection Unit (MCU) means a non-self-propelled vehicle used for the periodic collection of household hazardous waste by Participating City, off-site of the ECC, which is transported to the ECC to dispose of the household hazardous waste collected at the mobile collection event. Mobile Collection Units owned by Fort Worth are designed to hold the hazardous waste of approximately 50 to 75 households.

Participating City means the municipality which has entered into this agreement with the City of Fort Worth.

Participating Entities, when used in the plural, means Fort Worth, Participating City, and all other entities which have entered into interlocal agreements with Fort Worth for the ECC household hazardous waste collection program.

Person means an individual, corporation, organization, government, or governmental subdivision or agency, business trust, partnership, association, or any other legal entity.

Waste has the same meaning as "solid waste" as that term is defined in Texas Health and Safety Code §361.003, and including hazardous substances.

- B. Unless a provision in this Agreement explicitly states otherwise, the following abbreviations, as used in this Agreement, shall have the meanings hereinafter designated.

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act, its amendments, associated case law, and state counterparts.

CPR - cardiopulmonary resuscitation

DOT - United States Department of Transportation

ECC – Fort Worth Environmental Collection Center

EPA - United States Environmental Protection Agency

HAZCAT - hazardous categorization

HAZWOPER - hazardous waste operations and emergency response and the training, certification, and legal requirements associated therewith

HM - hazardous materials

HHW - household hazardous waste

MCU - Mobile Collection Unit

TCEQ – Texas Commission on Environmental Quality

2.

PURPOSE

The purpose of this interlocal agreement (hereafter "Agreement") is the provision of services by Fort Worth to Participating City whereby, subject to the terms and conditions specified below, Fort Worth will administer and supervise a regional household hazardous waste collection program, which will be available to households within Participating City as described herein.

3.

TERM

This Agreement shall be effective from October 1, 2016 or the date the last party has signed this Agreement, whichever is later, through September 30, 2017; however, the duties and responsibilities of the Parties for events which occurred during the term of the contract shall survive. If Participating City has mobile collection events scheduled during the months of October through December 2017 and this Agreement has not been renewed by the end of the regular term, this agreement shall be extended on a month to month basis until the mobile collection events have been completed or cancelled by Participating City.

In addition, this agreement may be extended by the duly authorized, mutual, and written agreement of the parties for one (1) additional one-year term.

4.

SERVICES OF FORT WORTH

Fort Worth agrees to perform the following services for Participating City in connection with the ECC household hazardous waste collection program:

- A. Fort Worth will administer a regional household hazardous waste collection program. This program will include the operation of the Environmental Collection Center, which will accept for disposal and/or recycling household hazardous waste from households located within Participating City. Fort Worth shall not accept compressed flammable gas containers; radioactive materials; explosives or potentially shock sensitive materials; biological, etiologic, or infectious materials; wastes from businesses; or any other wastes that Fort Worth has determined are unacceptable. Commercial waste is never accepted by Fort Worth.
- B. Fort Worth will employ or retain personnel to provide the services necessary to perform Fort Worth's obligations in this Agreement.

- C. Fort Worth will enter into a contract(s) with a waste disposal/recycling firm(s) for the handling, collection, transportation, storage, disposal, treatment, recovery, and/or reuse of household hazardous waste that is collected at the ECC or during mobile collection events.
- D. Fort Worth will, if requested in writing by Participating City, provide Participating City with copies of waste manifests for shipments of waste from the ECC.
- E. Fort Worth will, if requested in writing by Participating City, provide Participating City a monthly report of the Participating City's households who disposed of household hazardous waste at the Environmental Collection Center or a mobile collection event.
- F. Fort Worth will issue a report and an invoice at the end of each quarter detailing the number of Participating City's households that disposed of household hazardous waste at the Environmental Collection Center or at mobile collection events.
- G. Fort Worth will act under this Agreement in accordance with all applicable state and federal laws.
- H. Mobile Collection Events

Participating City may schedule a mobile collection event to be operated by Fort Worth personnel using one of Fort Worth's MCUs or conduct their own mobile collection events using either Participating City's MCU or Fort Worth's Reserve MCU (as available). State regulations require notification to the Texas Commission on Environmental Quality (TCEQ) at least 45 days prior to conducting the event.

1. Fort Worth Operated Events:

If Participating City would like to schedule a mobile collection event with the Fort Worth Mobile Collection Unit, Participating City shall contact the ECC as soon as possible for a list of available dates. The time and location shall be agreeable to both parties. Participating City may schedule one mobile collection event each contract year. Fort Worth will file notification of the event with TCEQ as required by 30 TAC §335.403.

(a) Scheduling Events

Fort Worth will begin scheduling mobile collection events for the 2017 calendar year on January 9, 2017. To ensure proper notification to TCEQ, events must be scheduled at least sixty (60) days ahead of the proposed date. Participating City acknowledges that Fort Worth contracts with other municipalities and that Fort Worth will be accommodating each Participating City's request on a first come first served basis. Therefore, Participating City acknowledges that its chosen date to schedule a mobile collection event may be reserved by another city and Participating City will have to then choose another date. Participating City will, in no event, be entitled to any damages or recovery of any costs, except as provided herein. Only one mobile collection event using Fort Worth staff and equipment per city is entitled under this contract. Additional events may be accommodated if feasible.

(b) Location

If Participating City chooses to hold the Mobile Collection Event on private property, Participating City shall obtain a signed waiver from the owner of the property sixty (60) days prior to the event. The waiver shall be in the form of Exhibit B or similar form approved by Fort Worth. The signed waiver must be sent to Fort Worth sixty (60) days before the Mobile Collection Event. If the signed waiver is not sent to Fort Worth sixty (60) days before the Mobile Collection Event, Fort Worth will not send the Fort Worth Mobile Collection Unit to the event and Participating City will, in no event, be entitled to any damages or recovery of any costs, except as provided herein. All events must be held on an impervious surface.

- (c) At the Mobile Collection Event, Participating City acknowledges and agrees that Fort Worth shall accept household hazardous waste from the first 50 households that show proof of residency at the Mobile Collection Event. After the first 50 households, Fort Worth will determine in its sole discretion how much more waste it can accept for proper transport back to the ECC. If more households arrive at the event than Fort Worth can accept, Participating City will in no event be entitled to any damages or recovery of any costs, except as provided herein.
- (d) Due to limited storage space at the ECC, Participating City acknowledges and agrees that if it requests the Fort Worth Mobile Collection Unit at a mobile collection event, a Participating City's MCU shall not also be at the event.
- (e) Fort Worth, in its sole discretion, will determine whether to send the Fort Worth Mobile Collection Unit to Participating City's Collection Event during adverse weather, the threat of adverse weather, or other hazardous conditions including but not limited to sleet, snow, rain, mist, or hail. In the event Fort Worth determines not to send the Fort Worth Mobile Collection Unit, Fort Worth shall attempt to notify persons listed herein as an "Operational Contact" by the Participating City and shall attempt to send a Fort Worth employee to the Participating City's event to tell any residents that come to dispose of household hazardous waste that the Fort Worth Mobile Collection Unit will not be coming to the event, but the resident can go to the ECC to dispose of the waste. A map with directions to the ECC also will be provided.
- (f) The Participating City agrees to collect collection data at the MCU and provide Fort Worth with a list of total MCU participants and total quantities of wastes listed in an Excel spreadsheet in a template provided by Fort Worth as Exhibit C, within ten (10) days of the mobile collection event. No vouchers, sign-in sheets, or copies of either will be accepted by Fort Worth.

2. Participating City Mobile Collection Unit:

- (a) Fort Worth agrees to accept household hazardous waste from mobile collection events conducted by Participating City using Participating City's MCU in accordance with the terms of this Agreement.

- (b) Fort Worth agrees to restock the items it removes from Participating City's MCU, however, Fort Worth shall only restock items listed in Exhibit "A," attached and incorporated herein as if set forth.

3 Loan of the Reserve Mobile Collection Unit

The reserve MCU is a specially designed and equipped thirty-six (36) foot gooseneck box-trailer and one (1) ton pickup owned by Fort Worth. Participating City may request the loan of Fort Worth's Reserve MCU free of charge for use in a Household Hazardous Waste collection event when available. Participating City may use the Reserve MCU to transport HHW to Fort Worth's ECC or another collection center that may lawfully receive HHW. Participating City shall provide Fort Worth with a written request, facsimile or e-mail, at least sixty (60) days prior to the event date for which the request is made. Fort Worth shall have sole determination whether the Reserve MCU is available for use by Participating City and shall notify Participating City as soon as is reasonably practicable of such decision. Fort Worth shall not participate in nor be responsible for any part of the Participating City's HHW Collection Event unless and except by written mutual agreement.

- (a) Fort Worth shall disclose any known problems the Reserve MCU may have in performing the tasks necessary for the HHW Collection Event. Prior to issuance of the Reserve MCU, a pre-trip inspection for potential maintenance problems will be preformed by Fort Worth. Also, both parties will complete a pre-trip aesthetic assessment. Participating City shall be responsible for all certifications and insurance necessary for the proper operation of the Reserve MCU.
- (b) Participating City agrees to maintain and return the Reserve MCU in as good condition as it was in when Participating City took possession for use. Participating City shall return the Reserve MCU to Fort Worth in a timely manner and as mutually agreed upon.
- (c) Participating City shall be responsible for all property damage, personal injury, or death caused by Participating City's employees, volunteers, contractors, or agents and arising out of the use of the Reserve MCU during the term of this Agreement.
- (d) It is expressly understood and agreed that, in the execution of this Agreement, neither of the parties waives, nor shall be deemed hereby to waive, any immunity or defense that would otherwise be available to it against claims arising in the exercise of governmental powers and functions. By entering into this Agreement the parties do not intend to create any obligations, expressed or implied, other than those set forth herein and this Agreement shall not create any rights in parties not signatories hereto.

5.

DUTIES OF PARTICIPATING CITY

Participating City agrees to perform the following duties in connection with the household hazardous waste collection program:

- A. Participating City will designate one of its employees, and another as an alternate, to act as its household hazardous waste collection Operational Contact to interact with Fort Worth as designated on the signature page to this contract.
- B. Participating City will coordinate and fund all program advertising targeted to its own citizens, as it deems necessary. Such advertising shall include the type of wastes that will be accepted at the ECC, the requirement of proof of residency, and weather cancellation information.
- C. Participating City shall notify its residents of the ECC hours of operation and dates it is closed as provided in Section 9 "The Environmental Collection Center Hours of Operation."
- D. Participating City may choose to utilize a voucher system for its residents in order for them to bring HHW to the ECC. If Participating City chooses to use such a system, it shall designate so herein and include a copy of the official voucher. In addition, if a citizen from a Participating City that utilizes a voucher system comes to the ECC or a mobile collection event without a voucher, Participating City acknowledges and agrees that Fort Worth will not accept the household hazardous waste until Participating City authorizes the acceptance in writing.
- E. Participating City may submit a written request for a monthly report listing the number of its city's households that have disposed of household hazardous waste at the ECC or a mobile collection event.
- F. Participating City shall provide traffic control and signage for the mobile collection event, and shall provide personnel to assist Fort Worth with the offloading of material, surveys, and screening of persons dropping off household hazardous waste. Prior to the event, the parties shall agree upon the details of the traffic control, signage, and personnel assistance.
- G. If a Participating City resident presents waste that was collected from multiple households, Fort Worth reserves the right to charge the Participating City based on the total number of households from which the waste originated even if the resident has only one voucher.
- H. Participating City shall provide a means for disposing of solid waste (e.g. boxes, trash, containers) on site during a mobile collection event.
- I. Mobile Collection Events using Participating City's MCU or Reserve MCU
 1. Participating City is responsible for proper notification to TCEQ as required by 30 TAC §335.403.
 2. Participating City shall advise the ECC at least 72 hours in advance of its mobile collection events. Participating City shall collect only HHW during a mobile collection event. Wastes from commercial, agricultural, and industrial sources shall not be accepted. Participating City shall not accept compressed flammable gas containers;

radioactive materials; explosives or potentially shock sensitive materials; biological, etiologic, or infectious materials; or any other wastes that Fort Worth has determined are unacceptable.

3. In accordance with the latest DOT requirements, Participating City's MCU operators will properly categorize, package, mark, label, and load into the MCU, all wastes received at the mobile collection event. Recyclable products (used oil, used oil filters, latex paint, recyclable anti-freeze, lead-acid batteries, and fluorescent lights) will be segregated into containers for recyclables.
4. After accepting wastes, Participating City's MCU operators shall thoroughly check each container for proper labeling and identification. If a container is properly identified, the material will be segregated according to hazard class and prepared for packaging. If a container does not have adequate labeling to permit identification, the MCU operators shall then attempt to identify the material from its physical characteristics using HAZCAT analysis and from information provided by the household presenting the waste.
5. The Participating City's MCU operators shall package all hazardous materials in accordance with DOT requirements, EPA requirements, and all other applicable federal and state requirements. After all the wastes have been properly identified and segregated, the MCU operators will reexamine the wastes for compatibility, list them on the container content sheets, and pack them into drums. Oil-based paints and latex paints shall be bulked separately in 55-gallon drums, or if the paint is left in its container, the paint can be packed in a lined cubic yard box, and packed and labeled according to federal and state regulations. Participating City shall not transport waste that is not HHW to the ECC. Participating City agrees to make its own arrangements to dispose of any non-HHW waste collected at the event.
6. Prior to transporting the HHW from the collection event site, Participating City's MCU operators shall complete a Bill of Lading, and shall keep the Bill of Lading in the cab of the truck hauling the MCU during transportation of the HHW to the ECC. Participating City shall require that a minimum of one copy of the latest North American Emergency Response Guidebook be kept within the cab of the truck.
7. During transportation, Participating City's MCU operators shall placard the MCU for transportation of hazardous waste in accordance with federal and state law.
8. Upon the return of the MCU to the ECC, Participating City's MCU operators shall follow the instructions of Fort Worth regarding the placement of the MCU for unloading. Fort Worth shall take possession of the MCU from Participating City after the MCU has been properly parked for unloading in accordance with Fort Worth's instructions and all required documents have been delivered to the ECC manager or his/her designee at the ECC. Fort Worth shall, within a reasonable amount of time, unload the HHW from the Participating City's MCU and store the unit at the ECC. After being contacted, Participating City shall pickup their unit within 10 days.

9. If Fort Worth, in its sole discretion, determines that Participating City's MCU operators improperly packaged any of the HHW delivered to the ECC, Fort Worth shall repackage such waste, and Participating City shall reimburse Fort Worth as set forth herein.
10. If a spill emanating from the Participating City's MCU or the Reserve MCU occurs at the ECC while the MCU is still in Participating City's possession, Fort Worth shall take control of the spill response and Participating City will reimburse Fort Worth for its response costs as set forth herein.

6.

USE OF WASTE DISPOSAL/RECYCLING FIRMS FOR HOUSEHOLD HAZARDOUS WASTE

- A. Fort Worth will enter into a contract(s) with a waste disposal/recycling firm(s) for the handling, collection, transportation, storage, disposal, treatment, recovery, and/or reuse of household hazardous waste, from the ECC.
- B. Such firm(s) shall be required pursuant to the contract(s) to assume generator status for the waste collected, (excluding used oil, lead-acid batteries and antifreeze) to choose a disposal site for the waste subject to Fort Worth's approval, and to indemnify Fort Worth and participating cities against any and all environmental damages and the violation of any and all environmental requirements resulting from the handling, collection, transportation, storage, disposal, treatment, recovery, and/or recycling of waste collected pursuant to this agreement, when said environmental damages or the violation of said environmental requirements was the result of any act or omission of contractor, its officers, agents, employees, or subcontractors, or the joint act or omission of contractor, its officers, agents, employees, or subcontractors and any other person or entity.
- C. **THE PARTIES RECOGNIZE THAT ALTHOUGH THE FIRM (S) WILL BE REQUIRED TO ASSUME GENERATOR STATUS, THIS ASSUMPTION WILL NOT RELIEVE PARTICIPATING CITY OF LIABILITY FOR THE WASTE UNDER FEDERAL LAW AND STATE LAW.** Fort Worth will arrange for recycling vendors for used oil, batteries, antifreeze, and other materials, as it deems appropriate.

7.

REUSE OF COLLECTED MATERIALS

- A. From time-to-time Fort Worth will make available to residents and businesses of Fort Worth, as well as, Participating City residents and businesses of Participating City for their use, collected household hazardous waste materials that are suitable for reuse, such as paint, fertilizer, motor oil, and antifreeze. Fort Worth shall not charge for any materials that are picked up for reuse.
- B. Some materials made available for reuse may have been consolidated and filtered by Fort Worth prior to being made available. Used antifreeze will have been consolidated in a barrel, filtered, and pH balanced, and new antifreeze may have been added to the barrel.
- C. In regards to materials accepted by Participating City, its employees, residents, or any other person **FORT WORTH MAKES NO REPRESENTATIONS, WARRANTIES, OR GUARANTIES THAT:**

1. the container contents are what the label indicates;
2. the container contents are those originally placed into the container by the manufacturer;
3. the product is of the quality intended for its use;
4. the contents of the container have been stored properly;
5. the instructions on the container label for use, storage, and first aid are current or correct;
6. the container is in unimpaired condition;
7. the product is still approved for use (i.e., it has not been banned or recalled); and
8. the product can be used without risk to persons, property or the environment.

FURTHERMORE, ALL WARRANTIES, EXPRESS AND IMPLIED, ARE SPECIFICALLY DENIED. PARTICIPATING CITY SHALL NOTIFY RECIPIENTS OF THESE TERMS AND CONDITIONS.

- D. Participating City shall contact the ECC manager to arrange a pickup time to obtain materials. Participating City agrees that it shall not return to Fort Worth, directly or indirectly, any materials it obtains from Fort Worth under this paragraph.

E. INDEMNIFICATION REGARDING REUSED OR RECYCLED MATERIALS.

1. IN REGARDS TO REUSED OR RECYCLED MATERIALS ACCEPTED BY PARTICIPATING CITY, PARTICIPATING CITY DOES HEREBY WAIVE ALL CLAIMS, INCLUDING PRODUCTS LIABILITY CLAIMS, AND RELEASES, AND HOLDS HARMLESS THE CITY OF FORT WORTH, AND ALL OF ITS OFFICIALS, OFFICERS, EMPLOYEES, AGENTS, AND VOLUNTEERS, IN BOTH THEIR PUBLIC AND PRIVATE CAPACITIES, FROM ANY AND ALL LIABILITY, CLAIMS, SUITS, DEMANDS, EXPENSES OF LITIGATION, OR CAUSES OF ACTION WHICH MAY ARISE BY REASON OF INJURY TO PERSONS, LOSS OF PROPERTY, DAMAGE TO PROPERTY, OR LOSS OF USE OF ANY PROPERTY , OCCASIONED BY THE TRANSPORTATION, STORAGE, HANDLING, USE, AND DISPOSAL BY PARTICIPATING CITY OF ANY MATERIALS ACCEPTED BY PARTICIPATING CITY UNDER THIS AGREEMENT FROM FORT WORTH.

2. IF THE PARTICIPATING CITY DOES NOT AGREE TO THE INDEMNIFICATION AND WAIVER IN PARAGRAPH E ABOVE, THEN THE PARTICIPATING CITY SHALL NOT ACCEPT, NOR ALLOW ANY OTHER PERSON TO ACCEPT ANY OF THE REUSED OR RECYCLED MATERIALS AND SHALL NOT BE REQUIRED TO AGREE TO THE WAIVER IN PARAGRAPH E. Initial here to reject term 7.E.1. and accept alternate term 7.E.2. _____.

- F. In regards to materials accepted by residents or businesses of Participating Cities, FORT WORTH MAKES NO REPRESENTATIONS, WARRANTIES OR GUARANTIES THAT:

1. the container contents are what the label indicates;
2. the container contents are those originally placed into the container by the manufacturer;
3. the product is of the quality intended for its use;
4. the contents of the container have been stored properly;
5. the instructions on the container label for use, storage, and first aid are current or correct;
6. the container is in unimpaired condition;
7. the product is still approved for use (i.e., it has not been banned or recalled); and
8. the product can be used without risk to persons, property or the environment.

FURTHERMORE, ALL WARRANTIES, EXPRESS AND IMPLIED, ARE SPECIFICALLY DENIED.

- G. Participating City shall attempt to inform its residents and businesses that if they go to the Environmental Collection Center to pick up household hazardous waste for reuse, a release of liability must be signed to accept the household hazardous waste for reuse.

8.

RIGHT TO REFUSE WASTE

Participating City agrees that Fort Worth shall have the right to refuse to accept waste at the ECC from Participating City or Participating City's resident, if in the reasonable judgment of Fort Worth:

- A. The waste is not household hazardous waste;
- B. The waste fails to meet other established criteria established by this Agreement, or that have been established by Fort Worth subsequent to the execution of the Agreement;
- C. The individual does not have sufficient identification to establish that he/she is in fact a resident of Participating City;
- D. Participating City has implemented a voucher system for its residents to dispose of waste, and the individual does not have a valid voucher; or
- E. The waste or the individual presents a hazard to the ECC or to persons or property at the ECC.

9.

ENVIRONMENTAL COLLECTION CENTER HOURS AND DAYS
OF OPERATION

A. Hours of Operation

During the term of the Agreement, the ECC's hours of operation are as follows:

Thursday and Friday 11:00 a.m. - 7:00 p.m.

Saturday 9:00 a.m. - 3:00 p.m.

B. Days the Environmental Collection Center will be closed

During the term of the agreement, the ECC will be closed on the following holidays that are observed on days the ECC would otherwise be open to the public:

Thanksgiving holiday, Thursday and Friday, November 24-25, 2016

Christmas holiday, Saturday, December 24, 2016

New Year's holiday, Saturday, December 31, 2016

In addition to the above closures Fort Worth employees may not be available to conduct mobile collection events on other dates to conduct mobile collections within the City of Fort Worth, although the ECC will remain open on those days. The ECC may close due to furlough days or other causes, and the City of Fort Worth does not represent to Participating City that the ECC will be open on any particular days. If additional closures due to any cause are necessary Fort Worth will notify Participating City prior to the closure unless due to an unforeseeable event.

C. Notifying Residents

Participating City agrees to notify its residents of the ECC's hours of operation and dates it will be closed. Participating City also may advertise the 24-hour Environmental Collection Center telephone number: 817-392-5257.

10.
COMPENSATION

As fair compensation for the services provided by Fort Worth pursuant to this Agreement:

- A. Participating City agrees to pay Fort Worth the sum of **\$47.00** per household per visit to the ECC (or per participating household in a Mobile Collection Event) to dispose of household hazardous waste. If a Participating City resident presents waste that was collected from multiple households, Fort Worth reserves the right to charge the Participating City based on the total number of households from which the waste originated.
- B. If Fort Worth determines that Participating City's MCU operators improperly packaged any of the HHW delivered to the ECC, Fort Worth shall repackage such waste, and Participating City shall reimburse Fort Worth for its staff time at \$20.00 an hour and the cost of supplies.
- C. If a spill emanating from the Participating City's MCU or the Reserve MCU occurs at the ECC while the MCU is still in Participating City's possession, Fort Worth shall take control of the spill

response and Participating City will reimburse Fort Worth for its response costs for City staff time (\$60.00 per hour) plus the cost of supplies and the actual costs for the spill response and remediation incurred by the City of Fort Worth for third party contractors and responding governmental agencies.

- D. The amount due to Fort Worth for services provided under this Section, Paragraphs A, B, and C, shall be billed to Participating City quarterly. Participating City shall pay Fort Worth within 30 days of receiving a bill from Fort Worth. If Fort Worth does not receive payment within 30 days, Fort Worth shall inform Participating City in writing that it will not accept any household hazardous waste from Participating City's residents and that Fort Worth will not participate in a mobile collection event or provide a mobile collection unit until paid.
- E. At the end of the term of this Agreement, Fort Worth shall provide a final accounting to Participating City, which will include the total number of Participating City's households which participated in the program, repackaging fees, if any, and the total cost of spill response charged to Participating City, if any.
- F. Pursuant to the requirements of Government Code §791.011 (a)(3), the amount due to Fort Worth under Subparagraph D. above shall be paid from revenues currently available to Participating City in the present fiscal year.

11.

ARTWORK, "CAPTAIN CRUD AND THE CRUDDIES," AND PROMOTIONAL MATERIALS
LICENSE AGREEMENT

Fort Worth is the owner of "**Captain Crud**" and the Cruddies ("**Bloomer**," "**Otto**," "**Pestie**," "**Scrub**," and "**Van Goo**") and the recycling buddies ("**Scrappy**," "**Juggles**," and "**Cana Nana**"), "**Conquer Your Crud**," and "**Crud Cruiser**", and therefore all ownership rights belong to Fort Worth. Fort Worth has registered these marks as service marks with the Secretary of State.

- A. Fort Worth hereby grants to Participating City a non-transferable, non-exclusive license to use all the artwork and promotional materials that may be provided by Fort Worth to be used solely in the conduct of the business of Participating City's disposal and recycling of household hazardous waste programs. If Participating City wishes to use to Licensed Art and/or Promotional Materials in other limited situations, Participating City must first obtain express written consent from Fort Worth.
- B. Fort Worth may provide licensed Artwork and Promotional Materials to Participating City pursuant to the terms of this Agreement. Participating City acknowledges that by virtue of this License, Participating City acquires only the right to use the original and permitted duplicate copies of the Licensed Artwork and Promotional Materials and does not acquire any rights of ownership in the Licensed Artwork and Promotional Materials, which rights shall remain exclusively with Fort Worth. If Participating City wants to modify or change the artwork and/or promotional materials in any manner, Participating City hereby agrees to contact Fort Worth in

writing to obtain written consent before modifying or changing any artwork and/or promotional materials.

12.
IMMUNITY

It is expressly understood and agreed that, in the execution of this Agreement, none of the Participating Cities waives, nor shall be hereby deemed to waive, any immunity or defense that would otherwise be available to it against claims arising in the exercise of governmental powers and functions, and that the services described in this Agreement are a governmental function.

13.
FORCE MAJEURE

A delay or failure of Fort Worth to perform services pursuant to this Agreement shall be excused to the extent that the delay or failure to perform resulted from a force majeure event, and the delay or failure was beyond the control of Fort Worth and not due to its fault or negligence. Participating City shall not have, and hereby waives, any claim whatever for any damages resulting from delays or failure to perform caused by a force majeure event.

14.
TERMINATION

The parties shall each have the right to terminate the Agreement for any reason, with or without cause, upon thirty (30) days written notice to the other party. Upon termination, the parties shall be released from all contractual obligations to the other party excluding "USE OF WASTE DISPOSAL/RECYCLING FIRMS FOR HOUSEHOLD HAZARDOUS WASTE" "REUSE OF COLLECTED MATERIALS" and ARTWORK, "CAPTAIN CRUD AND THE CRUDDIES," AND "PROMOTIONAL MATERIALS LICENSE AGREEMENT" and any terms and conditions arising from events occurring during the term of the contract .

15.
ENTIRETY

This Agreement contains all commitments and Agreements of the parties hereto, and no other oral or written commitments shall have any force or effect if not contained herein, except that this Agreement can be amended or modified by the parties if such amendment or modification is in writing and signed by Participating City and Fort Worth.

16.
SEVERABILITY

In the event anyone or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall

not affect any other provision thereof and this Agreement shall be construed as if such invalid, illegal, or unenforceable provisions had never been contained herein.

17.
VENUE

Should any action, real or asserted, at law or in equity, arise out of the terms and conditions of this Agreement, venue for said action shall be in Tarrant County, Texas.

18.
AUTHORITY

This Agreement is made for Fort Worth and Participating City as an Interlocal Agreement, pursuant to Texas Government Code, Chapter 791.

19.
AUTHORIZATION

The undersigned officers and/or agents of the parties hereto are properly authorized officials and have the necessary authority to execute this Agreement on behalf of the parties hereto, and each party hereby certifies to the other that any necessary resolutions extending such authority have been duly passed and are now in full force and effect.

CITY OF FORT WORTH

CITY OF KENNEDALE

By:

By:

Fernando Costa

Brian Johnson

Assistant City Manager

Mayor

Date: _____

Date: _____

APPROVED AS TO FORM
AND LEGALITY:

APPROVED AS TO FORM
AND LEGALITY:

Arthur N. Bashor
Assistant City Attorney

City Attorney / Assistant City Attorney

ATTEST:

Mary J. Kayser
City Secretary

Contract Authorization

Date

ATTEST:

City Secretary

Exhibit "A"

RESTOCKING LIST FOR THE MOBILE COLLECTION UNIT

Material	Amount Restocked	Special Needs	Remarks
55 gallon open top drums (open top for loose packs)	Amount taken off the trailer		
55 gallon drums (closed top) (oil, antifreeze, bulk flammable materials and one extra)	Amount taken off the trailer		
Fiber drums (55 or 30 gallon) Aerosols, acids, bases and oxidizers)	Amount taken off the trailer		
Gaylord box liners (plastic)	Amount taken off the trailer		
55 gallon drum liners	Amount taken off the trailer		
5 gallon buckets (filters/haz chemicals)	Amount taken off the trailer		
Survey Forms	Amount taken off the trailer		
Labels/drum placard	Amount taken off the trailer		
Gaylord boxes	Amount taken off the trailer		
Absorbent pads	Amount taken off the trailer		
Vermiculite	Amount taken off the trailer		
Oil dry	Amount taken off the trailer		
Promotional Materials & Brochures	Amount needed		

Exhibit "B"

WAIVER AND RELEASE OF LIABILITY FOR COLLECTION OF HOUSEHOLD
HAZARDOUS WASTE

I being the owner of property located at _____
have been asked by the City of _____ to allow a mobile collection event on
my property to collect household hazardous waste on the _____, 20____. I hereby give my
permission to the City of _____ and the City of Fort Worth, to hold a household
hazardous waste collection event on my property in which the City of _____
has asked the City of Fort Worth to send its mobile collection unit to collect the household hazardous
waste that is brought to the event.

Therefore, I hereby RELEASE, DISCHARGE, HOLD HARMLESS, INDEMNIFY the City of Fort Worth or its
officers, agents, and employees and the City of _____ and its officers, agents,
and/or employees for any and all claims, demands, liability, causes of action, actions or suits of any
character that I may have against the City of Fort Worth or its officers, agents, and/or employees and
the City of _____ or its officers, agents, and/or employees for any property loss
or damage, for any and all personal injury including death or any other damage of any kind or character
which may arises or that arises from allowing the City of _____ to hold a household
hazardous waste collection event, in which the City of Fort Worth sends its mobile collection unit on my
property.

I have read this Waiver and Release and fully understand its terms and conditions. I have not been
influenced in any extent whatsoever by any representation or statements not contained in this
Agreement.

Signature

Date

Witness

Date

Exhibit "C"

MOBILE COLLECTION DATA FORMAT

[illegible]

Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: REQUIRED APPROVAL ITEMS (CONSENT) - E.

I. Subject:

Consider approval of bid awards for health, dental, vision and life and AD&D and voluntary life insurance and authorize the City Manager to sign the agreements

II. Originated by:

Kelly Cooper, Director of Human Resources

III. Summary:

In April 2016, staff met with Brinson Benefits, the city's insurance consultant regarding the city's benefit plans, plan utilization and preparation for the July bid process. At that time, the 12 month claims loss ratio was approximately 113% with six (6) claims over \$15,000; one of those claims is over \$100,000 and another over \$80,000.

July 1, 2016, staff received the insurance renewal with an overall increase of 33.1%, staff immediately requested bids to review other competitive offers. The city advertised and received bids from five companies (Blue Cross Blue Shield, Aetna, and United Health Care, Humana, TML). Aetna, Humana and TML were all eliminated from consideration due to high quotes (38% to 49%). United Health Care and Blue Cross Blue Shield were both considered by the employee insurance committee.

United Health Care offered alternate plan designs with the most competitive rates (3.71% increase). The UHC bid proposal maintains the Health Savings Account with a \$5,000 deductible (an increase from \$4,000) and 100% coverage after the deductible is met. The proposed plan includes a Health Reimbursement Arrangement that will reimburse employees for \$2,000 if the employee meets the \$5,000 deductible. The plan then adds a \$1,000 additional out-of-pocket expense to the employee through prescription drug copays, which are provided after the \$5,000 deductible, is met.

Staff also proposes to continue to offer a PPO plan with a \$3,000 deductible. The PPO plan will continue as a "buy-up" plan meaning that employees who wish to stay on the PPO plan will pay \$46.70 per paycheck (\$93.40 per month) toward the cost of the insurance premium.

The long-term strategy is to incentivize employees to shift to the HSA plan. This strategy has worked, last year participation increased to 29 from 15 employees. The employee choosing the PPO plan will pay 3.71% increase in premiums.

Staff proposes continuing to offer TeleDoc for an additional \$3,264. A chart comparing current and proposed plans is attached.

After review of the bid proposals, the employee benefits committee and staff recommend changing health insurance carrier to United Health Care for a total premium increase of 3.71%, as well as, establishing a HRA incentive for employees enrolling in the HSA and providing TeleDoc for an additional \$3,264. The overall increase in health insurance line item is 7.0% or approximately \$26,301.

Dental Insurance

Staff also recommends moving to a new dental provider, Sun Life Assurant. Ameritas, the current dental provider, offered a renewal rate increase of 13.85%. The city received quotes from four other companies (Sun Life Assurant, Guardian, Lincoln Financial and Mutual of Omaha). Three companies along with the current provider, Ameritas, proposed rate increases from 13.85% to 32%. After comparing each plan design, Sun Life Assurant offered the best plan and network with an overall rate decrease of -8.12%. Staff recommends moving to Sun Life Assurant with a decrease in the city's annual cost by \$3,173.

Vision Insurance

The city's current vision provider, Superior Vision, offered a renewal rate increase of 3.98%. The new rates are a proposed rate guarantee for the next four years. Guardian and Lincoln also bid proposing rate increases of 35.82% and 23.55% respectively, both higher than our current provider for a two year rate guarantee. Staff recommends remaining with Superior Vision for a four year rate guarantee.

Life Insurance

Staff also bid life insurance and received one alternate bid from Sun Life Insurance. MetLife, our current provider offered a renewal increase of 5.78%. Sun Life's bid was for a 47% increase. Staff recommends remaining with MetLife.

In closing, with the changes proposed for the benefits program: medical insurance to United Health Care, dental insurance to Sun Life Assurant, and maintaining vision insurance with Superior Vision and life insurance with MetLife; the proposed overall expenditure is \$444,707.00; \$31,320.00 over last year, with an overall budget increase of 7.58% for the proposed 2016-2017 budget.

Recommendation:

Recommend acceptance of United Health Care proposal for medical, Sun Life Assurant proposal for dental, and remain with Superior Vision for vision insurance, and Metlife for life and AD&D for a total allocation of \$444,707.00; maintain Brinson Benefits as the agent of record and authorizing the City Manager to execute the agreements.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

Approve

VII. Alternative Actions:

VIII. Attachments:

1.	Proposed Plan Comparison	Comparison of Plans 2015 to 2016.docx
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	Renewal		Proposed	
	BCBS HSA	BCBS PPO	UHC HSA	UHC PPO
Individual Deductible	4,000.00	3,000.00	5,000.00	3,000.00
Family Deductible	2x	3X	2x	2x
Co- insurance	100/70	70/50	100/70	70/50
Out of Pocket Max	4,000.00	6,600.00	6,000.00	6,000.00
Family Out of Pocket	8,000.00	13,200.00	12,000.00	12,000.00
Medical & RX apply to OOP	NA	Yes	Yes	Yes
Office Visit Co Pay	100 AD	\$40/\$40	100 AD	Under 19: \$0; 30/30/60
Preventive	100%	100%	100%	100%
Diagnostic -Lab, X-ray	Included in ov	Included in ov	100 AD	100 AD
Outpatient Surgery	100 AD	70 AD	100 AD	70 AD
ER Copay	100 AD	100.00	100 AD	\$250
Urgent Care	100 AD	65.00	100 AD	\$75
Prescription	100 AD	20/40/60	Plan Ded	20/40/75
			10/35/60	
Prescription Speciality	100 AD	20/40/60	10/100/300	10/100/300
HRA for HSA	0.00	0.00	2,000.00	0.00



Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: REQUIRED APPROVAL ITEMS (CONSENT) - F.

I. Subject:

Consider approval of contract for Municipal Judge

II. Originated by:

III. Summary:

This contract is in response the Internal Revenue Service (IRS) interpretation of officers of the court. The contract established the Municipal Judge as an independent contractor. There is no change in payment for the services rendered.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

Approve

VII. Alternative Actions:

VIII. Attachments:

1.	Municipal Judge Agreement	Judge Service agreement.pdf
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AGREEMENT FOR MUNICIPAL COURT JUDGE SERVICES

State of Texas
County of Tarrant
City of Kennedale

The Parties for this Agreement for Municipal Court Judge Services are Bill Lane (hereinafter referred to as "Lane") and the City of Kennedale, Texas (hereinafter referred to as "City"). Lane and the City are referred to collectively herein as "the Parties."

WHEREAS, the City desires to contract with Lane to perform the services of Municipal Court Judge; and

WHEREAS, Lane desires to contract with the City to provide services as the Municipal Court Judge;

NOW THEREFORE, for the mutual covenants and considerations described herein, the Parties agree as follows:

1. DESCRIPTION OF SERVICES. Lane agrees to serve as the Judge of the Municipal Court for the City with all powers, duties, privileges and obligations conferred by this Agreement and by law, including but not limited to, Section 9.03 of the City Charter and Chapter 30 of the Texas Government Code. The services provided hereunder shall include:
 - a. Attendance at regularly scheduled sessions of the Kennedale Municipal Court; and
 - b. Conducting other court hearings and trials at the Kennedale Municipal Court as may be necessary.
2. ALTERNATE JUDGES. Lane agrees to provide two individuals, approved and appointed by the City Council, to serve as Alternate Judges of the Municipal Court. Said individuals will serve as Judge of the Municipal Court in Lane's absence. Said individuals must meet the minimum qualifications to serve as a Judge of the Municipal Court as outlined in the City Charter and Chapter 30 of the Texas Government Code. Lane shall be responsible for compensating and scheduling the Alternate Judges.
3. COURT FACILITIES. The City will provide a suitable place for holding court and shall pay for all the expense of maintaining it. The City will furnish staff, supplies and equipment sufficient for the operation of the Court.

4. HOURS OF COURT. The hours of the Municipal Court will be set mutually by agreement between the City and Lane. Currently the regularly scheduled session of the Municipal Court is set on the fourth Wednesday of the month.
5. CONSIDERATION. As consideration for services provided herein, the City agrees to pay Lane the sum of \$1,200 monthly.
6. QUALIFICATION. Lane declares that he is qualified to serve as Judge of the Municipal Court because he meets all requirements for holding said position outlined in Section 9.03 of the City Charter and Chapter 30 of the Texas Government Code. Lane agrees to maintain said qualifications throughout the term of this Agreement.
7. INDEPENDENT CONTRACTOR STATUS. The Parties agree that Lane is an independent contractor to the City, not an employee. This Agreement does not create any partnership, joint venture, or relationship other than an independent contractor relationship. Neither Lane, nor his partners, agents, employees or Alternate Judges shall be deemed to be an employee of the City for any purpose whatsoever, and Lane shall not be eligible to participate in any benefit program provided by the City for its employees. Lane shall be exclusively responsible for the payment of his own taxes, withholding payments, penalties, fees, fringe benefits, contributions to insurance and pension or other deferred compensation plans, including but not limited to workers' compensation and Social Security obligations, professional fees or dues.
8. INDEMNIFICATION. The City will defend, indemnify and hold Lane and any Alternate Judge appointed by the City harmless from any and all claims arising out of the good faith performance of the duties and functions as the Judge of the Municipal Court.
9. NOTICES. Notices pursuant to this Agreement will be given in writing and sent by First Class United States Mail or Personal Delivery addressed as follows:

To Lane: Bill Lane
Attorney at Lane
1110 Tennison Rd.
Azle Texas 76020

To the City: City Secretary
City of Kennedale
405 Municipal Drive
Kennedale, TX 76060

Each party will have the continuing obligation to advise the other party of any change of address.

10. MODIFICATION. No change or addition to this Agreement will be valid or binding upon either party unless such change or addition be in writing, executed by both parties.

11. STATE LAW. This Agreement will be construed in a manner consistent with and not in derogation of the provisions of state law governing the Judge of the Municipal Court's jurisdiction, powers, duties, obligations or statutory term of office.
12. TERM. Notwithstanding the date of execution hereof, the term of this Agreement will be a two year term commencing on May 16, 2016.
13. TERMINATION.
 - a. City may terminate this Agreement in accordance with Section 9.03 of the City Charter or in accordance with Chapter 30 of the Texas Government Code.
 - b. Lane may terminate this Agreement by providing City thirty (30) days written notice, unless the parties agree otherwise in writing.
 - c. In the event that this Agreement is terminated, the City will only be obligated to pay Lane under this Agreement up to the date of termination.

SIGNED AND AGREED TO on behalf of the City of Kennedale on this the _____ day of _____ 2016.

City of Kennedale

By: _____
Brian Johnson, Mayor

SIGNED AND AGREED TO on behalf of Bill Lane on this the 3 day of August 2016.

By: 
Bill Lane



Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: REQUIRED APPROVAL ITEMS (CONSENT) - G.

I. Subject:

Consider approval of contract for Municipal Court Prosecutor

II. Originated by:

III. Summary:

This contract is in response the Internal Revenue Service (IRS) interpretation of officers of the court. The contract established the Municipal Court Prosecutor as an independent contractor. There is no change in payment for the services rendered.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

Approve

VII. Alternative Actions:

VIII. Attachments:

1.	Municipal Court Prosecutor Agreement	Court Prosecutor Agreement.pdf
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**CONTRACT FOR MUNICIPAL PROSECUTOR LEGAL SERVICES
CITY OF KENNEDALE**

The Parties to this Contract for Municipal Prosecutor Legal Services are Taylor, Olson, Adkins, Sralla and Elam, L.L.P ("TOASE"), 6000 Western Place, Suite 200, Fort Worth, Texas 76107 and the City of Kennedale, 405 Municipal Drive, Kennedale Texas 76060 ("City"). TOASE and the City are referred to collectively herein as "the Parties."

WHEREAS, the City desires to contract with TOASE to perform the services of a Municipal Prosecutor representing the City of Kennedale in proceedings before the City's municipal court of record and proceedings involving the enforcement of City codes and ordinances in state court; and

WHEREAS, TOASE desires to contract with the City to provide services as the Municipal Prosecutor;

NOW THEREFORE, for the mutual covenants and considerations described herein, the parties agree as follows:

1. DESCRIPTION OF SERVICES. TOASE agrees to provide an attorney to serve as the primary Municipal Prosecutor, representing the State as Municipal Prosecutor in cases before the Municipal Court and cases involving the enforcement of City codes and ordinances in state court. The services provided hereunder shall include:
 - a. Attendance at regularly scheduled sessions of the Kennedale Municipal Court;
 - b. Attending other court hearings and trials in the Kennedale Municipal Court and state court as may be necessary.
2. COURT FACILITIES. The City will provide a suitable place for holding court and shall pay for all the expense of maintaining it. The City will furnish staff, supplies and equipment sufficient for the operation of the Court.
3. HOURS OF COURT. The hours of the Municipal Court will be set mutually by agreement between the City and the Judge of the Municipal Court. Currently the regularly scheduled session of the Municipal Court is set on the fourth Wednesday of the month.
4. CONSIDERATION. As consideration for services provided herein, the City agrees to pay TOASE the sum of \$140.00 per hour, plus reasonable expenses associated with such prosecutorial services as outlined in the City Attorney contract with TOASE.
5. BILLING AND COMPENSATION. TOASE will submit monthly invoices as part of the regular TOASE billing cycle which will include matters in this contract. Monthly invoices for work performed under this contract shall include a brief description of the work performed, the date that the work was performed, the fee for the work and an itemized

list of expenses associated with the work. All invoices received for work completed by the prosecutor will be listed on the TOASE monthly bill and will be paid by the City within thirty (30) days of receipt by the City.

6. TERM. Subject to the terms of Paragraph 7, below, this contract is in full force and effect as of the effective date noted below and will continue in full force and effect until terminated by either Party.
7. TERMINATION. Either of the parties may terminate this contract for any reason or for no reason by giving thirty (30) days written notice to the other party. Upon termination by either party, the City agrees to pay to TOASE through a TOASE invoice all fees and expenses for services performed prior to the date of termination.
8. CONFLICTS. TOASE agrees not to undertake representation of any person or entity in a manner adverse to the City's legal interests during the term of the contract. Further, TOASE agrees that, to the best of its knowledge, no attorney of the firm who will be working on specific matter related to representation of the City, has personal, business, or financial interests or relationships which would cause a reasonable individual with knowledge of the relevant facts to question the integrity or impartiality of those who are or will be acting as legal advisors and representatives of the City. TOASE agrees to evaluate on an on-going basis whether a conflict may become apparent or imminent. In the event that TOASE believes a conflict may develop, TOASE will immediately communicate with the City about the perceived potential conflict.
9. INDEPENDENT CONTRACTOR STATUS. TOASE is an independent contractor to the City, not an employee. This contract does not create any partnership, joint venture, or relationship other than an independent contractor relationship. Neither TOASE, its partners, attorneys, agents or employees shall be deemed to be an employee of the City for any purpose whatsoever, and TOASE shall not be eligible to participate in any benefit program provided by the City for its employees. TOASE shall be exclusively responsible for the payment of its own taxes, withholding payments, penalties, fees, fringe benefits, contributions to insurance and pension or other deferred compensation plans, including but not limited to workers' compensation and Social Security obligations, professional fees or dues.
10. APPLICATION OF LAWS. This contract will be interpreted, construed, and governed according to the laws of the State of Texas.
11. NOTICE. All notices required to be sent under this contract will be in writing and given by First Class US Mail or Personal Delivery addressed as follows:

To TOASE: Wayne K. Olson
 Attorney at Law
 TOASE

6000 Western Place, Suite 200
Fort Worth, TX 76107

To the City: Bob Hart
 City Manager
 405 Municipal Drive
 Kennedale, TX 76060

Each party will have the continuing obligation to advise the other parties of any change of address.

12. IDEMNIFICATION. The City will defend, indemnify and hold TOASE, its partners, attorneys, employees and agents harmless from any and all claims arising out of the good faith performance of the duties and functions as the City's Municipal Prosecutor.

13. EFFECTIVE DATE. The effective date of this contract is August ____, 2016.

SIGNED AND AGREED TO on behalf of the City of Kennedale on this the _____ day of _____ 2016.

City of Kennedale

By: _____
Brian Johnson, Mayor

SIGNED AND AGREED TO on behalf of TOASE on this the _____ day of _____ 2016.

TOASE

By: _____
Wayne K. Olson, partner

Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: REQUIRED APPROVAL ITEMS (CONSENT) - H.

I. Subject:

Consider amendment to the developer agreement with Kennedale Seniors, LLC

II. Originated by:

Sandra Johnson, Building Official

III. Summary:

The city-developer agreement for the Kennedale Seniors project states that no building inspections beyond a plumbing rough-in inspection will be done until the water, waste water, street, and drainage improvements have been completed. Staff recommends amending the agreement to allow each pad site to pour up to the foundation only until the infrastructure is complete. If the pad site is left at the plumbing rough stage, the plumbing materials in the ground can ruin from the hot sun. It can be so severe that all the plumbing material may need to be replaced. Once the foundation is poured, the concrete helps protect the plumbing from the elements.

Staff also recommends/requires a form board survey for each building. This is to assure that each foundation poured is in the correct location.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

Approve

VII. Alternative Actions:

VIII. Attachments:

1.	Proposed amendment to city-developer agreement, Kennedale Seniors	Developer Agreement-Kennedale SeniorsLTD Addition_amended (draft).pdf
----	---	---

CITY OF KENNEDALE
AMENDMENT TO THE DEVELOPER'S AGREEMENT
FOR THE
KENNEDALE SENIORS, LTD ADDITION

STATE OF TEXAS

§
§
§

COUNTY OF TARRANT

THIS AGREEMENT is entered into on the 15th day of August, 2016, between the City of Kennedale, Texas, hereinafter referred to as the "CITY", and Kennedale Seniors, LTD, A Texas Limited Partnership, 4500 Carter Creek, Suite 101, Bryan, TX 77802, mailing address of P. O. Box 3189, Bryan, TX 77805, hereinafter referred to as the DEVELOPER."

WHEREAS, the DEVELOPER requested the CITY to permit the platting and/or ADDITION of a tract of land known as Kennedale Seniors, Ltd Addition (the "Addition"); as per the plat attached hereto as Exhibit "A" ("the Addition"); and

WHEREAS, the CITY has approved such platting and/or ADDITION which requires the construction of community facilities and improvements to serve the residents of the Addition as provided herein; and

WHEREAS, the DEVELOPER and the CITY agree that the agreement between the CITY and the DEVELOPER approved March 21, 2016 should be amended to permit best practices concerning building construction; and

WHEREAS, this Agreement shall operate as a covenant running with the land and shall be binding upon the DEVELOPER and their successors, heirs, assigns, grantees, trustees and representatives.

NOW, THEREFORE, the CITY and the DEVELOPER, in consideration of the mutual covenants and agreements contained herein, do mutually agree as follows to the following amendments to the agreement approved March 21, 2016:

Text to replace paragraph one in section D. Streets:

D. STREETS

1. Street Improvements, in conjunction with the platting and development

of the Addition, all required On-Site and Off-Site street improvements shall be constructed by the DEVELOPER in accordance with the plans and specifications prepared by the Developer's engineer and accepted by the CITY prior to any inspections associated with the issuance of any building permit other than a plumbing rough-in inspection and a foundation inspection. A form board survey is required for each foundation. Streets shall be constructed of portland cement and the DEVELOPER shall install curb and gutter in accordance with CITY standards. The CITY shall assume maintenance responsibilities of any Off-Site Street Improvements installed by the DEVELOPER once the two-year maintenance bond is released. The DEVELOPER shall be responsible for maintenance of all private drives or access ways.

Text to replace paragraph one, Water, in section F. Utilities:

1. WATER

All required On-Site and Off-Site (located in the Public Access Road) Water Improvements, including all mains, valves, fire hydrants and other improvements, shall be constructed by the DEVELOPER in accordance with the plans and specifications prepared by the DEVELOPER's engineer and accepted by the CITY prior to any inspections associated with the issuance of any building permit other than a plumbing rough-in inspection and a foundation inspection. A form board survey is required for each foundation. Issuance of a building permit prior to acceptance of water and related improvements authorizes work associated with a plumbing rough only; no work beyond the plumbing rough will be authorized and no additional inspections on any buildings will be conducted by the CITY until the water and related improvements have been accepted by the CITY. The CITY shall assume maintenance responsibilities of the water system, including the Off-Site Water Improvements, once the two-year maintenance bond is released.

Text to replace paragraph two, Sanitary Sewer, in section F. Utilities:

2. SANITARY SEWER

All required On-Site Sanitary Improvements, including all sewer mains, manholes and other improvements shall be constructed by the DEVELOPER in accordance with the plans and specifications prepared by the DEVELOPER's engineer and accepted by the CITY prior to any inspections associated with the issuance of any building permit other than a plumbing rough-in inspection and a foundation inspection. A form board survey is required for each foundation. Issuance of a building permit prior to acceptance of sanitary sewer improvements authorizes work associated with a plumbing rough only; no work beyond the plumbing rough will be

authorized and no additional inspections on any buildings will be conducted by the CITY until the sanitary sewer improvements have been accepted by the CITY. The Developer will be responsible for maintaining the sewer system.

Text to replace paragraph one under sub-section three, Drainage, in section F. Utilities:

3. DRAINAGE

All required On-Site and Off-Site Drainage Improvements shall be constructed by the DEVELOPER in accordance with the plans and specifications prepared by the DEVELOPER's engineer and accepted by the CITY prior to any inspections associated with the issuance of any building permit other than a plumbing rough-in inspection and a foundation inspection. A form board survey is required for each foundation. Issuance of a building permit prior to acceptance of drainage improvements authorizes work associated with a plumbing rough only; no work beyond the plumbing rough will be authorized and no additional inspections on any buildings will be conducted by the CITY until the drainage improvements have been accepted by the CITY. The DEVELOPER agrees to comply with all applicable EPA, TCEQ and other Federal, State and local requirements relating to the planning, permitting and management of storm water. The DEVELOPER agrees to construct the necessary drainage facilities within the ADDITION.

In witness whereof, each of the parties hereto has caused this Agreement to be executed by its undersigned duly authorized representative to be effective as of the date hereinabove first mentioned.

DEVELOPER: Kennedale Seniors, LTD, A Teas Partnership

By: Commonwealth Development Inc.
A Texas Corporation, its General Partner

Elaina D. Glockzin, President

Date

By: Lucky B. Properties, Inc.
A Texas Corporation, its General Partner

Claire E. Brown, President

Date

CITY OF KENNEDALE

By: _____
Brian Johnson, Mayor

_____ Date

ATTEST:

By: _____
Leslie Galloway, City Secretary

ACKNOWLEDGMENT

STATE OF TEXAS §
§
COUNTY OF TARRANT §

BEFORE ME, the undersigned authority in and for Tarrant County, Texas, on this day personally appeared Emanuel Glockzin, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he is the President of Kennedale Seniors, LTD and that he executed the same on behalf of said entity for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the _____
day of _____, 2016.

Notary Public in and for the State of Texas

Type or Print Notary's Name

My Commission Expires:

Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: DECISION ITEMS - A.

I. Subject:

Consider approval of Ordinance 607 authorizing the issuance, sale and delivery of the aggregate principal amount of \$3,720,725 for the City of Kennedale, Texas general obligation refunding bond, Series 2016; securing the payment thereof by authorizing the levy of an annual ad valorem tax; and approving and authorizing the execution of all instruments and procedures related thereto including an escrow agreement, a paying agent/registrars agreement and a purchase contract and investment letter. The final ordinance will be provided at the meeting on Monday night.

II. Originated by:

III. Summary:

SAMCO Capital Markets has recommended doing a refunding of the 2005 and 2008 Series Bonds and take advantage of the interest savings available at this time. Both these bonds are funded by the Debt Service Fund I&S tax rate.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:

1.	Request for Bids Memo	Kennedale Rfg -FINAL Bank Bid Memo.pdf
2.	Ordinance 607	Ordinance - 2016 City of Kennedale Refunding Bonds-3.pdf
3.	Escrow Agent	Escrow Ag - 2016 Kennedale GO Ref Bonds-2.pdf
4.	Paying Agent	Paying Agent Ag - 2016 Kennedale GO Ref-2.pdf



City of Kennedale
405 Municipal Drive
Kennedale, Texas 76060

\$3,720,000*
City of Kennedale, Texas
General Obligation Refunding Bonds, Series 2016

Date: August 1, 2016

To: The Attached Distribution List

From: Mr. Bob Hart
Ms. Krystal Crump

cc: Mr. Mark M. McLiney
Mr. Andrew T. Friedman
SAMCO Capital Markets, Inc.
Financial Advisor to the City of Kennedale, Texas

The City of Kennedale, Texas (the "City") is seeking private placement bids from financial institutions concerning the possible issuance of \$3,720,000* of the City's General Obligation Refunding Bonds, Series 2016 (the "Obligations") to finance the costs of (1) refunding all of the City's outstanding Combination Tax and Limited Pledge Revenue Certificates of Obligation, Series 2005, and a portion of the City's outstanding Combination Tax and Limited Pledge Revenue Certificates of Obligation, Series 2008 for debt service savings and (2) paying certain costs of issuance.

SAMCO Capital Markets, Inc. will not submit a bid on the Obligations given its financial advisory relationship with the City and its services as the City's "Independent Registered Municipal Advisor".

McCall, Parkhurst & Horton L.L.P., shall provide a legal opinion concerning the legality and validity of the issuance of the Obligations.

The Obligations will be sold on an "All or None" basis to the low qualified bidder (the "Winning Bidder") at the City Council meeting on Monday, August 15, 2016.

The City reserves the right to offer the Obligations to potential bidders that are not on the attached Distribution List.

If your institution is interested in bidding on the Obligations, please fill in the required information and submit by **12:00 noon, Central Time, on Wednesday, August 10, 2016** as shown below:

Ms. Krystal Crump
Finance Director
Kennedale, Texas 76060
Phone: (817) 985-2105
kcrump@cityofkennedale.com
financedirector@cityofkennedale.com

Copy to:

Mr. Mark McLiney
Senior Managing Director
SAMCO Capital Markets, Inc.
Phone: (210) 832-9760
mmcliney@samcocapital.com

**Preliminary, subject to change.*

Summary of Proposed Terms and Conditions
August 1, 2016

RE: Bank Private Placement of up to \$3,720,000* City of Kennedale, Texas General Obligation Refunding Bonds, Series 2016.

The City Council (the "City Council") of City of Kennedale, Texas (the "City") is seeking to privately place up to \$3,720,000* of obligations designated as "City of Kennedale, Texas General Obligation Refunding Bonds, Taxable Series 2016" (the "Obligations"). The interest on these Obligations will be excludable from the gross income of the holders thereof pursuant to the provisions of Section 103 of the Internal Revenue Code of 1986, as amended. The anticipated placement is to be handled as a direct purchase by the financial institution or other entity. SAMCO Capital Markets, Inc. serves as the City's financial advisor and as the City's "Independent Registered Municipal Advisor" and will not submit a bid for the Obligations. The terms of this purchase are outlined herein.

Type: Direct purchase of the Obligations pursuant to a competitive bid private placement.

Use of proceeds: The City anticipates utilizing proceeds of the Obligations to finance the costs of (1) refunding all of the City's outstanding Combination Tax and Limited Pledge Revenue Certificates of Obligation, Series 2005, and a portion of the City's outstanding Combination Tax and Limited Pledge Revenue Certificates of Obligation, Series 2008 for debt service savings and (2) paying certain costs of issuance.

Principal Amount: Up to \$3,720,000.*

Stated Maturity: February 15 in each of the years 2017 through 2028.

Interest Rate: The Obligations shall bear a fixed rate of interest.

Bid: See Attached Official Bid Form.

Interest Payment Dates: Interest on the Obligations shall be payable on February 15 and August 15 of each year, commencing February 15, 2017. Interest will accrue from the closing date (assuming September 14, 2016, but not later than September 16, 2016).

Redemption Provisions: Bonds maturing on February 15, 2025 are callable in whole or in part beginning February 15, 2024 or any day thereafter at a price of par plus accrued interest to the date of redemption.

Security: The Obligations are secured by and payable from ad valorem taxes levied annually against all taxable property located within the City, within the limitations prescribed by law.

Basis of Award: The Obligations will be sold to the bidder (the "Winning Bidder") making the bid that produces the lowest true interest cost to the City.

* Preliminary, subject to change

Paying Agent/Registrar:	To be determined. The City would like the Winning Bidder to serve as paying agent at no annual cost or expense to the City.
No Rating :	The City does not anticipate securing a rating on the Obligations.
Most Recent Audited Financial Reports:	The City's most recent audited financial statements are posted on internet websites at www.emma.msrb.org and www.mactexas.com .
Tax-Exempt Bonds:	• The interest on the Bonds will be excludable from the gross income of the holders thereof pursuant to the provisions of the Code.
Bank Qualified:	• The Bonds will be designated as "qualified tax-exempt obligations" for financial institutions.
Conditions Precedent to Closing:	• Receipt of opinion from Bond Counsel stating that the Obligations constitute a legal, valid, and binding obligations of the City. • Receipt of the approving opinion of the Texas Attorney General with respect to the Obligations. • Receipt of a duly authorized ordinance, adopted on August 15, 2016, or such later date as agreed to by the Winning Bidder and the City, by the City Council approving the issuance of the Obligations. • Successful negotiation of documentation acceptable to Winning Bidder and the City related to the payment of the purchase price for, and the valid issuance, sale and delivery of and security of the Obligations, including the execution and delivery of a Purchase and Investment Letter, in substantially the form accompanying this Summary of Proposed Terms and Conditions. • Payment to the City by the Winning Bidder of the purchase price for the Obligations. • Effective January 1, 2016, pursuant to Texas Government Code Section 2252.908 (the "Interest Party Disclosure Act"), the City may not take action to award the Bonds to the winning bidder unless the bidder submits a Certificate of Interest Parties Form 1295 (the "Disclosure Form") to the City as prescribed by the Texas Ethics Commission ("TEC"). In the event that the bidder's bid for the Bonds is the best bid received, the City, acting through its Financial Advisor, will promptly notify the bidder. That notification will serve as the conditional verbal acceptance of the bid, and will obligate the bidder to promptly file a completed Disclosure Form, as described below, in order to complete the award.

Reference is made to the Disclosure Form, the rules of the Texas Ethics Commission with respect to the Disclosure Form (the "Disclosure Rules") and the Interest Party Disclosure Act. Instructions information regarding such matters are set forth at https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm.

For purposes of For purposes of completing the Disclosure Form the Winning Bidder will need the following information: (a) item 2 - name of governmental entity: City of Kennedale, Texas, and (b) item 3 - the identification number assigned to this contract by the City: "Kennedale 2016 GO Ref Bonds," and a description of the services to be provided under the contract: "Purchase of Bonds." The Interested Party Disclosure Act and the Disclosure Rules require a business entity contracting with the City to complete the form at the TEC Internet "portal" that may be accessed at the url set forth above, and then print, sign, notarize and email the Disclosure Form to (i) the City (to Ms. Krystal Crump at kcrump@cityofkennedale.com), (ii) the City's Financial Advisor (to Mr. Andrew Friedman at andrew.friedman@samcocapital.com), and (iii) Bond Counsel (to Ms. Kathy Cooper at kcooper@mphlegal.com). Following the award of the Bonds, the City will acknowledge receipt of the completed Disclosure Form through the TEC website, as required by the law

Continuing Disclosure:

Pursuant to the exceptions granted under Rule 15c2-12 of the United States Securities and Exchange Commission under the Securities and Exchange Act of 1934, the City will not enter into a continuing disclosure undertaking with respect to the Obligations. The Winning Bidder will execute a Purchase and Investment Letter with the representation that it is an "accredited" investor.

Offering Document:

None

\$3,720,000*
City of Kennedale, Texas
General Obligation Refunding Bonds, Taxable Series 2016 (the "Obligations")

BID FORM

Please indicate proposed interest rates in the spaces provided for the Obligations:

<u>Maturity</u>	<u>Principal Amount*</u>	<u>Interest Rate</u>
February 15, 2017	\$ 90,000	
February 15, 2018	85,000	
February 15, 2019	330,000	
February 15, 2020	345,000	
February 15, 2021	345,000	
February 15, 2022	355,000	
February 15, 2023	365,000	
February 15, 2024	380,000	
February 15, 2025	375,000	
February 15, 2026	390,000	
February 15, 2027	325,000	
February 15, 2028	335,000	
Total	\$ 3,720,000	

The City will be responsible for all of the City's issuance costs incurred in connection with its issuance of the Obligations. If the City is required to pay any of the Winning Bidder's expenses, please provide an itemized list below:

The interest rates, as indicated above, are binding rates that are to be presented to the City Council of the City of Kennedale, Texas on Monday, August 15, 2016 for its approval. Funding (or "closing") is expected on Wednesday, September 14, 2016 (but not later than September 16, 2016). Each bidder must also submit an executed and notarized form that is compliant with HB 1295.

Proposer: _____

Contact Person: _____

Phone Number: _____

Please fax or email your response by **12:00 noon, Central Time on Wednesday, August 10, 2016** as shown below:

Ms. Krystal Crump
Finance Director
Kennedale, Texas 76060
 Phone: (817) 985-2105
kcrump@cityofkennedale.com
financedirector@cityofkennedale.com

Copy to:

Mr. Mark McLiney
Senior Managing Director
SAMCO Capital Markets, Inc.
 Phone: (210) 832-9760
mmcliney@samcocapital.com

** Preliminary, subject to change.*

\$3,720,000*
City of Kennedale, Texas

General Obligation Refunding Bonds, Series 2016
DISTRIBUTION LIST

ISSUER

Mr. Bob Hart
City Manager
Ms. Krystal Crump
Finance Director
City of Kennedale

bhart@cityofkennedale.com
kcrump@cityofkennedale.com

Purchaser Contacts

Mr. Barry Renfro
Mr. Travis Brooks
TIB – The Independent Bankers Bank
brenfro@mybankersbank.com
tbrooks@mybankersbank.com

Ms. Kathleen Wagner
Wells Fargo
kathleen.r.wagner@wellsfargo.com
monica.medina2@wellsfargo.com
john.c.moore@wellsfargo.com
brain.l.goins@wellsfargo.com

Mr. Nathan D. Goodnight
Commerce Bank
Nathan.goodnight@commercebank.com

Mr. Richard Feist
Zions First National Bank
richard.feist@zionsbank.com

Mr. Brad Thomas
Regions Bank
Brad.thomas@regions.com

Purchaser Contacts

Mr. Greg Jebsen
American National Bank of Texas
gregjebsen@anbt.com

Mr. James Law
Alliance Bank
jlaw@alliancebank.com

Mr. Mark Stanley
Whitney Bank
Mark.stanley@whitneybank.com

Mr. Glenn S. Forges
Ms. Kara Harrell
JPMorgan
Glenn.s.forges@jpmorgan.com
Kara.harrell@jpmorgan.com

Mr. Chris O'Brien
First Tennessee Bank, N.A.
ccobrien@ftb.com

Mr. Jeff Salavarria
Frost Bank
Jeff.salavarria@frostbank.com
Shirley.cox@frostbank.com

FINANCIAL ADVISOR

Mr. Mark M. McLiney
Mr. Andrew T. Friedman
SAMCO Capital Markets, Inc.
mmcliney@samcocapital.com
afriedman@samcocapital.com
tsaintjohn@samcocapital.com
valonzo@samcocapital.com

BOND COUNSEL

Mr. Tom Spurgeon
Ms. Kathy Cooper
Mr. Jay Juarez
McCall, Parkhurst & Horton L.L.P.
700 N St. Mary's, Suite 1525
San Antonio, Texas 78205

Telephone: (210) 225-2800
tspurgeon@mphlegal.com
kcooper@mphlegal.com
juarez@mphlegal.com

Purchaser Contacts

Ms. Mary Parrish Coley
Branch Banking & Trust Company
Mcoley@bbandt.com

Mr. Troy Pollard
Ms. Debbie Leal
Mr. John Morrell
BBVA Compass Bank
Troy.pollard@bbvacompass.com
Debbie.leal@bbvacompass.com
John.morrell@bbva.com

Mr. Gary K. Whitt
Bank of Texas
gwhitt@bankoftexas.com

Mr. James Gaskins
First National Bank of Texas
James.gaskins@1stnb.com

Mr. Steve Johnson
Ms. Brenda Pollard
JPMorgan Chase Bank
Steven.d.johnson@chase.com
Brenda.a.pollard@jpmorgan.com

Mr. Anthony White
Frost Bank
Awhite@frostbank.com

ORDINANCE NO. 607

ORDINANCE AUTHORIZING THE ISSUANCE, SALE AND DELIVERY OF \$3,720,000 IN AGGREGATE PRINCIPAL AMOUNT OF *CITY OF KENNEDALE, TEXAS GENERAL OBLIGATION REFUNDING BOND, SERIES 2016*; SECURING THE PAYMENT THEREOF BY AUTHORIZING THE LEVY OF AN ANNUAL AD VALOREM TAX; AND APPROVING AND AUTHORIZING THE EXECUTION OF ALL INSTRUMENTS AND PROCEDURES RELATED THERETO INCLUDING AN ESCROW AGREEMENT, A PAYING AGENT/REGISTRAR AGREEMENT AND A PURCHASE CONTRACT AND INVESTMENT LETTER

DATE OF APPROVAL: AUGUST 15, 2016

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SIGNATURES

Exhibit A	Form of Paying Agent/Registrar Agreement
Exhibit B	Written Procedures Relating to Continuing Compliance with Federal Tax Covenants
Exhibit C	Form of Escrow Agreement
Exhibit D	Form of Notice of Redemption
Exhibit E	Form of Purchase Contract and Investment Letter

ORDINANCE NO. 607

ORDINANCE AUTHORIZING THE ISSUANCE, SALE AND DELIVERY OF \$3,720,000 IN AGGREGATE PRINCIPAL AMOUNT OF CITY OF KENNEDALE, TEXAS GENERAL OBLIGATION REFUNDING BOND, SERIES 2016; SECURING THE PAYMENT THEREOF BY AUTHORIZING THE LEVY OF AN ANNUAL AD VALOREM TAX; AND APPROVING AND AUTHORIZING THE EXECUTION OF ALL INSTRUMENTS AND PROCEDURES RELATED THERETO INCLUDING AN ESCROW AGREEMENT, A PAYING AGENT/REGISTRAR AGREEMENT AND A PURCHASE CONTRACT AND INVESTMENT LETTER

THE STATE OF TEXAS	§
COUNTY OF TARRANT	§
CITY OF KENNEDALE	§

WHEREAS, the **CITY OF KENNEDALE, TEXAS** (the "**City**") in Tarrant County, Texas, is a political subdivision of the State of Texas operating as a home-rule city pursuant to the Texas Local Government Code and its City Charter, which was originally approved by the qualified voters of the City on January 17, 1998, and which was most recently amended by the qualified voters of the City on May 7, 2016; and

WHEREAS, among numerous series of bonds and certificates of obligation of the City which are secured by the full faith and credit of the City and a pledge by the City to levy ad valorem taxes sufficient to pay principal of and interest on such bonds or certificates of obligations as they become due, there are specifically outstanding the following series of obligations:

City of Kennedale, Texas Combination Tax and Limited Pledge Revenue Certificates of Obligation, Series 2005, dated February 1, 2005, maturing February 15 in the years 2018, 2021, 2024, and 2026, currently outstanding in the principal amount of \$485,000 (the "**Series 2005 Certificates**"); and

City of Kennedale, Texas Combination Tax and Limited Pledge Revenue Certificates of Obligation, Series 2008, dated August 15, 2008, maturing February 15 in the years 2017 through 2020, and 2022, 2024, 2026, and 2028, currently outstanding in the principal amount of \$3,450,000 (the "**Series 2008 Certificates**"); and

WHEREAS, the City now desires to refund the following outstanding obligations:

- (i) all of the outstanding Series 2005 Certificates; and
- (ii) a portion of the Series 2008 Certificates;

which obligations are referred to collectively herein as the "**Refunded Obligations**" and are more specifically described as maturing in the years and in the respective principal amounts (aggregating \$3,935,000 in principal amount) and bearing interest as shown in the following tables:

SERIES 2005 CERTIFICATES TO BE REFUNDED

MATURITY (FEBRUARY 15)	PRINCIPAL AMOUNT MATURING IN YEAR (\$)	PRINCIPAL AMOUNT BEING REFUNDED (\$)	STATED INTEREST RATE (%)	CUSIP No. (489332)
2018	80,000	80,000	3.900	EW2
***	***	***	***	***
2021	135,000	135,000	4.100	EX0
***	***	***	***	***
2024	155,000	155,000	4.300	EY8
***	***	***	***	***
2026	115,000	115,000	4.400	EZ5

SERIES 2008 CERTIFICATES TO BE REFUNDED

MATURITY (FEBRUARY 15)	PRINCIPAL AMOUNT MATURING IN YEAR (\$)	PRINCIPAL AMOUNT BEING REFUNDED (\$)	STATED INTEREST RATE (%)	CUSIP No. (489332)
2019	245,000	245,000	4.000	FT8
2020	260,000	260,000	4.000	FU5
***	***	***	***	***
2022	545,000	545,000	4.250	FV3
***	***	***	***	***
2024	605,000	605,000	4.400	FW1
***	***	***	***	***
2026	645,000	645,000	4.500	FX9
***	***	***	***	***
2028	690,000	690,000	4.650	FY7

WHEREAS, all of the Refunded Obligations mature or are subject to redemption prior to maturity within 20 years of the date of the bonds hereinafter authorized; in particular, the Refunded Obligations and the respective ordinances which authorized the issuance of the Refunded Obligations provide that (i) the Series 2005 Certificates maturing on and after February 15, 2016 may be called at the option of the City on February 15, 2015, or any date thereafter, at par, and (ii) the Series 2008 Certificates maturing on and after February 15, 2019 may be called at the option of the City on February 15, 2018, or any date thereafter, at par; and

WHEREAS, Chapter 1207, Texas Government Code, as amended ("**Chapter 1207**"), authorizes the Issuer to issue refunding bonds and to deposit the proceeds from the sale thereof, and any other available funds or resources, directly with a place of payment (paying agent) for the Refunded Obligations, or with another trust company or commercial bank that does not act as a depository for the City, in an amount sufficient to provide for the payment and/or redemption of the Refunded Obligations, and such deposit, if made before such payment dates, shall constitute the making of firm banking and financial arrangements for the discharge and final payment or redemption of the Refunded Obligations; and

WHEREAS, Chapter 1207 (specifically Section 1207.062, Texas Government Code) further authorizes the City to enter into an escrow agreement with (i) any paying agent for the Refunded Obligations, or (ii) another trust company or commercial bank that does not act as a depository for the Board and is named in the proceedings authorizing such escrow agreement, with respect to the safekeeping, investment, reinvestment, administration and disposition of any such deposit, upon such terms and conditions as the City and such paying agent, trust company or commercial bank may agree; provided that such deposits may be invested and reinvested in:

(i) direct noncallable obligations of the United States, including obligations that are unconditionally guaranteed by the United States,

(ii) noncallable obligations of an agency or instrumentality of the United States, including obligations that are unconditionally guaranteed or insured by the agency or instrumentality and that, on the date the City Council of the City adopts or approves this Ordinance, are rated as to investment quality by a nationally recognized investment rating firm not less than AAA or its equivalent, and

(iii) noncallable obligations of a state or an agency or a county, municipality, or other political subdivision of a state that have been refunded and that, on the date the City Council of the Issuer adopts or approves this Order, are rated as to investment quality by a nationally recognized investment rating firm not less than AAA or its equivalent,

and all of which must mature and bear interest payable at such times and in such amounts as will be sufficient to provide for the scheduled payment or redemption of the Refunded Obligations; and

WHEREAS, (i) **U.S. BANK NATIONAL ASSOCIATION**, serves as the paying agent/registrar for the Series 2005 Certificates, and (ii) **WELLS FARGO BANK, N.A.**, serves as the paying agent/registrar for the Series 2008 Certificates;

WHEREAS, **BOKF, NA**, which is a trust company or commercial bank that does not act as a depository for the City, is eligible to serve as the "Escrow Agent" under the "Escrow Agreement, and the City Council of the City (the "**City Council**") desires to appoint BOKF, NA to serve as the Escrow Agent for the Refunded Obligations; and

WHEREAS, the Escrow Agreement hereinafter authorized, under which BOKF, NA will serve as the Escrow Agent, constitutes an escrow agreement of the kind authorized and permitted by Chapter 1207; and

WHEREAS, the City Council of the City hereby finds and declares a public purpose and deems it advisable and in the best interests of the City to issue a bond (defined in Section 3 hereof as the "**Bond**"), the proceeds of which will be used to pay costs of issuance and refund the Refunded Obligations in order to achieve a gross debt service savings and a net present value debt service savings for the benefit of the taxpayers of the City; and

WHEREAS, such refunding of the Refunded Obligations will result in a gross debt service savings of \$405,809.25 and a net present value debt service savings of \$356,405.67 (i.e., 10.256% of the principal amount of the Refunded Obligations); and

WHEREAS, the Bond hereinafter authorized and designated is to be issued and delivered pursuant to Chapter 1207 and Chapter 1201, Texas Government Code; and

WHEREAS, it is hereby officially found and determined that the meeting at which this Ordinance was passed was open to the public, and public notice of the time, place, and purpose of said meeting was given, all as required by Chapter 551, Texas Government Code;

THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF KENNEDALE, TEXAS:

SECTION 1. AMOUNT AND PURPOSE OF THE BOND. The City's general obligation refunding bond (hereinafter sometimes called the "**Bond**") is hereby authorized to be issued in the aggregate principal amount of **\$3,720,000 FOR THE PURPOSE OF PROVIDING FUNDS TO REFUND A PORTION OF THE CITY'S GENERAL OBLIGATION INDEBTEDNESS AND PAY COSTS OF ISSUANCE.**

SECTION 2. DESIGNATION. The Bond authorized to be issued by this Ordinance shall be designated the **CITY OF KENNEDALE, TEXAS GENERAL OBLIGATION REFUNDING BOND, SERIES 2016.**

SECTION 3. DATE, DENOMINATIONS, NUMBERS, MATURITY, AND INSTALLMENT PAYMENTS OF THE BOND.

(a) Initially there shall be issued, sold, and delivered hereunder one fully registered Bond, without interest coupons, dated September 1, 2016, in the denomination and principal amount of **\$3,720,000**, numbered R-1, with any bond issued in replacement thereof being in the denomination and principal amount hereinafter stated and numbered consecutively from R-2 upward, payable in installments to the registered owner thereof, or to the registered assignee of said bond (in each case, the "**Registered Owner**").

(b) Principal of the Bond shall mature and be payable in installments on the dates and in the principal installment amounts and shall bear interest at the per annum rate set forth in the following schedule:

Payment Date (February 15)	Principal Installment Amount (\$)	Interest Rate (%)
2017	95,000	1.790
2018	90,000	1.790
2019	340,000	1.790
2020	350,000	1.790
2021	345,000	1.790
2022	360,000	1.790
2023	365,000	1.790
2024	375,000	1.790
2025	375,000	1.790
2026	385,000	1.790
2027	315,000	1.790
2028	<u>325,000</u>	1.790
Total	3,720,000	***

The term "Bond" as used in this Ordinance shall mean and include collectively the bond initially issued and delivered pursuant to this Ordinance, as well as all other substitute bonds and replacement bonds issued pursuant hereto.

SECTION 4. INTEREST. The Bond shall bear interest from the dates specified in the FORM OF BOND set forth in this Ordinance to date of maturity at the rate per annum set forth above. Said interest shall be payable in the manner provided and on the dates stated in the FORM OF BOND set forth in this Ordinance.

SECTION 5. CHARACTERISTICS OF THE BOND.

(a) Registration and Transfer; Authentication. The City shall keep or cause to be kept at the designated corporate trust or commercial banking office (currently located in Killeen, Texas) of First National Bank Texas (the "**Paying Agent/Registrar**"), books or records for the registration of the transfer of the Bond (the "**Registration Books**"), and the City hereby appoints the Paying Agent/Registrar as its registrar and transfer agent to keep such books or records and make such registrations of transfers under such reasonable regulations as the City and Paying Agent/Registrar may prescribe; and the Paying Agent/Registrar shall make such registrations and transfers as herein provided within three days of presentation in due and proper form. Attached hereto as Exhibit A is a copy of the Paying Agent/Registrar Agreement between the City and the Paying Agent/Registrar which is hereby approved in substantially final form, and the Mayor or Mayor Pro-Tem and the City Secretary of the City are hereby authorized to execute the Paying Agent/Registrar Agreement and approve any changes in the final form thereof.

The Paying Agent/Registrar shall obtain and record in the Registration Books the address of the Registered Owner of each Bond to which payments with respect to the Bond shall be mailed, as herein provided; but it shall be the duty of the Registered Owner to notify the Paying Agent/Registrar in writing of the address to which payments shall be mailed, and such interest payments shall not be mailed unless such notice has been given. The City shall have the right to inspect the Registration Books during regular business hours of the Paying Agent/Registrar, but otherwise the Paying Agent/Registrar shall keep the Registration Books confidential and, unless otherwise required by law, shall not permit their inspection by any other entity. The City shall pay the Paying Agent/Registrar's standard or customary fees and charges for making such registration, transfer and delivery of a substitute Bond or Bond. Registration of assignment and transfer of a Bond shall be made in the manner provided and with the effect stated in the FORM OF BOND set forth in this Ordinance. Each substitute Bond shall bear a letter and/or number to distinguish it from each other Bond.

Except as provided in Section 5(c) hereof, an authorized representative of the Paying Agent/Registrar shall, before the delivery of any such Bond, date and manually sign said Bond, and no such Bond shall be deemed to be issued or outstanding unless such Bond is so executed. The Paying Agent/Registrar promptly shall cancel the paid Bond or a Bond surrendered for transfer. No additional ordinances, orders or resolutions need be passed or adopted by the governing body of the City or any other body or person so as to accomplish the foregoing, and the Paying Agent/Registrar shall provide for the printing, execution and delivery of the substitute Bond in the manner prescribed herein. Pursuant to Subchapter D, Chapter 1201, Texas Government Code, the duty of transfer of the Bond as aforesaid is hereby imposed upon the Paying Agent/Registrar, and, upon the execution of said Bond, the transferred Bond shall be valid, incontestable, and enforceable in the same manner and with the same effect as the Bond which initially was issued and delivered pursuant to this Ordinance, approved by the Attorney General, and registered by the Comptroller of Public Accounts.

(b) Payment of Bond and Interest. The City hereby further appoints the Paying Agent/Registrar to act as the paying agent for paying the principal of and interest on the Bond, all as provided in this Ordinance. The Paying Agent/Registrar shall keep proper records of all payments made by the City and the Paying Agent/Registrar with respect to the Bond, and of all transfers of the Bond, and all replacements of the Bond, as provided in this Ordinance. However, in the event of a nonpayment of interest on a scheduled payment date, and for thirty (30) days thereafter, a new record date for such interest payment (a "**Special Record Date**") will be established by the Paying Agent/Registrar, if and when funds for the payment of such interest have been received from the City. Notice of the Special Record Date and of the scheduled payment date of the past due interest (which shall be 15 days after the Special Record Date) shall be sent at least five (5) business days prior to the Special Record Date by United States mail, first-class postage prepaid, to the address of the Registered Owner appearing on the Registration Books at the close of business on the last business day next preceding the date of mailing of such notice.

(c) In General. The Bond (i) shall be issued in fully registered form, without interest coupons, with the principal of and interest on such Bond to be payable only to the Registered Owner thereof, (ii) may be transferred and assigned, (iii) shall have the characteristics, (iv) shall be signed, sealed, executed and authenticated, (v) the principal of and interest on the Bond shall be payable, and (vi) shall be administered, and the Paying Agent/Registrar and the City shall have certain duties and responsibilities with respect to the Bond, all as provided, and in the manner and to the effect as required or indicated, in the FORM OF BOND set forth in this Ordinance. The Bond initially issued and delivered pursuant to this Ordinance is not required to be, and shall not be, authenticated by the Paying Agent/Registrar, but on each substitute Bond issued in transfer or replacement for any Bond issued under this Ordinance the Paying Agent/Registrar shall execute the PAYING AGENT/REGISTRAR'S AUTHENTICATION CERTIFICATE, in the form set forth in the FORM OF BOND.

(d) Substitute Paying Agent/Registrar. The City covenants with the registered Owner of the Bond that at all times while the Bond is outstanding the City will provide a competent and legally qualified bank, trust company, financial institution or other agency to act as and perform the services of Paying Agent/Registrar for the Bond under this Ordinance, and that the Paying Agent/Registrar will be one entity. The City reserves the right to, and may, at its option, but only with the prior written consent of the Registered Owner, change the Paying Agent/Registrar upon not less than 40 days written notice to the Paying Agent/Registrar, to be effective not later than 30 days prior to the next principal or interest payment date after such notice. In the event that the entity at any time acting as Paying Agent/Registrar (or its successor by merger, acquisition, or other method) should resign or otherwise cease to act as such, the City covenants that promptly it will appoint, but only upon the prior written consent of the Registered Owner, a competent and legally qualified bank, trust company, financial institution, or other agency to act as Paying Agent/Registrar under this Ordinance. Upon any change in the Paying Agent/Registrar, the previous Paying Agent/Registrar promptly shall transfer and deliver the Registration Books (or a copy thereof), along with all other pertinent books and records relating to the Bond, to the new Paying Agent/Registrar designated and appointed by the City. Upon any change in the Paying Agent/Registrar, the City promptly will cause a written notice thereof to be sent by the new Paying Agent/Registrar to the Registered Owner of

the Bond, by United States mail, first-class postage prepaid, which notice also shall give the address of the new Paying Agent/Registrar. By accepting the position and performing as such, each Paying Agent/Registrar shall be deemed to have agreed to the provisions of this Ordinance, and a certified copy of this Ordinance shall be delivered to the Paying Agent/Registrar.

(e) On the closing date, one Initial Bond representing the entire principal amount of the Bond, payable in stated installments to the Purchaser, executed by manual or facsimile signature of the Mayor or Mayor Pro-Tem of the City and the City Secretary of the City, approved by the Attorney General of Texas, and registered and manually signed by the Comptroller of Public Accounts of the State of Texas, will be delivered to the Purchaser or its designee. The Paying Agent/Registrar shall insert the date of delivery and deliver the Bond to the Purchaser.

SECTION 6. FORM OF BOND. The form of the Bond, including the form of Paying Agent/Registrar's Authentication Certificate, the form of Assignment and the form of Registration Certificate of the Comptroller of Public Accounts of the State of Texas to be attached to the Bond initially issued and delivered pursuant to this Ordinance, shall be, respectively, substantially as follows, with such appropriate variations, omissions, or insertions as are permitted or required by this Ordinance.

[The remainder of this page intentionally left blank]

(a) Form of Bond.

NO. R-1	UNITED STATES OF AMERICA STATE OF TEXAS COUNTY OF TARRANT CITY OF KENNEDALE, TEXAS GENERAL OBLIGATION REFUNDING BOND, SERIES 2016	PRINCIPAL AMOUNT \$3,720,000
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<u>Interest Rate</u>	<u>Delivery Date</u>	<u>Maturity Date</u>
As shown below	September 15, 2016	As shown below

REGISTERED OWNER: FIRST NATIONAL BANK TEXAS

PRINCIPAL AMOUNT: THREE MILLION SEVEN HUNDRED TWENTY THOUSAND DOLLARS

The CITY OF KENNEDALE, TEXAS (the "*City*"), being a political subdivision and home rule municipality of the State of Texas located in Tarrant County, Texas, for value received, hereby promises to pay, from the sources described herein, to the registered owner specified above, or registered assign (the "**Registered Owner**"), the principal amount from time to time unpaid and to pay interest thereon from the date of delivery of this Bond as specified above, at the rate per annum set forth in the table below, calculated on the basis of a 360-day year of twelve 30-day months. The principal of this Bond shall mature and be paid in installments on the dates and in the amounts set forth in the table below:

<u>Payment Date (February 15)</u>	<u>Principal Installment Amount (\$)</u>	<u>Interest Rate (%)</u>
2017	95,000	1.790
2018	90,000	1.790
2019	340,000	1.790
2020	350,000	1.790
2021	345,000	1.790
2022	360,000	1.790
2023	365,000	1.790
2024	375,000	1.790
2025	375,000	1.790
2026	385,000	1.790
2027	315,000	1.790
2028	<u>325,000</u>	1.790
Total	3,720,000	***

THE PRINCIPAL OF AND INTEREST ON THIS BOND are payable in lawful money of the United States of America, without exchange or collection charges. The City shall pay interest on the unpaid principal installments of this Bond on February 15, 2017, and on each February 15 and August 15 thereafter to the date of maturity thereof. The last principal installment of this Bond shall be paid to the Registered Owner hereof upon presentation and surrender of this Bond at maturity at the designated corporate trust or commercial banking office of **FIRST NATIONAL BANK TEXAS** (currently located in Killeen, Texas), which is the "**Paying Agent/Registrar**" for this Bond. The payment of all other principal installments of and interest on this Bond shall be made by the Paying Agent/Registrar to the Registered Owner hereof on each principal and interest payment date by check or draft, dated as of such principal and interest payment date, drawn by the Paying Agent/Registrar on, and payable solely from, funds of the City required by the ordinance authorizing the issuance of this Bond (the "**Ordinance**") to be on deposit with the Paying Agent/Registrar for such purpose as hereinafter provided; and such check or draft shall be sent by the Paying Agent/Registrar by United States mail, first-class postage prepaid, on each such interest payment date, to the Registered Owner hereof, at its address as it appeared on the last business day of the month next preceding each such date (the "**Record Date**") on the Registration Books kept by the Paying Agent/Registrar, as hereinafter described. In addition, principal and interest may be paid by such other method, acceptable to the Paying Agent/Registrar, requested by, and at the risk and expense of, the Registered Owner.

THE CITY COVENANTS WITH THE REGISTERED OWNER of this Bond that on or before each principal payment date and interest payment date for this Bond it will make available to the Paying Agent/Registrar, from the "Interest and Sinking Fund" created by the Ordinance, the amounts required to provide for the payment, in immediately available funds, of all principal of and interest on the Bond, when due.

IF THE DATE FOR THE PAYMENT of the principal of or interest on this Bond shall be a Saturday, Sunday, a legal holiday, or a day on which banking institutions in the city where the designated corporate trust or commercial banking office of the Paying Agent/Registrar is located are authorized by law or executive order to close, then the date for such payment shall be the next succeeding day which is not such a Saturday, Sunday, legal holiday, or day on which banking institutions are authorized to close; and payment on such date shall have the same force and effect as if made on the original date payment was due.

THIS BOND IS DATED AS OF SEPTEMBER 1, 2016, and is authorized and issued pursuant to and in compliance with the Constitution and laws of the State of Texas in the original aggregate principal amount of **\$3,720,000 FOR THE PURPOSE OF PROVIDING FUNDS TO REFUND A PORTION OF THE CITY'S GENERAL OBLIGATION INDEBTEDNESS AND PAY COSTS OF ISSUANCE.**

ON FEBRUARY 15, 2024, or on any date thereafter, the principal installment payments of this Bond maturing on and after *February 15, 2025*, may be redeemed prior to their scheduled maturities, at the option of the City, with funds derived from any available and lawful source, as a whole, or in part, at the redemption price of the principal amount of this Bond called for redemption,

plus accrued interest thereon to the date fixed for redemption. The City shall determine the maturity or maturities, and the principal amount of this Bond within each maturity, to be redeemed.

AT LEAST 30 DAYS prior to the date fixed for any redemption of this Bond or portions thereof prior to maturity, a written notice of such redemption shall be sent by the Paying Agent/Registrar by United States mail, first-class postage prepaid to the Registered Owner of this Bond to be redeemed at its address as it appeared on the Registration Books maintained by the Paying Agent/Registrar on the day such notice of redemption is mailed. The notice with respect to an optional redemption may state (1) that it is conditioned upon the deposit of moneys, in an amount equal to the amount necessary to effect the redemption, with the Paying Agent/Registrar no later than the redemption date, or (2) that the City retains the right to rescind such notice at any time prior to the scheduled redemption date if the City delivers a certificate of an authorized representative to the Paying Agent/Registrar instructing the Paying Agent/Registrar to rescind the redemption notice, and such notice and optional redemption shall be of no effect if such moneys are not so deposited or if the notice is so rescinded. Any notice of redemption so mailed shall be conclusively presumed to have been duly given irrespective of whether received by the Registered Owner. By the date fixed for any such redemption, due provision shall be made with the Paying Agent/Registrar for the payment of the required redemption price for the Bond or portions thereof which are to be so redeemed. If such written notice of redemption is mailed and if due provision for such payment is made, all as provided above, the Bond or portions thereof which are to be so redeemed thereby automatically shall be treated as redeemed prior to their scheduled maturities, and they shall not bear interest after the date fixed for redemption, and they shall not be regarded as being outstanding except for the right of the Registered Owner to receive the redemption price from the Paying Agent/Registrar out of the funds provided for such payment. If a portion of this Bond shall be redeemed a substitute Bond having the same principal installment maturity dates, bearing interest at the same rates, and in an aggregate principal amount equal to the unredeemed portion thereof, will be issued to the Registered Owner upon the surrender thereof for cancellation, at the expense of the City, all as provided in the Ordinance.

UPON THE PAYMENT OF THE OUTSTANDING principal balance of this Bond, the Paying Agent/Registrar shall note in the Bond Registration Books the amount of such payment, the date said payment was made and the remaining unpaid principal balance of this Bond.

THIS BOND IS ISSUED AS A FULLY REGISTERED BOND, without interest coupons, in the denomination of the principal amount thereof. As provided in the Ordinance, this Bond may, at the request of the Registered Owner or the assignee hereof, be assigned or transferred for a like aggregate principal amount of a fully registered Bond in the denomination of the principal amount hereof, without interest coupons, payable to the Registered Owner or assignees as the case may be, having the same denomination, upon surrender of this Bond to the Paying Agent/Registrar for cancellation, all in accordance with the form and procedures set forth in the Ordinance. Among other requirements for such assignment and transfer, this Bond must be presented and surrendered to the Paying Agent/Registrar, together with proper instruments of assignment, in form and with guarantee of signatures satisfactory to the Paying Agent/Registrar, evidencing assignment of this Bond. The form of Assignment printed or endorsed on this Bond may be executed by the Registered

Owner to evidence the assignment hereof, but such method is not exclusive, and other instruments of assignment satisfactory to the Paying Agent/Registrar may be used to evidence the assignment of this Bond by the Registered Owner. The Paying Agent/Registrar's reasonable standard or customary fees and charges for assigning, transferring or exchanging any Bond will be paid by the City. In any circumstance, any taxes or governmental charges required to be paid with respect thereto shall be paid by the one requesting such assignment or transfer, as a condition precedent to the exercise of such privilege. The Paying Agent/Registrar shall not be required to make any such transfer during the period commencing with the close of business on any Record Date and ending with the opening of business on the next following principal or interest payment date.

IN THE EVENT ANY PAYING AGENT/REGISTRAR FOR THE BOND IS CHANGED by the City, resigns, or otherwise ceases to act as such, the City has covenanted in the Ordinance that it promptly will appoint a competent and legally qualified substitute therefor, and cause written notice thereof to be mailed to the Registered Owner of the Bond.

IT IS HEREBY CERTIFIED, RECITED, AND COVENANTED that this Bond has been duly and validly authorized, issued and delivered; that all acts, conditions and things required or proper to be performed, exist and be done precedent to or in the authorization, issuance and delivery of this Bond have been performed, existed and been done in accordance with law, and that this Bond does not exceed any constitutional or statutory limitation; that this Bond is an obligation of the City; and that ad valorem taxes sufficient to provide for the payment of the interest on and principal of this Bond, as such interest comes due, and as such principal matures, have been levied and ordered to be levied against all taxable property in the City, and have been pledged for such payment, without limit as to rate or amount, all as provided in the Ordinance authorizing the Bonds.

THE CITY HAS RESERVED THE RIGHT to amend the Ordinance as provided therein, and under some (but not all) circumstances amendments thereto must be approved by the Registered Owner of the Bond.

BY BECOMING THE REGISTERED OWNER OF THIS BOND, the Registered Owner thereby acknowledges all of the terms and provisions of the Ordinance, agrees to be bound by such terms and provisions, acknowledges that the Ordinance is duly recorded and available for inspection in the official minutes and records of the governing body of the City, and agrees that the terms and provisions of this Bond and the Ordinance constitute a contract between the Registered Owner hereof and the City.

IN WITNESS WHEREOF, the City has caused this Bond to be signed with the manual or facsimile signature of the Mayor or Mayor Pro-Tem of the City and countersigned with the manual or facsimile signature of the City Secretary of the City, and has caused the official seal of the City to be duly impressed, or placed in facsimile, on this Bond.

(signature)
City Secretary
City of Kennedale, Texas

(signature)
Mayor (Pro-Tem)
City of Kennedale, Texas

(SEAL)

(b) Form of Paying Agent/Registrar's Authentication Certificate.

PAYING AGENT/REGISTRAR'S AUTHENTICATION CERTIFICATE

(To be executed if this Bond is not accompanied by an executed Registration
Certificate of the Comptroller of Public Accounts of the State of Texas)

It is hereby certified that this Bond has been issued under the provisions of the Ordinance described in the text of this Bond; and that this Bond has been issued in replacement of, or transferred for, a Bond of a Series which originally was approved by the Attorney General of the State of Texas and registered by the Comptroller of Public Accounts of the State of Texas.

Dated:

FIRST NATIONAL BANK TEXAS
Paying Agent/Registrar

By: _____
Authorized Representative

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(d) Form of Assignment.

ASSIGNMENT
(Please print or type clearly)

For value received, the undersigned hereby sells,
assigns and transfers unto: _____

Transferee's Social Security or Taxpayer
Identification Number: _____

Transferee's name and address, including zip code: _____

_____ the within Bond and all rights thereunder, and hereby irrevocably constitutes and appoints
_____, attorney, to register the transfer of
the within Bond on the books kept for registration thereof, with full power of substitution in the premises.

Dated: _____.

Signature Guaranteed: _____

NOTICE: Signature(s) must be guaranteed by an eligible guarantor institution participating in a securities transfer association recognized signature guarantee program.

NOTICE: The signature above must correspond with the name of the Registered Owner as it appears upon the front of this Bond in every particular, without alteration or enlargement or any change whatsoever.

(e) Form of Registration Certificate of the Comptroller of Public Accounts:

COMPTROLLER'S REGISTRATION CERTIFICATE: REGISTER NO.

I hereby certify that this Bond has been examined, certified as to validity, and approved by the Attorney General of the State of Texas, and that this Bond has been registered by the Comptroller of Public Accounts of the State of Texas.

Witness my signature and seal this _____.

Comptroller of Public Accounts
of the State of Texas

(COMPTROLLER'S SEAL)

SECTION 7. INTEREST AND SINKING FUND; TAX LEVY; SECURITY INTEREST.

(a) Interest and Sinking Fund; Tax Levy. A special "*Interest and Sinking Fund*" is hereby created and shall be established and maintained by the City at an official depository bank of the City. Said Interest and Sinking Fund shall be kept separate and apart from all other funds and accounts of the City, and shall be used only for paying the interest on and the principal of the Bond. Immediately after the issuance and delivery of the Bond, all accrued interest on the Bond, if any, together with any premium on the Bond that is not used by the City to pay costs of issuance in accordance with the provisions of Section 1201.042(d), Texas Government Code, as amended, shall be deposited to the credit of the Interest and Sinking Fund. In addition, all ad valorem taxes levied and collected for and on account of the Bond shall be deposited, as collected, to the credit of said Interest and Sinking Fund. For each fiscal year while the Bond or interest thereon is outstanding and unpaid, the governing body of the City shall compute and ascertain a rate and amount of ad valorem tax which will be sufficient to raise and produce the money required to pay the interest on the Bond as such interest comes due, and to provide and maintain a sinking fund adequate to pay the principal of the Bond as such principal matures (but never less than 2% of the original principal amount of the Bond as a sinking fund each year); and said tax shall be based on the latest approved tax rolls of the City, with full allowance being made for tax delinquencies and the cost of tax collection. Said rate and amount of ad valorem tax is hereby levied, and is hereby ordered to be levied, against all taxable property in the City for each year while the Bond or interest thereon is outstanding and unpaid; and said tax shall be assessed and collected each such year and deposited to the credit of the Interest and Sinking Fund created by this Ordinance. Said ad valorem taxes sufficient to provide for the payment of the interest on and principal of the Bond, as such interest comes due and such principal matures, are hereby pledged for such payment, within the limit prescribed by law.

(b) Security Interest. Chapter 1208, Texas Government Code, applies to the issuance of the Bond and the pledge of the ad valorem taxes granted by the City under Section 7(a) of this Ordinance, and is therefore valid, effective, and perfected. If Texas law is amended at any time while the Bond is outstanding and unpaid such that the pledge of the ad valorem taxes granted by the City under Section 7(a) of this Ordinance is to be subject to the filing requirements of Chapter 9, Texas Business & Commerce Code, then in order to preserve to the registered owner of the Bond the perfection of the security interest in said pledge, the City agrees to take such measures as it determines are reasonable and necessary under Texas law to comply with the applicable provisions of Chapter 9, Texas Business & Commerce Code, and enable a filing to perfect the security interest in said pledge to occur.

SECTION 8. INVESTMENTS. Funds on deposit in the Interest and Sinking Fund shall be secured by the depository bank of the City in the manner and to the extent required by law to secure other public funds of the City and may be invested from time to time in any investment authorized in the Public Funds Investment Act (Chapter 2256, Texas Government Code) and the City's investment policy adopted in accordance with the provisions of the Public Funds Investment Act at the direction of the City Manager or Finance Director of the City; provided, however, that investments purchased for and held in the Interest and Sinking Fund shall have a final maturity no later than the next principal or interest payment date for which such funds are required. Income and

profits from such investments shall be deposited in the Interest and Sinking Fund. It is further provided, however, that any interest earnings on Bond proceeds which are required to be rebated to the United States of America pursuant to Section 13 hereof in order to prevent the Bond from being an arbitrage bond shall be so rebated and not considered as interest earnings for the purposes of this Section.

SECTION 9. DEFEASANCE OF BOND. (a) The Bond and the interest thereon shall be deemed to be paid, retired and no longer outstanding (a "**Defeased Bond**") within the meaning of this Ordinance, except to the extent provided in subsection (d) of this Section, when payment of the principal of such Bond, plus interest thereon to the due date (whether such due date be by reason of maturity or otherwise) either (i) shall have been made or caused to be made in accordance with the terms thereof, or (ii) shall have been provided for on or before such due date by irrevocably depositing with or making available to the Paying Agent/Registrar in accordance with an escrow agreement or other instrument (the "**Future Escrow Agreement**") for such payment (1) lawful money of the United States of America sufficient to make such payment or (2) Defeasance Securities that mature as to principal and interest in such amounts and at such times as will insure the availability, without reinvestment, of sufficient money to provide for such payment (which sufficiency shall be verified by a certified public accountant or a firm of certified public accountants), and when proper arrangements have been made by the City with the Paying Agent/Registrar for the payment of its services until the Defeased Bond shall have become due and payable. At such time as the Bond shall be deemed to be a Defeased Bond hereunder, as aforesaid, the Bond and the interest thereon shall no longer be secured by, payable from, or entitled to the benefits of, the ad valorem maintenance taxes herein levied and pledged as provided in this Ordinance, and such principal and interest shall be payable solely from such money or Defeasance Securities. Notwithstanding the foregoing, in the event the funds on deposit in the Future Escrow Agreement are deficient for any reason to pay debt service on the Defeased Bond when due, the City shall remain obligated to pay such deficiency from lawfully available and/or appropriated funds.

(b) Any moneys so deposited with the Paying Agent/Registrar may at the written direction of the City be invested in Defeasance Securities, maturing in the amounts and times as hereinbefore set forth, and all income from such Defeasance Securities received by the Paying Agent/Registrar that is not required for the payment of the Bond and interest thereon, with respect to which such money has been so deposited, shall be turned over to the City, or deposited as directed in writing by the City. Any Future Escrow Agreement pursuant to which the money and/or Defeasance Securities are held for the payment of the Defeased Bond may contain provisions permitting the investment or reinvestment of such moneys in Defeasance Securities or the substitution of other Defeasance Securities upon the satisfaction of the requirements specified in subsection (a)(i) or (ii) of this Section. All income from such Defeasance Securities received by the Paying Agent/Registrar which is not required for the payment of the Defeased Bond, with respect to which such money has been so deposited, shall be remitted to the City or deposited as directed in writing by the City.

(c) The term "**Defeasance Securities**" means (i) direct, noncallable obligations of the United States of America, including obligations that are unconditionally guaranteed by the United

States of America., (ii) noncallable obligations of an agency or instrumentality of the United States of America, including obligations that are unconditionally guaranteed or insured by the agency or instrumentality and that, on the date of the purchase thereof are rated as to investment quality by a nationally recognized investment rating firm not less than AAA or its equivalent, (iii) noncallable obligations of a state or an agency or a county, municipality, or other political subdivision of a state that have been refunded and that, on the date the governing body of the City adopts or approves the proceedings authorizing the financial arrangements are rated as to investment quality by a nationally recognized investment rating firm not less than AAA or its equivalent, and (iv) any other then authorized securities or obligations under applicable state law that may be used to defease obligations such as the Bond.

(d) Until the Defeased Bond shall have become due and payable, the Paying Agent/Registrar shall perform the services of Paying Agent/Registrar for the Defeased Bond the same as if they had not been defeased, and the City shall make proper arrangements to provide and pay for such services as required by this Ordinance.

SECTION 10. DAMAGED, MUTILATED, LOST, STOLEN, OR DESTROYED BOND.

(a) Replacement Bond. In the event any outstanding Bond is damaged, mutilated, lost, stolen, or destroyed, the Paying Agent/Registrar shall cause to be printed, executed, and delivered, a new Bond of the same principal amount, maturity, and interest rate, as the damaged, mutilated, lost, stolen, or destroyed Bond, in replacement for such Bond in the manner hereinafter provided.

(b) Application for Replacement Bond. Application for replacement of a damaged, mutilated, lost, stolen, or destroyed Bond shall be made by the Registered Owner thereof to the Paying Agent/Registrar. In every case of loss, theft, or destruction of a Bond, the Registered Owner applying for a replacement Bond shall furnish to the City and to the Paying Agent/Registrar such security or indemnity as may be required by them to save each of them harmless from any loss or damage with respect thereto. Also, in every case of loss, theft, or destruction of a Bond, the Registered Owner shall furnish to the City and to the Paying Agent/Registrar evidence to their satisfaction of the loss, theft, or destruction of such Bond, as the case may be. In every case of damage or mutilation of a Bond, the Registered Owner shall surrender to the Paying Agent/Registrar for cancellation the Bond so damaged or mutilated.

(c) No Default Occurred. Notwithstanding the foregoing provisions of this Section, in the event any such Bond shall have matured, and no default has occurred which is then continuing in the payment of the principal of, redemption premium, if any, or interest on such Bond, the City may authorize the payment of the same (without surrender thereof except in the case of a damaged or mutilated Bond) instead of issuing a replacement Bond, provided security or indemnity is furnished as above provided in this Section.

(d) Charge for Issuing Replacement Bond. Prior to the issuance of any replacement Bond, the Paying Agent/Registrar shall charge the Registered Owner of such Bond with all legal, printing, and other expenses in connection therewith. Every replacement Bond issued pursuant to the

provisions of this Section by virtue of the fact that any Bond is lost, stolen, or destroyed shall constitute a Bond of the City whether or not the lost, stolen, or destroyed Bond shall be found at any time, or be enforceable by anyone, and shall be entitled to all the benefits of this Ordinance equally and proportionately with any other Bond duly issued under this Ordinance.

(e) Authority for Issuing Replacement Bond. In accordance with Section 1201, Texas Government Code, this Section of this Ordinance shall constitute authority for the issuance of any such replacement Bond without necessity of further action by the City or any other body or person, and the duty of the replacement of such Bond is hereby authorized and imposed upon the Paying Agent/Registrar, and the Paying Agent/Registrar shall authenticate and deliver such replacement Bond in the form and manner and with the effect, as provided in Section 5(a) of this Ordinance for Bond issued in conversion and exchange of a Bond.

SECTION 11. CUSTODY, APPROVAL, AND REGISTRATION OF BOND; BOND COUNSEL'S OPINION; AND CUSIP NUMBERS. The Mayor of the City is hereby authorized to have control of the Bond initially issued and delivered hereunder and all necessary records and proceedings pertaining to the Bond pending its delivery and its investigation, examination, and approval by the Attorney General of the State of Texas, and its registration by the Comptroller of Public Accounts of the State of Texas. Upon registration of the Bond the Comptroller of Public Accounts (or a deputy designated in writing to act for said Comptroller) shall manually sign the Comptroller's Registration Certificate attached to such Bond, and the seal of said Comptroller shall be impressed, or placed in facsimile, on such Certificate. The approving legal opinion of the City's Bond Counsel (with an appropriate certificate pertaining thereto executed by facsimile signature of the City Secretary of the City) and the assigned CUSIP numbers may, at the option of the City, be printed on the Bond issued and delivered under this Ordinance, but neither shall have any legal effect, and shall be solely for the convenience and information of the Registered Owner of the Bond. In addition, if bond insurance is obtained, the Bond may bear an appropriate legend as provided by the insurer.

SECTION 12. COVENANTS REGARDING TAX EXEMPTION OF INTEREST ON THE BOND. (a) Covenants. The City covenants to take any action necessary to assure, or refrain from any action which would adversely affect, the treatment of the Bond as an obligation described in section 103 of the Internal Revenue Code of 1986, as amended (the "**Code**"), the interest on which is not includable in the "gross income" of the holder for purposes of federal income taxation. In furtherance thereof, the City covenants as follows:

(1) to take any action to assure that no more than 10 percent of the proceeds of the Bond or the projects financed therewith (less amounts deposited to a reserve fund, if any) are used for any "private business use," as defined in section 141(b)(6) of the Code or, if more than 10 percent of the proceeds or the projects financed therewith are so used, such amounts, whether or not received by the City, with respect to such private business use, do not, under the terms of this Ordinance or any underlying arrangement, directly or indirectly, secure or provide for the payment of more than 10 percent of the debt service on the Bond, in contravention of section 141(b)(2) of the Code;

(2) to take any action to assure that in the event that the "private business use" described in subsection (1) hereof exceeds 5 percent of the proceeds of the Bond or the projects financed therewith (less amounts deposited into a reserve fund, if any) then the amount in excess of 5 percent is used for a "private business use" which is "related" and not "disproportionate," within the meaning of section 141(b)(3) of the Code, to the governmental use;

(3) to take any action to assure that no amount which is greater than the lesser of \$5,000,000, or 5 percent of the proceeds of the Bond (less amounts deposited into a reserve fund, if any) is directly or indirectly used to finance loans to persons, other than state or local governmental units, in contravention of section 141(c) of the Code;

(4) to refrain from taking any action which would otherwise result in the Bond being treated as a "private activity bond" within the meaning of section 141(b) of the Code;

(5) to refrain from taking any action that would result in the Bond being "federally guaranteed" within the meaning of section 149(b) of the Code;

(6) to refrain from using any portion of the proceeds of the Bond, directly or indirectly, to acquire or to replace funds which were used, directly or indirectly, to acquire investment property (as defined in section 148(b)(2) of the Code) which produces a materially higher yield over the term of the Bond, other than investment property acquired with –

(A) proceeds of the Bond invested for a reasonable temporary period of 3 years or less or, in the case of a refunding bond, for a period of 90 days or less until such proceeds are needed for the purpose for which the Bond is issued,

(B) amounts invested in a bona fide debt service fund, within the meaning of section 1.148-1(b) of the Treasury Regulations, and

(C) amounts deposited in any reasonably required reserve or replacement fund to the extent such amounts do not exceed 10 percent of the proceeds of the Bond;

(7) to otherwise restrict the use of the proceeds of the Bond or amounts treated as proceeds of the Bond, as may be necessary, so that the Bond does not otherwise contravene the requirements of section 148 of the Code (relating to arbitrage) and, to the extent applicable, section 149(d) of the Code (relating to advance refundings); and

(8) to pay to the United States of America at least once during each five-year period (beginning on the date of delivery of the Bond) an amount that is at least equal to 90 percent of the "Excess Earnings," within the meaning of section 148(f) of the Code and to pay to the United States of America, not later than 60 days after the Bond has been paid in full, 100

percent of the amount then required to be paid as a result of Excess Earnings under section 148(f) of the Code.

(b) Rebate Fund. In order to facilitate compliance with the above covenant (8), a "**Rebate Fund**" is hereby established by the City for the sole benefit of the United States of America, and such fund shall not be subject to the claim of any other person, including without limitation the bondholders. The Rebate Fund is established for the additional purpose of compliance with section 148 of the Code.

(c) Proceeds. The City understands that the term "proceeds" includes "disposition proceeds" as defined in the Treasury Regulations and, in the case of refunding bonds, transferred proceeds (if any) and proceeds of the refunded bonds expended prior to the date of issuance of the Bond. It is the understanding of the City that the covenants contained herein are intended to assure compliance with the Code and any regulations or rulings promulgated by the U.S. Department of the Treasury pursuant thereto. In the event that regulations or rulings are hereafter promulgated which modify or expand provisions of the Code, as applicable to the Bond, the City will not be required to comply with any covenant contained herein to the extent that such failure to comply, in the opinion of nationally recognized bond counsel, will not adversely affect the exemption from federal income taxation of interest on the Bond under section 103 of the Code. In the event that regulations or rulings are hereafter promulgated which impose additional requirements which are applicable to the Bond, the City agrees to comply with the additional requirements to the extent necessary, in the opinion of nationally recognized bond counsel, to preserve the exemption from federal income taxation of interest on the Bond under section 103 of the Code. In furtherance of such intention, the City hereby authorizes and directs the Mayor, City Manager and Finance Director of the City to execute any documents, certificates or reports required by the Code and to make such elections, on behalf of the City, which may be permitted by the Code as are consistent with the purpose for the issuance of the Bond.

(d) Allocation of, and Limitation on, Expenditures for the Project. The City covenants to account for the expenditure of sale proceeds and investment earnings to be used for the purposes described in Section 1 of this Ordinance (the "**Project**") on its books and records in accordance with the requirements of the Internal Revenue Code. The City recognizes that in order for the proceeds to be considered used for the reimbursement of costs, the proceeds must be allocated to expenditures within 18 months of the later of the date that (1) the expenditure is made, or (2) the Project is completed; but in no event later than three years after the date on which the original expenditure is paid. The foregoing notwithstanding, the City recognizes that in order for proceeds to be expended under the Internal Revenue Code, the sale proceeds or investment earnings must be expended no more than 60 days after the earlier of (1) the fifth anniversary of the delivery of the Bond, or (2) the date the Bond is retired. The City agrees to obtain the advice of nationally-recognized bond counsel if such expenditure fails to comply with the foregoing to assure that such expenditure will not adversely affect the tax-exempt status of the Bond. For purposes hereof, the issuer shall not be obligated to comply with this covenant if it obtains an opinion that such failure to comply will not adversely affect the excludability for federal income tax purposes from gross income of the interest.

(e) Disposition of Project. The City covenants that the property constituting the Project will not be sold or otherwise disposed in a transaction resulting in the receipt by the City of cash or other compensation, unless the City obtains an opinion of nationally-recognized bond counsel that such sale or other disposition will not adversely affect the tax-exempt status of the Bond. For purposes of the foregoing, the portion of the property comprising personal property and disposed in the ordinary course shall not be treated as a transaction resulting in the receipt of cash or other compensation. For purposes hereof, the City shall not be obligated to comply with this covenant if it obtains an opinion that such failure to comply will not adversely affect the excludability for federal income tax purposes from gross income of the interest.

(f) Written Procedures. Unless superseded by another action of the City, to ensure compliance with the covenants contained herein regarding private business use, remedial actions, arbitrage and rebate, the City Council hereby adopts and establishes the instructions attached hereto as Exhibit B as the City's written procedures.

(g) Designation as Qualified Tax-Exempt Obligation. The City hereby designates the Bond as a "qualified tax-exempt obligation" as defined in section 265(b)(3) of the Code. In furtherance of such designation, the City represents, covenants and warrants the following: (a) that during the calendar year in which the Bond is issued, the City (including any subordinate entities) has not designated nor will designate bonds, which when aggregated with the Bond, will result in more than \$10,000,000 of "qualified tax-exempt bonds" being issued; (b) that the City reasonably anticipates that the amount of tax-exempt obligations issued, during the calendar year in which the Bond is issued, by the City (or any subordinate entities) will not exceed \$10,000,000; and, (c) that the City will take such action or refrain from such action as necessary, and as more particularly set forth in this Section, in order that the Bond will not be considered a "private activity bonds" within the meaning of section 141 of the Code.

SECTION 13. SALE OF BOND. The Bond is hereby initially sold and shall be delivered to **FIRST NATIONAL BANK TEXAS** (the "**Purchaser**") for cash for the par value thereof and no accrued interest, pursuant to the *Purchase Contract and Investment Letter*, attached hereto as Exhibit C, dated the date of the final passage of this Ordinance which the Mayor or Mayor Pro-Tem of the City is hereby authorized to execute and deliver. In satisfaction of Section 1201.022(a)(3), Texas Government Code, and upon consultation with the City's Financial Advisor, the City Council hereby determines that the final terms of the Bond as set forth in this Ordinance are in the City's best interests. The Bond initially shall be registered in the name of **FIRST NATIONAL BANK TEXAS**.

SECTION 14. APPROVAL OF ESCROW AGREEMENT; REFUNDING OF REFUNDED OBLIGATIONS. Concurrently with the initial delivery of the Bond the City shall deposit an amount from the proceeds from the sale of the Bond and other available funds of the City, if required, with **BOKF, NA**, as "**Escrow Agent**," sufficient to provide for the refunding of the Refunded Obligations, all in accordance with Chapter 1207. Attached hereto as Exhibit D is an Escrow Agreement between the City and the Escrow Agent, which is hereby approved in substantially final form, and the Mayor or Mayor Pro-Tem and City Secretary of the City are hereby

authorized, for and on behalf of the City, to approve any changes in the Escrow Agreement from the form attached hereto and to execute the Escrow Agreement in final form.

SECTION 15. NOTICE OF DEFEASANCE AND REDEMPTION OF REFUNDED OBLIGATIONS. There is attached to this Ordinance as *Exhibit E* is a *NOTICE OF DEFEASANCE AND REDEMPTION* with respect each series of the Refunded Obligations. The Refunded Obligations are hereby called for redemption on the "Redemption Date" set forth in the respective *NOTICE OF DEFEASANCE AND REDEMPTION*. As soon as practicable after the adoption of this Ordinance, a copy of each such *NOTICE OF DEFEASANCE AND REDEMPTION* shall be (i) posted with the MSRB through the EMMA system, and (ii) sent to all registered owners of the respective Refunded Obligations by first class mail postage prepaid, addressed to such registered owners at their respective addresses shown on the registration books of the paying agent/registrar for the Refunded Obligations.

SECTION 16. FURTHER PROCEDURES. The Mayor, Mayor Pro-Tem, City Manager, Finance Director, and City Secretary of the City are hereby expressly authorized, empowered and directed from time to time and at any time to do and perform all such acts and things and to execute, acknowledge and deliver in the name and under the corporate seal and on behalf of the City all other instruments, whether or not herein mentioned, as may be necessary or desirable in order to carry out the terms and provisions of this Ordinance, the Bond, and the sale of the Bond. In case any officer whose signature shall appear on the Bond shall cease to be such officer before the delivery of such Bond, such signature shall nevertheless be valid and sufficient for all purposes the same as if such officer had remained in office until such delivery.

SECTION 17. ORDINANCE A CONTRACT; AMENDMENTS. The Ordinance shall constitute a contract with the Registered Owner of the Bond, binding on the City and its successors and assigns, and shall not be amended or repealed by the City as long as any Bond remains outstanding except as permitted in this Section.

(a) The City may from time to time, without the consent of Registered Owner, except as otherwise required by paragraph (b) below, amend or supplement this Ordinance to (i) cure any ambiguity, defect or omission in this Ordinance that does not materially adversely affect the interests of the Registered Owner, (ii) grant additional rights or security for the benefit of the Registered Owner, (iii) add events of default as shall not be inconsistent with the provisions of this Ordinance and that shall not materially adversely affect the interests of the Registered Owner, (v) qualify this Ordinance under the Trust Indenture Act of 1939, as amended, or corresponding provisions of federal laws from time to time in effect, or (iv) make such other provisions in regard to matters or questions arising under this Ordinance as shall not be materially inconsistent with the provisions of this Ordinance and that shall not, in the opinion of nationally-recognized bond counsel, materially adversely affect the tax-exempt status of the Bond.

(b) Except as provided in paragraph (a) above, the Registered Owner of the Bond shall have the right from time to time to approve any amendment hereto that may be deemed necessary or desirable by the City; provided, however, that without the consent of the Registered Owner, nothing

herein contained shall permit or be construed to permit amendment of the terms and conditions of this Ordinance or in any of the Bond so as to:

- (1) Make any change in the maturity of the Bond;
- (2) Reduce the rate of interest borne by the Bond;
- (3) Reduce the amount of the principal of payable on the Bond; or
- (4) Modify the terms of payment of principal of or interest on the Bond or impose any condition with respect to such payment.

(c) If at any time the City shall desire to amend this Ordinance under Section 16(a) or (b) above, the City shall send by U.S. mail to the Registered Owner of the Bond a copy of the proposed amendment prior to its effective date.

(d) Whenever at any time within one year from the date of mailing of such notice the City shall receive an instrument or instruments executed by the Registered Owner, which instrument or instruments shall refer to the proposed amendment and which shall specifically consent to and approve such amendment, the City may adopt the amendment in substantially the same form.

(e) Upon the adoption of any amendatory Ordinance pursuant to the provisions of this Section, this Ordinance shall be deemed to be modified and amended in accordance with such amendatory Ordinance, and the respective rights, duties, and obligations of the City and Registered Owner of the Bond shall thereafter be determined, exercised, and enforced, subject in all respects to such amendment.

(f) Any consent given by the Registered Owner of the Bond pursuant to the provisions of this Section shall be irrevocable for a period of six months from the date of the such consent and shall be conclusive and binding upon all future Registered Owners of the Bond during such period. Such consent may be revoked at any time after six months from the date of said consent by the Registered Owner who gave such consent, or by a successor in title, by filing notice with the City, but such revocation shall not be effective if the Registered Owner has, prior to the attempted revocation, consented to and approved the amendment.

(g) For the purposes of establishing ownership of the Bond, the City shall rely solely upon the registration of the ownership of such Bond on the Registration Books kept by the Paying Agent/Registrar.

SECTION 18. REMEDIES IN EVENT OF DEFAULT. In addition to all the rights and remedies provided by the laws of the State of Texas, it is specifically covenanted and agreed particularly that in the event the City (i) defaults in the payment of the principal, premium, if any, or interest on the Bond, (ii) defaults in the deposits and credits required to be made to the Interest and Sinking Fund, or (iii) defaults in the observance or performance of any other of the covenants,

conditions or obligations set forth in this Ordinance, the Registered Owner of the Bond shall be entitled to seek a writ of mandamus issued by a court of proper jurisdiction compelling and requiring the governing body of the City and other officers of the City to observe and perform any covenant, condition or obligation prescribed in this Ordinance.

No delay or omission to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver of any such default or acquiescence therein, and every such right and power may be exercised from time to time and as often as may be deemed expedient. The specific remedy herein provided shall be cumulative of all other existing remedies, and the specification of such remedy shall not be deemed to be exclusive.

SECTION 19. NO RULE 15c2-12 UNDERTAKING; ANNUAL FINANCIAL STATEMENTS. The City has not made an undertaking in accordance with Rule 15c2-12 of the Securities and Exchange Commission (the "**Rule**") in connection with the issuance of the Bond inasmuch as the Purchaser is not acting as an "underwriter in a primary offering of municipal securities" within the meaning of the Rule. The City is not, therefore, obligated pursuant to the Rule to provide any on-going disclosure relating to the City or the Bond; however, as long as the Bond is outstanding, the City shall provide the following to the Registered Owner:

(a) Audited financial statements of the City, to be provided within 180 days after the close of each fiscal year ending on and after August 31, 2016; and

(b) A copy of the City's annual budget within not more than 30 days after it is adopted by the City's governing body.

SECTION 20. INTERESTED PARTIES. Nothing in this Ordinance expressed or implied is intended or shall be construed to confer upon, or to give to, any person or entity, other than the City and the Registered Owners of the Bond, any right, remedy or claim under or by reason of this Ordinance or any covenant, condition or stipulation hereof, and all covenants, stipulations, promises and agreements in this Ordinance contained by and on behalf of the City shall be for the sole and exclusive benefit of the City and the Registered Owners of the Bond.

SECTION 21. INCORPORATION OF RECITALS. The City hereby finds that the statements set forth in the recitals of this Ordinance are true and correct, and the City hereby incorporates such recitals as a part of this Ordinance.

SECTION 22. CHOICE OF LAW. This Ordinance shall be governed by and construed in accordance with the laws of the State of Texas.

SECTION 23. EFFECTIVE DATE. Pursuant to the provisions of Section 1201.028, Texas Government Code, this Ordinance shall become effective immediately after its adoption.

***ADOPTED BY THE CITY COUNCIL OF THE CITY OF KENNEDALE, TEXAS AT A
REGULAR MEETING HELD ON THE 15TH DAY OF AUGUST, 2016.***

Mayor, City of Kennedale, Texas

ATTEST:

City Secretary, City of Kennedale, Texas

(SEAL)

EXHIBIT A

THE PAYING AGENT/REGISTRAR AGREEMENT IS OMITTED AT THIS POINT
AS IT APPEARS IN EXECUTED FORM ELSEWHERE IN THIS TRANSCRIPT OF PROCEEDINGS

EXHIBIT B

WRITTEN PROCEDURES RELATING TO CONTINUING COMPLIANCE WITH FEDERAL TAX COVENANTS

A. Arbitrage. With respect to the investment and expenditure of the proceeds of the Bond, the City's Business Manager (the "**Responsible Person**") will:

- (i) monitor all amounts deposited into a sinking fund or funds (e.g., the Interest and Sinking Fund), to assure that the maximum amount invested at a yield higher than the yield on the Bonds does not exceed an amount equal to the debt service on the Bonds in the succeeding 12 month period plus a carryover amount equal to one-twelfth of the principal and interest payable on the Bonds for the immediately preceding 12-month period;
- (ii) monitor the actions of the Escrow Agent to ensure compliance with the applicable provisions of the Escrow Agreement, including with respect to reinvestment of cash balances;
- (iii) ensure that the applicable information return (e.g., IRS Form 8038-G, 8038-GC, or any successor forms) is timely filed with the IRS; and
- (iv) assure that, unless excepted from rebate and yield restriction under section 148(f) of the Code, excess investment earnings are computed and paid to the U.S. government at such time and in such manner as directed by the IRS (A) at least every 5 years after the date of delivery of the Bonds (the "**Issue Date**"), and (B) within 30 days after the date the Bonds are retired.

B. Private Business Use. With respect to the use of the facilities financed or refinanced with the proceeds of the Bonds the Responsible Person will:

- (i) monitor the date on which the facilities are substantially complete and available to be used for the purpose intended;
- (ii) monitor whether, at any time the Bonds are outstanding, any person, other than the City, the employees of the City, the agents of the City or members of the general public has any contractual right (such as a lease, purchase, management or other service agreement) with respect to any portion of the facilities;
- (iii) monitor whether, at any time the Bonds are outstanding, any person, other than the City, the employees of the City, the agents of the City or members of the general public has a right to use the output of the facilities (e.g., water, gas, electricity);

- (iv) monitor whether, at any time the Bonds are outstanding, any person, other than the City, the employees of the City, the agents of the City or members of the general public has a right to use the facilities to conduct or to direct the conduct of research;
- (v) determine whether, at any time the Bonds are outstanding, any person, other than the City, has a naming right for the facilities or any other contractual right granting an intangible benefit;
- (vi) determine whether, at any time the Bonds are outstanding, the facilities are sold or otherwise disposed of; and
- (vii) take such action as is necessary to remediate any failure to maintain compliance with the covenants contained in the Resolution related to the public use of the facilities.

C. Record Retention. The Responsible Person will maintain or cause to be maintained all records relating to the investment and expenditure of the proceeds of the Bonds and the use of the facilities financed or refinanced thereby for a period ending three (3) years after the complete extinguishment of the Bonds. If any portion of the Bonds is refunded with the proceeds of another series of tax-exempt obligations, such records shall be maintained until the three (3) years after the refunding obligations are completely extinguished. Such records can be maintained in paper or electronic format.

D. Responsible Person. The Responsible Person shall receive appropriate training regarding the City's accounting system, contract intake system, facilities management and other systems necessary to track the investment and expenditure of the proceeds and the use of the facilities financed or refinanced with the proceeds of the Bonds. The foregoing notwithstanding, the Responsible Person is authorized and instructed to retain such experienced advisors and agents as may be necessary to carry out the purposes of these instructions.

EXHIBIT C

THE PURCHASE CONTRACT AND INVESTMENT LETTER IS OMITTED AT THIS POINT
AS IT APPEARS IN EXECUTED FORM ELSEWHERE IN THIS TRANSCRIPT OF PROCEEDINGS

EXHIBIT D

THE ESCROW AGREEMENT IS OMITTED AT THIS POINT
AS IT APPEARS IN EXECUTED FORM ELSEWHERE IN THIS TRANSCRIPT OF PROCEEDINGS

EXHIBIT E

NOTICE OF DEFEASANCE AND REDEMPTION

To the Holders of the
CITY OF KENNEDALE, TEXAS
COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION, SERIES 2005
(Maturing on February 15 in the years 2018, 2021, 2024 and 2026)

NOTICE IS HEREBY GIVEN that the City of Kennedale, Texas (the "**City**"), in Tarrant County, Texas, has deposited cash and authorized investment securities, if any, into an irrevocable escrow account in order to pay, and has legally defeased, the following maturities of the City's outstanding **COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION, SERIES 2005**, dated February 1, 2005 (the "**Refunded Obligations**"):

CITY OF KENNEDALE, TEXAS COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION, SERIES 2005				
MATURITY (FEBRUARY 15)	PRINCIPAL AMOUNT MATURING IN YEAR (\$)	PRINCIPAL AMOUNT BEING REFUNDED (\$)	STATED INTEREST RATE (%)	CUSIP No. (489332)
2018	80,000	80,000	3.900	EW2
***	***	***	***	***
2021	135,000	135,000	4.100	EX0
***	***	***	***	***
2024	155,000	155,000	4.300	EY8
***	***	***	***	***
2026	115,000	115,000	4.400	EZ5

NOTICE IS FURTHER GIVEN that all of the Refunded Obligations have been called for redemption on September 20, 2016 (the "**Redemption Date**") **at the Redemption Price equal to 100% of par plus accrued interest to the Redemption Date**. The Refunded Obligations shall be redeemed and shall become due and payable on the Redemption Date, and the interest thereon shall cease to accrue from and after the Redemption Date.

NOTICE IS FURTHER GIVEN THAT the Refunded Obligations will be payable at and should be submitted either in person or by certified mail to the following address:

Delivery Instructions:
U.S. Bank
Global Corporate Trust Services
111 Fillmore Ave E
St. Paul, MN 55107

To avoid a backup withholding tax required by Section 3406 of the Internal Revenue Code of 1986, holders must submit a properly completed IRS Form W-9.

* THE ABOVE REFERENCED CUSIP NUMBERS ARE PROVIDED FOR THE CONVENIENCE OF THE HOLDERS. NEITHER THE PAYING AGENT NOR THE CITY ARE RESPONSIBLE FOR ANY ERROR OF ANY NATURE RELATING TO THE CUSIP NUMBERS.

NOTICE OF DEFEASANCE AND REDEMPTION

To the Holders of the
CITY OF KENNEDALE, TEXAS
COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION, SERIES 2008
(Maturing on February 15 in the years 2019, 2020, 2022, 2024, 2026, and 2028)

NOTICE IS HEREBY GIVEN that the City of Kennedale, Texas (the "**City**"), in Tarrant County, Texas, has deposited cash and authorized investment securities, if any, into an irrevocable escrow account in order to pay, and has legally defeased, the following maturities of the City's outstanding **COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION, SERIES 2005**, dated August 15, 2008 (the "**Refunded Obligations**"):

CITY OF KENNEDALE, TEXAS
COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION, SERIES 2008

<u>MATURITY (FEBRUARY 15)</u>	<u>PRINCIPAL AMOUNT MATURING IN YEAR (\$)</u>	<u>PRINCIPAL AMOUNT BEING REFUNDED (\$)</u>	<u>STATED INTEREST RATE (%)</u>	<u>CUSIP No. (489332)</u>
2019	245,000	245,000	4.000	FT8
2020	260,000	260,000	4.000	FU5
***	***	***	***	***
2022	545,000	545,000	4.250	FV3
***	***	***	***	***
2024	605,000	605,000	4.400	FW1
***	***	***	***	***
2026	645,000	645,000	4.500	FX9
***	***	***	***	***
2028	690,000	690,000	4.650	FY7

NOTICE IS FURTHER GIVEN that all of the Refunded Obligations have been called for redemption on February 15, 2018 (the "**Redemption Date**") **at the Redemption Price equal to 100% of par plus accrued interest to the Redemption Date**. The Refunded Obligations shall be redeemed and shall become due and payable on the Redemption Date, and the interest thereon shall cease to accrue from and after the Redemption Date.

NOTICE IS FURTHER GIVEN THAT the Refunded Obligations will be payable at and should be submitted either in person or by certified mail to the following address:

Express Delivery
Wells Fargo Bank, N.A.
Corporate Trust Operations
N9309-121
6th & Marquette Avenue
Minneapolis, MN 555479

First Class/Registered/Certified Mail
Wells Fargo Bank, N.A.
Corporate Trust Operations
P.O. Box 1517
Minneapolis, MN 55480-1517

Hand Delivery
Wells Fargo Bank, N.A.
Northstar East Building
608 2nd Ave. So., 12th Floor
Minneapolis, MN 55479

To avoid a backup withholding tax required by Section 3406 of the Internal Revenue Code of 1986, holders must submit a properly completed IRS Form W-9.

* THE ABOVE REFERENCED CUSIP NUMBERS ARE PROVIDED FOR THE CONVENIENCE OF THE HOLDERS. NEITHER THE PAYING AGENT NOR THE CITY ARE RESPONSIBLE FOR ANY ERROR OF ANY NATURE RELATING TO THE CUSIP NUMBERS.

ESCROW AGREEMENT

Relating to the Refunding of

CITY OF KENNEDALE, TEXAS

COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION, SERIES 2005

(Maturing on February 15 in the years 2018, 2021, 2024 and 2026)

and

COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION, SERIES 2008

(Maturing on February 15 in the years 2019, 2020, 2022, 2024, 2026 and 2028)

THIS ESCROW AGREEMENT, dated as of September 1, 2016 (herein, together with any amendments or supplements hereto, called this "***Agreement***") is entered into by and between the **CITY OF KENNEDALE, TEXAS** (herein called the "***Issuer***") and **BOKE, NA**, Austin, Texas, as escrow agent (herein, together with any successor in such capacity, called the "***Escrow Agent***"). The addresses of the Issuer and the Escrow Agent are shown on Exhibit A attached hereto and made a part hereof.

WITNESSETH:

WHEREAS, the Issuer heretofore issued and there presently remain outstanding the obligations (collectively, the "***Refunded Obligations***") described in verification report provided by Barthe & Wahrman, PA relating to the Refunded Obligations (the "***Report***"), which is attached hereto as Exhibit B and made a part hereof; and

WHEREAS, the Refunded Obligations are scheduled to mature in such years, bear interest at such rates, and be payable at such times and in such amounts as are set forth in the Report; and

WHEREAS, when firm banking arrangements have been made for the payment of principal and interest to the maturity or redemption dates of the Refunded Obligations, then the Refunded Obligations shall no longer be regarded as outstanding except for the purpose of receiving payment from the funds provided for such purpose; and

WHEREAS, Chapter 1207, Texas Government Code, as amended ("***Chapter 1207***"), authorizes the Issuer to issue refunding bonds and to deposit the proceeds from the sale thereof, and any other available funds or resources, directly with a place of payment (paying agent) for the Refunded Obligations, or with another trust company or commercial bank that does not act as a depository for the Issuer, in an amount sufficient to provide for the payment and/or redemption of the Refunded Obligations, and such deposit, if made before such payment dates, shall constitute the

making of firm banking and financial arrangements for the discharge and final payment or redemption of the Refunded Obligations; and

WHEREAS, Chapter 1207 (specifically Section 1207.062, Texas Government Code) further authorizes the Issuer to enter into an escrow agreement with (i) any paying agent for the Refunded Obligations, or (ii) another trust company or commercial bank that does not act as a depository for the Board and is named in the proceedings authorizing such escrow agreement, with respect to the safekeeping, investment, reinvestment, administration and disposition of any such deposit, upon such terms and conditions as the Issuer and such paying agent, trust company or commercial bank may agree; provided that such deposits may be invested and reinvested in direct noncallable obligations of the United States, including obligations that are unconditionally guaranteed by the United States, which mature and bear interest payable at such times and in such amounts as will be sufficient to provide for the scheduled payment or redemption of the Refunded Obligations; and

WHEREAS, *U.S. Bank National Association* currently serves as the paying agent for the Refunded Obligations; however, as permitted by Section 1207.062, Texas Government Code, the Issuer has appointed **BOKF, NA**, which is a commercial bank that does not act as a depository for the Issuer, to serve as the escrow agent in connection with refunding and defeasing the Refunded Obligations; and

WHEREAS, Chapter 1207 makes it the duty of the Escrow Agent to comply with the terms of this Agreement and timely make available to the paying agents for the respective Refunded Obligations the amounts required to provide for the payment of the principal of, premium, if any, and interest on such Refunded Obligations when due, and in accordance with their terms, but solely from the funds, in the manner, and to the extent provided in this Agreement; and

WHEREAS, the **CITY OF KENNEDALE, TEXAS GENERAL OBLIGATION REFUNDING BONDS, SERIES 2016** (the "**Refunding Bonds**") have been issued, sold and delivered for the purpose, among others, of obtaining the funds required to provide for the payment of the principal of the Refunded Obligations at their respective maturity dates or dates of redemption and the interest thereon to such dates; and

WHEREAS, the Issuer desires that, concurrently with the delivery of the Refunding Bonds to the purchasers thereof, certain proceeds of the Refunding Bonds, together with certain other available funds of the Issuer, if applicable, shall be applied to purchase certain direct obligations of the United States of America hereinafter defined as the "Escrowed Securities" for deposit to the credit of the Escrow Fund created pursuant to the terms of this Agreement and to establish a beginning cash balance (if needed) in such Escrow Fund; and

WHEREAS, the Escrowed Securities shall mature and the interest thereon shall be payable at such times and in such amounts so as to provide moneys which, together with cash balances from time to time on deposit in the Escrow Fund, will be sufficient to pay interest on the Refunded Obligations as it accrues and becomes payable and the principal of the Refunded Obligations on their maturity dates or dates of redemption; and

WHEREAS, to facilitate the receipt and transfer of proceeds of the Escrowed Securities, particularly those in book entry form, the Issuer desires to establish the Escrow Fund at the principal corporate trust office of the Escrow Agent; and

NOW, THEREFORE, in consideration of the mutual undertakings, promises and agreements herein contained, the sufficiency of which hereby are acknowledged, and to secure the full and timely payment of principal of and the interest on the Refunded Obligations, the Issuer and the Escrow Agent mutually undertake, promise, and agree for themselves and their respective representatives and successors, as follows:

ARTICLE I

DEFINITIONS AND INTERPRETATIONS

SECTION 1.01. DEFINITIONS. Unless the context clearly indicates otherwise, the following terms shall have the meanings assigned to them below when they are used in this Agreement:

"Code" means the Internal Revenue Code of 1986, as amended, or to the extent applicable the Internal Revenue Code of 1954, together with any other applicable provisions of any successor federal income tax laws.

"Escrow Fund" means the fund created by this Agreement to be administered by the Escrow Agent pursuant to the provisions of this Agreement.

"Escrowed Securities" means the direct noncallable, not pre-payable United States Treasury obligations and obligations the due timely payment of which is unconditionally guaranteed by the United States of America described in the Report or cash or other direct obligations of the United States of America substituted therefor pursuant to Article IV of this Agreement.

SECTION 1.02. OTHER DEFINITIONS. The terms "Agreement," "Escrow Agent," "Issuer," "Refunded Obligations," "Refunding Bonds," and "Report," when they are used in this Agreement, shall have the meanings assigned to them in the preamble to this Agreement.

SECTION 1.03. INTERPRETATIONS. The titles and headings of the articles and sections of this Agreement have been inserted for convenience and reference only and are not to be considered a part hereof and shall not in any way modify or restrict the terms hereof. This Agreement and all of the terms and provisions hereof shall be liberally construed to effectuate the purposes set forth herein and to achieve the intended purpose of providing for the refunding of the Refunded Obligations in accordance with applicable law.

ARTICLE II

DEPOSIT OF FUNDS AND ESCROWED SECURITIES

SECTION 2.01. DEPOSITS IN THE ESCROW FUND. Concurrently with the sale and delivery of the Refunding Bonds the Issuer shall deposit, or cause to be deposited, with the Escrow Agent, for deposit in the Escrow Fund, the funds and Escrowed Securities described in the Report, and the Escrow Agent shall, upon the receipt thereof, acknowledge such receipt to the Issuer in writing.

ARTICLE III

CREATION AND OPERATION OF ESCROW FUND

SECTION 3.01. ESCROW FUND. The Escrow Agent has created on its books a special trust fund and irrevocable escrow to be known as the *City of Kennedale, Texas General Obligation Refunding Bonds, Series 2016 Escrow Fund* (the "***Escrow Fund***"). The Escrow Agent hereby agrees that upon receipt thereof it will irrevocably deposit to the credit of the Escrow Fund the funds and the Escrowed Securities described in the Report. Such deposit, all proceeds therefrom, and all cash balances from time to time on deposit therein (a) shall be the property of the Escrow Fund, (b) shall be applied only in strict conformity with the terms and conditions of this Agreement, and (c) are hereby irrevocably pledged to the payment of the principal of and interest on the Refunded Obligations, which payment shall be made by timely transfers of such amounts at such times as are provided for in Section 3.02 hereof. When the final transfers have been made for the payment of such principal of and interest on the Refunded Obligations, any balance then remaining in the Escrow Fund shall be transferred to the Issuer, and the Escrow Agent shall thereupon be discharged from any further duties hereunder.

SECTION 3.02. PAYMENT OF PRINCIPAL AND INTEREST. The Escrow Agent is hereby irrevocably instructed to transfer from the cash balances from time to time on deposit in the Escrow Fund, the amounts required to pay the principal of the Refunded Obligations at their respective maturity dates and interest thereon to such maturity dates in the amounts and at the times shown in the Report.

SECTION 3.03. SUFFICIENCY OF ESCROW FUND. The Issuer represents (based solely on the Report) that the successive receipts of the principal of and interest on the Escrowed Securities will assure that the cash balance on deposit from time to time in the Escrow Fund will be at all times sufficient to provide moneys for transfer to each paying agent at the times and in the amounts required to pay the interest on the Refunded Obligations as such interest comes due and the principal of the Refunded Obligations as the Refunded Obligations mature, all as more fully set forth in the Report. If, for any reason, at any time, the cash balances on deposit or scheduled to be on deposit in the Escrow Fund shall be insufficient to transfer the amounts required by each place of payment (paying agent) for the Refunded Obligations to make the payments set forth in Section 3.02 hereof, notice of any such insufficiency shall be given to the Issuer by the Escrow Agent as promptly as

practicable as hereinafter provided, but neither the Escrow Agent nor the Issuer shall in any manner be responsible for any insufficiency of funds in the Escrow Fund.

SECTION 3.04. TRUST FUND. The Escrow Agent shall hold at all times the Escrow Fund, the Escrowed Securities and all other assets of the Escrow Fund, wholly segregated from all other funds and securities on deposit with the Escrow Agent; it shall never allow the Escrowed Securities or any other assets of the Escrow Fund to be commingled with any other funds or securities of the Escrow Agent; and it shall hold and dispose of the assets of the Escrow Fund only as set forth herein. The Escrowed Securities and other assets of the Escrow Fund shall always be maintained by the Escrow Agent as trust funds for the benefit of the owners of the Refunded Obligations; and a special account thereof shall at all times be maintained on the books of the Escrow Agent. The owners of the Refunded Obligations shall be entitled to the same preferred claim and first lien upon the Escrowed Securities, the proceeds thereof, and all other assets of the Escrow Fund to which they are entitled as owners of the Refunded Obligations. The amounts received by the Escrow Agent under this Agreement shall not be considered as a banking deposit by the Issuer, and the Escrow Agent shall have no right to title with respect thereto except as an Escrow Agent under the terms of this Agreement. The amounts received by the Escrow Agent under this Agreement shall not be subject to warrants, drafts or checks drawn by the Issuer or, except to the extent expressly herein provided, by any paying agent for the Refunded Obligations.

SECTION 3.05. SECURITY FOR CASH BALANCES. Cash balances from time to time on deposit in the Escrow Fund shall, to the extent not insured by the Federal Deposit Insurance Corporation or its successor, be continuously secured by a pledge of direct obligations of, or obligations unconditionally guaranteed by, the United States of America, having a market value at least equal to such cash balances.

ARTICLE IV

LIMITATION ON INVESTMENTS

SECTION 4.01. GENERAL REINVESTMENT RESTRICTION. Except as provided in Sections 3.02, 4.02, 4.03 and 4.04 hereof, the Escrow Agent shall not have any power or duty to invest or reinvest any money held hereunder, or to make substitutions of the Escrowed Securities, or to sell, transfer or otherwise dispose of the Escrowed Securities.

SECTION 4.02. REINVESTMENT OF CERTAIN CASH BALANCES IN ESCROW BY ESCROW AGENT. In addition to the Escrowed Securities listed in the Report, the Escrow Agent shall reinvest cash balances shown in the Report in United States Treasury Certificates of Indebtedness, Notes or Bonds - State and Local Government Series with an interest rate equal to zero percent (0%) (the "Zero SLGs") to the extent such Obligations are available from the Department of Treasury. All such re-investments shall be made only from the portion of cash balances derived from the maturing principal of and interest on any Escrowed Securities. Unless otherwise instructed by the Issuer in accordance with Section 4.03 hereof, the Escrow Agent shall acquire any Zero SLGs on the dates the Escrowed Securities listed in the Report mature, as shown in the Report, (or on the first date any

Zero SLGs become available thereafter. The Escrow Agent shall purchase Zero SLGs that mature on the dates shown in the Report.

SECTION 4.03. SUBSTITUTIONS AND REINVESTMENTS. At the discretion of the Issuer, the Escrow Agent shall reinvest cash balances representing receipts from the Escrowed Securities, make substitutions of the Escrowed Securities or redeem the Escrowed Securities and reinvest the proceeds thereof or hold such proceeds as cash, together with other moneys or securities held in the Escrow Fund provided that the Issuer delivers to the Escrow Agent the following:

(1) an opinion by an independent certified public accountant that after such substitution or reinvestment the principal amount of the securities in the Escrow Fund (which shall be noncallable, not pre-payable direct obligations of the United States of America), together with the interest thereon and other available moneys, will be sufficient to pay, without further investment or reinvestment, as the same become due in accordance with the Report, the principal of, interest on and premium, if any, on the Refunded Obligations which have not previously been paid, and

(2) an unqualified opinion of nationally recognized municipal bond counsel to the effect that (a) such substitution or reinvestment will not cause the Refunded Obligations to be "arbitrage bonds" within the meaning of Section 103 of the Code or the regulations thereunder in effect on the date of such substitution or reinvestment, or otherwise make the interest on the Refunded Obligations subject to federal income taxation, and (b) such substitution or reinvestment complies with the Constitution and laws of the State of Texas and with all relevant documents relating to the issuance of the Refunded Obligations.

The Escrow Agent shall have no responsibility or liability for loss or otherwise with respect to investments made at the direction of the Issuer.

SECTION 4.04. SUBSTITUTION FOR ESCROWED SECURITIES. Concurrently with the initial deposit by the Issuer with the Escrow Agent, but not thereafter, the Issuer, at its option, may substitute cash or non-interest bearing direct noncallable and not pre-payable obligations of the United States Treasury (i.e., Treasury obligations which mature and are payable in a stated amount on the maturity date thereof, and for which there are no payments other than the payment made on the maturity date) (the "Substitute Obligations") for non-interest bearing Escrowed Securities, if any, but only if such Substitute Obligations

- (a) are in an amount, and/or mature in an amount, which is equal to or greater than the amount payable on the maturity date of the obligation listed in the Report for which such Substitute Obligation is substituted,
- (b) mature on or before the maturity date of the obligation listed in the Report for which such Substitute Obligation is substituted, and

- (c) produce the amount necessary to pay the interest on and principal of the Refunded Obligations, as set forth in the Report, as verified by a certified public accountant or a firm of certified public accountants.

If, concurrently with the initial deposit by the Issuer with the Escrow Agent, any such Substitute Obligations are so substituted for any Escrowed Securities, the Issuer may, at any time thereafter, substitute for such Substitute Obligations the same Escrowed Securities for which such Substitute Obligations originally were substituted.

SECTION 4.05. ARBITRAGE. The Issuer hereby covenants and agrees that it shall never request the Escrow Agent to exercise any power hereunder or permit any part of the money in the Escrow Fund or proceeds from the sale of Escrowed Securities to be used directly or indirectly to acquire any securities or obligations if the exercise of such power or the acquisition of such securities or obligations would cause any Refunding Bonds or Refunded Obligations to be an "arbitrage bond" within the meaning of the Code.

ARTICLE V

APPLICATION OF CASH BALANCES

SECTION 5.01. IN GENERAL. Except as provided in Sections 3.02, 4.02, 4.03 and 4.04 hereof, no withdrawals, transfers, or reinvestment shall be made of cash balances in the Escrow Fund.

ARTICLE VI

RECORDS AND REPORTS

SECTION 6.01. RECORDS. The Escrow Agent will keep books of record and account in which complete and correct entries shall be made of all transactions relating to the receipts, disbursements, allocations and application of the money and Escrowed Securities deposited to the Escrow Fund and all proceeds thereof, and such books shall be available for inspection at reasonable hours and under reasonable conditions by the Issuer and the owners of the Refunded Obligations.

SECTION 6.02. REPORTS. While this Agreement remains in effect, the Escrow Agent annually shall prepare and send to the Issuer a written report summarizing all transactions relating to the Escrow Fund during the preceding year, including, without limitation, credits to the Escrow Fund as a result of interest payments on or maturities of the Escrowed Securities and transfers from the Escrow Fund for payments on the Refunded Obligations or otherwise, together with a detailed statement of all Escrowed Securities and the cash balance on deposit in the Escrow Fund as of the end of such period.

ARTICLE VII

CONCERNING THE PAYING AGENTS AND ESCROW AGENT

SECTION 7.01. REPRESENTATIONS. The Escrow Agent hereby represents that it has all necessary power and authority to enter into this Agreement and undertake the obligations and responsibilities imposed upon it herein, and that it will carry out all of its obligations hereunder.

SECTION 7.02. LIMITATION ON LIABILITY. The liability of the Escrow Agent to transfer funds for the payment of the principal of and interest on the Refunded Obligations shall be limited to the proceeds of the Escrowed Securities and the cash balances from time to time on deposit in the Escrow Fund. Notwithstanding any provision contained herein to the contrary, neither the Escrow Agent nor any paying agent for the Refunded Obligations shall have any liability whatsoever for the insufficiency of funds from time to time in the Escrow Fund or any failure of the obligors of the Escrowed Securities to make timely payment thereon, except for the obligation to notify the Issuer as promptly as practicable of any such occurrence.

The recitals herein and in the proceedings authorizing the Refunding Bonds shall be taken as the statements of the Issuer and shall not be considered as made by, or imposing any obligation or liability upon, the Escrow Agent. The Escrow Agent is not a party to the proceedings authorizing the Refunding Bonds or the Refunded Obligations and is not responsible for nor bound by any of the provisions thereof (except as the paying agent for the Refunding Bonds). In its capacity as Escrow Agent, it is agreed that the Escrow Agent need look only to the terms and provisions of this Agreement.

The Escrow Agent makes no representations as to the value, conditions or sufficiency of the Escrow Fund, or any part thereof, or as to the title of the Issuer thereto, or as to the security afforded thereby or hereby, and the Escrow Agent shall not incur any liability or responsibility in respect to any of such matters.

It is the intention of the parties hereto that the Escrow Agent shall never be required to use or advance its own funds or otherwise incur personal financial liability in the performance of any of its duties or the exercise of any of its rights and powers hereunder.

The Escrow Agent shall not be liable for any action taken or neglected to be taken by it in good faith in any exercise of reasonable care and believed by it to be within the discretion or power conferred upon it by this Agreement, nor shall the Escrow Agent be responsible for the consequences of any error of judgment; and the Escrow Agent shall not be answerable except for its own action, neglect or default, nor for any loss unless the same shall have been through its negligence or willful misconduct.

Unless it is specifically otherwise provided herein, the Escrow Agent has no duty to determine or inquire into the happening or occurrence of any event or contingency or the performance or failure of performance of the Issuer with respect to arrangements or contracts with

others, with the Escrow Agent's sole duty hereunder being to safeguard the Escrow Fund, to dispose of and deliver the same in accordance with this Agreement. If, however, the Escrow Agent is called upon by the terms of this Agreement to determine the occurrence of any event or contingency, the Escrow Agent shall be obligated, in making such determination, only to exercise reasonable care and diligence, and in event of error in making such determination the Escrow Agent shall be liable only for its own willful misconduct or its negligence. In determining the occurrence of any such event or contingency the Escrow Agent may request from the Issuer or any other person such reasonable additional evidence as the Escrow Agent in its discretion may deem necessary to determine any fact relating to the occurrence of such event or contingency, and in this connection may make inquiries of, and consult with, among others, the Issuer at any time.

SECTION 7.03. COMPENSATION. (a) Concurrently with the sale and delivery of the Refunding Bonds, the Issuer shall pay to the Escrow Agent, as a fee for performing the services hereunder and for all expenses incurred or to be incurred by the Escrow Agent in the administration of this Agreement, the sum of \$2,000.00, the sufficiency of which is hereby acknowledged by the Escrow Agent. In the event that the Escrow Agent is requested to perform any extraordinary services hereunder, the Issuer hereby agrees to pay reasonable fees to the Escrow Agent for such extraordinary services and to reimburse the Escrow Agent for all expenses incurred by the Escrow Agent in performing such extraordinary services, and the Escrow Agent hereby agrees to look only to the Issuer for the payment of such fees and reimbursement of such expenses. The Escrow Agent hereby agrees that in no event shall it ever assert any claim or lien against the Escrow Fund for any fees for its services, whether regular or extraordinary, as Escrow Agent, or in any other capacity, or for reimbursement for any of its expenses.

(b) The Issuer covenants to timely pay for all future paying agency services of the respective paying agent for the Refunded Obligations in accordance with the paying agent fee schedule now or hereafter in effect through the final payment of the Refunded Obligations. In the event the Issuer fails to pay the paying agent fee relating to the Refunded Obligations when due, such paying agent's sole remedy, as paying agent for such Refunded Obligations, for nonpayment shall be in accordance with the terms of the paying agent agreement relating to the Refunded Obligations, and no funds held in the Escrow Fund shall be available to pay such paying agent fees.

SECTION 7.04. SUCCESSOR ESCROW AGENTS. If at any time the Escrow Agent or its legal successor or successors should become unable, through operation or law or otherwise, to act as escrow agent hereunder, or if its property and affairs shall be taken under the control of any state or federal court or administrative body because of insolvency or bankruptcy or for any other reason, a vacancy shall forthwith exist in the office of Escrow Agent hereunder. In such event the Issuer, by appropriate action, promptly shall appoint an Escrow Agent to fill such vacancy. If no successor Escrow Agent shall have been appointed by the Issuer within 60 days, a successor may be appointed by the owners of a majority in principal amount of the Refunded Obligations then outstanding by an instrument or instruments in writing filed with the Issuer, signed by such owners or by their duly authorized attorneys-in-fact. If, in a proper case, no appointment of a successor Escrow Agent shall be made pursuant to the foregoing provisions of this section within three months after a vacancy shall have occurred, the owner of any Refunded Obligation may apply to any court of competent jurisdiction to appoint a successor Escrow Agent. Such court may thereupon, after such notice, if any, as it may deem proper, prescribe and appoint a successor Escrow Agent.

Any successor Escrow Agent shall be a corporation organized and doing business under the laws of the United States or the State of Texas, authorized under such laws to exercise corporate trust powers, authorized under Texas law to act as an escrow agent, having its principal office and place of business in the State of Texas, having a combined capital and surplus of at least \$5,000,000 and subject to the supervision or examination by Federal or State authority.

Any successor Escrow Agent shall execute, acknowledge and deliver to the Issuer and the Escrow Agent an instrument accepting such appointment hereunder, and the Escrow Agent shall execute and deliver an instrument transferring to such successor Escrow Agent, subject to the terms of this Agreement, all the rights, powers and trusts of the Escrow Agent hereunder. Upon the request of any such successor Escrow Agent, the Issuer shall execute any and all instruments in writing for more fully and certainly vesting in and confirming to such successor Escrow Agent all such rights, powers and duties.

The Escrow Agent at the time acting hereunder may at any time resign and be discharged from the trust hereby created by giving not less than sixty (60) days' written notice to the Issuer and publishing notice thereof, specifying the date when such resignation will take effect, in a newspaper printed in the English language and with general circulation in New York, New York, such publication to be made once at least three (3) weeks prior to the date when the resignation is to take effect. No such resignation shall take effect unless a successor Escrow Agent shall have been appointed by the owners of the Refunded Obligations or by the Issuer as herein provided and such successor Escrow Agent shall be a paying agent for certain of the Refunded Obligations or shall otherwise be permitted by law to serve in such capacity and shall have accepted such appointment, in which event such resignation shall take effect immediately upon the appointment and acceptance of a successor Escrow Agent.

Under any circumstances, the Escrow Agent shall pay over to its successor Escrow Agent proportional parts of the Escrow Agent's fee and, if applicable, its paying agent's fee hereunder.

ARTICLE VIII

MISCELLANEOUS

SECTION 8.01. NOTICE. Any notice, authorization, request, or demand required or permitted to be given hereunder shall be in writing and shall be deemed to have been duly given when mailed by registered or certified mail, postage prepaid addressed to the Issuer or the Escrow Agent at the address shown on Exhibit A attached hereto. The United States Post Office registered or certified mail receipt showing delivery of the aforesaid shall be conclusive evidence of the date and fact of delivery. Any party hereto may change the address to which notices are to be delivered by giving to the other parties not less than ten (10) days prior notice thereof. Prior written notice of any amendment to this Agreement contemplated pursuant to Section 8.08 and immediate written notice of any incidence of a severance pursuant to Section 8.04 shall be sent to each of the following rating agencies, but only if such rating agency is then maintaining a rating on the Refunded Obligations or the Refunding Bonds: (i) Fitch Ratings, One State Street Plaza, New York, New York 10004, (ii) Moody's Investors Service, Attn: Public Finance Rating Desk/Refunded Obligations, 7 World Trade Center, 250 Greenwich Street, New York, New York 10007, and (iii) Standard & Poor's Ratings Services, Attn: Municipal Bond Department, 55 Water Street, New York, New York 10041.

SECTION 8.02. TERMINATION OF RESPONSIBILITIES. Upon the taking of all the actions as described herein by the Escrow Agent, the Escrow Agent shall have no further obligations or responsibilities hereunder to the Issuer, the owners of the Refunded Obligations or to any other person or persons in connection with this Agreement.

SECTION 8.03. BINDING AGREEMENT. This Agreement shall be binding upon the Issuer and the Escrow Agent and their respective successors and legal representatives, and shall inure solely to the benefit of the owners of the Refunded Obligations, the Issuer, the Escrow Agent and their respective successors and legal representatives.

SECTION 8.04. SEVERABILITY. In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, but this Agreement shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein.

SECTION 8.05. TEXAS LAW GOVERNS. This Agreement shall be governed exclusively by the provisions hereof and by the applicable laws of the State of Texas.

SECTION 8.06. TIME OF THE ESSENCE. Time shall be of the essence in the performance of obligations from time to time imposed upon the Escrow Agent by this Agreement.

SECTION 8.07. EFFECTIVE DATE OF AGREEMENT. This Agreement shall be effective upon receipt by the Escrow Agent of the funds described in the Report and the Escrowed Securities, together with the specific sums stated in subsections (a) and (b) of Section 7.03 for Escrow Agent and paying agency fees, expenses, and services.

SECTION 8.08. AMENDMENTS. This Agreement shall not be amended except to cure any ambiguity or formal defect or omission in this Agreement. No amendment shall be effective unless the same shall be in writing and signed by the parties thereto. No such amendment shall adversely affect the rights of the holders of the Refunded Obligations.

[The remainder of this page intentionally left blank]

EXECUTED as of the date first written above.

CITY OF KENNEDALE, TEXAS

By _____
Mayor

ATTEST:

City Secretary

BOKF, NA

Title: _____

ATTEST:

Title: _____

EXHIBIT A

ADDRESSES OF THE ISSUER AND THE ESCROW AGENT

ISSUER

City of Kennedale, Texas
405 Municipal Drive
Kennedale, Texas 76060
Attention: Finance Director

ESCROW AGENT

BOKF, NA
100 Congress Avenue, Suite 250
Austin, Texas 78701
Attention: Corporate Trust Services

EXHIBIT B

REPORT

*[The Report is omitted at this point as it appears elsewhere in this
Transcript of Proceedings]*

PAYING AGENT/REGISTRAR AGREEMENT

THIS PAYING AGENT/REGISTRAR AGREEMENT, dated as of September 1, 2016 (this "***Agreement***"), by and between the **CITY OF KENNDAL, TEXAS** (the "***Issuer***") and **FIRST NATIONAL BANK TEXAS**, Killeen, Texas (the "***Bank***"), a national banking association duly organized and operating under the laws of the United States of America.

WHEREAS, the Issuer has duly authorized and provided for the issuance of its **CITY OF KENNEDALE, TEXAS GENERAL OBLIGATION REFUNDING BONDS, SERIES 2016** (the "***Securities***"), such Securities to be issued in fully registered form only as to the payment of principal and interest thereon; and

WHEREAS, the Securities are scheduled to be delivered to the initial purchasers thereof on or about September 15, 2016; and

WHEREAS, the Issuer has selected the Bank to serve as Paying Agent/Registrar in connection with the payment of the principal of, premium, if any, and interest on the Securities and with respect to the registration, transfer, and exchange thereof by the registered owners thereof; and

WHEREAS, the Bank has agreed to serve in such capacities for and on behalf of the Issuer and has full power and authority to perform and serve as Paying Agent/Registrar for the Securities;

NOW, THEREFORE, it is mutually agreed as follows:

ARTICLE ONE APPOINTMENT OF BANK AS PAYING AGENT AND REGISTRAR

SECTION 1.01. APPOINTMENT. The Issuer hereby appoints the Bank to serve as Paying Agent with respect to the Securities. As Paying Agent for the Securities, the Bank shall be responsible for paying on behalf of the Issuer the principal, premium (if any), and interest on the Securities as the same become due and payable to the registered owners thereof, all in accordance with this Agreement and the "Ordinance" (hereinafter defined).

The Issuer hereby appoints the Bank as Registrar with respect to the Securities. As Registrar for the Securities, the Bank shall keep and maintain for and on behalf of the Issuer books and records as to the ownership of said Securities and with respect to the transfer and exchange thereof as provided herein and in the Ordinance, a copy of which books and records shall be maintained at the office of the Bank located in the State of Texas or shall be available to be accessed from such office located in the State of Texas.

The Bank hereby accepts its appointment, and agrees to serve as the Paying Agent and Registrar for the Securities.

SECTION 1.02. COMPENSATION. As compensation for the Bank's services as Paying Agent/Registrar, the Issuer hereby agrees to pay the Bank the fees and amounts set forth in Schedule A attached hereto for the first year of this Agreement and thereafter the fees and amounts set forth in the Bank's current fee schedule then in effect for services as Paying Agent/Registrar for municipalities, which shall be supplied to the Issuer on or before 90 days prior to the close of the Fiscal Year of the Issuer, and shall be effective upon the first day of the following Fiscal Year.

In addition, the Issuer agrees to reimburse the Bank upon its request for all reasonable expenses, disbursements and advances incurred or made by the Bank in accordance with any of the provisions hereof (including the reasonable compensation and the expenses and disbursements of its agents and counsel).

ARTICLE TWO DEFINITIONS

SECTION 2.01. DEFINITIONS. For all purposes of this Agreement, except as otherwise expressly provided or unless the context otherwise requires:

"Bank Office" means the corporate trust or commercial banking office of the Bank as indicated on the signature page hereof. The Bank will notify the Issuer in writing of any change in location of the Bank Office.

"Fiscal Year" means the fiscal year of the Issuer, ending September 30.

"Holder" and **"Security Holder"** each means the Person in whose name a Security is registered in the Security Register.

"Legal Holiday" means a day on which the Bank is required or authorized to be closed.

"Ordinance" means the resolutions, orders or ordinances of the governing body of the Issuer pursuant to which the Securities are issued, certified by the City Secretary or any other officer of the Issuer and delivered to the Bank, together with any pricing certificate executed pursuant thereto.

"Person" means any individual, corporation, partnership, joint venture, association, joint stock company, trust, unincorporated organization or government or any agency or political subdivision of a government.

"Predecessor Securities" of any particular Security means every previous Security evidencing all or a portion of the same obligation as that evidenced by such particular Security (and, for the purposes of this definition, any mutilated, lost, destroyed, or stolen Security for which a replacement Security has been registered and delivered in lieu thereof pursuant to Section 4.06 hereof and the Ordinance).

"**Redemption Date**" when used with respect to any Security to be redeemed means the date fixed for such redemption pursuant to the terms of the Ordinance.

"**Responsible Officer**" when used with respect to the Bank means the Chairman or Vice-Chairman of the Board of Directors, the Chairman or Vice-chairman of the Executive Committee of the Board of Directors, the President, any Vice President, the Secretary, any Assistant Secretary, the Treasurer, any Assistant Treasurer, the Cashier, any Assistant Cashier, any Trust Officer or Assistant Trust Officer, or any other officer of the Bank customarily performing functions similar to those performed by any of the above designated officers and also means, with respect to a particular corporate trust matter, any other officer to whom such matter is referred because of his knowledge of and familiarity with the particular subject.

"**Security Register**" means a register maintained by the Bank on behalf of the Issuer providing for the registration and transfer of the Securities.

"**Stated Maturity**" means the date specified in the Ordinance the principal of a Security is scheduled to be due and payable.

SECTION 2.02. OTHER DEFINITIONS. The terms "Bank," "Issuer," and "Securities" ("Security") have the meanings assigned to them in the recital paragraphs of this Agreement.

The term "**Paying Agent/Registrar**" refers to the Bank in the performance of the duties and functions of this Agreement.

ARTICLE THREE PAYING AGENT

SECTION 3.01. DUTIES OF PAYING AGENT. (a) Principal Payments. As Paying Agent, the Bank shall, provided adequate collected funds have been provided to it for such purpose by or on behalf of the Issuer, pay on behalf of the Issuer the principal of each Security at its Stated Maturity or Redemption Date, to the Holder upon surrender of the Security to the Bank at the Bank Office.

(b) Interest Payments. As Paying Agent, the Bank shall, provided adequate collected funds have been provided to it for such purpose by or on behalf of the Issuer by no later than 10:00 a.m. Central Time on the applicable payment date, pay on behalf of the Issuer the interest on each Security when due, by computing the amount of interest to be paid each Holder and preparing and sending checks by United States mail, first class postage prepaid, on each payment date, to the Holders of the Securities (or their Predecessor Securities) on the respective Record Date, to the address appearing on the Security Register or by such other method, acceptable to the Bank, requested in writing by the Holder at the Holder's risk and expense.

(c) Federal Tax Information Reporting. To the extent required by the Code and the Regulations it shall be the duty of the Bank to report to the owners of the Securities and the Internal Revenue Service (i) the amount of "reportable payments," if any, subject to back up withholding

during each year and the amount of tax withheld, if any, with respect to the payments on the Securities, and (ii) the amount of interest or amount treated as interest, such as original issue discount, on the Securities required to be included in the gross income of the owners thereof for federal income tax purposes.

SECTION 3.02. PAYMENT DATES. The Issuer hereby instructs the Bank to pay the principal of and interest on the Securities on the dates specified in the Ordinance.

ARTICLE FOUR REGISTRAR

SECTION 4.01. SECURITY REGISTER - TRANSFERS AND EXCHANGES. The Bank agrees to keep and maintain for and on behalf of the Issuer at the Bank Office books and records (herein sometimes referred to as the "***Security Register***") for recording the names and addresses of the Holders of the Securities, the transfer, exchange, and replacement of the Securities, and the payment of the principal of and interest on the Securities to the Holders and containing such other information as may be reasonably required by the Issuer and subject to such reasonable regulations as the Issuer and the Bank may prescribe. If the Bank Office is located outside the State of Texas, a copy of the Security Register shall be kept in the State of Texas. All transfers, exchanges, and replacement of Securities shall be noted in the Security Register.

Every Security surrendered for transfer or exchange shall be duly endorsed or be accompanied by a written instrument of transfer, the signature on which has been guaranteed by an officer of a federal or state bank or a member of the Financial Industry Regulatory Authority, in form satisfactory to the Bank, duly executed by the Holder thereof or his agent duly authorized in writing.

The Bank may request any supporting documentation it feels necessary to effect a re-registration, transfer, or exchange of the Securities.

To the extent possible and under reasonable circumstances, the Bank agrees that, in relation to an exchange or transfer of Securities, the exchange or transfer by the Holders thereof will be completed and new Securities delivered to the Holder or the assignee of the Holder in not more than three business days after the receipt of the Securities to be cancelled in an exchange or transfer and the written instrument of transfer or request for exchange duly executed by the Holder, or his duly authorized agent, in form and manner satisfactory to the Paying Agent/Registrar.

SECTION 4.02. SECURITIES. The Issuer shall provide an adequate inventory of printed Securities to facilitate transfers or exchanges thereof. The Bank covenants that the inventory of printed Securities will be kept in safekeeping pending their use, and reasonable care will be exercised by the Bank in maintaining such Securities in safekeeping, which shall be not less than the care maintained by the Bank for debt securities of other political subdivisions or corporations for which it serves as registrar, or that is maintained for its own securities.

SECTION 4.03. FORM OF SECURITY REGISTER. The Bank, as Registrar, will maintain the Security Register relating to the registration, payment, transfer, and exchange of the Securities in accordance with the Bank's general practices and procedures in effect from time to time. The Bank shall not be obligated to maintain such Security Register in any form other than those which the Bank has currently available and currently utilizes at the time.

The Security Register may be maintained in written form or in any other form capable of being converted into written form within a reasonable time.

SECTION 4.04. LIST OF SECURITY HOLDERS. The Bank will provide the Issuer at any time requested by the Issuer, upon payment of the required fee, a copy of the information contained in the Security Register. The Issuer may also inspect the information contained in the Security Register at any time the Bank is customarily open for business, provided that reasonable time is allowed the Bank to provide an up-to-date listing or to convert the information into written form.

Unless required by law, the Bank will not release or disclose the contents of the Security Register to any person other than to, or at the written request of, an authorized officer or employee of the Issuer, except upon receipt of a court order or as otherwise required by law. Upon receipt of a court order and prior to the release or disclosure of the contents of the Security Register, the Bank will notify the Issuer so that the Issuer may contest the court order or such release or disclosure of the contents of the Security Register.

SECTION 4.05. RETURN OF CANCELLED SECURITIES. The Bank will, at such reasonable intervals as it determines, surrender Securities to the Issuer in lieu of which or in exchange for which other Securities have been issued, or which have been paid, or will provide a certificate of destruction relating thereto.

SECTION 4.06. MUTILATED, DESTROYED, LOST, OR STOLEN SECURITIES. The Issuer hereby instructs the Bank, subject to the applicable provisions of the Ordinance, to deliver and issue Securities in exchange for or in lieu of mutilated, destroyed, lost, or stolen Securities as long as the same does not result in an over issuance.

In case any Security shall be mutilated, or destroyed, lost, or stolen, the Bank, in its discretion, may execute and deliver a replacement Security of like form and tenor, and in the same denomination and bearing a number not contemporaneously outstanding, in exchange and substitution for such mutilated Security, or in lieu of and in substitution for such destroyed, lost, or stolen Security, only after (i) the filing by the Holder thereof with the Bank of evidence satisfactory to the Bank of the destruction, loss, or theft of such Security, and of the authenticity of the ownership thereof and (ii) the furnishing to the Bank of indemnification in an amount satisfactory to hold the Issuer and the Bank harmless. All expenses and charges associated with such indemnity and with the preparation, execution, and delivery of a replacement Security shall be borne by the Holder of the Security mutilated, or destroyed, lost, or stolen.

SECTION 4.07. TRANSACTION INFORMATION TO ISSUER. The Bank will, within a reasonable time after receipt of written request from the Issuer, furnish the Issuer information as to the Securities it has paid pursuant to Section 3.01, Securities it has delivered upon the transfer or exchange of any Securities pursuant to Section 4.01, and Securities it has delivered in exchange for or in lieu of mutilated, destroyed, lost, or stolen Securities pursuant to Section 4.06.

ARTICLE FIVE THE BANK

SECTION 5.01. DUTIES OF BANK. The Bank undertakes to perform the duties set forth herein and in the Ordinance and agrees to use reasonable care in the performance thereof.

The Bank is also authorized to transfer funds relating to the closing and initial delivery of the Securities in the manner disclosed in the closing memorandum as prepared by the Issuer's financial advisor, bond counsel or other agent. The Bank may act on a facsimile or e-mail transmission of the closing memorandum acknowledged by the financial advisor or the Issuer as the final closing memorandum. The Bank shall not be liable for any losses, costs or expenses arising directly or indirectly from the Bank's reliance upon and compliance with such instructions.

SECTION 5.02. RELIANCE ON DOCUMENTS, ETC. (a) The Bank may conclusively rely, as to the truth of the statements and correctness of the opinions expressed therein, on certificates or opinions furnished to the Bank.

(b) The Bank shall not be liable for any error of judgment made in good faith by a Responsible Officer, unless it shall be proved that the Bank was negligent in ascertaining the pertinent facts.

(c) No provisions of this Agreement shall require the Bank to expend or risk its own funds or otherwise incur any financial liability for performance of any of its duties hereunder, or in the exercise of any of its rights or powers, if it shall have reasonable grounds for believing that repayment of such funds or adequate indemnity satisfactory to it against such risks or liability is not assured to it.

(d) The Bank may rely and shall be protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, note, security, or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties. Without limiting the generality of the foregoing statement, the Bank need not examine the ownership of any Securities, but is protected in acting upon receipt of Securities containing an endorsement or instruction of transfer or power of transfer which appears on its face to be signed by the Holder or an agent of the Holder. The Bank shall not be bound to make any investigation into the facts or matters stated in a resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, note, security, or other paper or document supplied by the Issuer.

(e) The Bank may consult with counsel, and the written advice of such counsel or any opinion of counsel shall be full and complete authorization and protection with respect to any action taken, suffered, or omitted by it hereunder in good faith and in reliance thereon.

(f) The Bank may exercise any of the powers hereunder and perform any duties hereunder either directly or by or through agents or attorneys of the Bank.

SECTION 5.03. RECITALS OF ISSUER. The recitals contained herein with respect to the Issuer and in the Securities shall be taken as the statements of the Issuer, and the Bank assumes no responsibility for their correctness.

The Bank shall in no event be liable to the Issuer, any Holder or Holders of any Security, or any other Person for any amount due on any Security from its own funds.

SECTION 5.04. MAY HOLD SECURITIES. The Bank, in its individual or any other capacity, may become the owner or pledgee of Securities and may otherwise deal with the Issuer with the same rights it would have if it were not the Paying Agent/Registrar, or any other agent.

SECTION 5.05. MONEY HELD BY BANK. The Bank shall deposit any moneys received from the Issuer into an account to be held in an agent capacity for the payment of the Securities, with such moneys in the account that exceed the deposit insurance, available to the Issuer, provided by the Federal Deposit Insurance Corporation to be fully collateralized with securities or obligations that are eligible under the laws of the State of Texas and to the extent practicable under the laws of the United States of America to secure and be pledged as collateral for trust accounts until the principal and interest on such securities have been presented for payment and paid to the owner thereof. Payments made from such trust account shall be made by check drawn on such trust account unless the owner of such Securities shall, at its own expense and risk, request such other medium of payment.

Funds held by the Bank hereunder need not be segregated from any other funds provided appropriate accounts are maintained in the name and for the benefit of the Issuer.

The Bank shall be under no liability for interest on any money received by it hereunder.

Any money deposited with the Bank for the payment on any Security and remaining unclaimed for three years after final maturity of the Security has become due and payable will be held by the Bank and disposed of only in accordance with Title 6 of the Property Code (Unclaimed Property).

The Bank will comply with the reporting provisions of Chapter 74 of the Property Code with respect to property that is presumed abandoned under Chapter 72 or Chapter 75 of the Property Code or inactive under Chapter 73 of the Property Code.

SECTION 5.06. INDEMNIFICATION. To the extent permitted by law, the Issuer agrees to indemnify the Bank for, and hold it harmless against, any loss, liability, or expense incurred without negligence or bad faith on its part, arising out of or in connection with its acceptance or administration of its duties hereunder, including the cost and expense against any claim or liability in connection with the exercise or performance of any of its powers or duties under this Agreement.

SECTION 5.07. INTERPLEADER. The Issuer and the Bank agree that the Bank may seek adjudication of any adverse claim, demand, or controversy over its person as well as funds on deposit, in either a Federal or State District Court located in the County in the State of Texas where either the Bank maintains an office or the administrative offices of the Issuer is located, and agree that service of process by certified or registered mail, return receipt requested, to the address referred to in Section 6.03 of this Agreement shall constitute adequate service. The Issuer and the Bank further agree that the Bank has the right to file a Bill of Interpleader in any court of competent jurisdiction located in the State of Texas to determine the rights of any Person claiming any interest herein.

SECTION 5.08. DEPOSITORY TRUST COMPANY SERVICES. It is hereby represented and warranted that, in the event the Securities are otherwise qualified and accepted for "Depository Trust Company" services or equivalent depository trust services by other organizations, the Bank has the capability and, to the extent within its control, will comply with the "Operational Arrangements," effective from time to time, which establishes requirements for securities to be eligible for such type depository trust services, including, but not limited to, requirements for the timeliness of payments and funds availability, transfer turnaround time, and notification of redemptions and calls.

ARTICLE SIX MISCELLANEOUS PROVISIONS

SECTION 6.01. AMENDMENT. This Agreement may be amended only by an agreement in writing signed by both of the parties hereto.

SECTION 6.02. ASSIGNMENT. This Agreement may not be assigned by either party without the prior written consent of the other.

SECTION 6.03. NOTICES. Any request, demand, authorization, direction, notice, consent, waiver, or other document provided or permitted hereby to be given or furnished to the Issuer or the Bank shall be mailed or delivered to the Issuer or the Bank, respectively, at the addresses shown on the signature page of this Agreement.

SECTION 6.04. EFFECT OF HEADINGS. The Article and Section headings herein are for convenience only and shall not affect the construction hereof.

SECTION 6.05. SUCCESSORS AND ASSIGNS; MERGER, CONVERSION, CONSOLIDATION OR SUCCESSION. All covenants and agreements herein by the Issuer shall bind its successors and assigns, whether so expressed or not.

Any corporation into which the Bank may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion, or consolidation to which the Bank shall be a party, or any corporation succeeding to all or substantially all of the corporate trust business of the Bank shall be the successor the Bank hereunder without the execution or filing of any paper or any further act on the part of either of the parties hereto. In case any Security shall have been registered, but not delivered, by the Bank then in office, any successor by merger, conversion, or consolidation to such authenticating Bank may adopt such registration and deliver the Security so registered with the same effect as if such successor Bank had itself registered such Security.

SECTION 6.06. SEVERABILITY. In case any provision herein shall be invalid, illegal, or unenforceable, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

SECTION 6.07. BENEFITS OF AGREEMENT. Nothing herein, express or implied, shall give to any Person, other than the parties hereto and their successors hereunder, any benefit or any legal or equitable right, remedy, or claim hereunder.

SECTION 6.08. ENTIRE AGREEMENT. This Agreement and the Ordinance constitute the entire agreement between the parties hereto relative to the Bank acting as Paying Agent/Registrar and if any conflict exists between this Agreement and the Ordinance, the Ordinance shall govern.

SECTION 6.09. COUNTERPARTS. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original and all of which shall constitute one and the same Agreement.

SECTION 6.10. TERMINATION. This Agreement will terminate on the date of final payment of the principal of and interest on the Securities to the Holders thereof or may be earlier terminated by either party upon 60 days written notice; provided, however, an early termination of this Agreement by either party shall not be effective until (a) a successor Paying Agent/Registrar has been appointed by the Issuer and such appointment accepted, and (b) notice has been given to the Holders of the Securities of the appointment of a successor Paying Agent/Registrar. If the 60-day notice period expires and no successor has been appointed, the Bank, at the expense of the Issuer, has the right to petition a court of competent jurisdiction to appoint a successor under the Agreement. Furthermore, the Bank and the Issuer mutually agree that the effective date of an early termination of this Agreement shall not occur at any time which would disrupt, delay or otherwise adversely affect the payment of the Securities.

Upon an early termination of this Agreement, the Bank agrees to promptly transfer and deliver the Security Register (or a copy thereof), together with other pertinent books and records relating to the Securities, to the successor Paying Agent/Registrar designated and appointed by the Issuer.

The provisions of Section 1.02 and of Article Five shall survive and remain in full force and effect following the termination of this Agreement.

SECTION 6.11. GOVERNING LAW. This Agreement shall be construed in accordance with and governed by the laws of the State of Texas.

[The remainder of this page intentionally left blank]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

FIRST NATIONAL BANK TEXAS

By: _____
Title: _____

Address: 507 N. Gray Street
Killeen, Texas 76541
Attention: Ty Molyneaux

Attest:

Title: _____

CITY OF KENNEDALE, TEXAS

By: _____
Title: Mayor

Address: 405 Municipal Drive
Kennedale, Texas 76060
Attention: Finance Director

Attest:

City Secretary

SCHEDULE A

PAYING AGENT/REGISTRAR FEE SCHEDULE

One-time \$500.00 processing fee paid at Closing

Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: DECISION ITEMS - B.

I. Subject:

Public Hearing on Amendment of Water, Wastewater, and Roadway Impact Fees

1. Presentation by Freese and Nichols
2. Public Hearing
3. Response by Freese and Nichols
4. Action by Council

II. Originated by:

Rachel Roberts, City Planner

III. Summary:

Texas cities are required by state law to update their impact fees on a periodic basis. A public hearing is required as part of the update process. The city's consultants on the impact fee update will give a presentation prior to the public hearing. Ordinance approval will be considered under a separate agenda item.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:

1.	IFEE Presentation	IFEE Public Hearing_08-15-2016.pdf
2.	Impact Fee Report	Impact Fee Report.pdf

Kennedale Impact Fee Update
Public Hearing
August 15, 2016

FREESE & NICHOLS

KENNEDALE
You're Here, Your Home

Roadway, Water, and Wastewater
Impact Fee Study Update

Public Hearing
WATER, WASTEWATER, AND
ROADWAY IMPACT FEE UPDATE
August 15, 2016

1

Agenda

- Purpose of Meeting –To consider adoption of:
 - Land Use Assumptions
 - Capital Improvement Plans, and
 - Impact Fees for water, wastewater, and roadway programs
- Conformance with requirements set forth in Chapter 395 Texas Local Government Codes
 - Update of LUA for 10-year growth, impact fee CIPs, and determination of the maximum chargeable cost per service unit
 - Public Hearing to consider update of collection rates
- Capital Improvements Advisory Committee
 - Meetings/input throughout study process
 - Recommendation to City Council

2

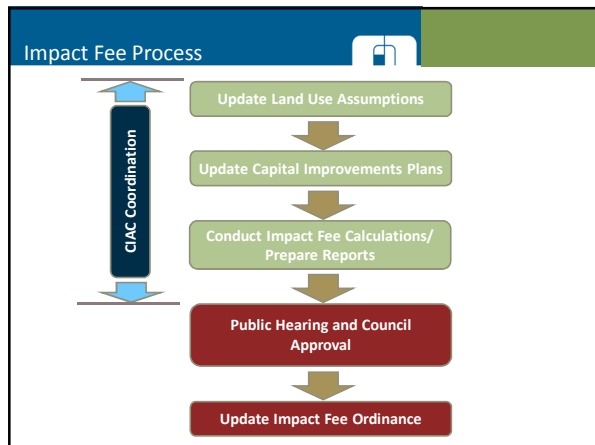
Impact Fee Basics

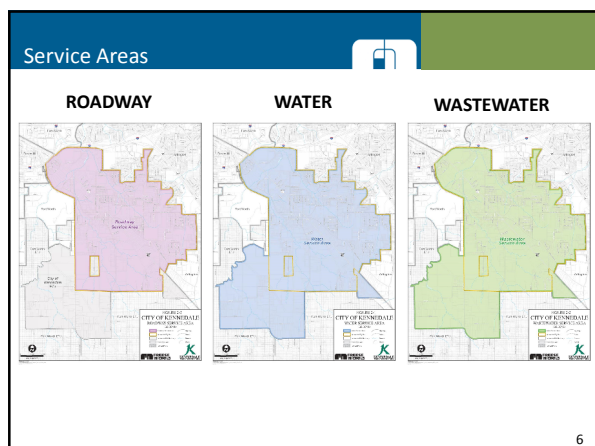
- What is an impact fee?
 - A one-time charge assessed to new development for a portion of costs related to a specific capital improvement program.
 - Mechanism for:
 - Funding of certain new facilities or expansions
 - Recoupment of certain capital improvement costs
 - Fee proportional to development impact on road system.
 - For roads, impact fees are confined to city limits
 - For parks, impact fee based on cost per dwelling unit of ultimate buildout of city

3

Kennedale Impact Fee Update
Public Hearing
August 15, 2016







Kennedale Impact Fee Update

Public Hearing

August 15, 2016

Land Use Assumptions

- 10-Year Projection (2026)
 - Population: 13,399 (5,015 added)
 - Employment: 6,754 (2,233 added)

2016 Characteristics	
Population	8,384
Total Employment	4,521
Basic	1,438
Service	847
Retail	2,236

2026 Characteristics	
Population	13,399
Total Employment	6,754
Basic	1,959
Service	1,182
Retail	3,613

7

Impact Fee Capital Improvements Plan (IFCIP)

8

Roadway
Impact Fee CIP (IFCIP)

- Key Changes
 - Project Additions
 - Oak Crest Dr
 - Eden Rd
 - Projects Completed
 - Bowman Springs
 - Dick Price (N. of RR)
 - Little School Rd
 - Sublett Rd
 - Project Removals
 - Dick Price (S. of RR)

K

CITY OF KENNEDALE

ROADWAY IMPACT FEE

PROPOSED

CAPITAL IMPROVEMENTS PLAN

LEGEND

New Roadway

Existing Roadway

Other

Kennedale Impact Fee Update

Public Hearing

August 15, 2016

Roadway Impact Fee CIP (IFCIP)

- 12 Project Segments
 - CIP Cost: \$42.6M (includes study update cost)
 - CIP Credit @ 50%: \$21.3M
 - Cost Attributable to Growth: \$8.6M
- Capacity Provided by IFCIP
 - 16,789 VM capacity
 - 14,532 VM net capacity
 - 46.6% capacity projected to be used by forecasted growth (from LUA)

CITY OF KENNEDALE
ROADWAY IMPACT FEE
PROPOSED
CAPITAL IMPROVEMENTS PLAN

Water Impact Fee CIP

- Existing Projects** include existing water lines, facilities, and studies for cost recoupment (5 Projects)
- Proposed Projects** include projects from the 2014 Water and Wastewater Master Plan (9 Projects)
- CIP Cost: \$7.8M
- CIP Cost (10-Yr): \$3.5M (not including finance)

CITY OF KENNEDALE
WATER SYSTEM
IMPACT FEE ELIGIBLE PROJECTS

Wastewater Impact Fee CIP

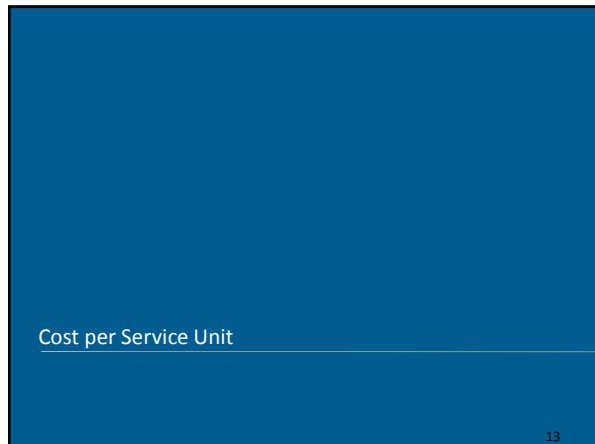
- Existing Projects** include existing wastewater lines, facilities, and studies for cost recoupment (2 Projects)
- Proposed Projects** include projects from the 2014 Water and Wastewater Master Plan (9 Projects)
- CIP Cost: \$5.9M
- CIP Cost (10-Yr): \$2.5M (not including finance)

CITY OF KENNEDALE
WASTEWATER SYSTEM
IMPACT FEE ELIGIBLE PROJECTS

Kennedale Impact Fee Update

Public Hearing

August 15, 2016



Roadway Cost per Service Unit Comparison

	2009	2016
Actual Cost per SU	\$2,672.66	\$2,538.00
Max. Collection Rate	\$1,136.33	\$1,269.00

Sample Land Uses	Current Collection Rate	Maximum Collection Rate
1 Single-Family DU	\$1,336.33	\$2,286.89
1,000 sf Office	\$657.14	\$1,413.61
1,000 sf Shopping Center	\$923.70	\$1,357.83
1,000 sf Industrial	\$324.16	\$2,144.61

Changes due primarily to:

- Updated costs
- Changes in land use equivalencies
 - Updated trip lengths
 - Pass-by/Diverted reductions

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Water/Wastewater Cost per Service Unit Calculations

Impact Fee Per Service Unit = $\frac{\text{Eligible CIP Cost} - \text{Credit}}{\text{New Service Units}}$

Water

Impact Fee Per Service Unit = $\frac{\$4,441,608 - \$2,220,804}{1,493} = \$1,487/\text{SUE}$

Wastewater

Impact Fee Per Service Unit = $\frac{\$3,227,005 - \$1,613,502}{1,493} = \$1,080/\text{SUE}$

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Kennedale Impact Fee Update

Public Hearing

August 15, 2016

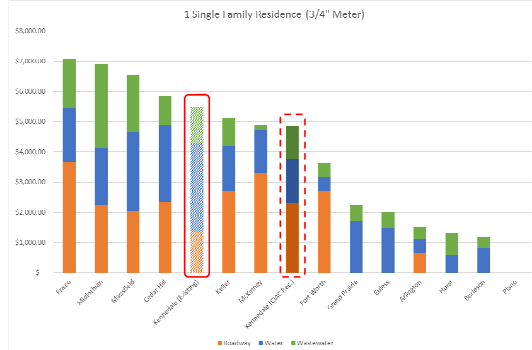
Water/Wastewater Cost per Service Unit

- Maximum 50% credited rate
 - Water: \$1,487 per service unit
 - Wastewater: \$1,080 per service unit

Meter Size	2007 Collection Rate	2016 Actual Cost Per Service Unit	2016 Maximum Collection Rate (50%)	2007 Collection Rate	2016 Actual Cost Per Service Unit	2016 Maximum Collection Rate (50%)
	Water			Wastewater		
3/4"	\$2,937	\$2,975	\$1,487	\$1,211	\$2,161	\$1,080
1"	\$4,896	\$4,958	\$2,478	\$2,019	\$3,602	\$1,800
1 - 1/2"	\$9,788	\$9,917	\$4,957	\$4,037	\$7,203	\$3,600
2"	\$15,662	\$15,867	\$7,931	\$6,459	\$11,525	\$5,760
3"	\$46,987	\$34,708	\$17,348	\$19,379	\$25,212	\$12,600
4"	\$82,228	\$59,500	\$29,740	\$33,913	\$43,220	\$21,600
6"	\$180,118	\$123,958	\$61,959	\$74,285	\$90,042	\$45,000
8"	\$313,251	\$178,500	\$89,220	\$129,192	\$129,660	\$64,800
10"	\$489,454	\$287,583	\$143,743	\$201,862	\$208,897	\$104,400

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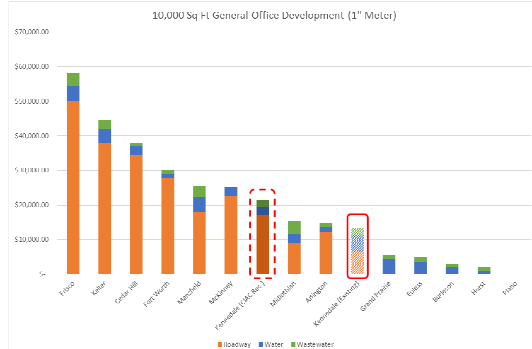
Residential Comparison



Note: No impact fees in Plano; no roadway impact fees in Grand Prairie, Euless, Hurst, or Burleson

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Non-Residential Comparison: 10,000 sq ft Office



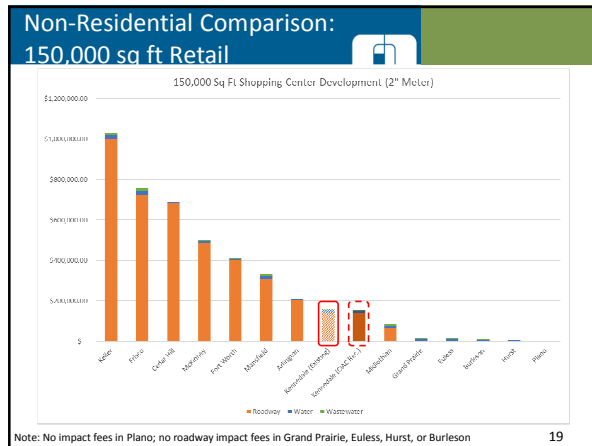
Note: No impact fees in Plano; no roadway impact fees in Grand Prairie, Euless, Hurst, or Burleson

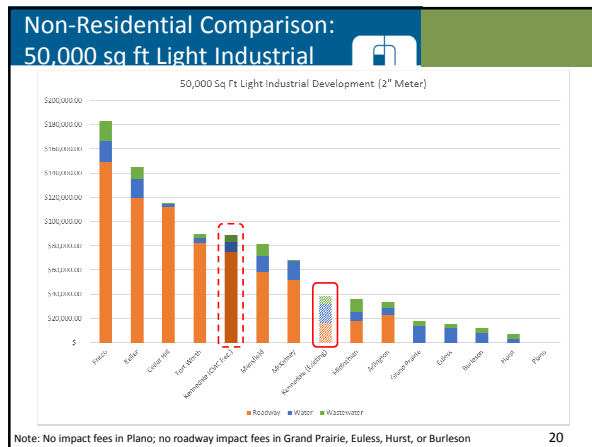
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Kennedale Impact Fee Update

Public Hearing

August 15, 2016





CIAC Recommendation

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Kennedale Impact Fee Update

Public Hearing

August 15, 2016

CIAC Recommendation: Roadway

ROADWAY IMPACT FEE COMPARISON				
	2009		2016	
Actual Cost per SU	\$2,672.66		\$2,538.00	
Max. Collection Rate	\$1,336.33		\$1,269.00	
	Collection Rate	Pct. Of Max.*	CIAC Recommended \$/SU	Pct of Max.*
Residential	\$1,336.33	50.0%	\$1,269.00	50.0%
Office	\$1,971.42	16.7%	\$634.50	25.0%
Retail	\$2,771.10	16.7%	\$888.30	35.0%
Industrial	\$1,296.64	12.5%	\$888.30	35.0%
Sample Land Uses	Current Collection Rate		CIAC Recommended Collection Rate	
1 Single-Family DU	\$1,336.33		\$2,206.89	
1,000 of Office	\$657.14		\$1,706.81	
1,000 of Shopping Center	\$923.70		\$990.48	
1,000 of Industrial	\$324.16		\$1,500.23	

*Percent of Actual Cost per SU

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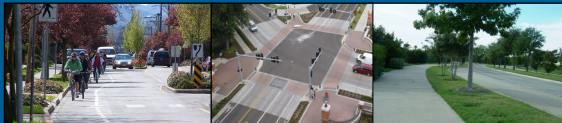
CIAC Recommendation: Water/Wastewater

- Collect at maximum 50% credited rate
 - Water: \$1,487 per service unit
 - Wastewater: \$1,080 per service unit

Meter Size	2007 Collection Rate	2016 Actual Cost Per Service Unit	2016 Maximum Collection Rate (50%)	2007 Collection Rate	2016 Actual Cost Per Service Unit	2016 Maximum Collection Rate (50%)
Water						
3/4"	\$2,937	\$2,975	\$1,487	\$1,211	\$2,161	\$1,080
1"	\$4,896	\$4,958	\$2,478	\$2,019	\$3,602	\$1,800
1 - 1/2"	\$9,788	\$9,917	\$4,957	\$4,037	\$7,203	\$3,600
2"	\$15,662	\$15,867	\$7,931	\$6,459	\$11,525	\$5,760
3"	\$46,987	\$46,708	\$23,348	\$19,379	\$25,212	\$12,600
4"	\$82,228	\$79,500	\$39,740	\$33,913	\$43,220	\$21,600
6"	\$180,118	\$123,958	\$61,958	\$74,285	\$90,042	\$45,000
8"	\$313,251	\$178,500	\$89,220	\$129,192	\$129,660	\$64,800
10"	\$489,454	\$287,583	\$143,743	\$201,862	\$208,897	\$104,400

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Collection Rate Discussion



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Kennedale Impact Fee Update
Public Hearing
August 15, 2016



KENNEDALE
You're Here, Your Home
Roadway, Water, and Wastewater
Impact Fee Study Update

Public Hearing
THANKS!

August 15, 2016

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Innovative approaches
Practical results
Outstanding service

TECHNICAL REPORT

Roadway, Water, and Wastewater Impact Fee Update Report



KENNEDALE
You're Here, Your Home

2016 Impact Fee Study
City of Kennedale, Texas

July 13, 2016

Roadway, Water, and Wastewater Impact Fee Update Report

Prepared for:

City of Kennedale



FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144



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ENGINEERING FIRM
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FNI Project #: KEN15575

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EXECUTIVE SUMMARY

Executive Summary

Shrinking funds available for city infrastructure improvements have prohibited many cities from upgrading its infrastructure to meet increasing demands resulting from new growth. To alleviate this issue, many cities collect “impact fees” from new development to help fund roadway improvements necessitated by such development. These fees provide an objective method for new developments to pay their fair share for impact to the city’s infrastructure. The one-time, up-front charges provide a predictable cost for new development rather than “negotiated” developer exactions.

As codified in Chapter 395 of the Texas Local Government Codes, two rational nexuses must be demonstrated in order to legally support impact fee programs. First, a reasonable connection between the need for additional capital facilities and the growth in demand generated by the new development must be defined. Second, a reasonable connection between the expenditure of the funds collected and the benefits to the new development must be shown.

The purpose of this report is to summarize the methodology used in the development and calculation of water, wastewater, and roadway impact fees for the City of Kennedale. The methodology used herein satisfies the requirements of the Texas Local Government Code Section 395 for the establishment of impact fees.

LAND USE ASSUMPTIONS

Population and land use assumptions are important elements in the analysis of water, wastewater, and roadway systems. To assist the City of Kennedale in determining the need and timing of capital improvements to serve future development, a reasonable estimation of future growth is required. Growth and future development projections were formulated based on assumptions pertaining to the type, location, quantity, and timing of various future land uses within the community. These land use assumptions, which include population projections, will become the basis for the preparation of impact fee capital improvement plans for water, wastewater, and roadway facilities.

- From the 2012 Comprehensive Plan, approximately 59 percent of the total land within the city limits is developed, with approximately 28 percent of land within the city limits being vacant and available for future development, where infrastructure and topography permit. Approximately 13 percent of the land in Kennedale is undevelopable as either right-of-way, utility easements, parks/open space or other undevelopable land types.
- The existing 2016 population for Kennedale is approximately 8,384 persons, with an existing estimated employment of 4,521 jobs.

EXECUTIVE SUMMARY

- An average annual growth rate of 4.80 percent was used to calculate the Kennedale ten-year growth projections. This growth rate is based upon approved data from the 2014 Water and Wastewater Master Plan, NCTCOG Population Estimates, as well as historical U.S. Census data, and was approved by the CIAC on November 16, 2015.
- The ten-year (2026) population growth projection for Kennedale is 13,399 persons, an increase of 5,015 persons. Employment is projected to increase by 2,233 to a total of 6,754 jobs by 2026 with a compound annual growth rate of 4.10%.

MAXIMUM ALLOWABLE ROADWAY IMPACT FEE

This analysis of roadways serves as the second generational update to the initial system adopted in 2002. Since its inception, the roadway impact fee system has been updated once in 2007 and collection rates revised in 2009. The total cost of roadway capital improvements to serve future development projected to occur between 2016 and 2026 is \$42,641,949. The City has historically not collected the maximum allowable impact fee. By the requirements of Chapter 395, to collect the maximum fee would require a specific finance study. In the alternative, the city must credit the cost of the CIP by 50 percent. With the state mandate of 50% credit to the CIP, the cost of the program is \$21,320,974. The increase in the number of service units due to growth over the next ten-year period is 6,771 vehicle-miles. With the 50% state mandated credit to the CIP, the maximum allowable roadway impact is \$1,269 per service unit. This reflects a decrease in the cost per service unit from \$1,336.33 in 2009.

SERVICE AREA	NET CAPACITY SUPPLIED BY CIP	TOTAL PROJECT COST OF CIP (WITH 50% CIP CREDIT)	PROJECTED 10-YR DEMAND (VEH-MI)	COST ATTRIBUTABLE TO NEW DEV. (WITH 50% CIP CREDIT)	ACTUAL COST PER SERVICE UNIT	COST PER SERVICE UNIT @ 50% STATE MANDATE
1	14,532	\$21,320,974	6,771	\$7,349,459	\$1,269.00	\$2,538.00
Totals	14,532	\$21,320,974	6,771	\$7,349,459	\$1,269.00	\$2,538.00

EXECUTIVE SUMMARY

MAXIMUM ALLOWABLE WATER IMPACT FEE

The cost of water capital improvements to serve development projected to occur between 2016 and 2026 is \$4,441,608. The increase in the number of service units due to growth over the next ten years is projected as 1,493 service units. The maximum allowable water impact fee with the state mandated 50% credit is \$1,487 per service unit. This reflects a decrease in the cost per service unit from \$2,937 in 2007. The maximum allowable water impact fee calculation is summarized as follows:

Total Eligible Capital Improvement Costs	= \$4,441,608
Growth in Service Units	= 1,493
Maximum Water Impact Fee	= Total Eligible Costs / Growth in Service Units
	= \$4,441,608 / 1,493
	= \$2,975 per Service Unit
Maximum Allowable Water Impact Fee	= Maximum Impact Fee – Credit (50%)
	= \$2,975 – \$1,488
	= \$1,487 per Service Unit

EXECUTIVE SUMMARY

MAXIMUM ALLOWABLE WASTEWATER IMPACT FEE

The cost of wastewater system capital improvements to serve development projected to occur between 2016 and 2026 is \$3,227,005. The increase in the number of service units due to growth over the next ten years is projected as 1,493 service units. The maximum allowable wastewater impact fee with the state mandated 50% credit is \$1,080 per service unit. This reflects a decrease in the cost per service unit from \$1,211 in 2007. The maximum allowable wastewater impact fee calculation is summarized as follows:

Total Capital Improvement Costs	= \$3,227,005
Growth in Service Units	= 1,493
Maximum Wastewater Impact Fee	= Total Eligible Costs/Growth in Service Units
	= \$3,227,005 / 1,493
	= \$2,161 per Service Unit
Maximum Allowable Wastewater Impact Fee	= Maximum Impact Fee – Credit (50%)
	= \$2,161 – \$1,081
	= \$1,080 per Service Unit

BACKGROUND

Chapter 1 Background

Chapter 395 of the Texas Local Government Code requires an impact fee analysis before impact fees can be created and assessed. Chapter 395 defines an impact fee as “a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development.” In September 2001, Chapter 395 was amended creating the current procedure for implementing impact fees. Chapter 395 identifies the following items as impact fee eligible costs:

- Construction contract price
- Surveying and engineering fees
- Land acquisition costs
- Fees paid to the consultant preparing or updating the capital improvements plan (CIP)
- Projected interest charges and other finance costs for projects identified in the CIP

Chapter 395 also identifies items that impact fees cannot be used to pay for, such as:

- Construction, acquisition, or expansion of public facilities or assets other than those identified on the capital improvements plan
- Repair, operation, or maintenance of existing or new capital improvements
- Upgrading, updating, expanding, or replacing existing capital improvements to serve existing development in order to meet stricter safety, efficiency, environmental, or regulatory standards
- Upgrading, updating, expanding, or replacing existing capital improvements to provide better service to existing development
- Administrative and operating costs of the political subdivision
- Principal payments and interest or other finance charges on bonds or other indebtedness, except as allowed above

As a funding mechanism for capital improvements, impact fees allow cities to recover the costs associated with new or facility expansion in order to serve future development. Legislatively, roadway impact fees may consider arterial and collector status roads on the City’s official Thoroughfare Plan. Statutory requirements mandate that impact fees be based on a specific list of improvements identified in a capital improvements program and only the cost attributed (and necessitated) by new growth over a ten-year period may be considered. As projects in the program are completed, planned costs are updated with actual costs to more accurately reflect the capital

BACKGROUND

expenditure of the program. Additionally, new capital improvement projects may be added to the system.

In October 2015, the City of Kennedale, Texas authorized Freese and Nichols, Inc. (FNI) to perform an impact fee analysis update on the City's water, wastewater, and roadway systems. This analysis serves as the second generational update to the initial system adopted in 2002. Since its inception, the impact fee system has been updated once in 2007 and roadway collection rates were revised in 2009. The purpose of this report is to address the methodology used in the development and calculation of water, wastewater and roadway impact fees for the City of Kennedale. The methodology used herein satisfies the requirements of the Texas Local Government Code Section 395 for the establishment of impact fees.

As part of the impact fee update, FNI conducted workshops with the city's appointed Capital Improvements Advisory Committee (CIAC) and City Council. The CIAC's role includes recommending a growth rate for impact fee calculations, reviewing and recommending land use assumptions and Impact Fee Capital Improvements Plans (CIP), and recommending an impact fee collection rate to the City Council.

Land use assumptions serve as the basis from which demands over the ten-year planning period are developed. This analysis is based on data contained in the "Land Use Assumption for the 2016 Impact Fee Update" report, which was presented to the Impact Fee CIAC on April 14, 2016.

Table 1-1 provides a glossary for all abbreviations within the report.

BACKGROUND

Table 1-1: Abbreviations

ABBREVIATION	FULL NOMENCLATURE
AWWA	American Water Works Association
CIP	Impact Fee Capital Improvements Plan
CIAC	Capital Improvements Advisory Committee
CRWS	Central Regional Wastewater System
DCRWS	Denton Creek Regional Wastewater System
DU	Dwelling Units
ESRI	Environmental Science Research Institute
ETJ	Extra-Territorial Jurisdiction
FNI	Freese and Nichols, Inc.
gpcd	Gallons per capita per day
gped	Gallons per employee per day
gpm	Gallons per minute
GFA	Gross Floor Area
ITE	Institute of Transportation Engineers
LOS	Level-of-Service
MGD	Million Gallons per Day
NCTCOG	North Central Texas Council of Governments
psi	Pounds per square inch
sf	Square feet
TCEQ	Texas Commission on Environmental Quality
TSZ	Traffic Survey Zone
veh-miles	Vehicle-Miles

LAND USE ASSUMPTIONS

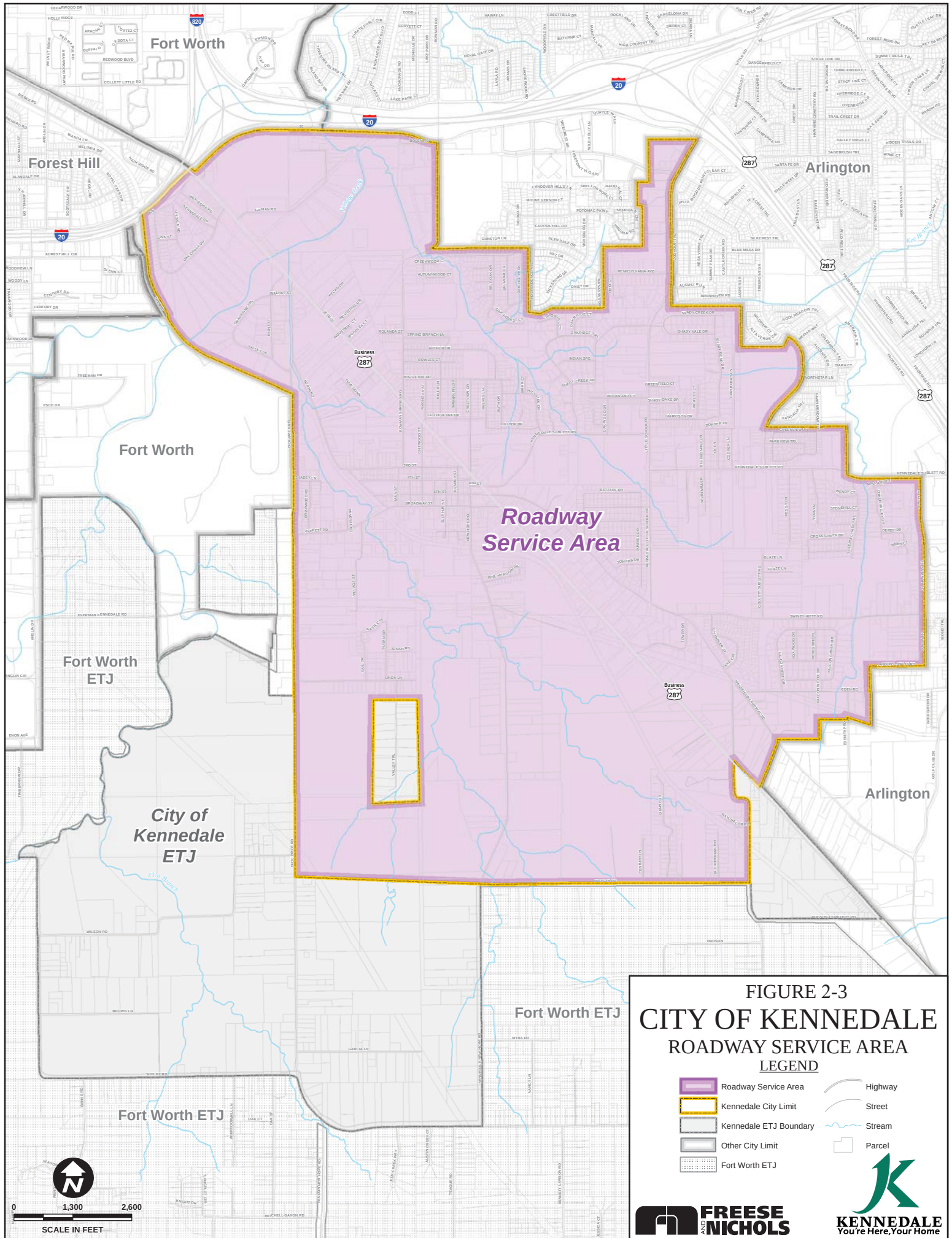
Chapter 2 Land Use Assumptions

Population and land use assumptions are important elements in the analysis of water, wastewater, and roadway systems. To assist the City of Kennedale in determining the need and timing of capital improvements to serve future development, a reasonable estimation of future growth is required. Growth and future development projections were formulated based on assumptions pertaining to the type, location, quantity, and timing of various future land uses within the community. These land use assumptions, which include population projections, will become the basis for the preparation of impact fee capital improvement plans for water, wastewater, and roadway facilities.

SERVICE AREAS

The service areas for impact fees must be defined to ensure that facility improvements are located in close proximity to the areas generating need. Roadway service areas must be located within city limits and are limited to a six-mile maximum. The impact fee service areas for water and wastewater differ slightly and can include extra-territorial jurisdiction (ETJ) or other defined service area.

Figures 2-1 illustrates the water service area for the Kennedale Impact Fee study. **Figure 2-2** shows the wastewater service area. These areas are bounded by the existing city limits and ETJ. Roadway service areas are confined to the city limits with a maximum diameter of 6-miles per Chapter 395. The City of Kennedale's single roadway service area, illustrated in **Figure 2-3**, was retained in this update with revisions made to include any annexations.



LAND USE ASSUMPTIONS

BASE YEAR DATA

Using the City's historical growth trends and data, the 2016 base year population estimate for the City of Kennedale and future growth rate were derived. This "benchmark" information provides a starting basis of data for the ten-year growth assumptions. A full description of this analysis is provided in the 2016 Land Use Assumption Report located in **Appendix H**.

Growth Summary

Data from the 2014 Water and Wastewater Master Plan, NCTCOG population estimates, and employment estimates were reviewed and yielded relatively consistent results. All showed a generally increasing growth due to the redevelopment of the City, but also a varying compound annual growth rate over the same period. **Table 2-1** shows the various sources used to derive past growth rates.

Table 2-1: City of Kennedale Historic Compound Annual Growth Rates

GROWTH	CAGR
Historic Population Growth Rates*	
2 Year Growth Rate (2013-2015)	8.31%
5 Year Growth Rate (2010-2015)	3.42%
10 Year Growth (2005-2015)	2.66%
Average	4.80%

*Source: 2014 Water and Wastewater Master Plan

2016 Population

Based on an analysis of growth rates, average rates of growth for the 10-year forecast varied between 2.66 and 8.31 percent. A 4.80 percent compound annual growth rate was determined to be an appropriate assumption for the 10-year study period. This growth rate is believed to account for periods of stable growth and fluctuations expected to occur over the 10-year planning period. This rate was presented to and recommended by the CIAC on November 16, 2015.

2016 Employment

2016 base employment data was calculated using data from the NCTCOG. This information provided a breakout of employment by TSZ for 2009, 2019, and 2030. For assumption purposes, and to be consistent with the population totals, an interpolation of these numbers was calculated to derive the 2016 employment estimates by TSZ. It is important to note that the TSZs do not follow city limits

LAND USE ASSUMPTIONS

in some locations, so adjustments were made based on the locations of existing land uses and upon the percentage of each TSZ located within city limits. Employment for each TSZ was broken down into basic, retail, and service uses as defined by the North American Industry Classification (NAIC) code.

Table 2-2: Summary of Base Year (2016) Population and Employment

2016 SUMMARY POPULATION & EMPLOYMENT	
Population	8,384
Total Employment	4,521
<i>Basic Employment</i>	<i>1,438</i>
<i>Retail Employment</i>	<i>847</i>
<i>Service Employment</i>	<i>2,236</i>

Source: Freese and Nichols, Inc., NCTCOG

TEN-YEAR GROWTH ASSUMPTIONS

Projected growth has been characterized in two forms: population and employment. A series of assumptions were made to arrive at reasonable growth rates for population and employment. The following assumptions have been made as a basis from which ten-year projections could be initiated.

- Future land uses will occur based on similar trends of the past and consistent with the Future Land Use Plan Map,
- The City will be able to finance the necessary improvements to accommodate continued growth, and
- Densities will be as projected in the Future Land Use Plan of the City's Comprehensive Plan.

The ten-year projections are based upon the growth rate which was discussed earlier (4.80%) and considers past trends of the City.

2026 Population

The City has experienced small yet steady growth over the past decade. The City's 2000 population stood at 5,850 residents. By the end of the decade, the City of Kennedale rose to 6,763 in 2010 and a 2016 estimate of 8,384. This population growth is occurring within the context of the greater Dallas-Fort Worth metroplex, which is one of the largest regions in the nation. With a compound

LAND USE ASSUMPTIONS

annual growth rate of 4.80 percent, Kennedale is anticipated to grow by 5,015 persons during the 10-year planning period to a total population of 13,399 by the year 2026.

Table 2-3: City of Kennedale Projected Population

TEN-YEAR POPULATION PROJECTION CITY OF KENNEDALE				
Roadway Service Areas	2016 Population	2026 Population	Pop. Added	Pct. Change
1	8,384	13,399	5,015	59.8%
City Total	8,384	13,399	5,015	

Source: Freese and Nichols, Inc.

2026 Employment

Employment data for the year 2026 was based upon data provided by NCTCOG. For assumption purposes, an interpolation of these numbers was calculated to derive the 2026 employment estimates per TSZ. **Table 2-4** shows the total employment for the base year, projected employment for 2025, the net growth, and percent change. This increase corresponds to an annual growth rate of 4.10 percent citywide. This lower growth rate of employment compared to the population growth rate can be attributed to the primary residential community growth experienced by Kennedale.

It is important to note that TSZs do not follow city limits. As a result, additional assumptions were made based upon known or anticipated development to occur, projections of future land use needs and percentages of each TSZ located within city limits.

Table 2-4: City of Kennedale Employment Projection

TEN-YEAR EMPLOYMENT PROJECTION CITY OF KENNEDALE				
Roadway Service Area	Total Employment		Emp. Added	Pct. Change
	2016	2026		
1	4,521	6,754	2,233	49.4%
City Total	4,521	6,754	2,233	

Source: Freese and Nichols, Inc.

LAND USE ASSUMPTIONS

SUMMARY

- From the 2012 Comprehensive Plan, approximately 59 percent of the total land within the city limits is developed, with approximately 28 percent of land within the city limits being vacant and available for future development, where infrastructure and topography permit. Approximately 13 percent of the land in Kennedale is undevelopable as either right-of-way, utility easements, parks/open space or other undevelopable land types.
- The existing 2016 population for Kennedale is approximately 8,384 persons, with an existing estimated employment of 4,521 jobs.
- An average annual growth rate of 4.80 percent was used to calculate the Kennedale ten-year growth projections. This growth rate is based upon approved data from the 2014 Water and Wastewater Master Plan, NCTCOG Population Estimates, as well as historical U.S. Census data, and was approved by the CIAC on November 16, 2015.
- The ten-year (2026) population growth projection for Kennedale is 13,399 persons, an increase of 5,015 persons. Employment is projected to increase by 2,233 to a total of 6,754 jobs by 2026 with a compound annual growth rate of 4.10%.
- The ultimate population of Kennedale is expected to be approximately 16,459 persons, per the 2014 Water and Wastewater Master Plan.
- A summary of the 2016 and 2026 demographics broken down by roadway service areas can be found below

	2016	2026	Total Increase	Percent Total Growth	Annual Growth Rate
Population					
Kennedale Total	8,384	13,399	5,015	59.82%	4.80%
Service Area 1	8,384	13,399	5,015	59.82%	4.80%
Employment					
Kennedale Total	4,521	6,754	2,233	49.39%	4.10%
Service Area 1	4,521	6,754	2,233	49.39%	4.10%
Basic	1,438	1,959	521	36.23%	3.14%
Retail	847	1,182	335	39.55%	3.39%
Service	2,236	3,613	1,377	61.58%	4.92%

Chapter 3 Roadway Impact Fee Analysis

Chapter 395 of the Texas Local Government Code prescribes the process which Texas cities must follow in the update of impact fees. Statutory requirements mandate that impact fees be updated (at least) every five years. This analysis of roadways serves as the second generational update to the initial system adopted in 2002. Since its inception, the roadway impact fee system has been updated once in 2007 and collection rates revised in 2009.

Land use assumptions serve as the basis from which travel demands over the ten-year planning period are developed. This analysis is based on data contained in the “Land Use Assumption for the 2016 Impact Fee Update” report, which was presented to the Impact Fee Capital Improvements Advisory Committee (CIAC) in April 2016.

As a funding mechanism for roadway improvements, impact fees allow cities to recover the costs associated with new or facility expansion in order to serve future development. Legislatively, roadway impact fees may consider arterial and collector status roads on the City’s official Thoroughfare Plan. Statutory requirements mandate that impact fees be based on a specific list of improvements identified in the program and only the cost attributed (and necessitated) by new growth over a ten-year period may be considered. As projects in the program are completed, planned costs are updated with actual costs to more accurately reflect the capital expenditure of the program. Additionally, new capital improvement projects may be added to the system.

Initially authorized by the Texas Legislature in 1987, impact fees have undergone several technical and administrative changes, most notably since 2001. These include:

- Expansion of the service area structure for roadway facilities from three to six miles;
- A credit for the portion of ad valorem tax revenues generated by improvements over the program period, or the credit equal to 50% of the total projected cost of implementing the capital improvements plan;
- A city's share of costs on the federal or Texas highway system, including matching funds and costs related to utility line relocation, the establishment of curbs and gutters, sidewalks, drainage appurtenances, and rights-of-way;
- Increase in the time period of update of impact fee land use assumptions and capital improvements plan from a three to a five year period;
- Changes in compliance requirements related to annual reporting;
- Consolidation of the land use assumptions and capital improvements plan hearings; and
- The exemption of schools districts and federal housing from paying impact fees.

ROADWAY IMPACT FEE ANALYSIS

METHODOLOGY

To update roadway impact fees for the City of Kennedale, a series of work tasks were undertaken. These tasks are described below.

1. Meetings were held with the City of Kennedale Staff and the Capital Improvement Advisory Committee (CIAC) to discuss the methodology to be used in the update.
2. The existing roadway service area structure was retained.
3. Vehicle-miles of travel in the PM peak hour retained as the service unit measure for roadway impact fee calculations.
4. A roadway conditions inventory was conducted to update lane geometries, roadway classifications and segment lengths, as necessary, of facilities in the impact fee program. Using updated traffic volumes collected in January 2016, any service area deficiencies were identified within the network.
5. Projected growth (service units) by service area over the ten-year planning period was determined using the 2016 Land Use Assumptions Report in conjunction with the revised Land Use Equivalency Table. Projected growth between the years 2016 and 2026 of population and employment are detailed in the land use assumptions report.
6. The previous roadway impact fee capital improvements program (IFCIP) was reviewed to ensure excess capacity remained in the program as well as to incorporate revised growth figures for the service area. Potential project additions were identified by City Staff based on growth needs and the city's anticipated future bond program.
7. Roadway cost data of construction, engineering, and right-of-way for impact fee projects were updated and compiled by service area based on data provided by the City. For recently completed projects, actual costs were incorporated into the system database.
8. The cost of capacity provided, maximum cost per service unit, and cost attributable to new development was calculated for each service area.
9. The Land Use Equivalency Table (service unit generation for specific land uses) was updated to incorporate new trip rate and trip length data. Trip rate data was obtained from *Trip Generation, Ninth Edition* by the Institute of Transportation Engineers (ITE). Trip length statistics of the city were obtained from the North Central Texas Council of Governments (NCTCOG) travel demand model.
10. A report was prepared to document the procedures and findings of the analysis.

ROADWAY IMPACT FEE ANALYSIS

SERVICE AREAS

Chapter 395 requires that service areas be defined for roadway impact fees to ensure that facility improvements are located in close proximity to areas generating needs. Legislative requirements stipulate that roadway service areas be limited to a six-mile maximum and must be located within the current city limits. Transportation service areas are different from water and wastewater systems, which can include the city limits and its extra-territorial jurisdiction (ETJ) or other defined service area. This is primarily because roadway systems are "open" to both local and regional (non-city) use as opposed to a defined level of utilization from residents within a water and wastewater system. The result is that new development can only be assessed an impact fee based on the cost of necessary capital improvements within that service area.

The City of Kennedale's single roadway service area, illustrated in **Figure 3-1**, was retained in this update with revisions made to include any annexations.

ROADWAY IMPACT FEE ANALYSIS

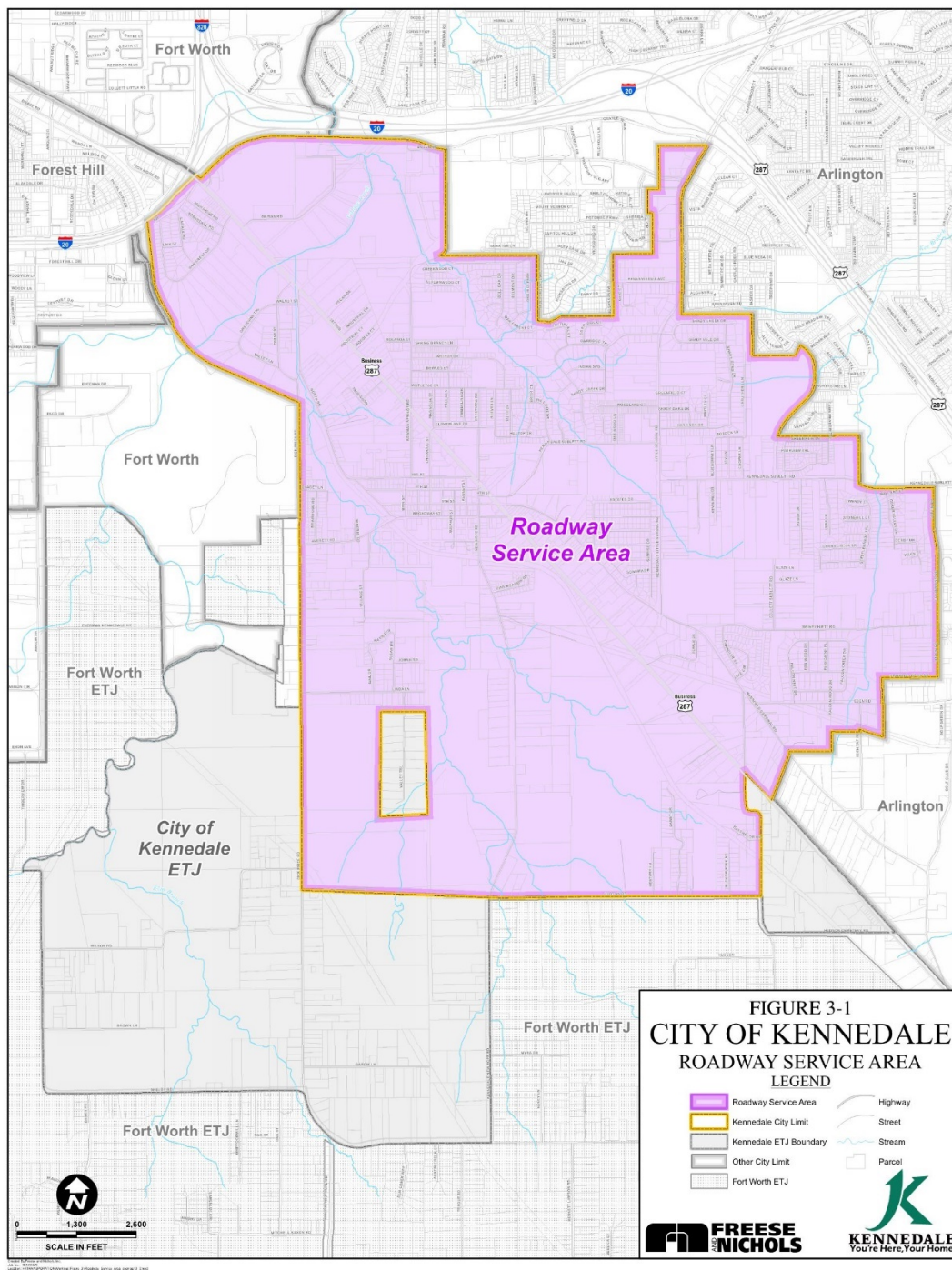


Figure 3-1: Roadway Service Areas

ROADWAY IMPACT FEE ANALYSIS

ROADWAY IMPACT FEE SERVICE UNITS

Service units establish a relationship between roadway projects and demand placed on the street system by development, as well as, the ability to calculate and assess impact fees for specific development proposals. As defined in Chapter 395, "Service unit means a standardized measure of consumption, use, generation, or discharge attributable to an individual unit of development in accordance with generally accepted engineering or planning standards for a particular category of capital improvements or facility expansions."

To determine the roadway impact fee for a particular development, the service unit must accurately identify the impact that the development will have on the major roadway system (i.e., arterial and collector roads) serving the development. This impact is a combination of the number of new trips generated by the development, the particular peaking characteristics of the land-use(s) within the development, and the length of each new trip on the transportation system.

The service unit must also reflect the capacity, which is provided by the roadway system, and the demand placed on the system during the time in which peak, or design, conditions are present on the system. Transportation facilities are designed and constructed to accommodate volumes expected to occur during the peak hours (design hours). These volumes typically occur during the peak hours as motorists travel to and from work.

The vehicle-mile during the PM peak hour serves as the service unit for impact fees in Kennedale. This service unit establishes a more precise measure of capacity, utilization and intensity of land development through the use of published trip generation data. It also recognizes legislative requirements with regards to trip length.

Service Units

Service units create a link between supply (roadway projects) and demand (development). Both can be expressed as a combination of the number of vehicles traveling during the peak hour and the distance traveled by these vehicles in miles.

Service Unit Supply

For roadway capital project improvements, the number of service units provided during the peak hour is simply the product of the capacity of the roadway in one hour and the length of the product. For example:

Given a four lane divided roadway project with a 600 vehicle per hour per lane capacity and a length of two miles, the number of service units provided is:

$$600 \text{ vehicles per hour per lane} \times 4 \text{ lanes} \times 2 \text{ miles} = 4,800 \text{ vehicles-miles}$$

ROADWAY IMPACT FEE ANALYSIS

Service Unit Demand

The demand placed on the system can be expressed in a similar manner. For example, a development generating 100 vehicle trips in the PM peak hour with an average trip length of two miles would generate:

$$100 \text{ vehicle-trips} \times 2 \text{ miles/trip} = 200 \text{ vehicle-miles}$$

Similarly, demand placed on the existing roadway network is calculated in the same manner with a known traffic volume (peak hour roadway counts collected in January 2016) on a street and a given segment length.

SERVICE UNITS FOR NEW DEVELOPMENT

An important objective in the development of the impact fee system is the development of a specific service unit equivalency for individual developments. The vehicle-miles generated by a new development are a function of the trip generation and average trip length characteristics of that development. The following describes the process used to develop the vehicle-equivalency table, which relates land use types and sizes to the resulting vehicle-miles of demand created by that development.

Trip Generation

Trip generation information for the PM peak hour was based on data published in the Ninth Edition of *Trip Generation* by the Institute of Transportation Engineers (ITE). *Trip Generation* is a reference publication that contains travel characteristics of over 100 land uses across the nation and is based on empirical data gathered from over 3,200 studies that were reported to the Institute by public agencies, developers and consulting firms.

Pass-by and Diverted Trips Adjustments

The actual "traffic impact" of a specific site for impact fee purposes is based on the amount of traffic added to the street system. To accurately estimate new trips generated by a new development, adjustments must be made to trip generation rates and equations to account for pass-by and diverted trips. The added traffic is adjusted so that each development is assigned only for a portion of trips associated with that particular development, reducing the possibility of over-counting by counting only primary trips generated.

Pass-by trips are those trips that are already on a particular route for a different purpose and simply stop at a particular development on that route. For example, a stop at a convenience store on the way home from the office is a pass-by trip for the convenience store. A pass-by trip does not create

ROADWAY IMPACT FEE ANALYSIS

an additional burden on the street system and therefore should not be counted in the assessment of impact fees of a convenience store.

A diverted trip is a similar situation, except that a diversion is made from the regular route to make an interim stop. For example, a trip from work to home using Dick Price Road would be a diverted trip if the travel path were changed to Corry A Edwards Drive for the purpose of stopping at the junior high school. On a system-wide basis, this trip places a slightly additional burden on the street system but in many cases, this burden is minimal.

Trip generation rates were reduced by the percentages presented in **Table 3-1** in an effort to isolate the primary trip purpose. Adjustments were based on studies conducted by ITE and other published studies.

ROADWAY IMPACT FEE ANALYSIS

Table 3-1: Trip Reduction Estimates (PM Peak Hour)

ITE Land Use	ITE Code	Dev. Unit	Ave. Trip Rate	Pass By Rate	Diverted Trips	Ave. Trip Rate w/ Deductions
Residential						
Single-Family Detached Housing	210	DU	1.00	0%	0%	1.00
Apartment	220	DU	0.62	0%	0%	0.62
Residential Condominium / Townhouse	230	DU	0.52	0%	0%	0.52
Senior Adult Housing - Detached	251	DU	0.27	0%	0%	0.27
Continuing Care Retirement Community	255	DU	0.16	0%	0%	0.16
Others Not Specified		DU	1.00	0%	0%	1.00
Office						
General Office	710	1000 sq. ft.	1.49	0%	0%	1.49
Corporate Headquarters Bldg	714	1000 sq. ft.	1.41	0%	0%	1.41
Medical-Dental Office	720	1000 sq. ft.	3.46	0%	0%	3.46
U.S. Post Office	732	1000 sq. ft.	11.22	0%	0%	11.22
Research and Development Center	760	1000 sq. ft.	1.07	0%	0%	1.07
Business Park	770	1000 sq. ft.	1.26	0%	0%	1.26
Others Not Specified		1000 sq. ft.	1.49	0%	0%	1.49
Retail / Commercial						
Hotel	310	Rooms	0.60	0%	0%	0.60
Movie Theater with Matinee	444	Screens	20.22	15%	0%	17.19
Building Materials and Lumber Store	812	1000 sq. ft.	4.49	25%	0%	3.37
Free standing Discount Superstore	813	1000 sq. ft.	4.35	28%	0%	3.13
Specialty Retail Center	814	1000 sq. ft.	6.82	0%	0%	6.82
Hardware/Paint Store	816	1000 sq. ft.	4.84	26%	28%	2.23
Garden Center	817	1000 sq. ft.	6.94	0%	0%	6.94
Nursery (Wholesale)	818	1000 sq. ft.	5.17	25%	0%	3.88
Shopping Center	820	1000 sq. ft.	3.71	34%	26%	1.48
Automobile Sales	841	1000 sq. ft.	2.62	40%	0%	1.57
Auto Parts Sales	843	1000 sq. ft.	5.98	43%	13%	2.63
Tire Store	848	1000 sq. ft.	4.15	28%	10%	2.57
Tire Superstore	849	1000 sq. ft.	2.11	28%	10%	1.31
Super market	850	1000 sq. ft.	9.48	36%	38%	2.48
Convenience Market with Gasoline Pumps	853	1000 sq. ft.	50.92	63%	26%	5.60
Discount Club	857	1000 sq. ft.	4.18	0%	0%	4.18
Home Improvement Superstore	862	1000 sq. ft.	2.33	48%	24%	0.65
Electronic Superstore	863	1000 sq. ft.	4.50	40%	33%	1.22
Toy Superstore	864	1000 sq. ft.	4.99	0%	0%	4.99
Apparel Store	876	1000 sq. ft.	3.83	0%	0%	3.83
Arts and Crafts Store	879	1000 sq. ft.	6.21	0%	0%	6.21
Pharmacy with drive thru	881	1000 sq. ft.	9.91	49%	13%	3.77
Furniture Store	890	1000 sq. ft.	0.45	53%	31%	0.07
DVD/Video Rental Store	896	1000 sq. ft.	13.60	73%	0%	3.67
Bank with Drive Thru	912	1000 sq. ft.	24.30	47%	26%	6.64
Quality Restaurant	931	1000 sq. ft.	7.49	44%	27%	2.17
Restaurant	932	1000 sq. ft.	9.85	43%	26%	3.11
Fast food with drive thru	934	1000 sq. ft.	32.65	50%	23%	8.72
Quick Lubrication Vehicle Stop	941	Serving Positions	5.19	55%	0%	2.34
Automotive Care Center	942	1000 sq. ft.	3.11	0%	0%	3.11
Others Not Specified		1000 sq. ft.	3.71	34%	26%	1.48
Light Industrial						
General Light Industrial	110	1000 sq. ft.	0.97	0%	0%	0.97
Industrial Park	130	1000 sq. ft.	0.85	0%	0%	0.85
Manufacturing	140	1000 sq. ft.	0.73	0%	0%	0.73
Mini Warehouse (Self Storage)	151	1000 sq. ft.	0.26	0%	0%	0.26
Utilities	170	1000 sq. ft.	0.76	0%	0%	0.76
Others Not Specified		1000 sq. ft.	0.97	0%	0%	0.97
Institutional						
Private School (K-8)	534	Students	0.60	0%	0%	0.60
Church	560	1000 sq. ft.	0.55	0%	0%	0.55
Day Care Center	565	Students	0.81	0%	0%	0.81
Others Not Specified		1000 sq. ft.	0.55	0%	0%	0.55

ROADWAY IMPACT FEE ANALYSIS

Trip Length

Trip lengths (in miles) are used in conjunction with site trip generation to estimate vehicle-miles of travel. Trip length data was based on a combination of travel statistics generated in the 1994 North Central Texas Council of Governments (NCTCOG) Workplace Survey. **Table 3-2** summarizes the derived average trip lengths for major land use categories. These trip lengths represent the average distance that a vehicle will travel between an origin and destination of which either the origin or destination contains the land-use category identified below.

Origin and Destination Adjustments

Trip lengths were adjusted to “localize” trip activity to the local network by removing a percentage of travel occurring on the federal system. Modeled network statistics from NCTCOG indicate that 35% of travel generated from within the city use non-federal facilities. Localization calculations are detailed in **Appendix G**.

Additionally, the assessment of an individual development's impact fee is based on the premise that each vehicle-trip has an origin and a destination and that the development end should pay for one-half of the cost necessary to complete each trip. To prevent the potential of double charging, trip lengths were divided by two to reflect half of the vehicle trip associated with development. **Table 3-2** illustrates the adjusted trip length.

Finally, with the total size of the City of Kennedale being approximately 3.0 miles from edge to edge, trip lengths were also reviewed to ensure none exceeded the trip length possible within the City's limits.

ROADWAY IMPACT FEE ANALYSIS

Table 3-2: Trip Lengths and Adjustments

ITE Land Use	ITE Code	Modeled Trip Length	Localized Trip Length (35%)	Ave. Trip Length
Residential				
Single-Family Detached Housing	210	10.33	3.62	1.81
Apartment	220	10.33	3.62	1.81
Residential Condominium / Townhouse	230	10.33	3.62	1.81
Senior Adult Housing - Detached	251	8.05	2.82	1.41
Continuing Care Retirement Community	255	8.05	2.82	1.41
Others Not Specified		10.33	3.62	1.81
Office				
General Office	710	10.33	3.62	1.81
Corporate Headquarters Bldg	714	11.88	4.16	2.08
Medical-Dental Office	720	9.64	3.37	1.69
U.S. Post Office	732	8.01	2.80	1.40
Research and Development Center	760	11.88	4.16	2.08
Business Park	770	11.88	4.16	2.08
Others Not Specified		10.33	3.62	1.81
Retail / Commercial				
Hotel	310	4.15	1.45	0.73
Movie Theater with Matinee	444	3.30	1.16	0.58
Building Materials and Lumber Store	812	1.61	0.56	0.28
Free standing Discount Superstore	813	3.80	1.33	0.67
Specialty Retail Center	814	3.10	1.09	0.54
Hardware/Paint Store	816	1.61	0.56	0.28
Garden Center	817	3.10	1.09	0.54
Nursery (Wholesale)	818	2.63	0.92	0.46
Shopping Center	820	4.12	1.44	0.72
Automobile Sales	841	4.47	1.56	0.78
Auto Parts Sales	843	2.30	0.81	0.40
Tire Store	848	4.12	1.44	0.72
Tire Superstore	849	4.12	1.44	0.72
Super market	850	2.10	0.74	0.37
Convenience Market with Gasoline Pumps	853	1.80	0.63	0.32
Discount Club	857	2.30	0.81	0.40
Home Improvement Superstore	862	3.90	1.37	0.68
Electronic Superstore	863	3.90	1.37	0.68
Toy Superstore	864	4.30	1.51	0.75
Apparel Store	876	3.10	1.09	0.54
Arts and Crafts Store	879	2.30	0.81	0.40
Pharmacy with drive thru	881	1.50	0.53	0.26
Furniture Store	890	4.80	1.68	0.84
DVD/Video Rental Store	896	2.86	1.00	0.50
Bank with Drive Thru	912	2.50	0.88	0.44
Quality Restaurant	931	3.75	1.31	0.66
Restaurant	932	3.80	1.33	0.67
Fast food with drive thru	934	4.30	1.51	0.75
Quick Lubrication Vehicle Stop	941	2.86	1.00	0.50
Automotive Care Center	942	4.50	1.58	0.79
Others Not Specified		4.12	1.44	0.72
Light Industrial				
General Light Industrial	110	9.95	3.48	1.74
Industrial Park	130	9.95	3.48	1.74
Manufacturing	140	10.28	3.60	1.80
Mini Warehouse (Self Storage)	151	6.34	2.22	1.11
Utilities	170	9.95	3.48	1.74
Others Not Specified		9.95	3.48	1.74
Institutional				
Private School (K-8)	534	4.12	1.44	0.72
Church	560	2.90	1.02	0.51
Day Care Center	565	1.64	0.57	0.29
Others Not Specified		2.90	1.02	0.51

ROADWAY IMPACT FEE ANALYSIS

Service Unit Equivalency Table

The result of combining the trip generation and trip length information is an equivalency table which establishes the service unit rate for various land uses. These service unit rates are based on an appropriate development unit for each land use. For example, a dwelling unit is the basis for residential uses, while 1,000 gross square feet of floor area is the basis for office, commercial, and retail uses.

Separate rates have been established for specific land uses within the broader categories of residential, commercial, industrial, and institutional to reflect the differences between land uses within the categories. However, even with these specific land use types, information is not available for every conceivable land use; so limitations do exist. The updated equivalency table is illustrated in **Table 3-3**.

Service units for respective land uses were affected primarily as a result of the increase in the proportion of travel on federal facilities. Also contributing to the change in service units was updated trip generation data and discount of trip generation for pass-by and diverted trips.

ROADWAY IMPACT FEE ANALYSIS

Table 3-3: Land Use Vehicle-Mile Equivalency

ITE Land Use	ITE Code	Dev. Unit	Ave. Trip Rate w/ Deductions	Ave. Trip Length	Veh-Mi Per Dev Unit
Residential					
Single-Family Detached Housing	210	DU	1.00	1.81	1.81
Apartment	220	DU	0.62	1.81	1.12
Residential Condominium / Townhouse	230	DU	0.52	1.81	0.94
Senior Adult Housing - Detached	251	DU	0.27	1.41	0.38
Continuing Care Retirement Community	255	DU	0.16	1.41	0.23
Others Not Specified		DU	1.00	1.81	1.81
Office					
General Office	710	1000 sq. ft.	1.49	1.81	2.69
Corporate Headquarters Bldg	714	1000 sq. ft.	1.41	2.08	2.93
Medical-Dental Office	720	1000 sq. ft.	3.46	1.69	5.84
U.S. Post Office	732	1000 sq. ft.	11.22	1.40	15.73
Research and Development Center	760	1000 sq. ft.	1.07	2.08	2.22
Business Park	770	1000 sq. ft.	1.26	2.08	2.62
Others Not Specified		1000 sq. ft.	1.49	1.81	2.69
Retail / Commercial					
Hotel	310	Rooms	0.60	0.73	0.44
Movie Theater with Matinee	444	Screens	17.19	0.58	9.93
Building Materials and Lumber Store	812	1000 sq. ft.	3.37	0.28	0.95
Free standing Discount Superstore	813	1000 sq. ft.	3.13	0.67	2.08
Specialty Retail Center	814	1000 sq. ft.	6.82	0.54	3.70
Hardware/Paint Store	816	1000 sq. ft.	2.23	0.28	0.63
Garden Center	817	1000 sq. ft.	6.94	0.54	3.76
Nursery (Wholesale)	818	1000 sq. ft.	3.88	0.46	1.78
Shopping Center	820	1000 sq. ft.	1.48	0.72	1.07
Automobile Sales	841	1000 sq. ft.	1.57	0.78	1.23
Auto Parts Sales	843	1000 sq. ft.	2.63	0.40	1.06
Tire Store	848	1000 sq. ft.	2.57	0.72	1.86
Tire Superstore	849	1000 sq. ft.	1.31	0.72	0.94
Super market	850	1000 sq. ft.	2.48	0.37	0.91
Convenience Market with Gasoline Pumps	853	1000 sq. ft.	5.60	0.32	1.76
Discount Club	857	1000 sq. ft.	4.18	0.40	1.68
Home Improvement Superstore	862	1000 sq. ft.	0.65	0.68	0.45
Electronic Superstore	863	1000 sq. ft.	1.22	0.68	0.83
Toy Superstore	864	1000 sq. ft.	4.99	0.75	3.75
Apparel Store	876	1000 sq. ft.	3.83	0.54	2.08
Arts and Crafts Store	879	1000 sq. ft.	6.21	0.40	2.50
Pharmacy with drive thru	881	1000 sq. ft.	3.77	0.26	0.99
Furniture Store	890	1000 sq. ft.	0.07	0.84	0.06
DVD/Video Rental Store	896	1000 sq. ft.	3.67	0.50	1.84
Bank with Drive Thru	912	1000 sq. ft.	6.64	0.44	2.91
Quality Restaurant	931	1000 sq. ft.	2.17	0.66	1.43
Restaurant	932	1000 sq. ft.	3.11	0.67	2.07
Fast food with drive thru	934	1000 sq. ft.	8.72	0.75	6.56
Quick Lubrication Vehicle Stop	941	Serving Positions	2.34	0.50	1.17
Automotive Care Center	942	1000 sq. ft.	3.11	0.79	2.45
Others Not Specified		1000 sq. ft.	1.48	0.72	1.07
Light Industrial					
General Light Industrial	110	1000 sq. ft.	0.97	1.74	1.69
Industrial Park	130	1000 sq. ft.	0.85	1.74	1.48
Manufacturing	140	1000 sq. ft.	0.73	1.80	1.31
Mini Warehouse (Self Storage)	151	1000 sq. ft.	0.26	1.11	0.29
Utilities	170	1000 sq. ft.	0.76	1.74	1.32
Others Not Specified		1000 sq. ft.	0.97	1.74	1.69
Institutional					
Private School (K-8)	534	Students	0.60	0.72	0.43
Church	560	1000 sq. ft.	0.55	0.51	0.28
Day Care Center	565	Students	0.81	0.29	0.23
Others Not Specified		1000 sq. ft.	0.55	0.51	0.28

ROADWAY IMPACT FEE ANALYSIS

EXISTING CONDITIONS ANALYSIS

An inventory of the collector and arterial roadway facilities was conducted to determine capacity provided by the existing roadway system, the demand currently placed on the system, and the potential existence of deficiencies on the system. Data for the inventory was obtained from the thoroughfare plan included in the 2012 Comprehensive Plan, field reconnaissance, and peak hour traffic volume count data.

The roadways were divided into segments based on changes in lane configuration, major intersections, or area development that may influence roadway characteristics. For individual segment assessment, lane capacities were assigned to each segment based on roadway functional class and type of cross-section as shown in **Table 3-4**. Roadway hourly volume capacities are based on general carrying capacity values and reflect level-of-service “D” operation, which is typically identified as the minimum acceptable traffic operational condition by cities.

ROADWAY IMPACT FEE ANALYSIS

Table 3-4: Roadway Facility Vehicle Lane Capacities

ROADWAY FACILITY	DESIGNATION	HOURLY VEHICLE CAPACITY PER LANE-MILE OF ROADWAY FACILITY
Undivided Collector	UC	500
Divided Collector	DC	525
Undivided Arterial	UA	625
Divided Arterial	DA	675
Special Arterial *	SA	675

*Roadway with continuous two-way left turn lane

Existing Volumes

Current directional PM peak hour volumes were obtained from traffic counts collected in January 2016. These traffic counts were collected on major roadways throughout the city. For segments not counted, existing volumes were used or estimates were developed based on data from adjoining roadway counts.

This data was compiled for roadway segments throughout the city and entered into the database for use in calculations. A summary of volumes by roadway segment is included in the **Appendix B** as part of the existing capital improvements database.

Vehicle-Miles of Existing Capacity (Supply)

An analysis of the total capacity for each service area was performed. For each roadway segment, the existing vehicle-miles of capacity supplied were calculated using the following:

$$\text{Vehicle-Miles of Capacity} = \text{Link capacity per peak hour per lane} \times \text{No. of Lanes} \times \text{Length of segment (miles)}$$

A summary of the current capacity available on the roadway system is shown in **Table 3-5**. It is important to note that the roadway capacity depicted in **Table 3-5** is system-wide for all collector and arterial roadways and not restricted to those roadways proposed in the impact fee capital improvements plan. For a detailed listing of vehicle-miles of capacity by roadway segment, refer to **Appendix B**.

Vehicle-Miles of Existing Demand

The level of current usage in terms of vehicle-miles was calculated for each roadway segment. The vehicle-miles of existing demand were calculated by the following equation:

$$\text{Vehicle-Miles of Demand} = \text{PM peak hour volume} \times \text{Length of segment (miles)}$$

ROADWAY IMPACT FEE ANALYSIS

Table 3-5 also lists total vehicle-miles of demand. **Appendix B** includes a detailed listing of vehicle-miles of demand by directional roadway segment.

Vehicle Miles of Existing Excess Capacity or Deficiencies

For each roadway segment, the existing vehicle-miles of excess capacity and/or deficiencies were calculated. Each direction was evaluated to determine if vehicle demands exceeded the available capacity. If demand exceeded capacity in one or both directions, the deficiency is deducted from the supply associated with the impact fee capital improvement plan. A summary of peak hour excess capacity and deficiencies is also shown in **Table 3-5**. A detailed listing of existing excess capacity and deficiencies by roadway segment is also located in the **Appendix B**.

Table 3-5: Peak Hour Vehicle-Miles of Existing Capacity, Demand, Excess Capacity and Deficiencies

SERVICE AREA	CAPACITY	DEMAND	EXCESS CAPACITY	EXISTING DEFICIENCIES
1	26,072	8,030	18,041	0
Total	26,072	8,030	18,041	0

PROJECTED CONDITIONS ANALYSIS

Chapter 395 requires a description of all capital improvements or facility expansions and their costs necessitated by and attributable to new development within the service area. This section describes the projected growth, vehicle-miles of new demand, capital improvements program, vehicle-miles of new capacity supplied, and costs of the roadway improvements.

The projected growth for the roadway service area is represented by the increase in the number of new vehicle-miles generated over the 10-year planning period. The basis for the calculation of new demand is the population and employment projections that were prepared as part of the Kennedale Land Use Assumptions Report for Impact Fees. Estimates of population and employment were prepared for the years 2016 and 2026.

Population data was provided in terms of the number of dwelling units and persons. Employment data was broken into three classes of employees that include basic, retail, and service, as provided by NCTCOG, and comprise a variety of employment groupings. Basic employment generally encompasses the industrial and manufacturing uses; retail employment includes commercial and retail uses; and service employment generally encompasses government and office uses.

ROADWAY IMPACT FEE ANALYSIS

Projected Vehicle-Miles of New Demand

Projected vehicle-miles of demand were calculated based on the net growth expected to occur over the 10-year planning period and the service unit generation for each of the population and employment data components (basic, service and retail). Separate calculations were performed for each data component and were then aggregated for the service area. Vehicle-miles of demand for population growth were based on dwelling units (residential), and vehicle-miles of demand for employment were based on the number of employees and estimates of square footage per employee (industrial, office and retail uses). **Table 3-6** lists the 10-year projected vehicle-miles of demand by service area for Kennedale. **Appendix C** details the derivation of the projected demand calculations.

In 2007, the ten-year VMT was 8,134. This ten-year VMT of 6,771 for 2016 correlates with a more conservative estimate of VMT growth.

Table 3-6: 10-Year Projected Service Units of Demand

SERVICE AREA	PROJECTED 10-YEAR GROWTH (VEHICLE-MILES)
1	6,771
TOTAL	6,771

Capital Improvements Plan

The impact fee capital improvements plan is aimed at facilitating long-term growth in Kennedale. Considerations in the development of the impact fee CIP include: community growth (land use assumptions), the Comprehensive Plan, financial considerations, project achievability, the Thoroughfare Plan, and City Staff input.

Eligible Projects

Legislative mandate stipulates that the impact fee CIP contain only those roadways which are included on the City's official Thoroughfare Plan that are classified as *arterial* or *collector* status facilities. A review of the Thoroughfare Plan (adopted March 2012) identified projects which were eligible for consideration by impact fees. Impact fee legislation also allows for the recoupment of costs for previously constructed facilities. Only costs incurred by the City may be considered for impact fees. Roadways constructed with private funding cannot be included for impact fee consideration. Additionally, state facilities are eligible for inclusion to the impact fee system, however, only costs incurred by the City may be eligible for consideration.

ROADWAY IMPACT FEE ANALYSIS

Eligible Costs

In general, those costs associated with the design, right-of-way acquisition, and construction and financing of all items necessary to implement the roadway projects identified in the capital improvements plan are eligible. It is important to note that upon completion of the capital improvements identified in the CIP, the city must recalculate the impact fee using the *actual* costs and make refunds if the actual cost is less than the impact fee paid by greater than 10 percent. To prevent this situation, conservative estimates of project cost are considered.

Chapter 395.012 identifies roadway costs eligible for impact fee recovery. The law states that:

“An impact fee may be imposed only to pay the cost of constructing capital improvements for facility expansions, including and limited to the construction contract price, surveying and engineering fees, land acquisition costs, including land purchases, court awards and costs, attorney fees, and expert witness fees; and fees actually paid or contracted to be paid to an independent qualified engineer or financial consultant preparing or updating the capital improvements plan who is not an employee of the political subdivision.”

“Projected interest charges and other finance costs may be included in determining the amount of impact fees only if the impact fees are used for the payment of principal and interest on bonds, notes, or other obligations issued by or on behalf of the political subdivision to finance the capital improvements or facility expansions identified in the capital improvements plan and are not used to reimburse bond funds expended for facilities that are not identified in the capital improvements plan.”

The following details the individual cost components of the impact fee CIP.

Construction: Construction costs include those costs which are normally associated with construction, including: paving, dirt work (including sub-grade preparation, embankment fill and excavation), clearing and grubbing, retaining walls or other slope protection measures, and general drainage items which are necessary in order to build the roadway and allow the roadway to fulfill its vehicle carrying capability. Individual items may include; bridges, culverts, inlets and storm sewers, junction boxes, man holes, curbs and/or gutters, and channel linings and other erosion protection appurtenances. Other items included in cost estimates may include: sidewalks, traffic control devices at select locations (initial cost only), and minimal sodding/landscaping.

Engineering: These are the costs associated with the design and surveying necessary to construct the roadway. Because the law specifically references fees, it has generally been understood that in-house City design and surveying cannot be included. Only those services

ROADWAY IMPACT FEE ANALYSIS

that are contracted out can be included and it may be necessary to use outside design and surveying firms to perform the work. For planned projects, a percentage based on typical engineering contracts was used to estimate these fees.

Right-of-Way: Any land acquisition cost estimated to be necessary to construct a roadway can be included in the cost estimate. For planning purposes, only the additional amount of land needed to bring a roadway right-of-way to thoroughfare standard was considered. For example, if a 120' right-of-way for an arterial road was needed and 80' of right-of-way currently existed, only 40' would be considered in the acquisition cost.

The cost for right-of-way may vary based on location of project and will be based on data from the most current County Appraisal District data.

Debt Service: Predicted interest charges and finance costs may be included in determining the amount of impact fees only if the impact fees are used for the payment of principle and interest on bonds, notes, or other obligations issued by the city to finance capital improvements identified in the impact fee capital improvements plans. They cannot be used to reimburse bond funds for other facilities.

Previous Assessments: The cost for any previous assessments collected by the City on projects identified on the impact fee CIP must be removed from system consideration.

Study Updates: The fees paid or contracted to be paid to an independent qualified engineer or financial consultant preparing or updating the capital improvements plan who is not an employee of the political subdivision can be included in the impact fees.

Only the cost necessitated by new development will be considered for impact fee consideration. For example, if only 60% of the capacity provided by the impact fee CIP is needed over the ten-year window, then only 60% of the cost associated with those facilities will be considered.

Staff Input and Project Achievability

City Staff contributed to the identification of potential projects based on historic and projected growth, and known/anticipated development activity within the City. An initial project list was compiled and reviewed with Staff prior to presentation to the CIAC. City Staff identified several projects that were recently completed or are anticipated to be funded and built by an upcoming bond program.

The proposed impact fee capital improvements plan was presented to the CIAC for discussion and consideration on April 14, 2016.

ROADWAY IMPACT FEE ANALYSIS

Capital Improvements Plan

During the study process, several projects were added or updated in the capital improvement projects listing from the 2009 impact fee program. These project changes are listed below:

- Addition of Oak Crest Drive realignment
- Addition of Eden Road widening
- Completion of Bowman Springs Road widening
- Completion of Dick Price Road realignment
- Completion of Sublett Road widening
- Completion of Little School Road widening

The updated CIP consist of 12 project segments. Only those segments of projects lying within or along the city limits were included in the traffic impact capital improvements plan.

Project costs were updated based on estimates compiled by City Staff. Project costs were updated for engineering, right-of-way, construction, and debt service. Additionally, impact fee study update costs were included to the project costs. For recently completed projects, actual costs were input to meet legislative mandates. The cost for the revised IFCIP program totals approximately \$42.6 million. **Figure 3-2** and **Table 3-7** illustrate and list the capital improvement projects and their associated total cost for the impact fee system. Detailed costing information on the projects can be found in **Appendix E**.

ROADWAY IMPACT FEE ANALYSIS

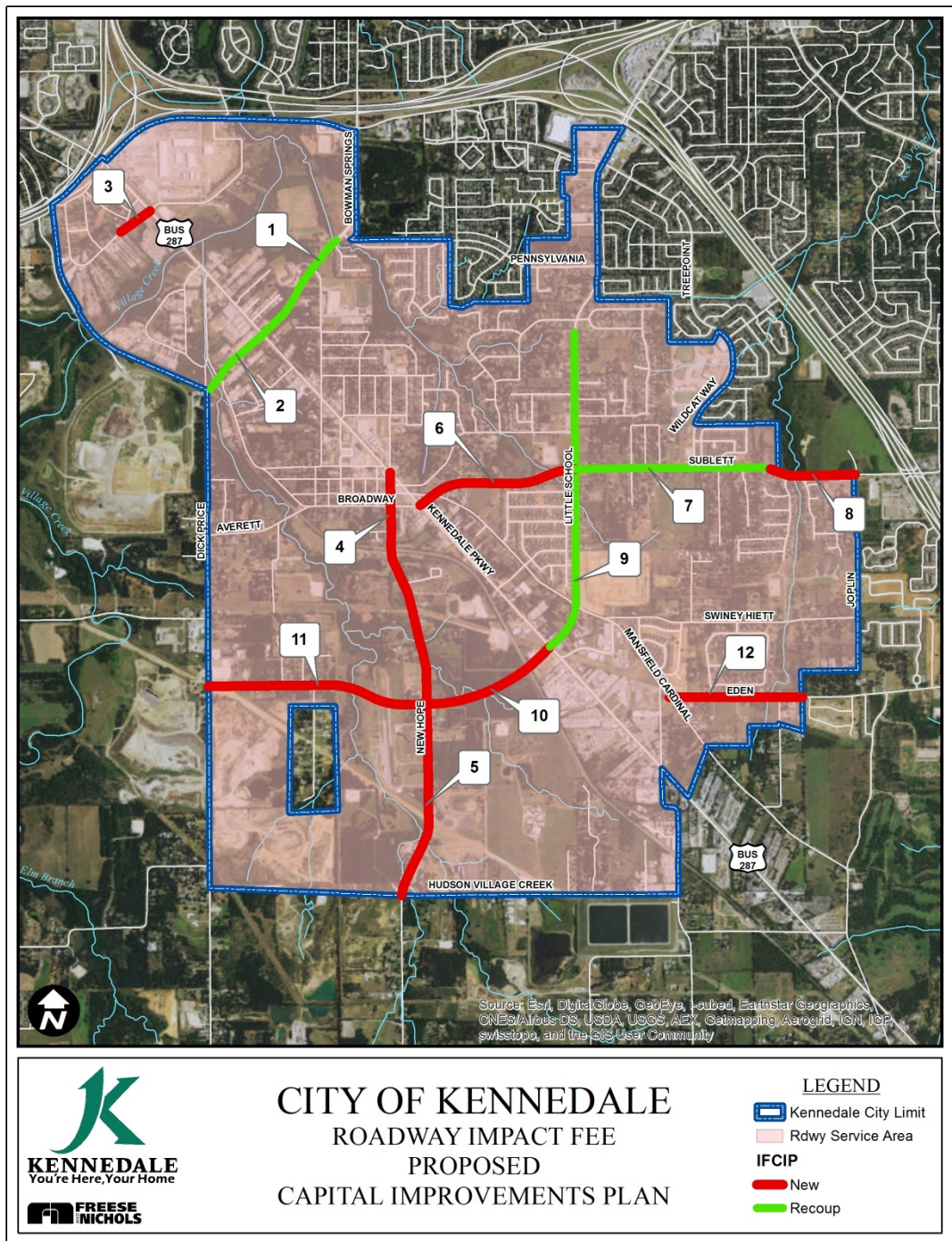


Figure 3-2: Roadway Impact Fee Projects

ROADWAY IMPACT FEE ANALYSIS

Table 3-7: Roadway Impact Fee Project Listing

Table 3-7
2016 Kennedale Roadway Impact Fee Study Update
Roadway Capital Improvements Plan

CIP Proj				Length	No. of	Rdwy.	Pct. in	Project
Number	Roadway	From	To	(mi)	Lanes	Type	Serv. Area	Cost
1	Bowman Springs Rd	City Limit	Bus. US 287	0.49	5	SA	100%	\$3,199,838
2	Dick Price Rd	Bus. US 287	SP RR	0.31	2	DA	100%	\$1,154,564
3	Oak Crest Dr	W of Kennedale St	Kennedale Pkwy	0.14	2	UC	100%	\$416,136
4	New Hope Rd	Bus. US 287	S of SP RR	0.56	2	DC	100%	\$2,560,467
5	New Hope Rd	S of SP RR	Hudson Village	1.68	4	DA	100%	\$9,828,404
6	Sublett Rd	Bus. US 287	Little School Rd	0.66	4	DC	100%	\$3,093,589
7	Sublett Rd	Little School Rd	E of Vera Ln	0.77	2	DA	100%	\$3,642,228
8	Sublett Rd	E of Vera Ln	City Limit	0.37	2	DA	100%	\$1,172,734
9	Little School Rd	S of Pennsylvania Ave	Bus. US 287	1.31	2	DA	100%	\$5,330,961
10	Little School Rd	Bus. US 287	New Hope Rd	0.57	4	DA	100%	\$5,987,342
11	Little School Rd	New Hope Rd	Dick Price Rd	0.91	4	DA	100%	\$4,216,419
12	Eden	Mansfield Cardinal	City Limit	0.53	4	DC	100%	\$1,959,266
Sub-total SA 1				6.86				\$42,561,949
Totals:				6.86				\$42,561,949
Totals:		Engineering Cost	\$3,355,032					
		Right-of-Way Cost	\$3,057,035					
		Construction Cost	\$22,666,692					
		Finance Cost	\$13,483,189					
		TOTAL NET COST	\$42,561,949					
		Future Impact Fee Update Cost **	\$80,000					
		TOTAL IMPLEMENTATION COST	\$42,641,949					

ROADWAY IMPACT FEE ANALYSIS

Projected Vehicle-Miles Capacity Available for New Growth

The vehicle-miles of new capacity supply were calculated similar to the vehicle-miles of existing capacity supplied. The equation used was:

$$\text{Vehicle-Miles of New Capacity} = \text{Link capacity per peak hour per lane} \times \text{No. of Lanes} \times \text{Length of segment (miles)}$$

Vehicle-miles of new supply provided by the CIP are listed in **Table 3-8**. While the project has not been built, there are system deficiencies (by service area) that have been removed from the total supply to properly account for new “net” availability. **Table 3-8** depicts net availability of supply by the CIP. **Appendix D** details capacity calculations provided by the CIP program.

Table 3-8: Vehicle-Miles of New Capacity Supplied

SERVICE AREA	VEH-MILES OF NEW CAPACITY SUPPLIED	VEH-MILES OF EXISTING UTILIZATION	VEH-MILES OF DEFICIENCIES	VEH-MILES OF NET CAPACITY SUPPLIED
1	16,789	2,257	0	14,532
Total	16,789	2,257	0	14,532

Cost of Roadway Improvements

The total IFCIP cost, including study update costs, with 50% credit and cost of net capacity supplied to implement the roadway improvements plan projects by service area is shown in **Table 3-9**. If traffic exists on proposed CIP project roadways or there are any deficiencies present in each respective service area, the total system cost is adjusted to reflect the net capacity being made available by the impact fee program. In other words, only the unused portion of the CIP and its associated costs are considered eligible. A detailed listing by project segment in each service area can be found in **Appendix E**. **Appendix F** details system costs by service area.

Table 3-9: Summary of Roadway Improvements Plan Cost Analysis

SERVICE AREA	TOTAL COST OF PROPOSED IFCIP PROJECTS (WITH 50% CIP CREDIT)	COST OF NET CAPACITY SUPPLIED (WITH 50% CIP CREDIT)
1	\$21,320,974	\$18,454,990
Total	\$21,320,974	\$18,454,990

ROADWAY IMPACT FEE ANALYSIS

CALCULATION OF IMPACT FEES

This chapter discusses the calculation of the cost per service unit and the calculation of roadway impact fees. The roadway impact fee will vary by the particular land use, service area, and size of the development. Examples are included to better illustrate the method by which the roadway impact fees are calculated.

Cost per Service Unit

The cost per service unit is calculated by dividing the cost of the CIP necessitated and attributable to new demand (net cost) by the projected service units of growth over the 10-year planning period.

Generally, the cost per service unit varies by service area because of; the net capacity being provided by the proposed projects, variations in cost of CIP and, the number of service units necessitated by new growth in each impact fee service area. Where net capacity supplied is greater than demand, the cost per service unit is simply the cost of the net capacity divided by the number of service units provided. In this case, only the portion of the CIP necessitated by new development is used in the calculation. If net capacity supplied is *less* than projected new demand, then the cost per service unit is calculated by dividing the total cost of net supply by the portion of new demand attributable and necessary by development. The result is generally a decrease in the cost per service unit, because such cost is spread over the larger number of service units of growth.

Table 3-10 lists the results of the cost per service unit calculation by service area. The actual cost per service unit reflects the true burden to the City for the implementation of the roadway capital improvements program. As per state law, a credit for the portion of ad-valorem tax revenues generated by improvements over the program period, or a credit equal to 50% of the total projected cost of implementing the capital improvements plan must be given. Based on this analysis, the maximum collection rate reflects the maximum amount per service unit that can be charged to be in compliance with the state statute. **Appendix F** details the maximum fee per service unit calculation for each service area.

Table 3-10: Cost per Service Unit Summary

SERVICE AREA	ACTUAL COST PER SERVICE UNIT	MAXIMUM ALLOWABLE (50%) COST PER SERVICE UNIT
1	\$2,538.00	\$1,269.00
Average	\$2,538.00	\$1,269.00

ROADWAY IMPACT FEE ANALYSIS

Calculation of Roadway Impact Fees

The calculation of roadway impact fees for new development involves a two-step process. *Step One* is the calculation of the total number of service units that will be generated by the development. *Step Two* is the calculation of the impact fee due by the new development.

Step 1: Determine number of service units (vehicle-miles) generated by the development using the equivalency table.

$$\begin{array}{ccccc} \text{No. of Development} & \times & \text{Vehicle-miles} & = & \text{Development's} \\ \text{Units} & & \text{per development unit} & & \text{Vehicle-miles} \end{array}$$

Step 2: Calculate the impact fee based on the fee per service unit for the service area where the development is located.

$$\begin{array}{ccccc} \text{Development's} & \times & \text{Fee per} & = & \text{Impact Fee due} \\ \text{Vehicle-miles} & & \text{vehicle-mile} & & \text{from Development} \end{array}$$

Examples: *The following fees would be assessed to new developments in Kennedale if the cost per service unit were \$1,300.00*

Single-Family Dwelling

$$1 \text{ dwelling unit} \times 1.81 \text{ vehicle-miles/dwelling unit} = 1.81 \text{ vehicle-miles}$$

$$1.81 \text{ vehicle-miles} \times \$1,300.00/\text{vehicle-mile} = \$2,353.00$$

20,000 square foot (s.f.) Office Building

$$20 (1,000 \text{ s.f. units}) \times 2.69 \text{ vehicle-miles}/1,000 \text{ s.f. units} = 53.80 \text{ vehicle-miles}$$

$$53.80 \text{ vehicle-miles} \times \$1,300.00/\text{vehicle-mile} = \$69,940.00$$

100,000 s.f. Retail Center

$$100 (1,000 \text{ s.f. units}) \times 1.07 \text{ vehicle-miles}/1,000 \text{ s.f. units} = 107.00 \text{ vehicle-miles}$$

$$107.00 \text{ vehicle-miles} \times \$1,300.00/\text{vehicle-mile} = \$139,100.00$$

WATER AND WASTEWATER IMPACT FEE ANALYSIS

Chapter 4 Water and Wastewater Impact Fee Analysis

Water and wastewater CIPs were developed for the City of Kennedale based on the growth patterns developed for the land use assumptions. The eligible existing and recommended improvements will provide the required capacity and reliability to meet projected water demands and wastewater flows through 2026. The water and wastewater projects required to meet growth in the 10-year period were used in the impact fee analysis and calculation.

CAPITAL IMPROVEMENT PLAN

An impact fee CIP was developed to ensure high quality water and wastewater service that promotes residential and commercial development. The recommended improvements will provide the required capacity and reliability to meet projected water demands and wastewater flows through year 2026.

Existing Water and Wastewater Systems

The existing water distribution system currently consists of a network of water lines ranging in size from 1.5-inch to 16-inches in diameter, six wells, three pump stations, three ground storage tanks, one standpipe, and one elevated storage tank. The City of Kennedale operates the water distribution system on one pressure plane and receives water from the City of Fort Worth at the T-3 Pump Station site. The T-3 Pump Station consists of a 0.35 MG ground storage tank, two 2,800 gpm pumps, and a 1.0 MG elevated storage tank.

The existing wastewater collection system has nine major sewer basins. Currently one basin flows to the City of Fort Worth, five enter Arlington's system through the main meter, two flow to Arlington on the east side of the City, and one basin has no existing development. There are also a small number of Arlington customers that flow into the Kennedale system on the north side of the City. The City sends all of its wastewater to Fort Worth or Trinity River Authority through Arlington's system for treatment and has no lift stations.

Water and Wastewater Load Projections

The population and land use data was used to develop future water demands and wastewater flows based on a projected average day per capita use and peaking factors. The design criteria used to project water demands and wastewater flows were developed based on the 2014 Water and Wastewater Master Plan. **Table 4-1** presents the projected water demands, and **Table 4-2** presents the projected wastewater flows for the City of Kennedale.

WATER AND WASTEWATER IMPACT FEE ANALYSIS

Table 4-1: Projected Water Demands

YEAR	POPULATION	AVERAGE DAY DEMAND (MGD)	MAXIMUM DAY DEMAND (MGD)	PEAK HOUR DEMAND (MGD)
2016	8,384	1.43	3.21	6.41
2026	13,399	2.28	5.13	10.25

Table 4-2: Projected Wastewater Flows

YEAR	POPULATION	AVERAGE ANNUAL DAILY FLOW (MGD)	PEAK WET WEATHER FLOW (MGD)
2016	8,384	0.75	3.02
2026	13,399	1.21	4.82

Water and Wastewater Model Update

The City's existing water and wastewater models were updated by FNI staff to reflect the updated demands and flows for the impact fee period as well as include the recommended CIP projects for the impact fee time period.

Water and Wastewater System Improvements

Proposed water and wastewater system projects were developed for the CIP presented in the 2014 Water and Wastewater Master Plan. A summary of the costs for each of the eligible projects required for the 10-year growth period used in the impact fee analysis for both the water and wastewater systems are shown in **Tables 4-3** and **4-4**, respectively.

The 2016 percent utilization is the portion of a project's capacity required to serve existing development. It is not included in the impact fee analysis. The 2026 percent utilization is the portion of the project's capacity that will be required to serve the City of Kennedale in 2026. The 2016-2026 percent utilization is the portion of the project's capacity required to serve development projected to occur from 2016 to 2026. The portion of a project's total cost that is used to serve development projected to occur from 2016 through 2026 is calculated as the total actual cost multiplied by the 2016-2026 percent utilization. Only this portion of the cost is used in the impact fee analysis.

WATER AND WASTEWATER IMPACT FEE ANALYSIS

The proposed 10-year eligible water system impact fee projects are shown on **Figure 4-1**. Projects A through E have been constructed, and Projects 1 through 9 are proposed water system projects to be constructed over the next 10 years. The proposed 10-year eligible wastewater system impact fee projects are shown on **Figure 4-2**. Projects A through B have been constructed, and Projects 1 through 9 are proposed wastewater system projects to be constructed over the next 10 years.

WATER AND WASTEWATER IMPACT FEE ANALYSIS

Table 4-3: Water System Impact Fee Eligible Projects

Proj. No.	Description of Project	Percent Utilization			Capital Cost	Costs Based on 2016 Dollars		
		2016*	2026	2016-2026		Current Development	10-Year (2016-2026)	Beyond 2026
EXISTING								
A	16" B Water Line	55%	80%	25%	\$689,271	\$379,099	\$172,318	\$137,854
B	Bowman Springs 12" Water Line	5%	45%	40%	\$303,243	\$15,162	\$121,297	\$166,784
C	Swiney Hiett Road Water Line	20%	55%	35%	\$18,477	\$3,695	\$6,467	\$8,314
D	2014 Water/Wastewater Master Plan (Water Portion)	10%	60%	50%	\$49,874	\$4,987	\$24,937	\$19,950
E	2016 Impact Fee Study (Water Portion)	0%	100%	100%	\$32,340	\$0	\$32,340	\$0
PROPOSED								
1	12-inch Water Line South of Interstate 20	10%	40%	30%	\$438,830	\$43,883	\$131,649	\$263,298
2	0.75 MG Ground Storage Tank	47%	100%	53%	\$1,343,430	\$631,412	\$712,018	\$0
3	16-inch Water Line along Eden Road	0%	45%	45%	\$495,420	\$0	\$222,939	\$272,481
4	12-inch Water Lines from Pump Station 3	0%	80%	80%	\$409,650	\$0	\$327,720	\$81,930
5	12-inch Water Line along Dick Price Road	30%	65%	35%	\$319,880	\$95,964	\$111,958	\$111,958
6	12-inch Water Line between Dick Price Road and New Hope Road	0%	40%	40%	\$767,460	\$0	\$306,984	\$460,476
7	12-inch Water Line along US 287 Business and Hudson Road	0%	75%	75%	\$1,235,930	\$0	\$926,948	\$308,983
8	12-inch Water Line between Swiney Hiett Road and Trinity Well #4	45%	70%	25%	\$1,320,480	\$594,216	\$330,120	\$396,144
9	12-inch Water Line along New Hope Road	20%	50%	30%	\$390,190	\$78,038	\$117,057	\$195,095
Total Water Capital Improvements Cost					\$7,814,475	\$1,846,457	\$3,544,751	\$2,423,267

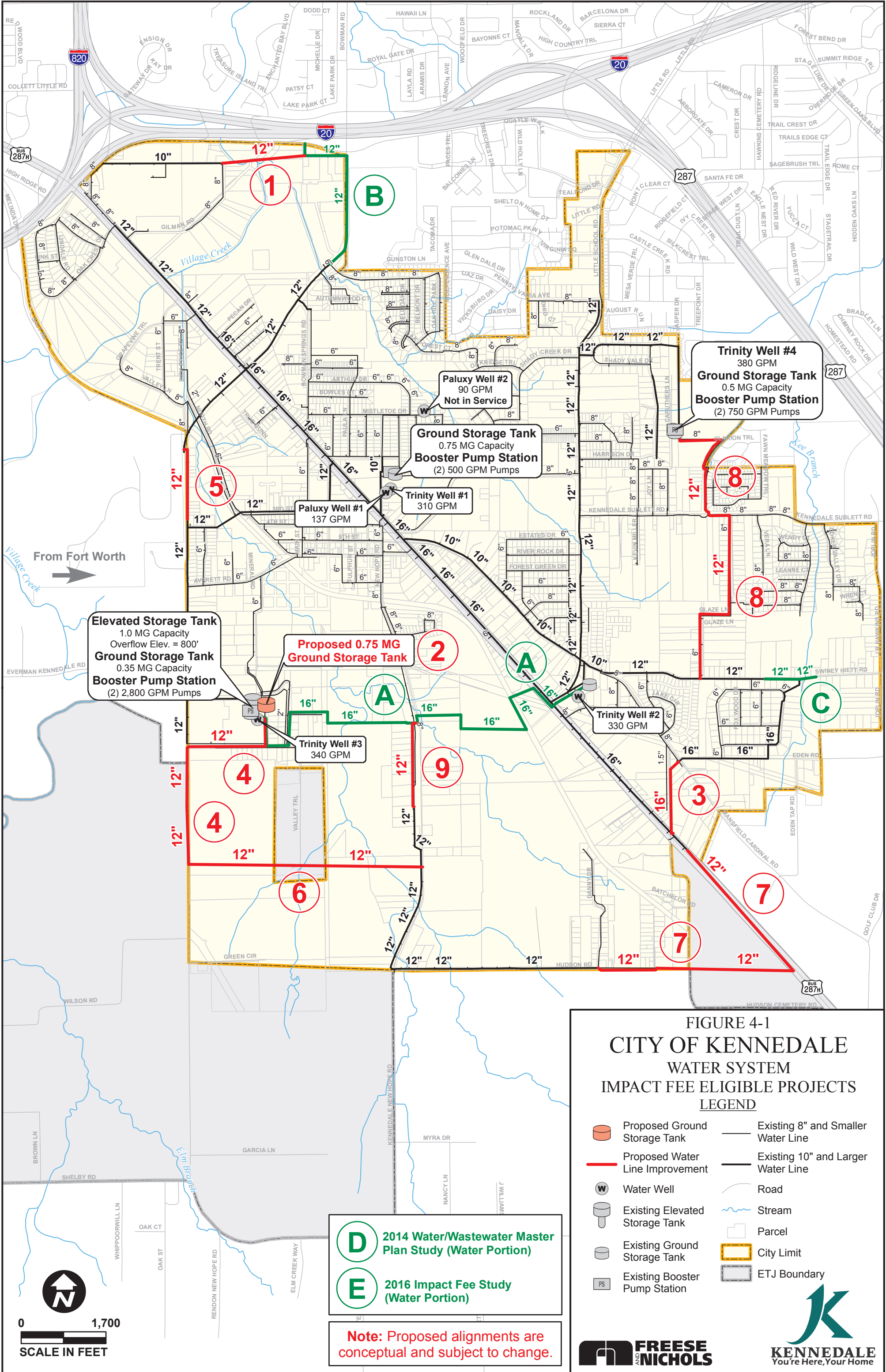
* Utilization in 2016 on Proposed Projects indicates a portion of the project that will be used to address deficiencies within the existing system, and therefore are not eligible for impact fee cost recovery for future growth.

WATER AND WASTEWATER IMPACT FEE ANALYSIS

Table 4-4: Wastewater System Impact Fee Eligible Projects

Proj. No.	Description of Project	Percent Utilization			Capital Cost	Costs Based on 2016 Dollars		
		2016*	2026	2016-2026		Current Development	10-Year (2016-2026)	Beyond 2026
EXISTING								
A	2014 Water/Wastewater Master Plan (Wastewater Portion)	10%	60%	50%	\$49,874	\$4,987	\$24,937	\$19,950
B	2016 Impact Fee Study (Wastewater Portion)	0%	100%	100%	\$32,340	\$0	\$32,340	\$0
PROPOSED								
1	15/18-inch Interceptor along North Road and Dick Price Road	25%	70%	45%	\$1,442,480	\$360,620	\$649,116	\$432,744
2	21-inch Interceptor in Basin C-1	40%	80%	40%	\$846,690	\$338,676	\$338,676	\$169,338
3	15-inch Interceptor in Basin C	40%	70%	30%	\$692,210	\$276,884	\$207,663	\$207,663
4	8-inch Line along Dick Price Road	30%	70%	40%	\$601,200	\$180,360	\$240,480	\$180,360
5	10/12-inch Lines in Basin B-2	0%	40%	40%	\$985,990	\$0	\$394,396	\$591,594
6	10-inch Line in Western Basin B-2	0%	35%	35%	\$426,950	\$0	\$149,433	\$277,518
7	10-inch Line in Southern Basin B-2	0%	65%	65%	\$318,000	\$0	\$206,700	\$111,300
8	6-inch Line in Basin B-1	0%	60%	60%	\$213,890	\$0	\$128,334	\$85,556
9	6-inch Line along Kennedale Parkway	0%	65%	65%	\$244,450	\$0	\$158,893	\$85,558
Total Wastewater Capital Improvements Cost					\$5,854,074	\$1,161,527	\$2,530,967	\$2,161,580

* Utilization in 2016 on Proposed Projects indicates a portion of the project that will be used to address deficiencies within the existing system, and therefore are not eligible for impact fee cost recovery for future growth.



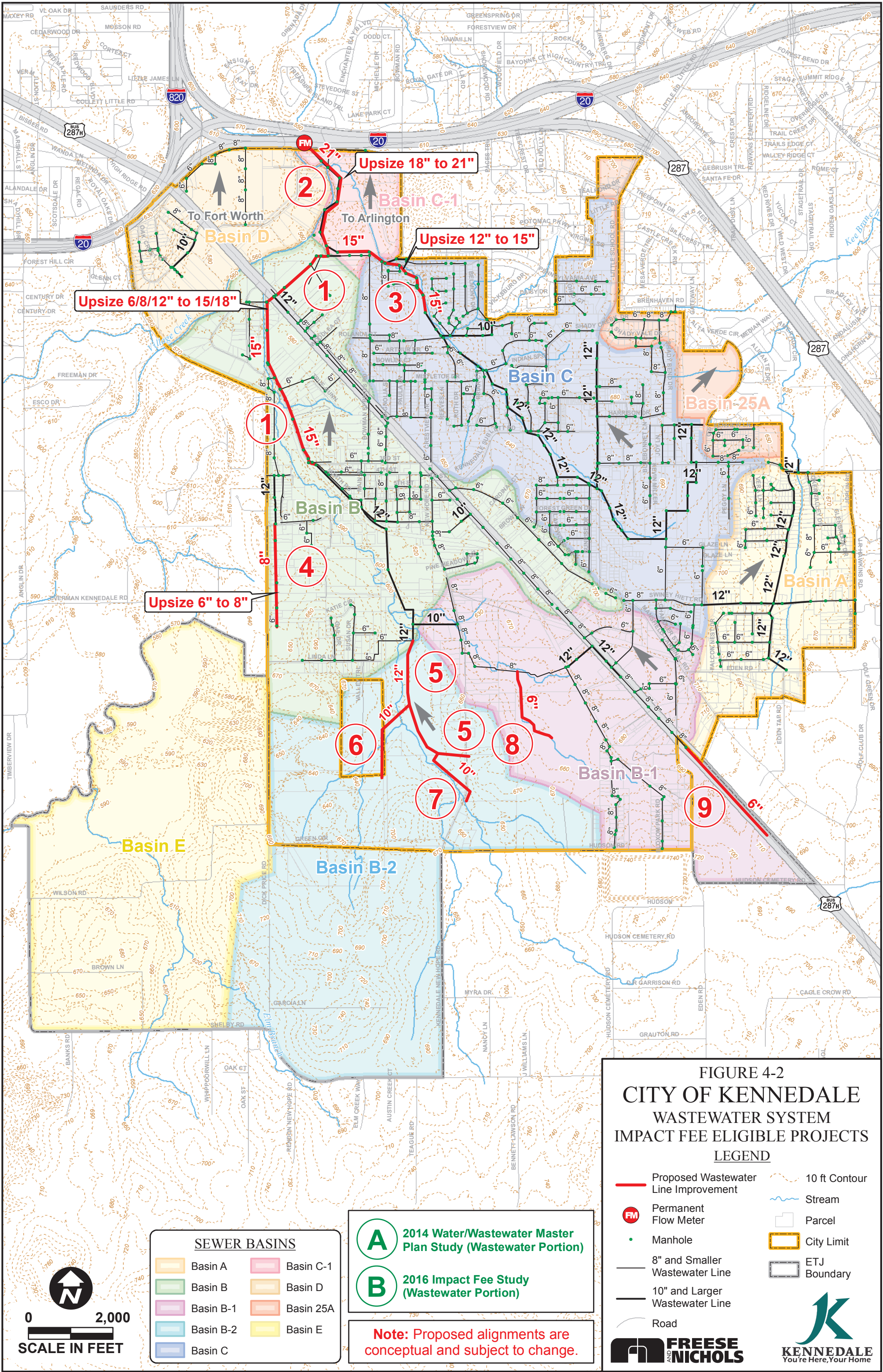


FIGURE 4-2
CITY OF KENNEDALE
WASTEWATER SYSTEM
IMPACT FEE ELIGIBLE PROJECTS
LEGEND

Proposed Wastewater Line Improvement

Permanent Flow Meter (FM)

Manhole

8" and Smaller Wastewater Line

10" and Larger Wastewater Line

Road

10 ft Contour

Stream

Parcel

City Limit

ETJ Boundary

Freese and Nichols

Kennedale
You're Here, Your Home

WATER AND WASTEWATER IMPACT FEE ANALYSIS

IMPACT FEE CALCULATION

The maximum allowable impact fee calculation is the eligible cost divided by the growth in service units. The water and wastewater improvements section provided the cost of the eligible projects. The following Service Units section will provide the growth in service units over the impact fee period. From these two values, the maximum allowable fee is calculated for the water and wastewater systems.

Service Units

The maximum impact fee may not exceed the amount determined by dividing the cost of capital improvements required by the total number of service units attributed to new development during the impact fee eligibility period. A water service unit is defined as a service equivalent to a water connection for a single-family residence. The City of Kennedale does not directly meter wastewater flows and bills for wastewater services based on the customer's water consumption; therefore, a wastewater service unit is defined as the wastewater service provided to a customer with a water connection for a single-family residence. **Table 4-5** shows a summary of the current water meters for the City of Kennedale. These meters were used in the calculation of the existing number of service units.

Table 4-5: Existing Water Meters

METER SIZE	METER COUNT
3/4"	2,414
1"	240
1-1/2"	17
2"	36
3"	5
4"	4
TOTAL	2,716

Source: City of Kennedale

The services associated with public, commercial, and industrial connections were converted into service units based upon the capacity of the meter used to provide service. The number of service units required to represent each meter size is based on the maximum rated capacity of the meters as shown from *AWWA Manual M6 Water Meters – Selection, Installation, Testing, and Maintenance*,

WATER AND WASTEWATER IMPACT FEE ANALYSIS

5th Edition Standards C700, C701, C702 and C703. The service unit equivalent for each meter size used by the City is listed in **Table 4-6**. The meter types listed here are for Class I turbine meters.

Table 4-6: Service Unit Equivalency Table

METER SIZE	MAXIMUM FLOW RATE (GPM)	RATIO TO 3/4" METER
3/4"	30	1.00
1"	50	1.67
1-1/2"	100	3.33
2"	160	5.33
3"	350	11.67
4"	600	20.00
6"	1,250	41.67
8"	1,800	60.00
10"	2,900	96.67

Typically, in Kennedale, single-family residences are served with 3/4" water meters. Larger meters represent public, commercial and industrial water use. The City provided data that included the meter size of each active water meter as of February 2016. The growth in meters was projected using the 10-year growth in population. The growth in SUEs was determined by subtracting the 2026 SUEs from the existing SUEs and results in a growth of 1,493 SUEs over the 10-year period. **Table 4-7** shows the water and wastewater service units for 2016 and the projected service units for 2026.

Table 4-7: Projected Service Units

WATER AND WASTEWATER IMPACT FEE ANALYSIS

METER SIZE	EXISTING METERS	EXISTING SUES	2026 METERS	2026 SUES	10-YEAR GROWTH IN SUES
3/4"	2,414	2,414	3,858	3,858	1,444
1"	240	400	253	422	22
1 1/2"	17	57	22	73	17
2"	36	192	38	203	11
3"	5	58	5	58	0
4"	4	80	4	80	0
6"	0	0	0	0	0
8"	0	0	0	0	0
10"	0	0	0	0	0
Total	2,716	3,201	4,012	4,506	1,493

Maximum Impact Fee Calculation

Chapter 395 of the Texas Local Government Code states that the maximum impact fee may not exceed the amount determined by dividing the cost of capital improvements required by the total number of service units attributed to new development during the impact fee eligibility period less a credit to account for water and wastewater revenues and property taxes used to finance capital improvement plans. The total projected costs include the projected capital improvement costs to serve 10-year development and the consultant cost for preparing and updating the Capital Improvements Plan.

The total eligible cost associated with the existing and proposed water system improvements with financing costs to meet projected growth over the next ten years is \$4,441,608. Debt service was included only for the proposed impact fee eligible projects. The increase in the number of service units due to growth over the next ten years is projected as 1,493 service units. The state mandated 50% credit lowers the maximum water impact fee from \$2,975 per service unit to \$1,487 per service unit.

Total Eligible Capital Improvement Costs	= \$4,441,608
Growth in Service Units	= 1,493

WATER AND WASTEWATER IMPACT FEE ANALYSIS

Maximum Water Impact Fee	= Total Eligible Costs / Growth in Service Units = \$4,441,608 / 1,493 = \$2,975 per Service Unit
Maximum Allowable Water Impact Fee	= Maximum Impact Fee – Credit (50%) = \$2,975 – \$1,488 = \$1,487 per Service Unit

The total eligible cost associated with the existing and proposed wastewater system improvements to meet projected growth over the next ten years is \$3,227,005. Debt service was included only for the proposed impact fee eligible projects. The increase in the number of service units due to growth over the next ten years is projected as 1,493 service units. The state mandated 50% credit lowers the maximum wastewater impact fee from \$2,161 per service unit to \$1,080 per service unit.

Total Eligible Capital Improvement Costs	= \$3,227,005
Growth in Service Units	= 1,493
Maximum Wastewater Impact Fee	= Total Eligible Costs/Growth in Service Units = \$3,227,005 / 1,493 = \$2,161 per Service Unit
Maximum Allowable Wastewater Impact Fee	= Maximum Impact Fee – Credit (50%) = \$2,161 – \$1,081 = \$1,080 per Service Unit

CONCLUSION

Chapter 5 Conclusion

Chapter 395 authorizes the assessment and collection of impact fees in Texas for transportation, water, and wastewater related capital improvements. This study was conducted to fulfill the requirements of Chapter 395 in updating transportation, water, and wastewater impact fee for the City of Kennedale.

ROADWAY IMPACT FEE

One roadway service area was retained for Kennedale. This service area structure was configured so that no point is greater than the six-mile maximum set forth by law. The six-mile limit ensures that roadway improvements are in close proximity to the development paying the fees that it serves.

Vehicle-miles of travel in the PM peak hour was retained as the service unit for calculating and assessing impact fees. Vehicle-miles establish a relationship between the intensity of land development and the demand on the roadway system through the use of published trip generation data and average trip length. The PM peak hour is used as the time period for assessment because typically the greatest demand for roadway capacity occurs during this hour. Additionally, roadways are sized to meet this demand and roadway capacity can more accurately be defined on an hourly basis.

The service units (vehicle-miles) for new development are a function of trip generation and the average trip length for specific land uses. Trip generation information was based on data published by the Institute of Transportation Engineers. Where appropriate, trip generation rates were adjusted to reflect the primary trip purpose. This ensures that new development is assigned for the portion of trips associated with that specific development. Average trip length data was based on information compiled by NCTCOG with modifications made to localize it to the City of Kennedale.

The result of combining trip generation and trip length information is an equivalency table that establishes a service unit rate for various land uses. Separate rates were established for specific land uses within the broader categories of residential, office, commercial/retail, industrial and institutional uses.

An analysis of existing conditions revealed that the current roadway system provides 26,072 vehicle-miles of capacity. The existing demand placed on the system was determined to be 8,030

CONCLUSION

vehicle-miles. Evaluation of the existing roadway system found no deficiencies on the existing roadway network.

Projected growth, in terms of vehicle-miles over the 10-year planning period, was based on population and employment data that was prepared in the Kennedale Land Use Assumptions for Impact Fees. Based on this growth, the projected growth in vehicle-miles of demand was calculated to be 6,771.

Kennedale City Staff identified the roadway impact fee capital improvements program for the 10-year planning period. Projects eligible for this CIP include arterial and collector streets that have been designated on the officially adopted Thoroughfare Plan of the City. Developer funded roadways are not eligible for inclusion in calculating impact fees. Twelve projects totaling \$42.6 million, were identified for impact fee consideration based on need, projected growth, project affordability and achievability, financial considerations, jurisdictional issues, the Thoroughfare Plan, and staff recommendation. The credited (50%) cost attributable to new growth is \$8.6 million and represents 46.6 % of the net capacity made available for development by impact fee roadway projects. The recommended CIP program will provide 14,532 vehicle-miles of new net capacity.

The *actual* cost per service unit was calculated to be \$2,538 and was based on the total cost of net capacity supplied by the CIP and the demand attributable to new development over the 10-year planning period. State legislation requires that a credit for the portion of ad-valorem tax revenues generated by improvements over the program period, or a credit equal to 50% of the total projected cost of implementing a roadway impact fee capital improvements program be given. Based on a 50% credit, the cost per service unit is \$1,269.

The determination of fees due from new development is based upon the size of development, its associated service unit generation (equivalency table) and the cost per service unit derived or adopted for each service area.

WATER AND WASTEWATER IMPACT FEE

The population and land use data developed in the Kennedale Land Use Assumptions report was used to develop future water demands and wastewater flows based on a projected average day per capita use and peaking factors. The City's existing water and wastewater models were updated by FNI staff to reflect the updated demands and flows for the impact fee period, as well as include the recommended CIP projects from the impact fee time period. Proposed water and wastewater system projects were developed for the CIP presented in the 2014 Water and Wastewater Master Plan. Existing and 10-year percent utilizations were determined for each project using the models,

CONCLUSION

resulting in a net 10-year percent utilization, or the portion of each project's capacity required to serve development projected to occur over the next ten years. The portion of each project's total cost that is used to serve development projected to occur over the next ten years was calculated as the total actual cost multiplied by the net 10-year percent utilization. FNI calculated an impact fee eligible cost of \$3,544,751 for water projects and \$2,530,967 for wastewater projects. Debt service was included only for the proposed impact fee eligible projects and resulted in a total impact fee eligible cost of \$4,441,608 for water projects and \$3,227,005 for wastewater projects.

The maximum allowable impact fee calculation was performed by taking the eligible cost divided by the growth in service units. A water service unit is defined as a service equivalent to a water connection for a single-family residence, which is a ¾" meter. The growth in meters was projected using the 10-year growth in population. The growth in SUEs was determined by subtracting the total 2026 SUEs from the existing SUEs, resulting in a growth of 1,493 SUEs over the 10-year period.

Chapter 395 of the Texas Local Government Code states that the maximum impact fee may not exceed the amount determined by dividing the cost of the capital improvements required by the total number of service units attributed to new development during the impact fee eligibility period less a credit to account for water and wastewater revenues used to finance capital improvement plans. The total impact fee eligible cost for water projects divided by the growth in service units over the next ten years results in a maximum water impact fee of \$2,975. The total impact fee eligible cost for wastewater projects divided by the growth in service units over the next ten years results in a maximum wastewater impact fee of \$2,161. The state mandated 50% credit lowers the maximum allowable water and wastewater impact fee to \$1,487 and \$1,080, respectively.

The maximum allowable water and wastewater impact fee calculations are summarized below.

	Total Impact Fee Eligible Cost	Growth in Service Units 2016-2026	Maximum Impact Fee (Cost/Service Unit)	Maximum Allowable (50%) Cost per Service Unit
Water	\$4,441,608	1,493	\$2,975	\$1,487
Wastewater	\$3,227,005	1,493	\$2,161	\$1,080

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APPENDIX A: ROADWAY IMPACT FEE DEFINITIONS

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ROADWAY IMPACT FEE DEFINITIONS

Average Trip Length - the average actual travel distance between two points. The average trip length by specific land use varies.

Diverted Trip - similar to pass-by trip, but a diversion is made from the regular route to make an interim stop.

Impact Fee - a charge or assessment imposed by a city against new development to generate revenue for funding or recouping roadway improvements necessitated and attributable to new development.

Maximum Fee Per Service Unit - the highest impact fee that may be collected by the City per vehicle-mile of supply. Calculated by dividing the costs of the capital improvements by the total number of vehicle-miles of demand expected in the 10-year planning period.

Pass-by Trip - a trip made as an intermediate stop on the way from an origin to a primary trip destination. For example, a stop at a convenience store on the way to office from home.

PM Peak Hour - the hour when the highest volume of traffic typically occurs. Data collection revealed the peak hour of travel to be between 5:00 and 6:00 pm.

PM Peak Hour Traffic Counts - the number of vehicles passing a certain point during the peak hours of travel. Traffic counts are conducted during the PM peak hour because the greatest demand for roadway capacity occurs during this hour.

Primary Trip - a trip made for the specific purpose of visiting a destination; for example, from home to office.

Roadway Demand - the demand placed on the roadway network as a result of development. Determined by multiplying the trip generation of a specific land use by the average trip length.

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Roadway Supply (or Capacity) - the number of service units provided by a segment of roadway over a period of time. Determined by multiplying the lane capacity by the roadway length.

Service Area - the area within the city boundaries to be served by capital improvements. Criteria for developing the service area structure include: 1) restricted to six-mile limit by legislation (to ensure proximity of roadway improvements to development), 2) conforms to census or forecast model boundaries, 3) projects on CIP as boundaries, 4) effort to match roadway supply with projected demand, and 5) city limit boundaries.

Service Unit - a measure of use or generation attributable to new development for roadway improvements. Also used to measure supply provided by existing and proposed roadway improvements.

Trip - a single, one-direction vehicle movement from an origin to a destination.

Trip Generation - the total trip ends for a land use over a given period of time or the total of all trips entering and exiting a site during that designated time. Used in the development of 10-year traffic demand projections and the equivalency table. Based primarily on data prepared by the Institute of Transportation Engineers (ITE).

Vehicle - for impact fee purposes, any motorized appurtenance that carries passengers and/or goods on the roadway system during peak periods of travel.

Vehicle-mile - a unit used to express both supply and demand provided by, and placed on, the roadway system. A combination of a number of vehicles traveling during a given time period and the distance which those vehicles travel in miles.

APPENDIX B: EXISTING CAPITAL IMPROVEMENTS

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Definitions

LANES	The total number of lanes in both directions available for travel.
TYPE	The type of roadway (used in determining capacity): DA = divided arterial UA = undivided arterial DC = divided collector UC = undivided collector SA = special arterial (roadway with continuous left turn)
PK-HR VOLUME	The existing volume of cars on the roadway segment traveling during the afternoon (P.M.) peak hour of travel. A and B indicate the two directions of travel. Direction A is a northbound or eastbound and direction B is southbound or westbound. If only one half of the roadway is located within the service area (see % in service area), the opposing direction will have no volume in the service area.
% IN SERVICE AREA	If the roadway is located on the boundary of the service area (with the city limits running along the centerline of the roadway), then half of the roadway is inventoried in the service area and the other half is not. This value is either 50% or 100%.
VEH-MI SUPPLY TOTAL	The number of total service units (vehicle-miles) supplied within the service area, based on the length and established capacity of the roadway type.
VEH-MI TOTAL DEMAND PK-HR	The total service unit (vehicle-mile) demand created by existing traffic on the roadway segment in the afternoon peak hour.
EXCESS CAPACITY PK-HR VEH-MI	The number of service units supplied but unused by existing traffic in the afternoon peak hour.
EXISTING DEFICIENCIES PK-HR VEH-MI	The number of service units of demand in excess of the service units supplied.

NOTE: Excess capacity and existing deficiencies are calculated separately for each direction. It is possible to have excess capacity in one direction and an existing deficiency in the other. When both directions have excess capacity or deficiencies, the total for both directions are presented.

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Kennedale Roadway Impact Fee 2016 Update Existing Capital Improvements Analysis

Serv Area	Shared Svc Area	Roadway	From	To	Length (mi)	No. of Lanes	Type	PM PK Cap per Lane	Pct. in Serv. Area	Peak Hour Volume A	Peak Hour Volume B	Total	VMt Supply Pk-Hr Total	VMt Demand Pk-Hr Total	Excess VMt Capacity	Exist. VMt Deficiency
1	X	Bowman Springs Rd	City Limits	Pennsylvania Ave	0.45	5	SA	675	50%	0	204	204	755	91	664	0
1		Bowman Springs Rd	Pennsylvania Ave	Cory A Edwards Dr	0.19	5	SA	675	100%	220	204	424	633	80	553	0
1		Bowman Springs Rd	Cory A Edwards Dr	Kennedale Pkwy	0.34	4	UA	625	100%	220	204	424	839	142	697	0
1		Dick Price Rd	Kennedale Pkwy	Railroad Tracks	0.31	2	UA	625	100%	201	286	487	386	150	236	0
1		Dick Price Rd	Railroad Tracks	Awerett Rd	0.59	2	UA	625	50%	201	0	201	371	119	252	0
1		Dick Price Rd	Awerett Rd	Linda Rd	0.61	2	UA	625	100%	205	282	487	757	295	462	0
1		Dick Price Rd	Linda Rd	City Limits	0.82	2	UA	625	50%	201	0	201	514	165	349	0
1		New Hope Rd	Kennedale Pkwy	Hudson Village Creek	1.76	2	UA	625	100%	77	136	213	2200	375	1825	0
1		Eden Rd	Mansfield Cardinal Rd	City Limits	0.53	2	UC	500	100%	130	130	260	530	138	392	0
1		Kennedale Pkwy	I-20/City Limits	Dick Price Rd	0.95	5	SA	675	100%	711	800	1511	3215	1439	1775	0
1		Kennedale Pkwy	Dick Price Rd	New Hope Rd	0.76	5	SA	675	100%	568	758	1326	2550	1002	1548	0
1		Kennedale Pkwy	New Hope Rd	Little School Rd	0.96	5	SA	675	100%	409	502	911	3251	878	2373	0
1		Kennedale Pkwy	Little School Rd	Eden Rd	0.66	5	SA	675	100%	341	558	899	2221	592	1630	0
1		Mansfield Hwy	Eden Rd	City Limits	0.19	2	UA	625	50%	341	0	341	117	64	53	0
1		Little School Rd	City Limits	Trepoint Dr	0.43	6	DA	675	50%	0	1000	1000	383	189	194	0
1		Little School Rd	Trepoint Dr	Pennsylvania Ave	0.24	4	UA	625	50%	0	950	950	536	407	129	0
1		Little School Rd	Pennsylvania Ave	Shady Creek	0.59	4	UA	625	100%	342	500	842	592	199	393	0
1		Little School Rd	Shady Creek	Kennedale Sublett Rd East	0.22	2	DA	675	100%	274	400	674	794	396	398	0
1		Little School Rd	Kennedale Sublett Rd East	Mansfield Cardinal	0.55	2	DA	675	100%	222	327	549	749	305	444	0
1		Little School Rd	Mansfield Cardinal Rd	Kennedale Pkwy	0.22	2	DA	675	100%	60	88	148	291	32	259	0
1		Mansfield Cardinal Rd	Kennedale Pkwy	Little School Rd	0.83	2	UC	500	100%	68	47	115	832	96	736	0
1		Mansfield Cardinal Rd	Kennedale Pkwy	City Limits	0.88	2	UC	500	100%	68	47	115	882	101	781	0
1		Kennedale Sublett Rd	Kennedale Pkwy	Little School Rd	0.81	2	UC	500	100%	208	176	384	809	311	499	0
1		Kennedale Sublett Rd	Little School Rd	City Limits	0.74	2	DA	675	100%	269	228	487	994	366	628	0
1		Awerett Rd	Dick Price Rd	North Rd	0.42	2	UC	500	100%	60	53	113	420	48	373	0
1		Broadway St	North Rd	Kennedale Pkwy	0.45	2	UC	500	100%	60	53	113	450	51	399	0
Sub-Total													26,072	8,030	18,041	0
Total													26,072	8,030	18,041	0

APPENDIX C: CALCULATION OF VEHICLE-MILES OF NEW DEMAND

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2016-2026 Vehicle-Mile Trip Generation, Kennedale Roadway Impact Fee Study 2016

Based on 2016 Land Use Assumptions by FNI, ITE 9th-Trip Gen., NCTCOG Avg. Trip Lengths.

Estimated Residential Growth Vehicle-Mile Trip Generation

Service Area	Added Dwelling Units	Vehicle-Miles per DU	Total Vehicle-Miles
1	1,791	1.81	3,238

	Trip Rate	Trip Length	Land Use Equivalency
SF Res	1.00	1.81	1.81
Basic Employ	0.97	1.74	1.69
Service Employ	1.49	1.81	2.69
Retail Employ	1.48	0.72	1.07

Estimated Basic Employment Growth Vehicle-Mile Generation

Service Area	Added Employees	Square Feet per emp.	Total Square Feet	Vehicle-Miles Per 1000/SF	Total Vehicle-Miles
1	521	1500	781,500	1.69	1,320

Estimated Service Employment Growth Vehicle-Mile Generation

Service Area	Added Employees	Square Feet per emp.	Total Square Feet	Vehicle-Miles Per 1000/SF	Total Vehicle-Miles
1	1,377	500	688,500	2.69	1,855

Estimated Retail Employment Growth Vehicle-Mile Generation

Service Area	Added Employees	Square Feet per emp.	Total Square Feet	Vehicle-Miles Per 1000/SF	Total Vehicle-Miles
1	335	1000	335,000	1.07	358

2016-2026 Vehicle-Mile Generation Summary

Service Area	Residential Growth Vehicle-Miles	Basic Growth Vehicle-Miles	Service Growth Vehicle-Miles	Retail Growth Vehicle-Miles	Total Growth Vehicle-Miles
Total	3,238	1,320	1,855	358	6,771

APPENDIX D: ROADWAY IMPROVEMENT PLAN PROJECTS

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Definitions

LANES	The total number of lanes in both directions available for travel.
TYPE	The type of roadway (used in determining capacity): DA = divided arterial UA = undivided arterial DC = divided collector UC = undivided collector SA = special arterial (roadway with continuous left turn)
PK-HR VOLUME	The existing volumes of cars on the roadway segment traveling during the afternoon (P.M.) peak hour of travel.
% IN SERVICE AREA	If the roadway is located on the boundary of the service area (with the city limits running along the centerline of the roadway), then half of the roadway is inventoried in the service area and the other half is not. This value is either 50% or 100%.
VEH-MI SUPPLY TOTAL	The number of total service units (vehicle-miles) supplied within the service area, based on the length and established capacity of the roadway type.
VEH-MI TOTAL DEMAND PK-HR	The total service unit (vehicle-mile) demand created by existing traffic on the roadway segment in the afternoon peak hour.
EXCESS CAPACITY PK-HR VEH-MI	The number of service units supplied but unused by existing traffic in the afternoon peak hour.

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2016 Kennedale Roadway Impact Fee Study Update Roadway Capital Improvements Plan

CIP Proj Number	Roadway	From	To	Length (mi)	No. of Lanes	Rdwy. Type	Lane		Pct. in Serv. Area	Peak Hour Volume			VMT Supply			Project Status
							Capacity	Area		A	B	Total	Pk H	Total	Excess	
1	Bowman Springs Rd	City Limit	Bus. US 287	0.49	5	SA	675	100%	220	204	424	1312	206	1106	0	R
2	Dick Price Rd	Bus. US 287	SP RR	0.31	2	DA	675	100%	201	286	487	417	150	266	0	R
3	Oak Crest Dr	W of Kennedale St	Kennedale Pkwy	0.14	2	UC	500	100%	0	0	0	140	0	140	0	N
4	New Hope Rd	Bus. US 287	S of SP RR	0.56	2	DC	525	100%	77	136	213	588	119	468	0	N
5	New Hope Rd	S of SP RR	Hudson Village	1.68	4	DA	675	100%	77	136	213	4549	359	4190	0	N
6	Sublett Rd	Bus. US 287	Little School Rd	0.66	4	DC	525	100%	0	0	0	1392	0	1392	0	N
7	Sublett Rd	Little School Rd	E of Vera Ln	0.77	2	DA	675	100%	269	228	497	1043	384	659	0	R
8	Sublett Rd	E of Vera Ln	City Limit	0.37	2	DA	675	100%	269	228	497	493	182	312	0	N
9	Little School Rd	S of Pennsylvania Ave	Bus. US 287	1.31	2	DA	675	100%	222	327	549	1768	719	1049	0	R
10	Little School Rd	Bus. US 287	New Hope Rd	0.57	4	DA	675	100%	0	0	0	1529	0	1529	0	N
11	Little School Rd	New Hope Rd	Dick Price Rd	0.91	4	DA	675	100%	0	0	0	2444	0	2444	0	N
12	Eden				4		525					138				
Sub-total SA 1												16789	2257	14532	0	

Totals:

6.86

16,789 2,257 14,532 0

APPENDIX E: ROADWAY IMPROVEMENT PLAN COST ANALYSIS

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Definitions

LANES	The total number of lanes in both directions available for travel.
TYPE	The type of roadway (used in determining capacity): DA = divided arterial UA = undivided arterial DC = divided collector UC = undivided collector SA = special arterial (roadway with continuous left turn)
% IN SERVICE AREA	If the roadway is located on the boundary of the service area (with the city limits running along the centerline of the roadway), then half of the roadway is inventoried in the service area and the other half is not. This value is either 50% or 100%.
TOTAL SEGMENT COST	The estimated cost (in dollars) of the entire segment of the proposed improvement.
TOTAL COST IN SERVICE AREA	The estimated cost (in dollars) of the portion of the proposed roadway improvement within the service area.

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2016 Kennedale Roadway Impact Fee Study Update Roadway Capital Improvements Plan

CIP Proj Number	Roadway	From	To	Length (mi)	No. of Rdwy. Lanes	Lane Type	Capacity	Pct. In Serv. Area	Project Status	Engineering	ROW	Construction	Finance	Project Cost	Study Update Cost	Serv Area Total Cost
1	Bowman Springs Rd	City Limit	Bus. US 287	0.49	5	SA	675	100%	R	\$352,335	\$364,722	\$1,489,727	\$983,053	\$3,199,838	\$6,252	\$3,206,090
2	Dick Price Rd	Bus. US 287	SP RR	0.31	2	DA	675	100%	R	\$111,838	\$211,544	\$472,869	\$358,313	\$1,154,564	\$1,985	\$1,156,549
3	Oak Crest Dr	W of Kennedale St	Kennedale Pkwy	0.14	2	UC	500	100%	N	\$21,618	\$45,288	\$216,180	\$133,050	\$416,136	\$688	\$416,804
4	New Hope Rd	Bus. US 287	S of SP RR	0.56	2	DC	525	100%	N	\$155,178	\$34,856	\$1,551,780	\$818,653	\$2,560,467	\$2,800	\$2,563,267
5	New Hope Rd	S of SP RR	Hudson Village	1.68	4	DA	675	100%	N	\$571,878	\$395,331	\$5,718,780	\$3,142,415	\$9,828,404	\$21,676	\$9,850,080
6	Sublett Rd	Bus. US 287	Little School Rd	0.66	4	DC	525	100%	N	\$158,862	\$357,000	\$1,588,620	\$989,107	\$3,083,589	\$6,633	\$3,100,222
7	Sublett Rd	Little School Rd	E of Vera Ln	0.77	2	DA	675	100%	R	\$514,534	\$327,970	\$1,689,378	\$1,130,347	\$3,642,228	\$4,971	\$3,647,199
8	Sublett Rd	E of Vera Ln	City Limit	0.37	2	DA	675	100%	N	\$88,946	\$39,372	\$689,460	\$374,956	\$1,172,734	\$2,351	\$1,175,085
9	Little School Rd	S of Pennsylvania Ave	Bus. US 287	1.31	2	DA	675	100%	R	\$724,897	\$431,190	\$2,520,438	\$1,654,436	\$5,330,961	\$8,422	\$5,339,383
10	Little School Rd	Bus. US 287	New Hope Rd	0.57	4	DA	675	100%	N	\$342,540	\$305,082	\$3,425,400	\$1,914,320	\$5,987,342	\$7,288	\$5,994,630
11	Little School Rd	New Hope Rd	Dick Price Rd	0.91	4	DA	675	100%	N	\$216,432	\$487,560	\$2,164,320	\$1,348,107	\$4,216,419	\$11,647	\$4,228,066
12	Eden				4		525						\$626,432			
Sub-total SA 1										\$3,355,032	\$3,057,035	\$22,666,692	\$13,483,189	\$42,561,949	\$80,000	\$42,641,949
Totals:										\$3,355,032	\$3,057,035	\$22,666,692	\$13,483,189	\$42,561,949	\$80,000	\$42,641,949

Notes:
 ** Assumes two 5-year updates at \$40,000 each.
 Debt service obligations assumed 4.0% compounded annually over 20 years.
 Cost of engineering and surveying at 10% of construction costs.
 Cost of needed ROW at \$1.70/sf (\$74,052/acre).

Totals:	
Engineering Cost	\$3,355,032
Right-of-Way Cost	\$3,057,035
Construction Cost	\$22,666,692
Finance Cost	\$13,483,189

TOTAL NET COST	\$42,561,949
Future Impact Fee Update Cost **	\$80,000
TOTAL IMPLEMENTATION COST	\$42,641,949

APPENDIX F: ROADWAY SERVICE AREA ANALYSIS SUMMARY

APPENDICES

2016 Kennedale Roadway Impact Fee Study Update
Service Area Analysis Summary

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Service Area	Capacity Supplied by CIP (veh-mi)	Existing Utilization	Existing Deficiencies	Net Capacity Supplied by CIP	Total Project Cost of CIP	Project Cost of CIP with 50% Credit	Cost of Net Capacity Supplied	Cost to Meet Existing Utilization	Projected 10yr Demand (veh-miles)	Pct. of CIP Attributable to New Dev. (10-yr)	Cost Attributable to New Dev.	Fee per Service Unit @ 50% Discount	Maximum Fee Cost Summary Actual Cost per Service Unit (veh-mi)	Maximum Fee Per SF Dwelling Unit *
1	16,789	2,257	0	14,532	\$42,641,949	\$21,320,974	\$18,454,990	\$2,865,985	6,771	46.6	\$6,598,113	\$1,269.00	\$2,538.00	\$2,294.03
Totals	16,789	2,257	0	14,532	\$42,641,949	\$21,320,974	\$18,454,990	\$2,865,985	6,771	46.6	\$6,598,113	\$1,269.00	\$2,538.00	\$2,294.03

* Based on service unit equivalency of 1.61 vehicles per development unit

1. TOTAL VEH-MI OF CAPACITY SUPPLIED BY CIP (TVMCAP)
2. TOTAL VEH-MI OF EXISTING DEMAND (VMEXT)
NVMCAP = TVMCAP - VMEXT - VMDEF
3. TOTAL COST OF CIP WITHIN STUDY AREA (TVMCOST)
4. TOTAL COST OF CIP IN SERVICE AREA W/50% CREDIT (TVMCOST)
5. COST OF NET CAPACITY SUPPLIED (NVMCAP) =
NVMCAP = (NVMCAP/TVMCAP)*TVMCOST
6. COST TO MEET EXISTING NEEDS AND USAGE (EXCOST) =
EXCOST = TVMCOST - NVMCAP
7. TOTAL VEH-MI OF NEW DEMAND OVER TEN YEARS (TNEWDEM)
8. PERCENT OF CIP ATTRIBUTABLE TO NEW DEVELOPMENT (NPONT) =
NPONT = (TNEWDEM / TVMCAP) * 100
9. COST OF CIP ATTRIBUTABLE TO NEW DEVELOPMENT (NCVDEM) =
NCVDEM = (TNEWDEM / NVMCAP) * NVMCAP
10. MAXIMUM FEE PER SERVICE UNIT (50%) =
MAXFEE = NCVDEM / TNEWDEM
11. ACTUAL COST PER SERVICE UNIT (100%) =
ACTCOST = TVMCOST / TVMCAP
12. ASSOCIATED COST TO 1 SINGLE-FAMILY RESIDENTIAL UNIT

APPENDIX G: ROADWAY TRIP LENGTH LOCALIZATION

APPENDICES

FUNCL	DESCRIPTION	2014 PM	2035 PM
1	FREEWAYS	63891.86	82084.3
2	PRINCIPAL ARTERIALS	286.03	351.06
3	MINOR ARTERIALS	20091.26	27074.23
4	COLLECTORS	15902.37	26904.77
6	FREEWAY RAMPS	2173.42	2423.09
7	FRONTAGE ROADS	3313.37	4977.98
8	HOV LANES	0	1501.94
TOTAL		105658.31	145317.37

LOCALIZED %	34.3%	37.4%
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APPENDIX H: LAND USE ASSUMPTIONS REPORT

LAND USE ASSUMPTIONS FOR WATER, WASTEWATER, AND ROADWAY IMPACT FEE STUDY



Prepared for:

City of Kennedale

July 8, 2016

Prepared by:

FREESE AND NICHOLS, INC.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109
817-735-7300

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Appendix A: Employment by TSZ

1.0 PRUPOSE

Chapter 395 of the Texas Local Government Code prescribes the process by which cities in Texas must formulate impact fees. An initial step in the update process is the establishment of land use assumptions which address growth and development for a ten-year planning period (TLGC Section 395.001(5)) for the years 2016-2026. These land use assumptions, which also include population and employment projections, will become the basis for the preparation of impact fee capital improvement plans for water, wastewater, and roadway facilities.

Statutory requirements mandate that impact fees be updated (at least) every five years. This report, in conjunction with the water, wastewater, and roadway capital improvements plans, forms the initial key components for the update of Kennedale's impact fee program.

To assist the City of Kennedale in determining the need and timing of capital improvements to serve future development, a reasonable estimation of future growth is required. The purpose of this report is to formulate growth and development projections based upon assumptions pertaining to the type, location, quantity and timing of various future land uses within the community and to establish and document the methodology used for preparing the growth and land use assumptions.

1.1 LAND USE ASSUMPTION REPORT ELEMENTS

This report contains the following components:

- **Methodology** - Explanation of the general methodology used to prepare the land use assumptions.
- **Data Collection Zones and Service Areas** - Explanation of data collection zones (traffic survey zones), and division of the City into impact fee service areas for roadway, water and wastewater facilities.
- **Base Year Data** – Historical population trends for Kennedale and information on population, employment, and land use for Kennedale as of 2016 for each capital service area.
- **Ten-Year Growth Assumptions** - Population and employment growth assumptions for ten years by service areas.
- **Summary** - Brief synopsis of the land use assumptions report.

2.0 METHODOLOGY

Based upon the growth assumptions and the capital improvements needed to support growth, it is possible to develop an impact fee structure which fairly allocates improvement costs to growth areas in relationship to their impact upon the entire infrastructure system. The data in this report has been formulated using reasonable and generally accepted planning principles for the preparation of impact fee systems in Texas.

These land use assumptions and future growth projections take into consideration several factors influencing development patterns, including the following:

- The character, type, density, and quantity of existing development
- Anticipated future land use (City's Future Land Use Plan Map)
- Availability of land for future expansion
- Current and historical growth trends of population and development within the City
- Location and configuration of vacant land
- Known or anticipated development projects as defined by City Staff
- Data established from the City's 2014 Water and Wastewater Master Plan

A series of work tasks were undertaken in the development of this report and are described below:

1. A kick-off meeting was held to describe the general methodological approach in the study. Service areas were defined for roadway, water, and wastewater impact fee systems.
2. Current and historic data of population and employment was collected from the City and other acceptable sources to serve as a basis for future growth.
3. A base year (2016) estimate was developed using U.S. Census and periodic population, the 2014 Water and Wastewater Master Plan, and employment data from the North Central Texas Council of Governments (NCTCOG).
4. A growth rate was determined based upon an analysis of data from the City of Kennedale Water and Wastewater Master Plan (adopted 2014), public works data and economic data compiled by the City, past growth trends and anticipated development to occur over the next ten-year planning period. A compound annual growth rate of 4.80% was recommended and is approved by the Capital Improvements Advisory Committee (CIAC) as part of these land use assumptions.
5. Demographics from the City's Water and Wastewater Master Plan and NCTCOG's travel model were obtained to serve as a basis for correlating and allocating projected ten-year

- growth estimates. Adjustments were also made to conform to the 2012 Kennedale Comprehensive Plan.
6. A ten-year projection (2026) was prepared using the approved growth rate and the city models for allocations of population and employment data. Demographic growth was compared to the previous set of land use assumptions for consistency. Adjustments were then made to consider known or anticipated development activity within the ten-year planning period.
 7. Base and ten-year demographics were prepared for the respective service areas for water, wastewater, and roads.

3.0 DATA COLLECTION ZONES AND SERVICE AREA MAPS

3.1 DATA COLLECTION ZONES

Data collection zones used for the land use assumptions are based upon small geographic areas known as traffic survey zones (TSZs). These zones, established by the North Central Texas Council of Governments (NCTCOG), cover the Metropolitan Planning Organization's (MPO) planning area and serve as the basis for socio-demographic data used in the regional travel forecast model. Traffic survey zones were originally formulated on the basis of homogeneity and traffic generation potential using major arterials, creeks, railroad lines and other physical boundaries for delineation.

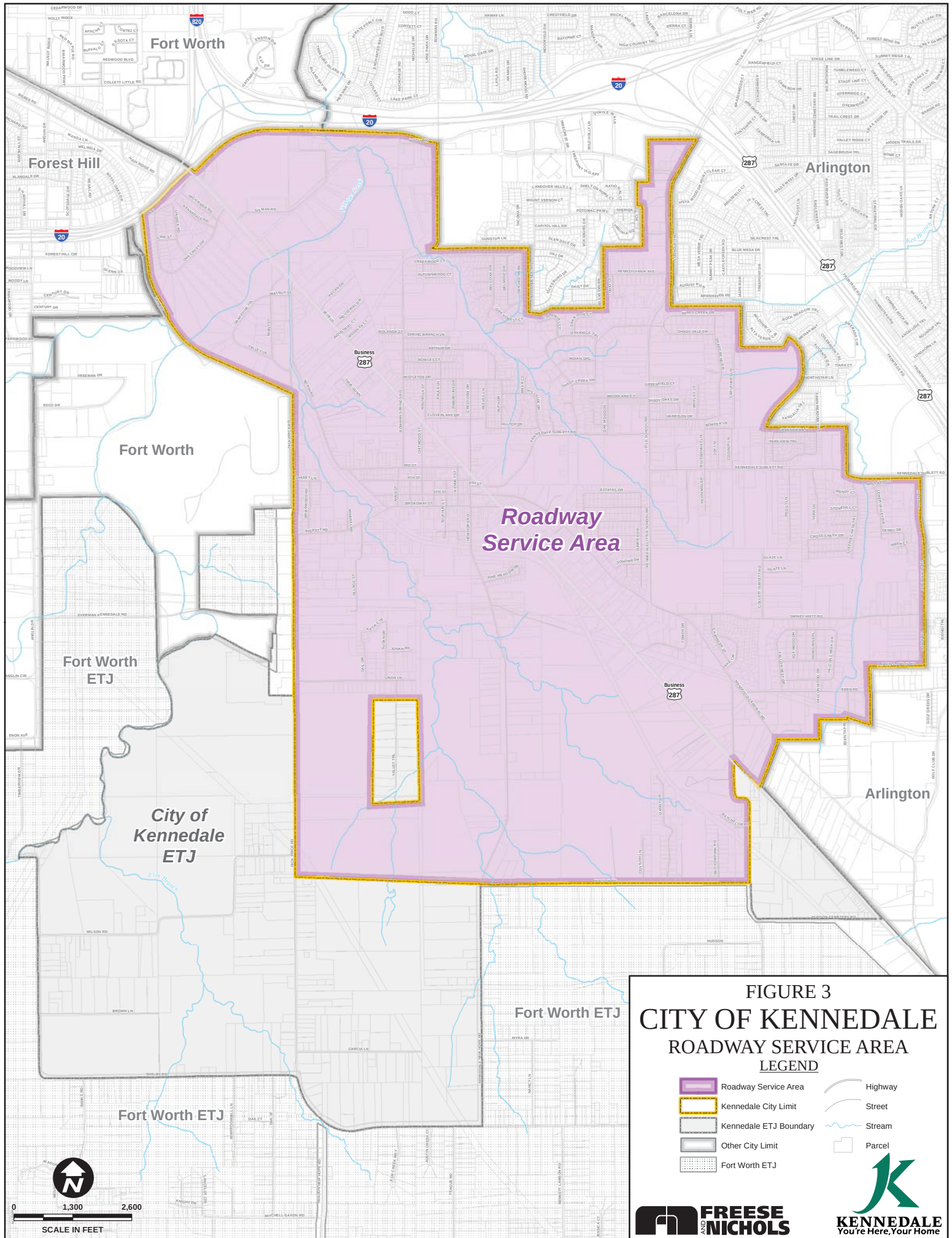
Employment demographics were compiled by TSZ and then aggregated into larger areas to form the service areas for impact fees. Population demographics were compiled using the data from the 2014 Water and Wastewater Master Plan, broken down by TSZ, with adjustments made to update the demographics to base year (2016).

3.2 SERVICE AREAS

Chapter 395 requires that service areas be defined for impact fees to ensure that facility improvements are located in close proximity to areas generating needs. Legislative requirements stipulate that roadway service areas be limited to a 6-mile maximum and must be located within the current city limits. Transportation service areas are different from water and wastewater systems, which can include the city limits and its extra-territorial jurisdiction (ETJ) or other defined service area. This is primarily because roadway systems are "open" to both local and regional (non-city) use as opposed to a defined level of utilization from residents within a water and wastewater system. The result is that new development can only be assessed an impact fee based on the cost of necessary capital improvements within that service

area. An analysis including the ETJ was conducted in order to consider provision of water and wastewater service areas.

Figure 1 illustrates the water service area for the Kennedale Impact Fee study. Figure 2 shows the wastewater service area. These areas are bounded by the existing city limits and ETJ. Roadway service areas are confined to the city limits with a maximum diameter of 6-miles per Chapter 395. The City of Kennedale's single roadway service area, illustrated in Figure 3, was retained in this update with revisions made to include any annexations.



3.3 DATA FORMAT

The existing database, as well as the future projections, were formulated according to the following format and categories:

- **Service Area:** Correlates to the proposed roadway, water, and wastewater service areas identified in Figures 3.1 through 3.3.
- **Traffic Survey Zone (TSZ):** Geographic areas established by the NCTCOG Traffic Model which are used for data collection purposes and termed TSZs within this report.
- **Population (2016):** Existing population for the base year (2016).
- **Population (2026):** Projected population by service zone for the year 2026 (ten-year growth projections).
- **Employment (2016, 2026):** Employment data is aggregated to three employment sectors and include: Basic, Retail and Service. The following details which North American Industry Classification (NAIC) codes fall within each of the three sectors.
 - o Basic (#210000 to #422999) -- Land use activities that produce goods and services such as those that are exported outside the local economy; manufacturing, construction, transportation, wholesale trade, warehousing and other industrial uses.
 - o Retail (#440000 to #454390) -- Land use activities which provide for the retail sale of goods that primarily serve households and whose location choice is oriented toward the household sector such as grocery stores, restaurants, etc.
 - o Service (#520000 to #928199) -- Land use activities which provide personal and professional services such as financial, insurance, government, and other professional and administrative offices.

The NCTCOG prepares employment estimates at the TSZ level and therefore, minimal adjustments were needed.

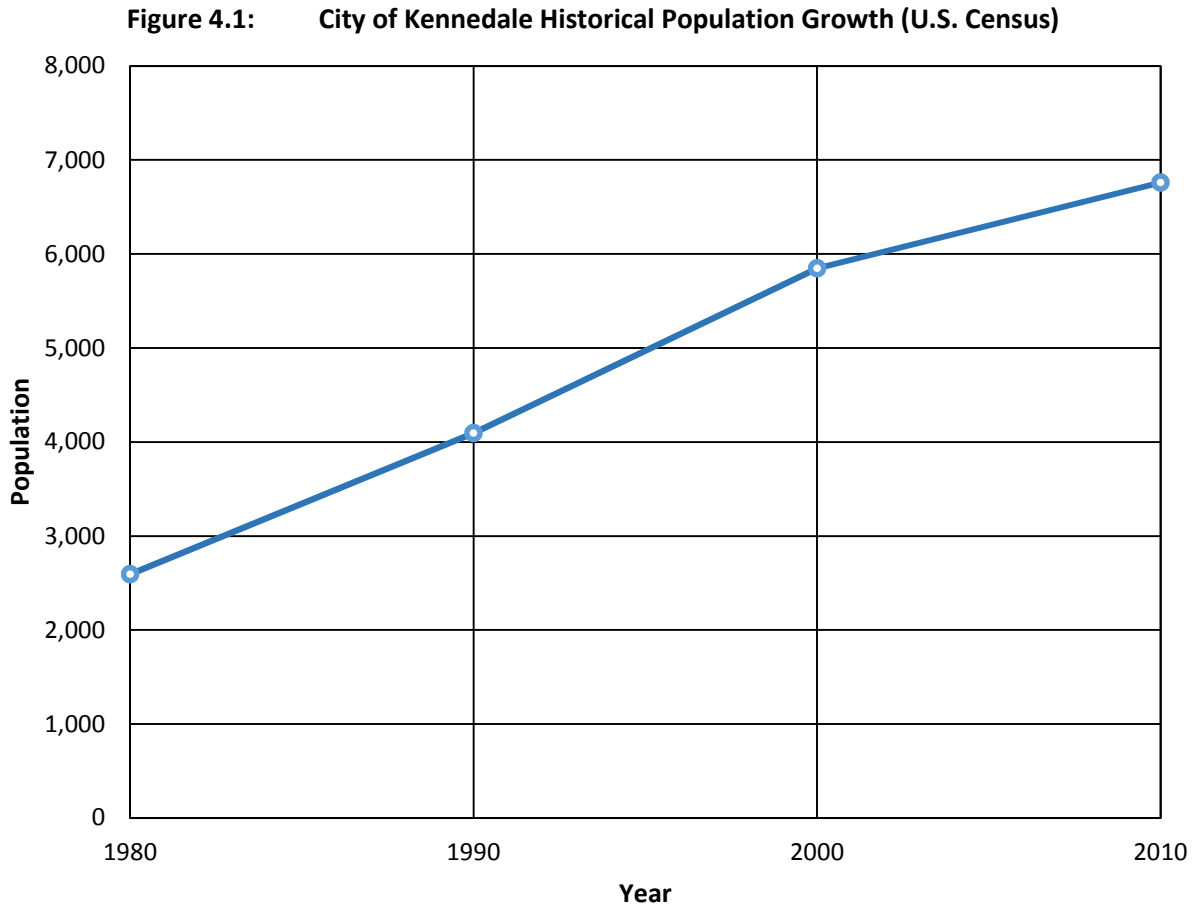
4.0 BASE YEAR DATA

This section documents the City's historical growth trends and data used to derive the 2016 base year population estimate for the City of Kennedale. This "benchmark" information provides a starting basis of data for the ten-year growth assumptions that will be presented within the following section.

4.1 HISTORICAL GROWTH

Kennedale is located in the southeastern portion of Tarrant County between the cities of Arlington and Fort Worth. Over the past several decades, the Dallas-Fort Worth metroplex has experienced robust

population and employment growth. Additionally, the close proximity to downtown Fort Worth, employment areas, and major freeways has made the region an attractive and desirable location in which to live, work and play. Figure 4 depicts the historic population growth for the City of Kennedale.



The City has experienced modest population growth over the last 3 three decades, taking the City's population from less than 3,000 in 1980 to 6,763 in 2010. The projected buildout population from the 2014 Water and Wastewater Master Plan is approximately 16,459.

4.2 EXISTING LAND USE

In any evaluation and projection of future land use patterns, a documentation of existing conditions is essential. Analysis of existing land use patterns was prepared based on Kennedale's 2012 Comprehensive Plan. This also serves to document the present physical condition of the City with regard to any infrastructure deficiencies that may exist. Major land use categories were tabulated in the Comprehensive Plan for all areas of the City. **Table 4.1** summarizes existing land uses in the city.

Table 4.1: Existing Land Use (2012 Comprehensive Plan)

Land Use Type	Area (Acres)	Percent of Total Area
Single Family Residential	1,673	28.18%
Multi-Family Residential	10	0.17%
Mobile Homes	288	4.85%
Group Quarters	3	0.05%
Office	10	0.16%
Retail	101	1.70%
Civic/Institutional	130	2.19%
Hotel/Motel	3	0.06%
Industrial*	1,029	17.83%
Transportation	451	7.60%
Utilities	125	2.11%
Parks and Open Space	124	2.09%
Landfill	177	2.99%
Under Construction	47	0.80%
Vacant	1,711	28.32%
Water	53	0.89%
Total Parcel Area:	5,937	100%

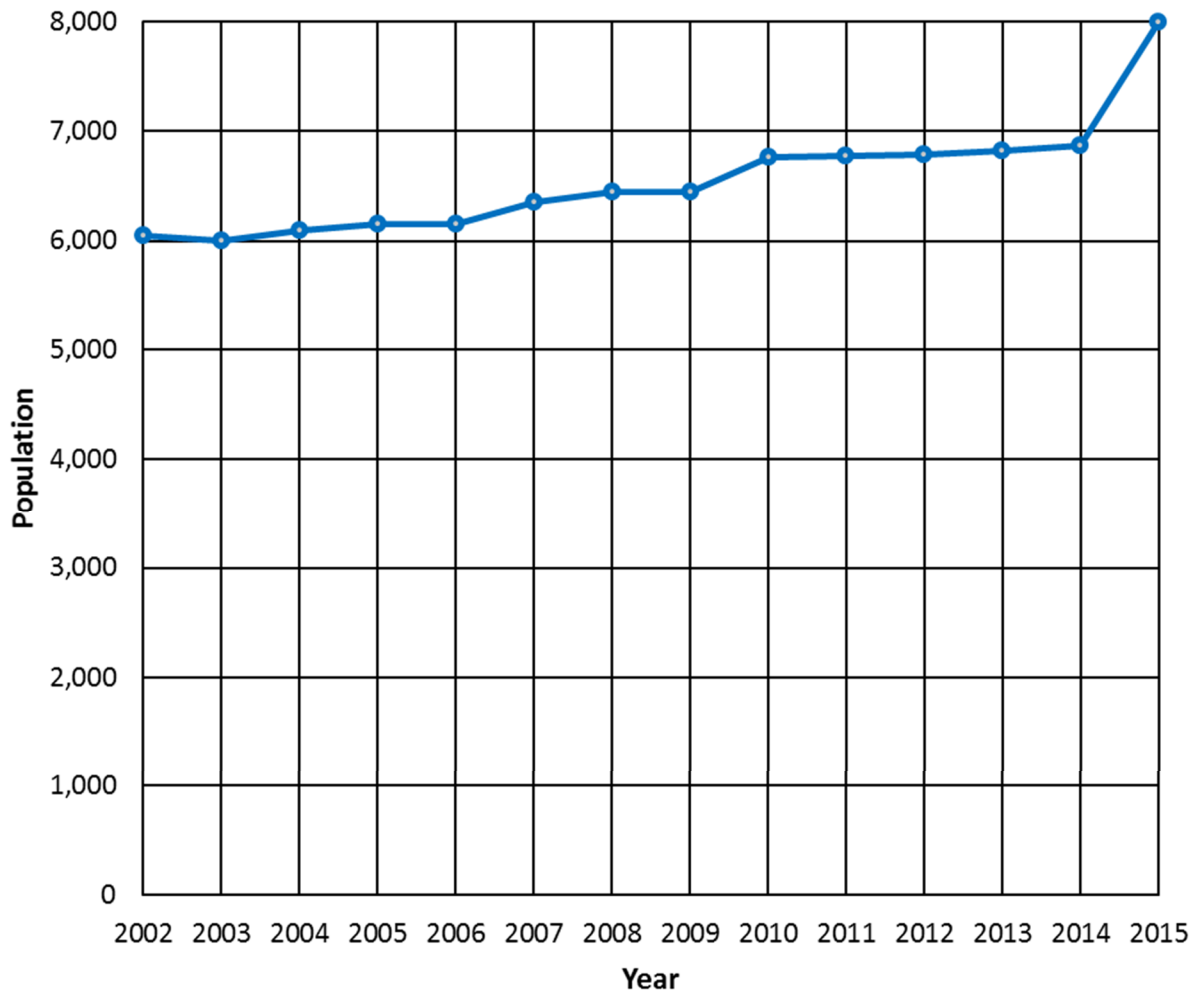
*Cowtown Speedway (Approximately 30 acres) Rezoned to Agriculture

4.3 POPULATION TRENDS

A review of population statistics from a variety of sources was conducted to examine Kennedale's growth rate recently. Data from the 2014 Water and Wastewater Master Plan, NCTCOG population estimates, and employment data were reviewed to determine potential growth rates.

One method of predicting future growth is looking at past growth. Past growth trends from NCTCOG population estimates (Figure 5) show Kennedale has experienced moderate growth over the past decade, with brief spurts of significant growth.

Figure 4.2: Historical Population Growth



The population projections shown in **Table 4.2**, from the 2014 Water and Wastewater Master Plan, indicate that the growth rate will remain strong but steadily decrease in Kennedale over the next ten years.

Table 4.2: Projected Population from the 2014 Water and Wastewater Master Plan

Year	Population	Growth Rate
2013	6,820	-
2014	7,385	8.3%
2015	7,950	7.6%
2016	8,515	7.1%
2017	9,080	6.6%
2018	9,645	6.2%
2019	10,209	5.9%
2020	10,774	5.5%
2021	11,339	5.2%
2022	11,904	5.0%
2023	12,469	4.7%
Buildout	16,459	-

To determine the existing 2016 population, FNI utilized the projected population from the 2014 Water and Wastewater Master Plan as well as looking at the recent growth trends. This resulted in a population of 8,384 persons, which will serve as the base residential population for the City of Kennedale in this report.

4.4 GROWTH SUMMARY

Data from the 2014 Water and Wastewater Master Plan, NCTCOG population estimates, and employment data were reviewed and yielded relatively consistent results that showed a general increase in population growth but also a varying compound annual growth rate over the same period. **Table 4.3** shows the breakdown of the derived past compound annual growth rates.

Table 4.3: City of Kennedale Historic Compound Annual Growth Rates

Growth	Compound Annual Growth Rate
Historic Population Growth Rates*	
2 Year Growth Rate (2013-2015)	8.31 %
5 Year Growth Rate (2010-2015)	3.42 %
10 Year Growth (2005-2015)	2.66 %
Average	4.80 %

*Source: Water and Wastewater Master Plan

4.5 2016 POPULATION

Based on an analysis of growth rates, average rates of growth for the 10-year forecast varied between 2.66 and 8.31 percent. A 4.80 percent compound annual growth rate was determined to be an appropriate assumption for the 10-year study period. This growth rate is believed to account for periods of stable growth expected to occur in the future. This rate was presented to and recommended by the CIAC on November 16, 2015.

4.6 2016 EMPLOYMENT

2016 base employment data was calculated using data from the NCTCOG. This information provided a breakout of employment by TSZ for 2009, 2019, and 2030. For assumption purposes, and to be consistent with the population totals, an interpolation of these numbers was calculated to derive the 2016 employment estimates by TSZ. It is important to note that the TSZs do not follow city limits in some locations, so adjustments were made based on the locations of existing land uses and upon the percentage of each TSZ located within city limits. Employment for each TSZ was broken down into basic, retail, and service uses as defined by the North American Industry Classification (NAIC) code. **Table A-1** in the appendix shows the 2016 employment by TSZ for the City

Table 4.4: Summary of Base Year (2016) Population and Employment

2016 Summary Population & Employment	
Population	8,384
Total Employment	4,521
<i>Basic Employment</i>	<i>1,438</i>
<i>Retail Employment</i>	<i>847</i>
<i>Service Employment</i>	<i>2,236</i>
Source: Freese and Nichols, Inc., NCTCOG	

5.0 TEN-YEAR GROWTH ASSUMPTIONS

Projected growth has been characterized in two forms: population and employment. A series of assumptions were made to arrive at reasonable growth rates for population and employment. The following assumptions have been made as a basis from which ten-year projections could be initiated.

- Future land uses will occur based on similar trends of the past and consistent with the Future Land Use Plan Map,
- The City will be able to finance the necessary improvements to accommodate continued growth, and
- Densities will be as projected in the Future Land Use Plan of the City's Comprehensive Plan.

The ten-year projections are based upon the growth rate which was discussed in Section 4 (4.80%) and considers past trends of the City.

5.1 POPULATION 2026

The City has experienced small yet steady growth over the past decade. The City's 2000 population stood at 5,850 residents. By the end of the decade, the City of Kennedale rose to 6,763 in 2010 and a 2016 estimate of 8,384. This population growth is occurring within the context of the greater Dallas-Fort Worth metroplex, which is one of the largest regions in the nation. With a compound annual growth rate of 4.80 percent, Kennedale is anticipated to grow by 5,015 persons during the 10-year planning period to a total population of 13,399 by the year 2026.

Table 5.1: Projected Population and Dwelling Unit Estimations

Ten-Year Population Projection City of Kennedale				
Roadway Service Area	2016		2026	
	Housing Units	Population	Housing Units	Population
1	2,994	8,384	4,785	13,399
City Total	2,994	8,384	4,785	13,399

Source: Freese and Nichols, Inc.

Table 5.2: Projected Population and Dwelling Units Added

Added Population (Ten-Year) and Percentage Growth City of Kennedale				
Roadway Service Area				
	Units Added	Pct. Change	Pop. Added	Pct. Change
1	1,791	59.8%	5,015	59.8%
City Total	1,791		5,015	

Source: Freese and Nichols, Inc.

5.2 EMPLOYMENT 2026

Employment data for the year 2026 was based upon data provided by NCTCOG. For assumption purposes, an interpolation of these numbers was calculated to derive the 2026 employment estimates per TSZ and are shown on **Table A-1** in the Appendix. **Table 5.3** shows the base year 2016 and projected 2026 employment for each service area, broken down into basic, service, and retail employment types. **Table 5.4** shows the net growth in each service area by employment type and the percent change over the ten-year planning period. This increase corresponds to an annual growth rate of 4.10 percent citywide. This lower growth rate of employment compared to the population growth rate can be attributed to the primary residential community growth experienced by Kennedale.

It is important to note that TSZs do not follow city limits. As a result, additional assumptions were made based upon known or anticipated development to occur, projections of future land use needs and percentages of each TSZ located within city limits. The employment numbers on **Table A-1** of the appendix show the derived employment of each TSZ within Kennedale's municipal boundary.

Table 5.3: Projected Employment Estimations

Ten-Year Employment Projections City of Kennedale								
Roadway Service Area	Basic Employment		Retail Employment		Service Employment		Total Employment	
	2016	2026	2016	2026	2016	2026	2016	2026
1	1,438	1,959	847	1,182	2,236	3,613	4,521	6,754
City Total	1,438	1,959	847	1,182	2,236	3,613	4,521	6,754

Source: Freese and Nichols, Inc., NCTCOG

Table 5.4: Projected Employment Added

Ten-Year Employment Projections City of Kennedale								
Roadway Service Area	Basic Employment		Retail Employment		Service Employment		Total Employment	
	Emp. Added	Pct. Change	Emp. Added	Pct. Change	Emp. Added	Pct. Change	Emp. Added	Pct. Change
1	521	36.2%	335	39.6%	1,377	61.6%	2,233	49.4%
City Total	521		335		1,377		2,233	

Source: Freese and Nichols, Inc., NCTCOG

6.0 SUMMARY

- From the 2012 Comprehensive Plan, approximately 59 percent of the total land within the city limits is developed, with approximately 28 percent of land within the city limits being vacant and available for future development, where infrastructure and topography permit. Approximately 13

percent of the land in Kennedale is undevelopable as either right-of-way, utility easements, parks/open space or other undevelopable land types.

- The existing 2016 population for Kennedale is approximately 8,384 persons, with an existing estimated employment of 4,521 jobs.
- An average annual growth rate of 4.80 percent was used to calculate the Kennedale ten-year growth projections. This growth rate is based upon approved data from the 2014 Water and Wastewater Master Plan, NCTCOG Population Estimates, as well as historical U.S. Census data, and was approved by the CIAC on November 16, 2015.
- The ten-year (2026) population growth projection for Kennedale is 13,399 persons, an increase of 5,015 persons. Employment is projected to increase by 2,233 to a total of 6,754 jobs by 2026 with a compound annual growth rate of 4.10%.
- The ultimate population of Kennedale is expected to be approximately 16,459 persons, per the 2014 Water and Wastewater Master Plan.
- A summary of the 2016 and 2026 demographics broken down by roadway service areas can be found below

Table 6.1: Summary of Land Use Assumptions

	2016	2026	Total Increase	Percent Total Growth	Annual Growth Rate
Population					
Kennedale Total	8,384	13,399	5,015	59.82%	4.80%
Service Area 1	8,384	13,399	5,015	59.82%	4.80%
Employment					
Kennedale Total	4,521	6,754	2,233	49.39%	4.10%
Service Area 1	4,521	6,754	2,233	49.39%	4.10%
Basic	1,438	1,959	521	36.23%	3.14%
Retail	847	1,182	335	39.55%	3.39%
Service	2,236	3,613	1,377	61.58%	4.92%

APPENDIX A

Employment by TSZ

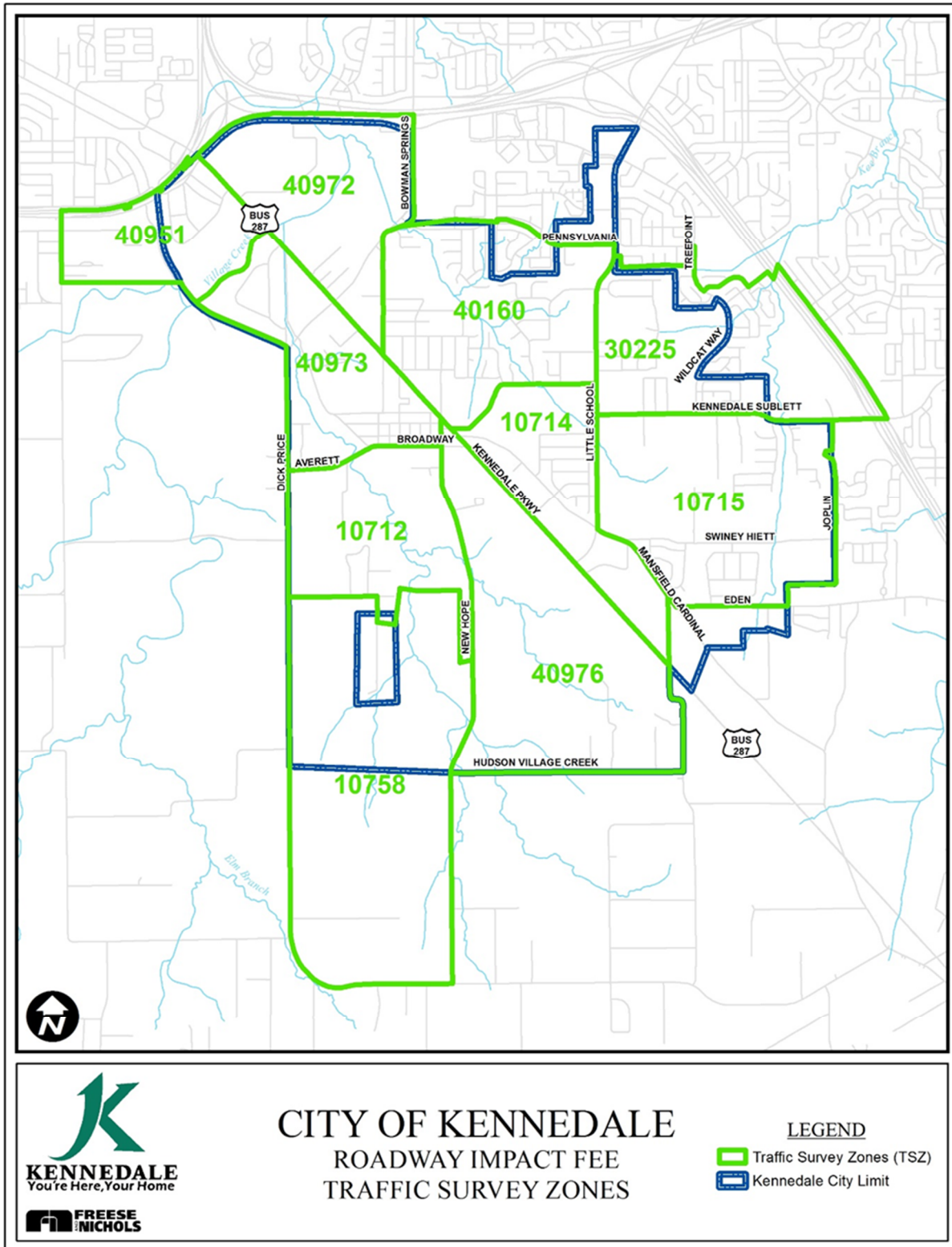


Table A-1: Employment by TSZ

NCTCOG Data										FNI Interpolations							
TSZ	2014				2015				Pct. in City	2016				2026			
	Basic	Retail	Service	Total	Basic	Retail	Service	Total		Basic	Retail	Service	Total	Basic	Retail	Service	Total
10712	129	43	138	310	248	101	405	754	100%	140	49	163	352	197	76	291	564
40951	212	71	226	509	369	150	604	1123	50%	113	39	131	283	151	58	221	430
40973	283	96	303	682	384	157	628	1169	100%	293	102	334	729	341	131	489	961
40972	126	126	271	523	226	221	600	1047	100%	136	135	302	573	183	180	459	822
10758	51	17	56	124	46	19	75	140	50%	25	9	29	63	24	9	33	66
40976	292	99	313	704	722	294	1182	2198	100%	333	118	396	847	538	210	810	1558
10715	50	50	107	207	70	69	185	324	100%	52	52	114	218	61	61	152	274
10714	82	82	175	339	224	219	592	1035	100%	96	95	215	406	163	160	413	736
30225	111	111	238	460	192	188	507	887	100%	119	118	264	501	157	155	392	704
40160	129	128	275	532	155	152	411	718	100%	131	130	288	549	144	142	353	639
									Total:	1438	847	2236	4521	1959	1182	3613	6754

Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: DECISION ITEMS - C.

I. Subject:

Consider approval of Ordinance 604 adopting the water and wastewater impact fees

II. Originated by:

Bob Hart

III. Summary:

Texas cities are required to update their impact fees every five years (with some exceptions), and it's now time for the City of Kennedale to update its fees. The update process includes analyzing land use assumptions and future capital improvement projects. The City convened an advisory committee, and that committee's recommendation has been forwarded to you. The proposed fees are based on committee's recommendation.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

Approve

VII. Alternative Actions:

VIII. Attachments:

1.	Capital Improvements Advisory Committee Recommendation Letter	CIAC Recommendation-Impact Fee.pdf
2.	Draft Ordinance 604	O604.pdf

Capital Improvements Advisory Committee
City of Kennedale, Texas

June 23, 2016

The Honorable Brian Johnson
City of Kennedale Texas
405 Municipal Drive
Kennedale, TX 76060

RE: Capital Improvements Advisory Committee Recommendations – Impact Fees Update 2016

Dear Mayor Brian Johnson and Members of the City Council:

The Capital Improvements Advisory Committee (CIAC), which consists of the members of the Planning and Zoning Commission and a member representing residents in our ETJ, have been working with City staff and the consulting firm of Freese and Nichols, Inc. since November 2015 on an update to the Land Use Assumptions and Capital Improvements Plans for Roadway facilities, which were used in our discussions to calculate and update the Water, Wastewater, and Roadway Impact Fees. After review and discussion of these items, the CIAC is prepared to recommend the following:

- Adoption of the Land Use Assumptions and Capital Improvements Plans for Roadway, Water, and Wastewater as presented in the Impact Fee Update Report dated June 2016, which you may view as Attachment A.
- Adoption of the Water Impact Fee cost per service unit for both residential and non-residential development, adjusted for meter size, of up to \$1,487 per service unit for projects identified in the 10-year planning window. This recommended cost per service unit is 50% or less than the maximum fee allowable for the Kennedale Service Area, collection rate adjusted by meter size and development types.
 - See Attachment A for specifics on Impact Fee collection rate for a relative service unit delineation.
- Adoption of the Wastewater Impact Fee cost per service unit for both residential and non-residential development, adjusted for meter size, of up to \$1,080 per service unit for projects identified in the 10-year planning window. This recommended cost per service unit is 50% or less than the maximum fee allowable for the Kennedale Service Area, collection rate adjusted by meter size and development types,
 - See Attachment A for specifics on Impact Fee collection rate for a relative service unit delineation.
- Adoption of the Roadway Impact Fee cost per service unit for both residential and non-residential development of \$2,538 for projects identified in the 10-year planning window. This recommended cost per service unit is 50% or less than the maximum fee allowable for the Kennedale Service Area, collection rate adjusted by development types.
 - The Impact Fee collection rate for a Single-family dwelling is 50% (\$1,269 per service unit)
 - The Impact Fee collection rate for an Office land use is 25% (\$634.50 per service unit of 1,000 square feet).

- The Impact Fee collection rate for a Retail land use is 35% (\$888.30 per service unit).
- The Impact Fee collection rate for a Light industrial land use is 35% (\$888.30 per service unit).

The CIAC agreed that the Impact Fee adjustments described above are necessary to assist in the funding for critical roadway, water, and wastewater projects needed to accommodate future growth, while maintaining the character and quality of life envisioned by City residents in the Comprehensive Plan. The recommended collection rates are also reflective of the total Impact Fee amounts that are currently charged by communities of similar size, character, and regional proximity to that of Kennedale.

Sincerely,



Ernest Harvey
Chair

Attachments: A) Roadway, Water, and Wastewater Impact Fee Update Report – June 9, 2016.

cc: Bob Hart, City Manager
Rachel Roberts, Community Development Director and City Planner
Larry Ledbetter, Director of Public Works

ORDINANCE NO. 604

AN ORDINANCE AMENDING ARTICLE V, WATER AND WASTEWATER IMPACT FEES, OF CHAPTER 23, WATER, SEWERS AND SEWAGE DISPOSAL, OF THE KENNEDALE CITY CODE (1992), AS AMENDED BY REVISING WATER AND WASTEWATER IMPACT FEES ON NEW LAND DEVELOPMENT OR REDEVELOPMENT IN THE CITY LIMITS AND EXTRATERRITORIAL JURISDICTION OF THE CITY OF KENNEDALE, TEXAS; UPDATING LAND USE ASSUMPTIONS AND CAPITAL IMPROVEMENT PLANS; PROVIDING FOR THE ASSESSMENT AND COLLECTION OF IMPACT FEES; PROVIDING THAT THIS ORDINANCE SHALL BE CUMCLATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Kennedale currently provides public water and wastewater facilities that serve land within its City limits; and

WHEREAS, the City is committed to providing public water and wastewater facilities and minimum levels of service by utilizing funds allocated in the capital budget and capital improvements programming processes and relying upon the funding sources indicated therein; and

WHEREAS, the City Council has determined that new residential and nonresidential development causes and imposes increased and excessive demands upon City facilities and services, including roadway facilities that would not otherwise occur; and

WHEREAS, planning and zoning projections indicate that such development will continue and will place ever-increasing demands on the City to provide necessary public facilities; and

WHEREAS, to the extent that such new development places demands upon the public facility infrastructure, the City Council has determined that those demands should be satisfied by shafting the responsibility for financing the provision of such facilities from the public at large to the developments actually creating the demands for them; and

WHEREAS, in accordance with state law, the City Council has previously adopted impact fees to finance new development demands for water and wastewater facilities; and

WHEREAS, the amount of the impact fees to be imposed is determined by the projections set forth in Land Use Assumptions and the cost of the additional public facilities needed to support such development, which public facilities are identified in Capital Improvement Plans; and

WHEREAS, in accordance with the notice, adoption, promulgation and methodology required by Chapter 395 of the Texas Local Government Code, the Capital Improvements Advisory Committee and the City Council have reviewed the Land Use Assumptions and Capital Improvement Plans previously adopted and the technical reports, as prepared as part of the updates and have determined that these documents and the previously adopted impact fees should be updated; and

WHEREAS, the City Council now desires to update and amend the previously adopted Land Use Assumptions, Capital Improvement Plans and the water and wastewater impact fees in accordance with state law.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF KENNEDALE, TEXAS, THAT:

SECTION 1.

Exhibit A, "Land Use Assumptions," Exhibit B, "Schedule of Assessed and Collected Impact Fees," Exhibit C, "Water Improvement Plan," and Exhibit D, "Wastewater Improvement Plan" attached hereto are hereby adopted and shall replace Exhibits B, C, D and E, attached to Ordinance No. 370 adopted July 12, 2007, codified in Article V, Chapter 23 of the Kennedale City Code.

SECTION 2.

Sections 23-258, 23-261, 23-262, 23-263, 23-292, 23-293, 23-312, and 23-313 of the Kennedale City Code are hereby amended to read as follows:

Sec. 23-258. Land use assumptions.

Land use assumptions used in the development of impact fees are hereby adopted as shown in Exhibit A to Ordinance No. 604. These assumptions may be revised by the City Council according to the procedures set forth in Local Government Code Chapter 395.

Sec. 23-261. Impact fees per service unit.

(a) The assessed impact fee per service unit is computed by subtracting fifty percent (50%) of the total projected cost of implementing the capital improvement plans from the capital construction cost in the Capital Improvement Plans for that category of capital improvements, and dividing that amount by the total number of projected service units anticipated within the service area which are necessitated by and attributable to new development, based on the land use assumptions for that service area. The assessed impact fees per service unit established by category of capital improvements are set forth in Exhibit B, attached to Ordinance No. 604.

(b) The assessed impact fees in Exhibit B, attached to Ordinance No. 604 may be amended by the City Council according to the procedures set forth in Local Government Code Chapter 395.

Sec. 23-262. Assessment of impact fees.

(a) The approval of any subdivision of land for any new development shall include as a condition the assessment of the impact fees applicable to such development.

(b) Impact fees for any new development shall be based upon the impact fee per service unit set forth in the Schedule of Assessed and Collected Impact Fees in effect at the time of assessment, and shall be assessed as follows:

- (1) For a new development which has received final plat approval prior to the effective date of this article and for which no replatting is necessary prior to water or wastewater tap purchase, assessment shall be upon the effective date of this article.
- (2) For a new development which is final platted pursuant to the City's subdivision regulations following the effective date of this article, assessment shall be at the time of final plat recordation.

As shown in the Schedule of Assessed and Collected Impact Fees, fees imposed by the City's wholesale water provider (s) shall also be assessed on new development.

(c) Because fire protection is of critical concern to the community as a whole, water demand related solely to fire protection is not subject to assessment of an impact fee. However, if the fire protection capacity of the fire demand meter is routinely utilized for regular residential, commercial, or industrial purposes as evidenced by the record of consumption recorded on the City's meter-reading and billing systems, the then current impact fee should be assessed and collected from the current owner of the property for routine usage as domestic capacity.

(d) Following assessment of the impact fees pursuant to subsection (b) of this section, no additional impact fees or increases thereof shall be assessed against that development unless the number of service units increases.

(e) Following the lapse or expiration of approval for a plat, a new assessment must be performed at the time a new application for such development is filed.

Sec. 23-263. Calculation of impact fees.

(a) Following a request for a building permit or tap purchase for new development, the City Manager shall compute impact fees due for the new development in the following manner:

- (1) The number of service units shall be determined by the category of service and size of water meter, or as otherwise determined by the City Manager as provided in subsection (b) of Section 23-260; and
- (2) The total service units shall be multiplied by the appropriate per-unit fee amount determined as set forth in Section 23-261.

(b) The total amount of each impact fee due for a new development shall not exceed the amounts shown in Exhibit B, attached to Ordinance No. 604.

(c) Separate impact fees shall be calculated for water and wastewater services.

(d) When a water service or wastewater service is sized up to meet the demand of new development, the impact fee shall be calculated based upon the difference between the assessed fee for the new larger sized water meter and the assessed fee for the size of the existing meter. Notwithstanding the above, for a single family residential property which is an active customer of the water or wastewater utilities and which purchases a larger water meter, no new water or wastewater impact fee shall be charged.

Sec. 23-292. Water Improvement Plan.

(a) The water Improvement Plan for the City is hereby adopted as Exhibit C, attached to Ordinance No. 604.

(b) The Water Improvement Plan may be amended from time to time, pursuant to the procedures set forth in Local Government Code Chapter 395.

Sec. 23-293. Water impact fees.

(a) The impact fees per service unit for water facilities are hereby adopted and incorporated in Exhibit B, attached to Ordinance No. 604.

(b) The impact fees per service unit for water facilities may be amended from time to time, pursuant to the procedures in section 23-260.

**SECTION 3.
CUMULATIVE CLAUSE**

This ordinance shall be cumulative of all provisions of ordinances of the City of Kennedale, Texas, except where the provisions of this Ordinance are in direct conflict with the provisions of such ordinances, in which event the conflicting provisions of such ordinances are hereby repealed. Ordinance No. 1, as amended by Ordinance Nos. 138, 159, 230, and 370 shall remain applicable to the assessment and collection of impact fees on properties that are not subject to the assessment and collection of impact fees under this Ordinance.

**SECTION 4.
SEVERABILITY CLAUSE**

It is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs and sections of this Ordinance are severable, and if any phrase, clause, sentence, paragraph or section of this Ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs and sections of this Ordinance, since the same shall have been enacted by the City Council without the incorporation in this Ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

**SECTION 5.
EFFECTIVE DATE**

This Ordinance shall be in full force and effect from and after its passage, and it is so ordained.

PASSED AN APPROVED ON THIS 15th DAY OF AUGUST, 2016.

APPROVE:

Mayor, Brian Johnson

ATTEST:

City Secretary, Leslie Galloway

APPROVED AS TO FORM AND LEGALITY

City Attorney, Wayne K. Olson

EXHIBIT "A"

LAND USE ASSUMPTIONS

SUMMARY

- From the 2012 Comprehensive Plan, approximately 59 percent of the total land within the city limits is developed, with approximately 28 percent of land within the city limits being vacant and available for future development, where infrastructure and topography permit. Approximately 13 percent of the land in Kennedale is undevelopable as either right-of-way, utility easements, parks/open space or other undevelopable land types.
- The existing 2016 population for Kennedale is approximately 8,384 persons, with an existing estimated employment of 4,521 jobs.
- An average annual growth rate of 4.80 percent was used to calculate the Kennedale ten-year growth projections. This growth rate is based upon approved data from the 2014 Water and Wastewater Master Plan, NCTCOG Population Estimates, as well as historical U.S. Census data, and was approved by the CIAC on November 16, 2015.
- The ten-year (2026) population growth projection for Kennedale is 13,399 persons, an increase of 5,015 persons. Employment is projected to increase by 2,233 to a total of 6,754 jobs by 2026 with a compound annual growth rate of 4.10%.
- The ultimate population of Kennedale is expected to be approximately 16,459 persons, per the 2014 Water and Wastewater Master Plan.
- A summary of the 2016 and 2026 demographics broken down by roadway service areas can be found below

	2016	2026	Total Increase	Percent Total Growth	Annual Growth Rate
Population					
Kennedale Total	8,384	13,399	5,015	59.82%	4.80%
Service Area 1	8,384	13,399	5,015	59.82%	4.80%
Employment					
Kennedale Total	4,521	6,754	2,233	49.39%	4.10%
Service Area 1	4,521	6,754	2,233	49.39%	4.10%
Basic	1,438	1,959	521	36.23%	3.14%
Retail	847	1,182	335	39.55%	3.39%
Service	2,236	3,613	1,377	61.58%	4.92%

EXHIBIT B

SCHEDULE OF ASSESSED AND COLLECTED IMPACT FEES

The assessed impact fees per LUE are as follows:

- Water: \$1,487, plus impact fees imposed by the City's wholesale service provider(s)
- Wastewater: \$1,080, plus impact fees imposed by the City's wholesale service provider(s), plus prorata share of localized lift stations and associated force mains required by the new development

The actual amount of impact fees to be collected per LUE shall be as follows:

- Water: \$1,487, plus impact fees imposed by the City's wholesale service provider(s)
- Wastewater: \$1,080, plus impact fees imposed by the City's wholesale service provider(s), plus prorata share of localized lift stations and associated force mains required. by the new development

EXHIBIT B

ASSESSED IMPACT FEES FOR VARIOUS WATER METER SIZES

METER SIZE	MULTIPLIER	MAXIMUM IMPACT FEE		
		WATER	SEWER	BOTH
3/4"	1.00	\$1,487	\$1,080	\$2,567
1"	1.67	\$2,478	\$1,800	\$4,278
1-1/2"	3.33	\$4,957	\$3,600	\$8,557
2"	5.33	\$7,931	\$5,760	\$13,691
3"	11.67	\$17,348	\$12,600	\$29,948
4"	20.00	\$29,740	\$21,600	\$51,340
6"	41.67	\$61,958	\$45,000	\$106,958
8"	60.00	\$89,220	\$64,800	\$154,020
10"	96.67	\$143,743	\$104,400	\$248,143

*The assessed impact fee per service unit is computed by subtracting fifty percent (50%) of the total projected cost of implementing the Capital Improvement Plans from the capital construction cost in the Capital Improvement Plans for that category of capital improvements, and dividing that amount by the total number of projected service units anticipated within the service area which are necessitated by and attributable to new development, based on the land use assumptions for that service area.

EXHIBIT B

COLLECTED IMPACT FEES FOR VARIOUS WATER METER SIZES

METER SIZE	MULTIPLIER	COLLECTED IMPACT FEE		
		WATER	SEWER	BOTH
3/4"	1.00	\$1,487	\$1,080	\$2,567
1"	1.67	\$2,478	\$1,800	\$4,278
1-1/2"	3.33	\$4,957	\$3,600	\$8,557
2"	5.33	\$7,931	\$5,760	\$13,691
3"	11.67	\$17,348	\$12,600	\$29,948
4"	20.00	\$29,740	\$21,600	\$51,340
6"	41.67	\$61,958	\$45,000	\$106,958
8"	60.00	\$89,220	\$64,800	\$154,020
10"	96.67	\$143,743	\$104,400	\$248,143

EXHIBIT C

WATER IMPROVEMENT PLAN

WATER SYSTEM IMPACT FEE ELIGIBLE PROJECTS

Proj. No.	Description of Project	Percent Utilization			Capital Cost	Costs Based on 2016 Dollars		
		2016*	2026	2016-2026		Current Development	10-Year (2016-2026)	Beyond 2026
EXISTING								
A	16" B Water Line	55%	80%	25%	\$689,271	\$379,099	\$172,318	\$137,854
B	Bowman Springs 12" Water Line	5%	45%	40%	\$303,243	\$15,162	\$121,297	\$166,784
C	Swiney Hiett Road Water Line	20%	55%	35%	\$18,477	\$3,695	\$6,467	\$8,314
D	2014 Water/Wastewater Master Plan (Water Portion)	10%	60%	50%	\$49,874	\$4,987	\$24,937	\$19,950
E	2016 Impact Fee Study (Water Portion)	0%	100%	100%	\$32,340	\$0	\$32,340	\$0
PROPOSED								
1	12-inch Water Line South of Interstate 20	10%	40%	30%	\$438,830	\$43,883	\$131,649	\$263,298
2	0.75 MG Ground Storage Tank	47%	100%	53%	\$1,343,430	\$631,412	\$712,018	\$0
3	16-inch Water Line along Eden Road	0%	45%	45%	\$495,420	\$0	\$222,939	\$272,481
4	12-inch Water Lines from Pump Station 3	0%	80%	80%	\$409,650	\$0	\$327,720	\$81,930
5	12-inch Water Line along Dick Price Road	30%	65%	35%	\$319,880	\$95,964	\$111,958	\$111,958
6	12-inch Water Line between Dick Price Road and New Hope Road	0%	40%	40%	\$767,460	\$0	\$306,984	\$460,476
7	12-inch Water Line along US 287 Business and Hudson Road	0%	75%	75%	\$1,235,930	\$0	\$926,948	\$308,983
8	12-inch Water Line between Swiney Hiett Road and Trinity Well #4	45%	70%	25%	\$1,320,480	\$594,216	\$330,120	\$396,144
9	12-inch Water Line along New Hope Road	20%	50%	30%	\$390,190	\$78,038	\$117,057	\$195,095
Total Water Capital Improvements Cost					\$7,814,475	\$1,846,457	\$3,544,751	\$2,423,267

* Utilization in 2016 on Proposed Projects indicates a portion of the project that will be used to address deficiencies within the existing system, and therefore are not eligible for impact fee cost recovery for future growth.

WATER CAPITAL IMPROVEMENTS PLAN

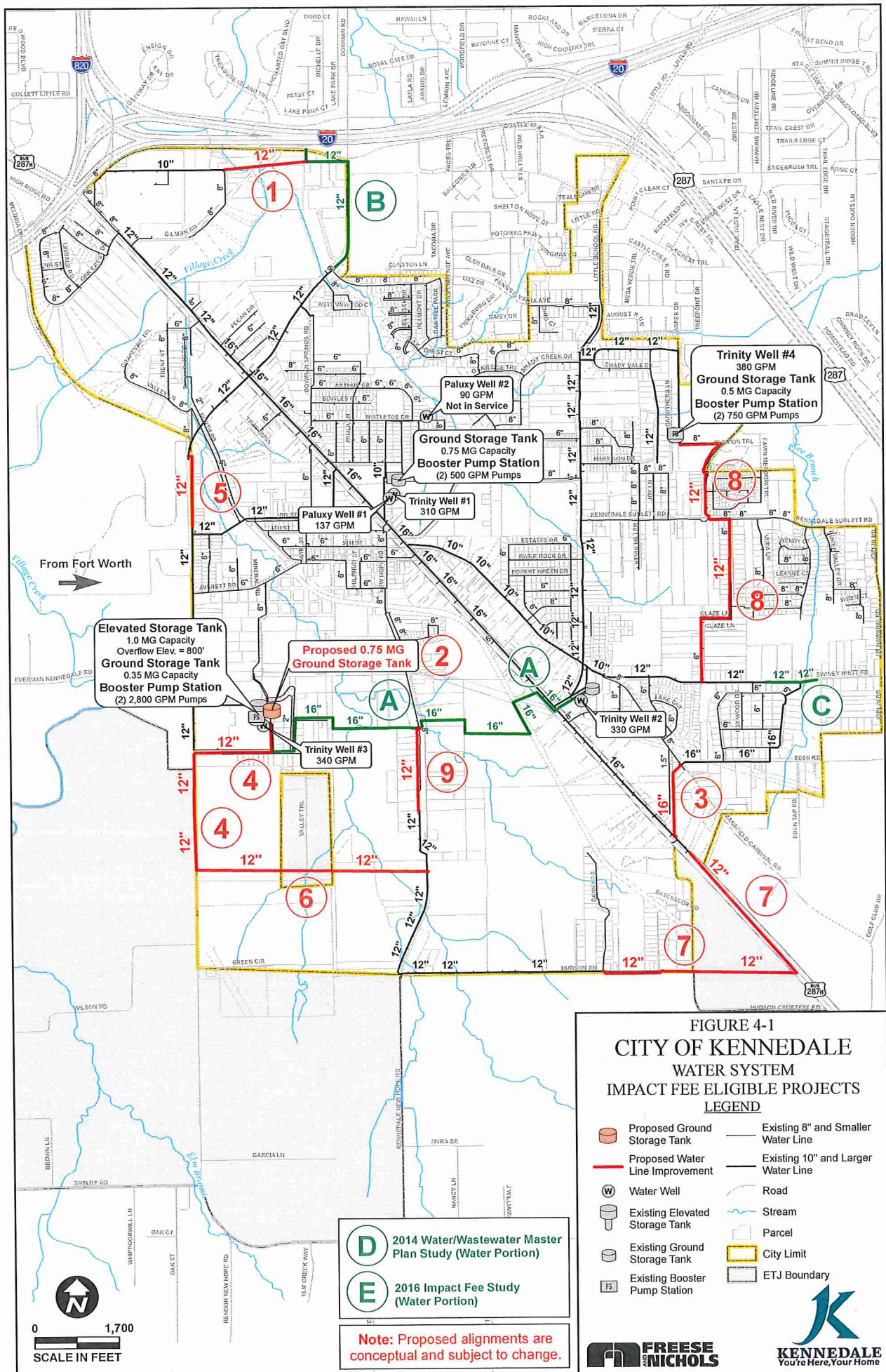


EXHIBIT C

CURRENT AND PROJECTED METER COUNT AND SERVICE UNIT EQUIVALENTS

METER SIZE	EXISTING METERS	EXISTING SUES	2026 METERS	2026 SUES	10-YEAR GROWTH IN SUES
3/4"	2,414	2,414	3,858	3,858	1,444
1"	240	400	253	422	22
1 1/2"	17	57	22	73	17
2"	36	192	38	203	11
3"	5	58	5	58	0
4"	4	80	4	80	0
6"	0	0	0	0	0
8"	0	0	0	0	0
10"	0	0	0	0	0
Total	2,716	3,201	4,012	4,506	1,493

WATER MAXIMUM IMPACT FEE CALCULATION

The total eligible cost associated with the existing and proposed water system improvements with financing costs to meet projected growth over the next ten years is \$4,441,608. Debt service was included only for the proposed impact fee eligible projects. The increase in the number of service units due to growth over the next ten years is projected as 1,493 service units. The state mandated 50% credit lowers the maximum water impact fee from \$2,975 per service unit to \$1,487 per service unit.

Total Eligible Capital Improvement Costs	= \$4,441,608
Growth in Service Units	= 1,493
Maximum Water Impact Fee	= Total Eligible Costs / Growth in Service Units
	= \$4,441,608 / 1,493
	= \$2,975 per Service Unit
Maximum Allowable Water Impact Fee	= Maximum Impact Fee – Credit (50%)
	= \$2,975 – \$1,488
	= \$1,487 per Service Unit

EXHIBIT D

WASTEWATER IMPROVEMENT PLAN

**WASTEWATER SYSTEM IMPACT FEE ELIGIBLE
PROJECTS**

Proj. No.	Description of Project	Percent Utilization			Capital Cost	Costs Based on 2016 Dollars		
		2016*	2026	2016- 2026		Current Development	10-Year (2016- 2026)	Beyond 2026
EXISTING								
A	2014 Water/Wastewater Master Plan (Wastewater Portion)	10%	60%	50%	\$49,874	\$4,987	\$24,937	\$19,950
B	2016 Impact Fee Study (Wastewater Portion)	0%	100%	100%	\$32,340	\$0	\$32,340	\$0
PROPOSED								
1	15/18-inch Interceptor along North Road and Dick Price Road	25%	70%	45%	\$1,442,480	\$360,620	\$649,116	\$432,744
2	21-inch Interceptor in Basin C-1	40%	80%	40%	\$846,690	\$338,676	\$338,676	\$169,338
3	15-inch Interceptor in Basin C	40%	70%	30%	\$692,210	\$276,884	\$207,663	\$207,663
4	8-inch Line along Dick Price Road	30%	70%	40%	\$601,200	\$180,360	\$240,480	\$180,360
5	10/12-inch Lines in Basin B-2	0%	40%	40%	\$985,990	\$0	\$394,396	\$591,594
6	10-inch Line in Western Basin B-2	0%	35%	35%	\$426,950	\$0	\$149,433	\$277,518
7	10-inch Line in Southern Basin B-2	0%	65%	65%	\$318,000	\$0	\$206,700	\$111,300
8	6-inch Line in Basin B-1	0%	60%	60%	\$213,890	\$0	\$128,334	\$85,556
9	6-inch Line along Kennedale Parkway	0%	65%	65%	\$244,450	\$0	\$158,893	\$85,558
Total Wastewater Capital Improvements Cost					\$5,854,074	\$1,161,527	\$2,530,967	\$2,161,580

* Utilization in 2016 on Proposed Projects indicates a portion of the project that will be used to address deficiencies within the existing system, and therefore are not eligible for impact fee cost recovery for future growth.

WASTEWATER CAPITAL IMPROVEMENTS PLAN

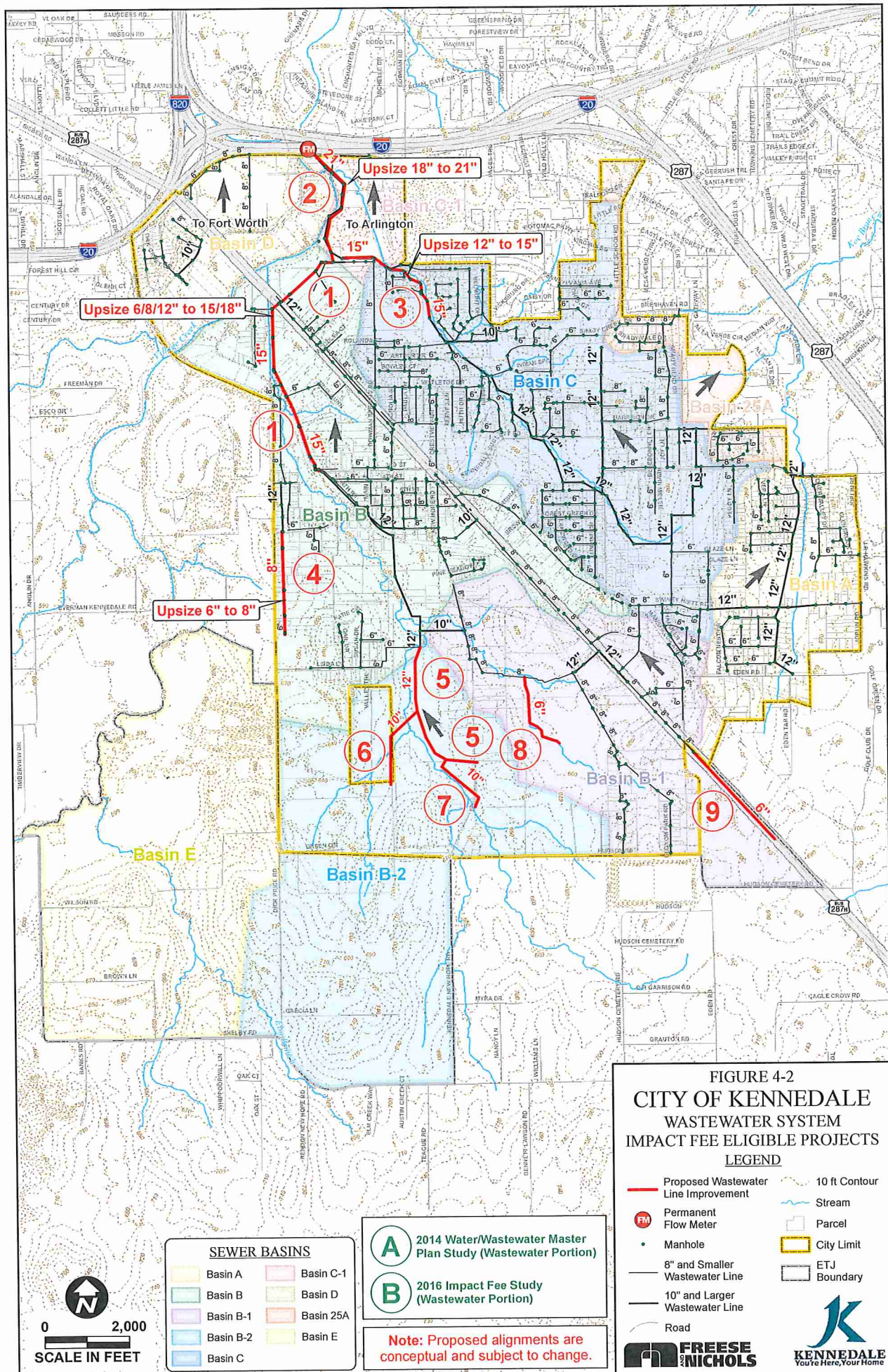


EXHIBIT D

CURRENT AND PROJECTED METER COUNT AND SERVICE UNIT EQUIVALENTS

METER SIZE	EXISTING METERS	EXISTING SUES	2026 METERS	2026 SUES	10-YEAR GROWTH IN SUES
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3"	5	58	5	58	0
4"	4	80	4	80	0
6"	0	0	0	0	0
8"	0	0	0	0	0
10"	0	0	0	0	0
Total	2,716	3,201	4,012	4,506	1,493

WASTEWATER MAXIMUM IMPACT FEE CALCULATION

The total eligible cost associated with the existing and proposed wastewater system improvements to meet projected growth over the next ten years is \$3,227,005. Debt service was included only for the proposed impact fee eligible projects. The increase in the number of service units due to growth over the next ten years is projected as 1,493 service units. The state mandated 50% credit lowers the maximum wastewater impact fee from \$2,161 per service unit to \$1,080 per service unit.

Total Eligible Capital Improvement Costs	= \$3,227,005
Growth in Service Units	= 1,493
Maximum Wastewater Impact Fee	= Total Eligible Costs/Growth in Service Units
	= \$3,227,005 / 1,493
	= \$2,161 per Service Unit
Maximum Allowable Wastewater Impact Fee	= Maximum Impact Fee – Credit (50%)
	= \$2,161 – \$1,081
	= \$1,080 per Service Unit

Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: DECISION ITEMS - D.

I. Subject:

Consider approval of Ordinance 606 adopting the roadway impact fees

II. Originated by:

Bob Hart

III. Summary:

Texas cities are required to update their impact fees every five years (with some exceptions), and it's now time for the City of Kennedale to update its fees. The update process includes analyzing land use assumptions and future capital improvement projects. The City convened an advisory committee, and that committee's recommendation has been forwarded to you. The proposed fees are based on committee's recommendation.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

Approve

VII. Alternative Actions:

VIII. Attachments:

1.	Capital Improvements Advisory Committee Recommendation Letter	CIAC Recommendation-Impact Fee.pdf
2.	Draft Ordinance 606	O606.pdf

Capital Improvements Advisory Committee
City of Kennedale, Texas

June 23, 2016

The Honorable Brian Johnson
City of Kennedale Texas
405 Municipal Drive
Kennedale, TX 76060

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Sincerely,



Ernest Harvey
Chair

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cc: Bob Hart, City Manager
Rachel Roberts, Community Development Director and City Planner
Larry Ledbetter, Director of Public Works

ORDINANCE NO. 606

AN ORDINANCE AMENDING ARTICLE II, ROADWAY IMPACT FEES, OF CHAPTER 20, STREETS AND SIDEWALKS, OF THE KENNEDALE CITY CODE (1992), AS AMENDED BY REVISING ROADWAY IMPACT FEES ON NEW LAND DEVELOPMENT OR REDEVELOPMENT IN THE CITY LIMITS OF THE CITY OF KENNEDALE, TEXAS; UPDATING LAND USE ASSUMPTIONS AND CAPITAL IMPROVEMENT PLANS; PROVIDING FOR THE ASSESSMENT AND COLLECTION OF IMPACT FEES; PROVIDING THAT THIS ORDINANCE SHALL BE CUMCLATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Kennedale currently provides public roadway facilities that serve land within its City limits; and

WHEREAS, the City is committed to providing public roadway facilities and minimum levels of service by utilizing funds allocated in the capital budget and capital improvements programming processes and relying upon the funding sources indicated therein; and

WHEREAS, the City Council has determined that new residential and nonresidential development causes and imposes increased and excessive demands upon City facilities and services, including roadway facilities that would not otherwise occur; and

WHEREAS, planning and zoning projections indicate that such development will continue and will place ever-increasing demands on the City to provide necessary public facilities; and

WHEREAS, to the extent that such new development places demands upon the public facility infrastructure, the City Council has determined that those demands should be satisfied by shafting the responsibility for financing the provision of such facilities from the public at large to the developments actually creating the demands for them; and

WHEREAS, in accordance with state law, the City Council has previously adopted impact fees to finance new development demands for roadway facilities; and

WHEREAS, the amount of the impact fees to be imposed is determined by the projections set forth in Land Use Assumptions and the cost of the additional public facilities needed to support such development, which public facilities are identified in Capital Improvement Plans; and

WHEREAS, in accordance with the notice, adoption, promulgation and methodology required by Chapter 395 of the Texas Local Government Code, the Capital Improvements Advisory Committee and the City Council have reviewed the Land Use Assumptions and Capital Improvement Plans previously adopted and the technical reports, as prepared as part of the updates and have determined that these documents and the previously adopted impact fees should be updated; and

WHEREAS, the City Council now desires to update and amend the previously adopted Land Use Assumptions, Capital Improvement Plans and the roadway impact fees in accordance with state law.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF KENNEDALE, TEXAS, THAT:

SECTION 1.

Exhibit A, "Land Use Assumptions," Exhibit B, "Schedule of Assessed and Collected Impact Fees," and Exhibit C, "Roadway Improvement Plan" attached hereto are hereby adopted and shall replace Exhibits B, C, and D, attached to Ordinance No. 371 adopted July 12, 2007, codified in Article II, Chapter 20 of the Kennedale City Code.

SECTION 2.

Sections 20-28, 20-30, 20-31, 20-32, 20-33, 20-52, and 20-53 of the Kennedale City Code are hereby amended to read as follows:

Sec. 20-28. Land use assumptions.

Land use assumptions used in the development of roadway impact fees are hereby adopted as shown in Exhibit A to Ordinance No. 606. These assumptions may be revised by the city council according to the procedures set forth in V.T.C.A., Local Government Code Chapter 395.

Sec. 20-30. Service units.

(a) Service units are established in accordance with generally accepted engineering and planning standards.

(b) Service units utilized for calculation of roadway impact fees shall be as set forth in Exhibit B attached to Ordinance No. 606.

(c) The city council may revise the calculation of service units according to the procedures set forth in V.T.C.A., Local Government Code Chapter 395.

Sec. 20-31. Impact fees per service unit.

(a) The assessed impact fee per service unit is computed by subtracting fifty (50) percent of the total projected cost of implementing the capital improvement plans from the capital construction cost in the capital improvement plans for that category of capital improvements, and dividing that amount by the total number of projected service units anticipated within the service area which are necessitated by and attributable to new development, based on the land use assumptions for that service area. The assessed roadway impact fees per service unit are set forth in Exhibit B, attached to Ordinance No. 606.

(b) The assessed impact fees in Exhibit C, attached to Ordinance No. 606 may be amended by the City Council according to the procedures set forth in V.T.C.A., Local Government Code Chapter 395.

Sec. 20-32. Assessment of impact fees.

(a) The approval of any subdivision of land for any new development shall include as a condition the assessment of the impact fees applicable to such development.

(b) Impact fees for any new development shall be based upon the impact fee per service unit set forth in the Schedule of Assessed and Collected Impact Fees in effect at the time of assessment, and shall be assessed as follows:

- (1) For a new development which was final platted pursuant to the city's subdivision regulations before adoption of Ordinance No. 235 on May 9, 2002, assessment shall be the maximum impact fee adopted in Ordinance No. 235.
- (2) For a new development which has received final plat approval pursuant to the city's subdivision regulations after the adoption of Ordinance No. 235 on May 9, 2002, assessment shall be the maximum impact fee in effect on the date of the final plat recordation.
- (3) For a new development which was final platted pursuant to the city's subdivision regulations before adoption of Ordinance No. 371 on July 12, 2007, assessment shall be the maximum impact fee adopted in Ordinance No. 371.
- (4) For a new development which has received final plat approval pursuant to the city's subdivision regulations after the adoption of Ordinance No. 371 on July 12, 2007, assessment shall be the maximum impact fee in effect on the date of the final plat recordation.

(c) Following assessment of the impact fees pursuant to subsection (b) of this section, no additional impact fees or increases thereof shall be assessed against that development unless the number of service units increases.

(d) Following the lapse or expiration of approval for a plat, a new assessment must be performed at the time a new plat for such development is filed.

Sec. 20-33. Calculation of impact fees.

(a) Following a request for a building permit or tap purchase for new development, the city manager shall compute impact fees due for the new development in the following manner:

- (1) The number of service units shall be determined as set forth in Exhibit B, attached to Ordinance No. 606; and
- (2) The total service units shall be multiplied by the appropriate per-unit fee amount determined as set forth in section 20-31.

(b) The total amount of each impact fee due for a new development shall not exceed the amounts shown in Exhibit B, attached to Ordinance No. 606.

(c) Separate impact fees shall be calculated for water, wastewater, and roadway facilities.

Sec. 20-52. Roadway improvement plan.

(a) The roadway improvement plan for the city is hereby adopted as Exhibit C, attached to Ordinance No. 606.

(b) The roadway improvement plan may be amended from time to time, pursuant to the procedures set forth in V.T.C.A., Local Government Code Chapter 395 and its successors.

Sec. 20-53. Roadway impact fees.

(a) The maximum impact fee values per service unit for roadway facilities are hereby adopted and incorporated in Exhibit B, attached to Ordinance No. 606.

(b) The maximum impact fee values per service unit for roadway facilities may be amended from time to time, pursuant to the procedures in section 20-30.

**SECTION 3.
CUMULATIVE CLAUSE**

This ordinance shall be cumulative of all provisions of ordinances of the City of Kennedale, Texas, except where the provisions of this Ordinance are in direct conflict with the provisions of such ordinances, in which event the conflicting provisions of such ordinances are hereby repealed. Ordinance No. 1, as amended by Ordinance Nos. 138, 159, and 371 shall remain applicable to the assessment and collection of impact fees on properties that are not subject to the assessment and collection of impact fees under this Ordinance.

**SECTION 4.
SEVERABILITY CLAUSE**

It is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs and sections of this Ordinance are severable, and if any phrase, clause, sentence, paragraph or section of this Ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs and sections of this Ordinance, since the same shall have been enacted by the City Council without the incorporation in this Ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

**SECTION 5.
EFFECTIVE DATE**

This Ordinance shall be in full force and effect from and after its passage, and it is so ordained.

PASSED AN APPROVED ON THIS 15th DAY OF AUGUST, 2016.

APPROVE:

Mayor, Brian Johnson

ATTEST:

City Secretary, Leslie Galloway

APPROVED AS TO FORM AND LEGALITY

City Attorney, Wayne K. Olson

EXHIBIT "A"

LAND USE ASSUMPTIONS

SUMMARY

- From the 2012 Comprehensive Plan, approximately 59 percent of the total land within the city limits is developed, with approximately 28 percent of land within the city limits being vacant and available for future development, where infrastructure and topography permit. Approximately 13 percent of the land in Kennedale is undevelopable as either right-of-way, utility easements, parks/open space or other undevelopable land types.
- The existing 2016 population for Kennedale is approximately 8,384 persons, with an existing estimated employment of 4,521 jobs.
- An average annual growth rate of 4.80 percent was used to calculate the Kennedale ten-year growth projections. This growth rate is based upon approved data from the 2014 Water and Wastewater Master Plan, NCTCOG Population Estimates, as well as historical U.S. Census data, and was approved by the CIAC on November 16, 2015.
- The ten-year (2026) population growth projection for Kennedale is 13,399 persons, an increase of 5,015 persons. Employment is projected to increase by 2,233 to a total of 6,754 jobs by 2026 with a compound annual growth rate of 4.10%.
- The ultimate population of Kennedale is expected to be approximately 16,459 persons, per the 2014 Water and Wastewater Master Plan.
- A summary of the 2016 and 2026 demographics broken down by roadway service areas can be found below

	2016	2026	Total Increase	Percent Total Growth	Annual Growth Rate
Population					
Kennedale Total	8,384	13,399	5,015	59.82%	4.80%
Service Area 1	8,384	13,399	5,015	59.82%	4.80%
Employment					
Kennedale Total	4,521	6,754	2,233	49.39%	4.10%
Service Area 1	4,521	6,754	2,233	49.39%	4.10%
Basic	1,438	1,959	521	36.23%	3.14%
Retail	847	1,182	335	39.55%	3.39%
Service	2,236	3,613	1,377	61.58%	4.92%

EXHIBIT B

SCHEDULE OF ASSESSED AND COLLECTED IMPACT FEES

The assessed roadway impact fee per LUE is \$1,269.

The actual amount of impact fee to be collected per LUE is as follows:

Land Use Category	Actual Impact Fee Collection Rate per LUE
Residential	\$1,269.00
Office	\$634.50
Retail / Commercial	\$888.30
Industrial	\$888.30
Institutional	\$420.00

Exhibit B

ASSESSED AND COLLECTED ROADWAY IMPACT FEES FOR VARIOUS LAND USES

ITE Land Use	ITE Code	Dev. Unit	Veh-Mi Per Dev Unit	Max Impact Fee per Unit	Collected Impact Fee per Unit
Residential					
Single-Family Detached Housing	210	DU	1.81	\$ 2,296.89	\$ 2,296.89
Apartment	220	DU	1.12	\$ 1,422.30	\$ 1,422.30
Residential Condominium / Townhouse	230	DU	0.94	\$ 1,192.90	\$ 1,192.90
Senior Adult Housing - Detached	251	DU	0.38	\$ 482.68	\$ 482.68
Continuing Care Retirement Community	255	DU	0.23	\$ 286.03	\$ 286.03
Others Not Specified		DU	1.81	\$ 2,294.03	\$ 2,294.03
Office					
General Office	710	1000 sq. ft.	2.69	\$ 3,418.11	\$ 1,709.06
Corporate Headquarters Bldg	714	1000 sq. ft.	2.93	\$ 3,719.93	\$ 1,859.97
Medical-Dental Office	720	1000 sq. ft.	5.84	\$ 7,407.18	\$ 3,703.59
U.S. Post Office	732	1000 sq. ft.	15.73	\$ 19,958.37	\$ 9,979.18
Research and Development Center	760	1000 sq. ft.	2.22	\$ 2,822.93	\$ 1,411.46
Business Park	770	1000 sq. ft.	2.62	\$ 3,324.20	\$ 1,662.10
Others Not Specified		1000 sq. ft.	2.69	\$ 3,418.11	\$ 1,709.06
Retail / Commercial					
Hotel	310	Rooms	0.44	\$ 552.97	\$ 387.08
Movie Theater with Matinee	444	Screens	9.93	\$ 12,595.45	\$ 8,816.81
Building Materials and Lumber Store	812	1000 sq. ft.	0.95	\$ 1,204.02	\$ 842.81
Free standing Discount Superstore	813	1000 sq. ft.	2.08	\$ 2,643.05	\$ 1,850.13
Specialty Retail Center	814	1000 sq. ft.	3.70	\$ 4,695.11	\$ 3,286.58
Hardware/Paint Store	816	1000 sq. ft.	0.63	\$ 796.03	\$ 557.22
Garden Center	817	1000 sq. ft.	3.76	\$ 4,777.72	\$ 3,344.41
Nursery (Wholesale)	818	1000 sq. ft.	1.78	\$ 2,264.68	\$ 1,585.28
Shopping Center	820	1000 sq. ft.	1.07	\$ 1,357.78	\$ 950.45
Automobile Sales	841	1000 sq. ft.	1.23	\$ 1,560.49	\$ 1,092.34
Auto Parts Sales	843	1000 sq. ft.	1.06	\$ 1,343.94	\$ 940.76
Tire Store	848	1000 sq. ft.	1.86	\$ 2,354.16	\$ 1,647.91
Tire Superstore	849	1000 sq. ft.	0.94	\$ 1,196.94	\$ 837.86
Super market	850	1000 sq. ft.	0.91	\$ 1,155.00	\$ 808.50
Convenience Market with Gasoline Pumps	853	1000 sq. ft.	1.76	\$ 2,239.00	\$ 1,567.30
Discount Club	857	1000 sq. ft.	1.68	\$ 2,135.03	\$ 1,494.52
Home Improvement Superstore	862	1000 sq. ft.	0.45	\$ 565.04	\$ 395.53
Electronic Superstore	863	1000 sq. ft.	0.83	\$ 1,052.30	\$ 736.61
Toy Superstore	864	1000 sq. ft.	3.75	\$ 4,765.06	\$ 3,335.54
Apparel Store	876	1000 sq. ft.	2.08	\$ 2,638.40	\$ 1,846.88
Arts and Crafts Store	879	1000 sq. ft.	2.50	\$ 3,171.90	\$ 2,220.33
Pharmacy with drive thru	881	1000 sq. ft.	0.99	\$ 1,254.44	\$ 878.10
Furniture Store	890	1000 sq. ft.	0.06	\$ 76.75	\$ 53.72
DVD/Video Rental Store	896	1000 sq. ft.	1.84	\$ 2,332.21	\$ 1,632.55
Bank with Drive Thru	912	1000 sq. ft.	2.91	\$ 3,687.56	\$ 2,581.29
Quality Restaurant	931	1000 sq. ft.	1.43	\$ 1,808.88	\$ 1,266.22
Restaurant	932	1000 sq. ft.	2.07	\$ 2,621.83	\$ 1,835.28
Fast food with drive thru	934	1000 sq. ft.	6.56	\$ 8,329.04	\$ 5,830.33
Quick Lubrication Vehicle Stop	941	Serving Positions	1.17	\$ 1,483.36	\$ 1,038.35
Automotive Care Center	942	1000 sq. ft.	2.45	\$ 3,107.94	\$ 2,175.56
Others Not Specified		1000 sq. ft.	1.07	\$ 1,357.78	\$ 950.45
Light Industrial					
General Light Industrial	110	1000 sq. ft.	1.69	\$ 2,143.36	\$ 1,500.35
Industrial Park	130	1000 sq. ft.	1.48	\$ 1,878.20	\$ 1,314.74
Manufacturing	140	1000 sq. ft.	1.31	\$ 1,666.54	\$ 1,166.58
Mini Warehouse (Self Storage)	151	1000 sq. ft.	0.29	\$ 366.07	\$ 256.25
Utilities	170	1000 sq. ft.	1.32	\$ 1,679.33	\$ 1,175.53
Others Not Specified		1000 sq. ft.	1.69	\$ 2,143.36	\$ 1,500.35
Institutional					
Private School (K-8)	534	Students	0.43	\$ 548.97	\$ 181.69
Church	560	1000 sq. ft.	0.28	\$ 354.21	\$ 117.23
Day Care Center	565	Students	0.23	\$ 295.00	\$ 97.64
Others Not Specified		1000 sq. ft.	0.28	\$ 354.21	\$ 117.23

*The assessed impact fee per service unit is computed by subtracting fifty percent (50%) of the total projected cost of implementing the Capital Improvement Plans from the capital construction cost in the Capital Improvement Plans for that category of capital improvements, and dividing that amount by the total number of projected service units anticipated within the service area which are necessitated by and attributable to new development, based on the land use assumptions for that service area.

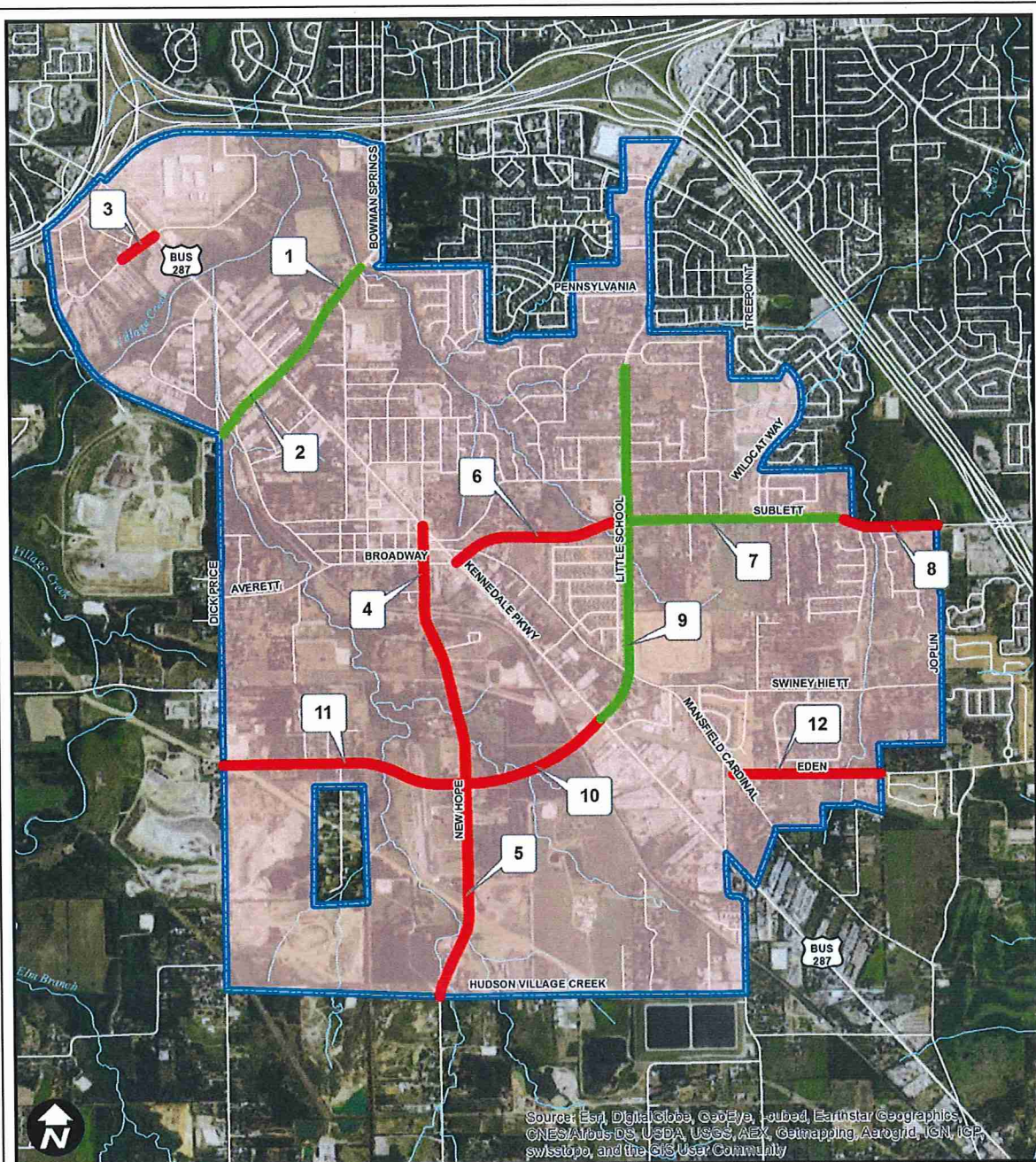
EXHIBIT C ROADWAY IMPROVEMENT PLAN ROADWAY CIP INVENTORY AND COSTING

2016 Kennebale Roadway Impact Fee Study Update Roadway Capital Improvements Plan

CIP Proj Number	Roadway	From	To	Length (mi)	No. of Rdwy. Lanes	Type	Lane Capacity	Pct. In Serv. Area	Project Status	Roadway Costs			Project Cost	Study Update Cost	Serv Area Total Cost
										Engineering	ROW	Construction			
1	Bowman Springs Rd	City Limit	Bus. US 287	0.49	5	SA	675	100%	R	\$352,335	\$364,722	\$1,489,727	\$3,199,838	\$6,252	\$3,206,090
2	Dick Price Rd	Bus. US 287	SP RR	0.31	2	DA	675	100%	R	\$111,838	\$211,544	\$472,869	\$1,154,564	\$1,985	\$1,156,549
3	Oak Crest Dr	W of Kennebale St	Kennebale Pkwy	0.14	2	UC	500	100%	N	\$21,618	\$45,288	\$216,180	\$416,136	\$668	\$416,804
4	New Hope Rd	Bus. US 287	S of SP RR	0.56	2	DC	525	100%	N	\$155,178	\$34,866	\$1,951,780	\$2,960,467	\$2,800	\$2,963,267
5	New Hope Rd	S of SP RR	Hudson Village	1.68	4	DA	675	100%	N	\$571,878	\$395,331	\$5,718,780	\$9,828,404	\$21,676	\$9,850,080
6	Sublett Rd	Bus. US 287	Little School Rd	0.66	4	DC	525	100%	N	\$158,862	\$357,000	\$1,588,620	\$3,093,589	\$6,633	\$3,100,222
7	Sublett Rd	Little School Rd	E of Vera Ln	0.77	2	DA	675	100%	R	\$514,534	\$327,970	\$1,669,378	\$3,642,228	\$4,971	\$3,647,199
8	Sublett Rd	E of Vera Ln	City Limit	0.37	2	DA	675	100%	N	\$65,946	\$39,372	\$659,460	\$1,172,734	\$2,351	\$1,175,085
9	Little School Rd	S of Parris/Manila Ave	Bus. US 287	1.31	2	DA	675	100%	R	\$724,897	\$431,190	\$2,520,438	\$5,330,961	\$3,422	\$5,334,383
10	Little School Rd	Bus. US 287	New Hope Rd	0.57	4	DA	675	100%	N	\$342,540	\$305,082	\$3,425,400	\$5,387,342	\$7,288	\$5,394,630
11	Little School Rd	New Hope Rd	Dick Price Rd	0.91	4	DA	675	100%	N	\$216,432	\$487,560	\$2,164,320	\$4,216,419	\$11,647	\$4,228,066
12	<u>Eden</u>				4	—			—						
	<u>Sub-total SA 1</u>			<u>6.86</u>						<u>\$3,355,032</u>	<u>\$3,057,035</u>	<u>\$22,666,692</u>	<u>\$42,561,949</u>	<u>\$80,000</u>	<u>\$42,641,949</u>
				<u>6.86</u>						<u>\$3,355,032</u>	<u>\$3,057,035</u>	<u>\$22,666,692</u>	<u>\$42,561,949</u>	<u>\$80,000</u>	<u>\$42,641,949</u>

Notes: ** Assumes two 5-year updates at \$40,000 each.
Debt service obligations assumed 4.0% compounded annually over 20 years.
Cost of engineering and surveying at 10% of construction costs.
Cost of needed ROW at \$1,705/acre (\$74,052/acre).

Totals:		
Totals:	Engineering Cost	\$3,355,032
	Right-of-Way Cost	\$3,057,035
	Construction Cost	\$22,666,692
	Finance Cost	\$13,483,189
	TOTAL NET COST	\$42,561,949
	Future Impact Fee Update Cost **	\$80,000
	TOTAL IMPLEMENTATION COST	\$42,541,949



CITY OF KENNEDALE **ROADWAY IMPACT FEE** **PROPOSED** **CAPITAL IMPROVEMENTS PLAN**

- LEGEND**
- Kennedale City Limit
 - Rdwy Service Area
 - IFCIP**
 - New
 - Recoup

Exhibit C

ESTIMATED 10-YEAR VEHICLE-MILE DEMAND GROWTH ROADWAYS

2016-2026 Vehicle-Mile Trip Generation, Kennedale Roadway Impact Fee Study 2016

Based on 2016 Land Use Assumptions by FNI, ITE 9th-Trip Gen., NCTCOG Avg. Trip Lengths.

Estimated Residential Growth Vehicle-Mile Trip Generation

Service Area	Added Dwelling Units	Vehicle-Miles per DU	Total Vehicle-Miles
1	1,791	1.81	3,238

	Trip Rate	Trip Length	Land Use Equivalency
SF Res	1.00	1.81	1.81
Basic Employ	0.97	1.74	1.69
Service Employ	1.49	1.81	2.69
Retail Employ	1.48	0.72	1.07

Estimated Basic Employment Growth Vehicle-Mile Generation

Service Area	Added Employees	Square Feet per emp.	Total Square Feet	Vehicle-Miles Per 1000/SF	Total Vehicle-Miles
1	521	1500	781,500	1.69	1,320

Estimated Service Employment Growth Vehicle-Mile Generation

Service Area	Added Employees	Square Feet per emp.	Total Square Feet	Vehicle-Miles Per 1000/SF	Total Vehicle-Miles
1	1,377	500	688,500	2.69	1,855

Estimated Retail Employment Growth Vehicle-Mile Generation

Service Area	Added Employees	Square Feet per emp.	Total Square Feet	Vehicle-Miles Per 1000/SF	Total Vehicle-Miles
1	335	1000	335,000	1.07	358

2016-2026 Vehicle-Mile Generation Summary

Service Area	Residential Growth Vehicle-Miles	Basic Growth Vehicle-Miles	Service Growth Vehicle-Miles	Retail Growth Vehicle-Miles	Total Growth Vehicle-Miles
Total	3,238	1,320	1,855	358	6,771

Exhibit C

DERIVATION OF MAXIMUM ROADWAY CAPITAL RECOVERY COSTS THROUGH 50% REDUCTION OF FEE

2016 Kennedale Roadway Impact Fee Study Update

Service Area Analysis Summary													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Service Area	Capacity Supplied by CIP (veh-mt)	Existing Utilization	Existing Deficiencies	Net Capacity Supplied by CIP	Total Project Cost of CIP	Project Cost of CIP with 50% Credit	Cost of Net Capacity Supplied	Cost to Meet Existing Utilization	Projected 10yr Demand (veh-miles)	Pct. of CIP Attributable to New Dev. (10-yr)	Cost Attributable to New Dev.	Fee per Service Unit @ 50% Discount	Maximum Fee Per SF Dwelling Unit *
1	16,789	2,257	0	14,532	\$42,641,949	\$21,320,974	\$18,454,990	\$2,865,985	6,771	46.6	\$8,598,113	\$1,269.00	\$2,294.03
Totals	16,789	2,257	0	14,532	\$42,641,949	\$21,320,974	\$18,454,990	\$2,865,985	6,771	46.6	\$8,598,113	\$1,269.00	\$2,294.03

* Based on service unit equivalency of 1.81 vehicles per development unit

1. TOTAL VEH-MI OF CAPACITY SUPPLIED BY CIP (TVMCAP)
2. TOTAL VEH-MI OF EXISTING DEMAND (VMEIXT)
NVMCAP = TVMCAP - VMEIXT - VMDEF
3. TOTAL COST OF CIP WITHIN STUDY AREA (TVMCOST)
4. TOTAL COST OF CIP IN SERVICE AREA W/50% CREDIT (TVMCOST)
5. COST OF NET CAPACITY SUPPLIED (NVMCAP) =
NVMCAP = (NVMCAP/TVMCAP)*TVMCOST
6. COST TO MEET EXISTING NEEDS AND USAGE (EXCOST) =
EXCOST = TVMCOST - NVMCAP

9. TOTAL VEH-MI OF NEW DEMAND OVER TEN YEARS (TNEWDEM)
10. PERCENT OF CIP ATTRIBUTABLE TO NEW DEVELOPMENT (NPONT) =
NPONT = EXCOST / TVMCOST
11. COST OF CIP ATTRIBUTABLE TO NEW DEVELOPMENT (NCVDEM) =
NCVDEM = (TNEWDEM / NVMCAP) * NVMCAP
12. MAXIMUM FEE PER SERVICE UNIT (50%) =
MAXFEE = NCVDEM / TNEWDEM
13. ACTUAL COST PER SERVICE UNIT (100%)
14. ASSOCIATED COST TO 1 SINGLE-FAMILY RESIDENTIAL UNIT

Exhibit C

ROADWAY LUE EQUIVALENCIES FOR VARIOUS LAND USES

ITE Land Use	ITE Code	Dev. Unit	Ave. Trip Rate w/ Deductions	Ave. Trip Length	Veh-Mi Per Dev Unit
Residential					
Single-Family Detached Housing	210	DU	1.00	1.81	1.81
Apartment	220	DU	0.62	1.81	1.12
Residential Condominium / Townhouse	230	DU	0.52	1.81	0.94
Senior Adult Housing - Detached	251	DU	0.27	1.41	0.38
Continuing Care Retirement Community	255	DU	0.16	1.41	0.23
Others Not Specified		DU	1.00	1.81	1.81
Office					
General Office	710	1000 sq. ft.	1.49	1.81	2.69
Corporate Headquarters Bldg	714	1000 sq. ft.	1.41	2.08	2.93
Medical-Dental Office	720	1000 sq. ft.	3.46	1.69	5.84
U.S. Post Office	732	1000 sq. ft.	11.22	1.40	15.73
Research and Development Center	760	1000 sq. ft.	1.07	2.08	2.22
Business Park	770	1000 sq. ft.	1.26	2.08	2.62
Others Not Specified		1000 sq. ft.	1.49	1.81	2.69
Retail / Commercial					
Hotel	310	Rooms	0.60	0.73	0.44
Movie Theater with Matinee	444	Screens	17.19	0.58	9.93
Building Materials and Lumber Store	812	1000 sq. ft.	3.37	0.28	0.95
Free standing Discount Superstore	813	1000 sq. ft.	3.13	0.67	2.08
Specialty Retail Center	814	1000 sq. ft.	6.82	0.54	3.70
Hardware/Paint Store	816	1000 sq. ft.	2.23	0.28	0.63
Garden Center	817	1000 sq. ft.	6.94	0.54	3.76
Nursery (Wholesale)	818	1000 sq. ft.	3.88	0.46	1.78
Shopping Center	820	1000 sq. ft.	1.48	0.72	1.07
Automobile Sales	841	1000 sq. ft.	1.57	0.78	1.23
Auto Parts Sales	843	1000 sq. ft.	2.63	0.40	1.06
Tire Store	848	1000 sq. ft.	2.57	0.72	1.86
Tire Superstore	849	1000 sq. ft.	1.31	0.72	0.94
Super market	850	1000 sq. ft.	2.48	0.37	0.91
Convenience Market with Gasoline Pumps	853	1000 sq. ft.	5.60	0.32	1.76
Discount Club	857	1000 sq. ft.	4.18	0.40	1.68
Home Improvement Superstore	862	1000 sq. ft.	0.65	0.68	0.45
Electronic Superstore	863	1000 sq. ft.	1.22	0.68	0.83
Toy Superstore	864	1000 sq. ft.	4.99	0.75	3.75
Apparel Store	876	1000 sq. ft.	3.83	0.54	2.08
Arts and Crafts Store	879	1000 sq. ft.	6.21	0.40	2.50
Pharmacy with drive thru	881	1000 sq. ft.	3.77	0.26	0.99
Furniture Store	890	1000 sq. ft.	0.07	0.84	0.06
DVD/Video Rental Store	896	1000 sq. ft.	3.67	0.50	1.84
Bank with Drive Thru	912	1000 sq. ft.	6.64	0.44	2.91
Quality Restaurant	931	1000 sq. ft.	2.17	0.66	1.43
Restaurant	932	1000 sq. ft.	3.11	0.67	2.07
Fast food with drive thru	934	1000 sq. ft.	8.72	0.75	6.56
Quick Lubrication Vehicle Stop	941	Serving Positions	2.34	0.50	1.17
Automotive Care Center	942	1000 sq. ft.	3.11	0.79	2.45
Others Not Specified		1000 sq. ft.	1.48	0.72	1.07
Light Industrial					
General Light Industrial	110	1000 sq. ft.	0.97	1.74	1.69
Industrial Park	130	1000 sq. ft.	0.85	1.74	1.48
Manufacturing	140	1000 sq. ft.	0.73	1.80	1.31
Mini Warehouse (Self Storage)	151	1000 sq. ft.	0.26	1.11	0.29
Utilities	170	1000 sq. ft.	0.76	1.74	1.32
Others Not Specified		1000 sq. ft.	0.97	1.74	1.69
Institutional					
Private School (K-8)	534	Students	0.60	0.72	0.43
Church	560	1000 sq. ft.	0.55	0.51	0.28
Day Care Center	565	Students	0.81	0.29	0.23
Others Not Specified		1000 sq. ft.	0.55	0.51	0.28



Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: DECISION ITEMS - E.

I. Subject:

Certification of Citizens Petition by City Secretary under Article XI of the City Charter; and Consideration and/or action regarding Citizens Petition under Article XI of the City Charter

II. Originated by:

III. Summary:

Communications Coordinator and City Secretary Leslie Galloway will provide the certification of the citizens petition to City Council.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:

1.	City Secretary's Certification Letter	CS Petition Certification.pdf
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STATE OF TEXAS §
COUNTY OF TARRANT §
CITY OF KENNEDALE §

CERTIFICATION OF CITY SECRETARY

I, Leslie Galloway, City Secretary of the City of Kennedale, Texas, do hereby certify that the attached Referendum Petition regarding Ordinance 589 (establishing a new water and wastewater rate structure), filed in my office Wednesday, July 6, 2016, by Allen Ray contained 708 signatures, of which at least 446 were verified as adequate, complete signatures, a sufficient number to repeal Ordinance 589 (adopted January 18, 2016). All signatures were verified using Tarrant County Election Records.

As stated, the number of signatures is sufficient; however, there is some question as to whether the petition meets other requirements set out in the City of Kennedale Home Rule Charter.

The City of Kennedale Home Rule Charter allows for Initiative, Referendum, or Recall Petitions to be filed, and sets out the following requirements for a petition of any type:

SECTION	REQUIREMENT	CONFORMS?
11.06	All papers for a petition shall be uniform in size and style	YES
	All pages that compose a petition shall be assembled and given to the City Secretary as one instrument with an attached affidavit	YES
	The affidavit attached to the petition shall be prepared by the person who files it, and shall bear the stated number of signatures, and a statement to the effect that all signatures appended to the petition are, in his belief, the genuine signatures of the persons whose names they purport to be	YES
	Names, addresses, and voter registration certificate numbers of the signers of such petitions shall be printed adjacent to their signatures	YES
11.07	Petitions for initiative, referendum, or recall shall be filed with the City Secretary	YES
	The petition has been signed by a sufficient number of qualified voters	YES
	The petition has a proper, attached affidavit of the person who filed it	YES
	The petition otherwise meets the procedures of this Charter and other laws	UNCLEAR

At the time of filing the attached petition was comprised of an Affidavit, a proposed Ordinance captioned "AN ORDINANCE OF THE CITY OF KENNEDALE, TEXAS, to repeal Ordinance No. 589, and to adopt a new Ordinance reducing the rates for water service and sanitary sewer service, giving the whole body of Citizens of Kennedale an opportunity to participate in the setting of rates AND PROVIDING AN EFFECTIVE DATE", and ninety-two (92) signature pages containing a total of 708 signatures.

In accordance with the City of Kennedale Charter, the number of signatures required for a Referendum Petition is twenty-five percent (25%) of the votes cast in the last regular municipal election, but not less than two-hundred-fifty (250) signatures. As there were 153 voters in the May 7, 2016, election, the required number of verified signatures is the minimum – two-hundred-fifty (250).

Though there are sufficient signatures, it is not clear which type of petition was filed. The Affidavit page and the wording on the signature pages state that it is a Referendum Petition. However, there was also an attached proposed ordinance (*calling for the repeal of Ordinance 589*), and the sections of the City of Kennedale Home Rule Charter that are referenced on the signature page (§11.01, 11.06, 11.07, 11.08, 11.09, 11.10, and 11.11) include the sections addressing Initiatives, but not Referendums. This is problematic because the Charter outlines different requirements for Referendum vs. Initiative Petitions. Furthermore, even if this were deemed an Initiative Petition, the proposed ordinance calls for repeal of Ordinance 589, making it, in effect, a Referendum Petition.

As it specifically states that it is a Referendum Petition on the Affidavit, I will begin there. **The Charter requirements for a Referendum Petition are:**

SECTION	REQUIREMENT	CONFORMS?
11.02	The qualified voters of the city shall have power to require reconsideration by the City Council of any adopted ordinance, excepting those ordinances relating to zoning, the appropriation of money , or the levy of taxes	UNCLEAR Depends on definition of "appropriation of money"
	Referendum Petitions must be filed with the City Secretary within sixty (60) days after the effective date of the ordinance that is the subject of the referendum (Ordinance 589; Adopted January 18, 2016; Effective January 29, 2016)	NO Must be filed by Tuesday, March 29, 2016

If, however, it is viewed as an Initiative Petition because it was presented with an attached proposed ordinance, a different set of criteria apply. **The Charter requirements for an Initiative Petition are:**

SECTION	REQUIREMENT	CONFORMS?
11.01	The qualified voters shall have the power to propose any ordinance, except an ordinance related to zoning, the appropriation of money , or the authorization of the levy of taxes or one repealing such an ordinance	UNCLEAR Depends on definition of "appropriation of money"

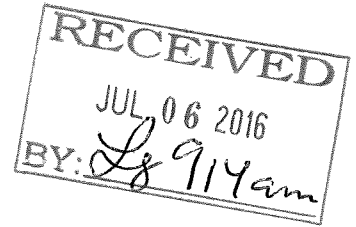
If Council deems that the attached petition meets the requirements of Texas state law and those established by the city's Charter, there are several options, including repeal of Ordinance 589, adoption of the proposed ordinance as written (*which would also repeal Ordinance 589*), or placement of either of these options on the next municipal ballot, thus allowing voters to decide.

WITNESS MY HAND AND THE SEAL OF THE CITY OF KENNEDALE, TEXAS, THIS THE 26TH DAY OF JULY, 2016.


LESLIE GALLOWAY, CITY SECRETARY
CITY OF KENNEDALE, TEXAS



AFFIDAVIT



All signatures appended to this Referendum Petition to recall Ordinance No. 589 are, to our belief, the genuine signatures of the persons whose names they purport to be. Names, addresses, and voter registration certificate numbers of the signers of such petitions have been printed adjacent to signatures.

There are 512 number of signatures which have been verified with Voter ID numbers of the 708 number of citizens who have signed the petition.

As required, all pages that compose this single petition have been assembled and given to the City Secretary Leslie Galloway as one instrument with along with this attached affidavit.

Signed:

Allen Ray [signature]

Jan Joplin [signature]

Date: July 6, 2016

CITY SECRETARY
OFFICIAL FILE COPY

ORDINANCE NO. 589

AN ORDINANCE OF THE CITY OF KENNEDALE, TEXAS, REVISING THE RATE FOR WATER SERVICE AND SANITARY SEWER SERVICE; PROVIDING A DISCOUNT FOR QUALIFYING SENIOR CITIZENS AND DISABLED PERSONS; PROVIDING A PENALTY FOR VIOLATIONS HEREOF; PROVIDING AN EFFECTIVE DATE FOR THE RATES CONTAINED HEREIN; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR PUBLICATION IN THE OFFICIAL NEWSPAPER; AND PROVIDING AN EFFECTIVE DATE.

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF KENNEDALE, TEXAS, to repeal Ordinance No. 589, and to adopt a new Ordinance reducing the rates for water service and sanitary sewer service, giving the whole body of Citizens of Kennedale an opportunity to participate in the setting of rates AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Kennedale, Texas adopted water service and sanitary sewer rates outside of the 2015-16 Fiscal Year budget process: and

WHEREAS, the City Council desires to be responsive and sensitive to Kennedale Citizens in setting water and sanitary sewer service rates; and

WHEREAS, the City Council directs the City Manager and staff to reset water and sanitary sewer rates that were established prior to the adoption of Ordinance No. 589.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF KENNEDALE, TEXAS, THAT:

SECTION 1.

All Kennedale water and sanitary sewer rates shall be rolled back to the previously Council approved rates before Ordinance No. 589 was adopted.

SECTION 2.

The Mayor and Council shall name a task force of Kennedale Citizens to develop a equitable and forward thinking water and sanitary sewer rate schedule to be presented to the City Council for their consideration.

SECTION 3.

The City Secretary of the City of Kennedale is hereby directed to publish the effective date of this ordinance in the official newspaper of the City of Kennedale and all social media resources available to her office.

SECTION 4.

This ordinance shall be in full force and effect from and after its passage and publication as required by law, and it is so ordained.

PASSED AND APPROVED ON THIS _____ DAY OF July, 2016.

Brian Johnson, Mayor

ATTEST: _____ Leslie Galloway, City Secretary

Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: DECISION ITEMS - F.

I. Subject:

Review and Consider Action to approve Ordinance No. 603, adopting the 2015 International Building Code, 2015 International Residential Code, 2015 International Plumbing Code, 2015 International Mechanical Code, 2015 International Fuel Gas Code with local amendments, 2015 International Energy Conservation Code, the 2015 International Fire Code with local amendments, and the 2015 National Electrical Code.

II. Originated by:

Sandra Johnson, Building Official

III. Summary:

Background and overview.

The City of Kennedale is currently under the 2006 International Codes. The recommendation before you is the adoption of the 2015 International Codes and the 2014 National Electrical Code.

Staff Review.

Staff reviewed and made amendments for each International Code book listed:

2015 International Energy Compliance Code
2015 International Building Code
2015 International Residential Code
2015 International Fire Code
2015 International Plumbing Code
2015 International Mechanical Code
2015 International Fuel Gas Code
2015 International Existing Building Code
2014 National Electrical Code

Staff recommends the adoption of the 2014 and 2015 codes to simplify the construction process, advance the safety of building systems, promote common code interpretation, facilitate the mobility of contractors, and reduce construction costs. Adopting the most recent code will allow Kennedale to be on par with other cities in the region and will also allow us to participate in programs such as the Community Ratings System (a part of the National Flood Insurance Program).

Additional Factors to Consider.

The two main reasons to adopt the latest International Codes:

1. State mandates for 2015 International Energy Code, September 1, 2016
2. North Central Texas Council of Governments recommendation for Regional Uniformity

The adoption of the 2015 codes will have no effect on nonconforming properties and no additional costs will occur for the City of Kennedale.

Staff Recommendation.

Staff recommends approval.

IV. Fiscal Impact Summary:**V. Legal Impact:****VI. Recommendation:**

Approve

VII. Alternative Actions:**VIII. Attachments:**

1.	Ordinance 603	O603 (draft) adopting 2015 building codes.pdf
2.	Exhibit A	EXHIBIT A O603.pdf
3.	Exhibit B	EXHIBIT B O603.pdf
4.	Exhibit C	EXHIBIT C O603.pdf
5.	Exhibit D	EXHIBIT D O603.pdf
6.	Exhibit E	EXHIBIT E O603.pdf
7.	Exhibit F	EXHIBIT F O603.pdf
8.	Exhibit G	EXHIBIT G O603.pdf
9.	Exhibit H	EXHIBIT H O603.pdf

ORDINANCE NO. 603

AN ORDINANCE OF THE CITY OF KENNEDALE ADOPTING THE 2015 INTERNATIONAL BUILDING CODE, 2015 INTERNATIONAL RESIDENTIAL CODE, THE 2015 INTERNATIONAL PLUMBING CODE, THE 2015 INTERNATIONAL MECHANICAL CODE, THE 2015 INTERNATIONAL FUEL GAS CODE, THE 2015 INTERNATIONAL FIRE CODE; AND THE 2015 NATIONAL ELECTRICAL CODE; PROVIDING FOR THE MODIFICATION OF THE CODES TO INCORPORATE LOCAL AMENDMENTS; PROVIDING FOR RECORDING OF THE CODES AS A PUBLIC RECORD; PROVIDING FOR THE ISSUANCE OF PERMITS AND COLLECTION OF FEES THEREFOR; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR A PENALTY FOR VIOLATIONS' PROVIDING A SAVINGS CLAUSE; PROVIDING FOR PUBLICATION IN PAMPHLET FORM; PROVIDING FOR PUBLICATION IN THE OFFICIAL NEWSPAPER; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Kennedale is a home rule city acting under its charter adopted by the electorate pursuant to Article XI, Section 5 of the Texas Constitution and Chapter 9 of the Local Government Code; and

WHEREAS, the City Council of the City of Kennedale desires to adopt the 2015 Editions of the International Building Code, International Residential Code, International Plumbing Code, International Mechanical Code, International Fuel Gas Code, International Energy Conservation Code, and International Fire Code, and the 2015 Edition of the National Electrical Code as the official municipal codes of the City; and

WHEREAS, the City Council of the City of Kennedale desires to provide a mechanism by which local modifications reflecting the unique needs of the City of Kennedale may be made when deemed appropriate.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF KENNEDALE, TEXAS:

SECTION 1. ADOPTION OF 2015 INTERNATIONAL BUILDING CODE

The 2015 Edition of the International Building Code is hereby adopted as the official building code of the City of Kennedale, Texas, and is fully incorporated by reference as though copied into this ordinance in its entirety. The material contained in such code shall not be included in the formal municipal codification of ordinances but shall be maintained as a public record in the office of the City Secretary and will be

available for public inspection and copying during regular business hours.

SECTION 2.
ADOPTION OF LOCAL AMENDMENTS TO INTERNATIONAL BUILDING
CODE

The 2015 Edition of the International Building Code, as adopted herein is hereby amended by adoption of those local amendments shown as Exhibit “A” attached hereto.

SECTION 3.
ADOPTION OF 2015 INTERNATIONAL RESIDENTIAL CODE

The 2015 Edition of the International Residential Code is hereby adopted as the official residential construction code of the City of Kennedale, Texas, and is fully incorporated by reference as though copied into this ordinance in its entirety. The material contained in such code shall not be included in the formal municipal codification of ordinances but shall be maintained as a public record in the office of the City Secretary and will be available for public inspection and copying during regular business hours.

SECTION 4.
ADOPTION OF LOCAL AMENDMENTS TO INTERNATIONAL RESIDENTIAL
CODE

The 2015 Edition of the International Residential Code, as adopted herein is hereby amended by adoption of those local amendments shown on Exhibit “B” attached hereto.

SECTION 5.
RESOLUTION OF CONFLICTS BETWEEN INTERNATIONAL BUILDING
CODE AND INTERNATIONAL RESIDENTIAL CODE

To the extent of any conflict between the International Building Code as applied to residential property and the International Residential Code, the International Residential Code shall control.

SECTION 6.
ADOPTION OF 2015 INTERNATIONAL PLUMBING CODE

The 2015 Edition of the International Plumbing Code is hereby adopted as the official plumbing code of the City of Kennedale, Texas, and is fully incorporated by reference as though copied into this ordinance in its entirety. The material contained in such code shall not be included in the formal municipal codification of ordinances but shall be maintained as a public record in the office of the City Secretary and will be available for public inspection and copying during regular business hours.

SECTION 7.

ADOPTION OF LOCAL AMENDMENTS TO INTERNATIONAL PLUMBING CODE

The 2015 Edition of the International Plumbing Code, as adopted herein is hereby amended by adoption of those local amendments shown on Exhibit “C” attached hereto.

SECTION 8.

ADOPTION OF 2015 INTERNATIONAL MECHANICAL CODE

The 2015 Edition of the International Mechanical Code is hereby adopted as the official mechanical code of the City of Kennedale, Texas, and is fully incorporated by reference as though copied into this ordinance in its entirety. The material contained in such code shall not be included in the formal municipal codification of ordinances but shall be maintained as a public record in the office of the City Secretary and will be available for public inspection and copying during regular business hours.

SECTION 9.

ADOPTION OF LOCAL AMENDMENTS TO INTERNATIONAL MECHANICAL CODE

The 2015 Edition of the International Mechanical Code, as adopted herein is hereby amended by adoption of those local amendments shown on Exhibit “D” attached hereto.

SECTION 10.

ADOPTION OF 2015 INTERNATIONAL FUEL GAS CODE

The 2015 Edition of the International Fuel Gas Code is hereby adopted as the official fuel gas code of the City of Kennedale, Texas, and is fully incorporated by reference as though copied into this ordinance in its entirety. The material contained in such code shall not be included in the formal municipal codification of ordinances but shall be maintained as a public record in the office of the City Secretary and will be available for public inspection and copying during regular business hours.

SECTION 11.

ADOPTION OF LOCAL AMENDMENTS TO INTERNATIONAL FUEL GAS CODE

The 2015 Edition of the International Fuel Gas Code, as adopted herein is hereby amended by adoption of those local amendments shown on Exhibit “E” attached hereto.

SECTION 12.

ADOPTION OF 2015 INTERNATIONAL ENERGY CONSERVATION CODE

The 2015 Edition of the International Energy Conservation Code is hereby adopted as the official energy conservation code of the City of Kennedale, Texas, and

is fully incorporated by reference as though copied into this ordinance in its entirety. The material contained in such

code shall not be included in the formal municipal codification of ordinances but shall be maintained as a public record in the office of the City Secretary and will be available for public inspection and copying during regular business hours.

SECTION 13.
ADOPTION OF LOCAL AMENDMENTS TO INTERNATIONAL ENERGY
CONSERVATION CODE

The 2014 Edition of the International Energy Conservation Code, as adopted herein is hereby amended by adoption of those local amendments shown on Exhibit “F” attached hereto.

SECTION 14.
ADOPTION OF 2015 INTERNATIONAL FIRE CODE

The 2015 International Fire Code is hereby adopted as the official fire code of the City of Kennedale, Texas, and is fully incorporated by reference as though copied into this ordinance in its entirety. The material contained in such code shall not be included in the formal municipal codification of ordinances but shall be maintained as a public record in the office of the City Secretary and will be available for public inspection and copying during regular business hours.

SECTION 15.
ADOPTION OF LOCAL AMENDMENTS TO INTERNATIONAL FIRE CODE

The 2015 Edition of the International Fire Code, as adopted herein is hereby amended by adoption of those local amendments shown on Exhibit “G” attached hereto.

SECTION 16.
ADOPTION OF 2014 NATIONAL ELECTRICAL CODE

The 2014 National Electrical Code is hereby adopted as the official electrical code of the City of Kennedale, Texas, and is fully incorporated by reference as though copied into this ordinance in its entirety. The material contained in such code shall not be included in the formal municipal codification of ordinances and shall be maintained as a public record in the office of the City Secretary and will be available for public inspection and copying during regular business hours.

SECTION 17.
ADOPTION OF LOCAL AMENDMENTS TO NATIONAL ELECTRICAL CODE

The 2014 Edition of the National Electrical Code, as adopted herein is hereby amended by adoption of those local amendments shown on Exhibit “H” attached hereto.

SECTION 18.
MAINTENANCE OF CODES AS PUBLIC RECORDS

The material contained in Exhibits “A” through “H” to this ordinance, although fully adopted and incorporated by reference, shall not be included in the formal municipal codification of ordinances. The material contained in Exhibits “A” through “H” shall instead be maintained as a public record in the office of the City Secretary and the Building Official. These exhibits will be available for public inspection and copying during regular business hours. The purpose of maintaining these records separate and apart from the municipal codification is to avoid the inclusion of detailed technical construction materials, subject to frequent change, which would unreasonably lengthen the code.

SECTION 19.
ADDITIONAL LOCAL AMENDMENTS CONTEMPLATED

The City of Kennedale may from time to time determine that additional local modifications to the codes adopted herein are necessary and appropriate to meet the unique building needs of the City of Kennedale. To effectuate modifications, the city council may enact individual ordinances amending this ordinance fully setting forth the change to be made in the specific code. Such subsequent amendments shall be consolidated as an exhibit to this ordinance, and shall be maintained as a public record in the office of the city secretary.

SECTION 20.
PERMITS AND FEES

The codes adopted herein provide for the issuance of certain permits and the collection of fees therefor. The fees shall be established by the City’s schedule of fees.

SECTION 21.
PROVISIONS CUMULATIVE BUT CONFLICTING ORDINANCES REPEALED

This Ordinance shall be cumulative of all provisions of all existing ordinances and of the Code of Ordinances of the City of Kennedale, Texas, as amended, except where the provisions of this ordinance are in direct conflict with the provisions of such existing ordinances and code, in which event the conflicting provisions of such ordinances and Code are hereby repealed.

SECTION 22.
PROVISIONS SEVERABLE

It is hereby declared to be the intention of the City council that the phrases, clauses, sentences, paragraphs and section of this Ordinance are severable, and if any phrase, clause, sentence, paragraph or section of this Ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not be affect any of the remaining, phrase, clauses, sentences, paragraphs or sections of this Ordinance since the same would

have been enacted by the City Council without incorporation in this Ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

SECTION 23. PENALTY

Any person, firm or corporation who violates, disobeys, omits, neglects or refuses to comply with or who resists the enforcement of any of the provisions of this Ordinance shall be fined no more than Two Thousand Dollars and no center (\$2,000.00) for all violations involving zoning, fire safety or public health and sanitation, including duping or refuse, and shall be fined not more than Five Hundred Dollars and no cents (\$500.00) for all other violations of this Ordinance. Each day that a violation is permitted to exist shall constitute a separate offense.

SECTION 24. PREVIOUSLY ACCRUING RIGHT AND REMEDIES SAVED

All rights and remedies of the City of Kennedale, Texas, are expressly saved as to any and all violations of the provisions of the Building Code, Residential Code, Electrical Code, Energy Code, Fuel Gas Code, Mechanical Code, Plumbing Code, Existing Building Code, Property Maintenance Code, or any other ordinances affecting such codes which have accrued at the time of the effective date of this Ordinance; and, as to such accrued violations and all pending litigation, both civil and criminal, whether pending in court or not, under such ordinances same shall not be affected by this Ordinance but may be prosecuted until final disposition by the courts.

SECTION 25. PUBLICATION

The City Secretary of the City of Kennedale is hereby directed to public in the official newspaper of the City of Kennedale, the caption, penalty clause, publication clause, and effective date clause of this ordinance in accordance with Section 52.013(b) of the Local Government Code.

SECTION 26. PUBLICATION IN PAMPHLET FORM

The City Secretary of the City of Kennedale is hereby authorized to publish this ordinance in book or pamphlet form for general distribution among the public, and the operative provisions of this ordinance as so published shall be admissible in evidence in all courts without further proof than the production thereof.

SECTION 27. EFFECTIVE DATE

This Ordinance shall be in full force and effect from and after its passage and

publication as provided by law, and it is so ordained.

PASSED AND APPROVED ON THIS ____ DAY OF _____, 2016.

MAYOR

ATTEST:

CITY SECRETARY

EFFECTIVE: _____

APPROVED AS TO FORM AND LEGALITY:

CITY ATTORNEY

EXHIBIT A
LOCAL AMENDMENTS
TO 2015 INTERNATIONAL BUILDING CODE

The following sections, paragraphs, and sentences of the 2015 International Building Code are hereby amended as follows: Standard type is text from the IBC. Underlined type is text inserted. ~~Lined through type is deleted text from IBC.~~ A double asterisk (**) at the beginning of a section identifies an amendment carried over from the 2012 edition of the code and a triple asterisk (***) identifies a new or revised amendment with the 2015 code.

****Section 101.4; change to read as follows:**

101.4 Referenced codes. The other codes listed in Section 101.4.1 through 101.4.8 and referenced elsewhere in this code, when specifically adopted, shall be considered part of the requirements of this code to the prescribed extent of each such reference. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well. Any reference to NFPA 70 or the Electrical Code shall mean the Electrical Code as adopted.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes. The former ICC Electrical Code is now Appendix K of this code but no longer called by that name.)

****Section 101.4.8; add the following:**

101.4.8 Electrical. The provisions of the Electrical Code shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances thereto.

(Reason: This was dropped when ICC quit publishing the ICC Electrical Code, but the Electrical Code still should be referenced regardless of how it is adopted.)

****Section 103 and 103.1 amend to insert the Department Name**

~~DEPARTMENT OF BUILDING SAFETY~~ [DEVELOPMENT SERVICES DEPARTMENT]

103.1 Creation of enforcement agency. ~~The Department of Building Safety~~ [THE DEVELOPMENT SERVICES DEPARTMENT] is hereby created and the official in charge thereof shall be known as the *building official*.

(Reason: Reminder to be sure ordinance reads the same as designated by the city.)

****Section 109; add Section 109.7 to read as follows:**

109.7 Re-inspection Fee. A fee as established by city council resolution may be charged when:

1. The inspection called for is not ready when the inspector arrives;
2. No building address or permit card is clearly posted;
3. City approved plans are not on the job site available to the inspector;
4. The building is locked or the work otherwise is not available for inspection when called;
5. The job site is red-tagged twice for the same item;
6. The original red tag has been removed from the job site;
7. Failure to maintain erosion control, trash control or tree protection.

Any re-inspection fees assessed shall be paid before any more inspections are made on that job site.

(Reason: This fee is not a fine or penalty but is designed to compensate for time and trips when inspections are called for when not ready.)

****Section 109; add Section 109.8, 109.8.1, 109.8.2 and 109.9 to read as follows:**

109.8 Work without a permit.

109.8.1 Investigation. Whenever work for which a permit is required by this code has been commenced without first obtaining a permit, a special investigation shall be made before a permit may be issued for such work.

109.8.2 Fee. An investigation fee, in addition to the permit fee, shall be collected whether or not a permit is subsequently issued. The investigation fee shall be equal to the amount of the permit fee required by this code or the city fee schedule as applicable. The payment of such investigation fee shall not exempt the applicant from compliance with all other provisions of either this code or the technical codes nor from penalty prescribed by law.

109.9 Unauthorized cover up fee. Any work concealed without first obtaining the required inspection in violation of Section 110 shall be assessed a fee as established by the city fee schedule.

(Reason: This fee is not a fine or penalty but is designed to compensate for time and to remove incentive to attempt to evade permits and code compliance. Text taken from former Uniform Administrative Code.)

****Section 110.3.5; Lath, gypsum board and gypsum panel product inspection. Delete exception**

~~Exception:~~ ~~Gypsum board and gypsum panel products that are not part of a fire resistance rated assembly or a shear assembly.~~

(Reason: Lath or gypsum board inspections are performed in this area.)

****Section 202; amend definition of Ambulatory Care Facility as follows:**

AMBULATORY CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to individuals who are rendered incapable of self-preservation by the services provided. This group may include but not be limited to the following:

- Dialysis centers
- Sedation dentistry
- Surgery centers
- Colonic centers
- Psychiatric centers

*(Reason: To clarify the range of uses included in the definition. [Explanatory note related to **Ambulatory Care Facilities**: This group of uses includes medical or dental offices where persons are put under for dental surgery or other services. Section 903.2.2 will now require such uses to be sprinklered if on other than the floor of exit discharge or if four or more persons are put under on the level of exit discharge. Recommend (1.) jurisdictions document any pre-existing non-conforming conditions prior to issuing a new C of O for a change of tenant and, (2.) On any medical or dental office specify on C of O the maximum number of persons permitted to be put under general anesthesia. It is recommended that before a Certificate of Occupancy is issued, a letter of intended use from the business owner shall be included and a C of O documenting the maximum number of care recipients incapable of self-preservation allowed.]*

****Section 202; add definition of Assisted Living Facilities to read as follows:**

ASSISTED LIVING FACILITIES. A building or part thereof housing persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment which provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff.

(Reason: The code references Assisted Living Facilities and definition was deleted.)

****Section 202; change definition of “Atrium” as follows:**

ATRIUM. An opening connecting ~~two~~ three or more stories... {Balance remains unchanged}

(Reason: Accepted practice in the region based on legacy codes. Section 1019 permits unenclosed two story stairways under certain circumstances.)

****Section 202; add definition of “Repair Garage” as follows:**

REPAIR GARAGE. A building, structure or portion thereof used for servicing or repairing motor vehicles. This occupancy shall also include garages involved in minor repair, modification and servicing of motor vehicles for items such as lube changes, inspections, windshield repair or replacement, shocks, minor part replacement and other such minor repairs.

(Reason: The code reference aligns with fire code.)

***Section 202; amend definition of SPECIAL INSPECTOR to read as follows:

SPECIAL INSPECTOR. A qualified person employed or retained by an approved agency who shall prove to the satisfaction of the registered design professional in responsible charge and approved by the Building Official as having the competence necessary to inspect a particular type of construction requiring special inspection.

(Reason: The registered design professional in responsible charge should be included.)

**Section 202; amend definition to read as follows:

HIGH-RISE BUILDING. A building with an occupied floor located more than ~~75~~ 55 feet (~~22 860 mm~~) (16 764 mm) above the lowest level of fire department vehicle access.

(Reason: To define high-rise, as it influences sprinkler requirements thresholds based on the firefighting capabilities of a jurisdiction.)

**Section 303.1.3; add a sentence to read as follows:

303.1.3 Associated with Group E occupancies. A room or space used for assembly purposes that is associated with a Group E occupancy is not considered a separate occupancy, except when applying the assembly requirements of Chapter 10 and 11.

(Reason: To clarify that egress and accessibility requirements are applicable for assembly areas, i.e. cafeteria, auditoriums, etc.)

**Section 304.1; add the following to the list of occupancies:

Fire stations

Police stations with detention facilities for 5 or less

(Reason: Consistent with regional practice dating back to the legacy codes.)

**Section 307.1.1; add the following sentence to Exception 4:

4. Cleaning establishments... {Text unchanged} ...with Section 707 or 1-hour horizontal assemblies constructed in accordance with Section 711 or both. See also IFC Chapter 21, Dry Cleaning Plant provisions.

(Reason: To call attention to detailed requirements in the Fire Code.)

****Section 403.1, Exception 3; change to read as follows:**

3. The open air portion of a building [remainder unchanged]

(Reason: To clarify enclosed portions are not exempt.)

****Section 403.3, Exception; delete item 2.**

(Reason: To provide adequate fire protection to enclosed areas.)

*****Section 403.3.2; change to read as follows:**

[F] 403.3.2 Water supply to required fire pumps. In buildings that are more than ~~420~~ 120 feet (36.5 m) in building height, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: {No change to exception.}

(Reason: The 2009 edition of the IFC added this requirement based on a need for redundancy of the water supply similar to the redundancy of the power supply to the fire pumps required for such tall buildings, partially due to the fact that these buildings are rarely fully evacuated in a fire event. More commonly, the alarm activates on the floor of the event, the floor above the floor below. Back-up power to the fire pump becomes critical for this reason. Certainly, the power is pointless if the water supply is impaired for any reason, so a similar requirement is provided here for redundant water supplies. The 2015 edition changes the requirement to only apply to very tall buildings over 420 ft. This amendment modifies/lowers the requirements to 120 ft., based on this same height requirement for fire service access elevators. Again, the language from the 2009 and 2012 editions of the code applied to any high-rise building. This compromise at 120 ft. is based on the above technical justification of defend-in-place scenarios of fire incidents in such tall structures.)

****Section 404.5; delete Exception.**

(Reason: Consistent with amended atrium definition.)

****Section 406.3.5.1 Carport separation; add sentence to read as follows:**

A fire separation is not required between a Group R-2 and U carport provided that the carport is entirely open on all sides and that the distance between the two is at least 10 feet (3048 mm).

(Reason: Simplifies the fire separation distance and eliminates the need to obtain opening information on existing buildings when adding carports in existing apartment complexes. Consistent with legacy codes in effect in region for years and no record of problems with car fires spreading to apartments as a result.)

****Section 506.2.2; add sentence to read as follows:**

506.3.2.1 Open Space limits. Such open space shall be either on the same lot or dedicated for public use and shall be accessed from a street or approved fire lane. In order to be considered as accessible, if not in direct contact with a street or fire lane, a minimum 10-foot wide pathway meeting fire department access from the street or approved fire lane shall be provided.

(Reason: To define what is considered accessible. Consistent with regional amendment to IFC 504.1.)

****Section 712.1.9; change item 4 to read as follows:**

4. Is not open to a corridor in Group I and ~~R~~ H occupancies.

(Reason: To be consistent with amended definition of an atrium.)

****Section 901.6.1; add Section 901.6.1.1 to read as follows:**

901.6.1.1 Standpipe Testing. Building owners/managers must maintain and test standpipe systems as per NFPA 25 requirements. The following additional requirements shall be applied to the testing that is required every 5 years:

1. The piping between the Fire Department Connection (FDC) and the standpipe shall be backflushed when foreign material is present and also hydrostatically tested for all FDC's on any type of standpipe system. Hydrostatic testing shall also be conducted in accordance with NFPA 25 requirements for the different types of standpipe systems.

2. For any manual (dry or wet) standpipe system not having an automatic water supply capable of flowing water through the standpipe, the tester shall connect hose from a fire hydrant or portable piping system (as approved by the fire code official) to each FDC, and flow water through the Confirm that there are no open hose valves prior to introducing water into a dry standpipe. There are no required pressure criteria at the outlet. Verify that check valves function properly and that there are no closed valves on the system.

3. Any pressure relief, reducing, or control valves shall be tested in accordance with the requirement of NFPA 25. All hose valves shall be exercised.

4. If the FDC is not already provided with approved caps, the contactor shall install such caps for all FDC's as required by the fire code official.

5. Upon successful completion of standpipe test, place a blue tag (as per Texas Administrative Code, Fire Sprinkler Rules for Inspection, Test and Maintenance Service (ITM) Tag) at the bottom of each standpipe riser in the building. The tag shall be check-marked as "Fifth Year" for Type of ITM, and the note on the back of the tag shall read "5 Year Standpipe Test" at a minimum.

6. The procedures required by Texas Administrative Code Fire Sprinkler Rules with regard to Yellow Tags and Red Tags or any deficiencies noted during the testing, including the required notification of the local Authority Having Jurisdiction (fire code official) shall be followed.

7. Additionally, records of the testing shall be maintained by the owner and contractor, if applicable, as required by the State Rules mentioned above and NFPA 25.

8. Standpipe system tests where water will be flowed external to the building shall not be conducted during freezing conditions or during the day prior to expected night time freezing conditions.

9. Contact the fire code official for requests to remove existing fire hose from Class II and III standpipe systems where employees are not trained in the utilization of this firefighting equipment. All standpipe hose valves must remain in place and be provided with an approved cap and chain when approval is given to remove hose by the fire code official.

(Reason: Increases the reliability of the fire protection system and re-emphasizes the requirements of NFPA 25 relative to standpipe systems, as well as ensuring that FDC connections are similarly tested / maintained to ensure operation in an emergency incident.)

****Section 903.1.1; change to read as follows:**

[F] 903.1.1 Alternative protection. Alternative automatic fire-extinguishing systems complying with Section 904 shall be permitted ~~instead of~~ in addition to automatic sprinkler protection where recognized by the applicable standard and, or as approved by the fire code official.

(Reason: Such alternative systems do not provide the reliability of automatic sprinkler protection in general. An applicant could pursue an Alternate Method request to help mitigate the reliability issues with these alternative systems with the fire code official if so desired, or there may be circumstances in which the fire code official is acceptable to allowing an alternate system in lieu of sprinklers, such as kitchen hoods or paint booths. This also meets with local practices in the region.)

****Section 903.2 add the following:**

[F] 903.2 Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in Sections 903.2.1 through 903.2.12. Automatic sprinklers shall

not be installed in elevator machine rooms, elevator machine spaces, and elevator hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances. Storage shall not be allowed within the elevator machine room. Signage shall be provided at the entry doors to the elevator machine room indicating “ELEVATOR MACHINERY –NO STORAGE ALLOWED.”

(Reason: Firefighter and public safety. This amendment eliminates the shunt trip requirement of the International Building Code Section 3006.5 for the purpose of elevator passenger and firefighter safety. This amendment is contingent on the Building Code amendment eliminating the Exceptions to Section 3006.4, such that passive fire barriers for these areas are maintained. This also meets with local practices in the region.)

[F] **Section 903.2; delete the exception.

(Reason: The exception deletion is due to the fact that such telecom areas pose an undue fire risk to the structural integrity of the building. This also meets with local practices in the region.)

****Section 903.2.9; add Section 903.2.9.3 to read as follows:**

[F] 903.2.9.3 Self-service storage facility. An automatic sprinkler system shall be installed throughout all self-service storage facilities.

(Reason: Fire departments are unable to inspect these commercial occupancies and are unaware of the contents being stored. Previous allowance to separate units by fire barriers is difficult to enforce maintenance after opening.)

****Section 903.2.11; change 903.2.11.3 and add 903.2.11.7, 903.2.11.8, and 903.2.11.9 as follows:**

903.2.11.3 Buildings ~~55~~ 35 feet or more in height. An automatic sprinkler system shall be installed throughout buildings that have one or more stories ~~with an occupant load of 30 or more~~, other than penthouses in compliance with Section 1510 of the International Building Code. Located ~~55~~ 35 feet (~~46~~ 764 10 668 mm) or more above the lowest level of fire department vehicle access, measured to the finished floor.

Exceptions:

1. Open parking structures in compliance with Section 406.5 of the International Building Code, having no other occupancies above the subject grade.

2. Occupancies in Group F-2.

903.2.11.7 High-Piled Combustible Storage. For any building with a clear height exceeding 12 feet (4572 mm), see Chapter 32 of the IFC to determine if those provisions apply.

903.2.11.8 Spray Booths and Rooms. New and existing spray booths and spraying rooms shall be protected by an approved automatic fire-extinguishing system.

903.2.11.9 Buildings over 6,000 sq. ft. An automatic sprinkler system shall be installed throughout all buildings with a building area of 6,000 sq. ft. or greater and in all existing buildings that are enlarged to be 6,000 sq. ft. or greater. For the purpose of this provision, fire walls shall not define separate buildings.

Exception: Open parking garages in compliance with Section 406.5 of the International Building Code.

(Reason: Provides jurisdictions options as to their desired level of sprinkler protection based on multiple factors including firefighting philosophies / capabilities.)

****Section 903.3.1.1.1; change to read as follows:**

[F] 903.3.1.1.1 Exempt locations. When approved by the fire code official, automatic sprinklers should not be required in the following rooms or areas where such ...{text unchanged}... because it is damp, of fire-resistance-rated construction or contains electrical equipment.

1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard.
2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the code official.
3. Generator and transformer rooms, under the direct control of a public utility, separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.
4. ~~Rooms or areas that are of noncombustible construction with wholly noncombustible contents.~~
5. ~~Fire service access~~ Elevator machine rooms, ~~and~~ machinery spaces, and hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances.
6. {Delete.}

(Reason: Gives more direction to code official. Exception 4 deleted to provide protection where fire risks are poorly addresses. Amendment 903.2 addresses Exception 5 above relative to the elimination of sprinkler protection in these areas to avoid the shunt trip requirement.)

****Section 903.3.1.2.3; add section to read as follows:**

[F] Section 903.3.1.2.3 Attics and Attached Garages. Sprinkler protection is required in attic spaces of such buildings two or more stories in height, in accordance with NFPA 13 and or NFPA 13R requirements, and attached garages.

(Reason: Attic protection is required due to issues with fire exposure via soffit vents, as well as firefighter safety. Several jurisdictions indicated experience with un-protected attic fires resulting in displacement of all building occupants. NFPA 13 provides for applicable attic sprinkler protection requirements, as well as exemptions to such, based on noncombustible construction, etc. Attached garages already require sprinklers via NFPA 13R – this amendment just re-emphasizes the requirement.)

****Section 903.3.1.3; change to read as follows:**

[F] 903.3.1.3 NFPA 13D sprinkler systems. *Automatic sprinkler systems installed in one- and two-family dwellings; Group R-3; Group R-4 Condition 1 and townhouses shall be permitted to be installed throughout in accordance with NFPA 13D or in accordance with state law.*

(Reason: To allow the use of the Plumbing section of the IRC and recognize current state stipulations in this regard.)

*****Section 903.3.1.4; add to read as follows:**

[F] 903.3.1.4 Freeze protection. Freeze protection systems for automatic fire sprinkler systems shall be in accordance with the requirements of the applicable referenced NFPA standard and this section.

903.3.1.4.1 Attics. Only dry-pipe, preaction, or listed antifreeze automatic fire sprinkler systems shall be allowed to protect attic spaces.

Exception: Wet-pipe fire sprinkler systems shall be allowed to protect non-ventilated attic spaces where:

1. The attic sprinklers are supplied by a separate floor control valve assembly to allow ease of draining the attic system without impairing sprinklers throughout the rest of the buildings, and
2. Adequate heat shall be provided for freeze protection as per the applicable referenced NFPA standard, and
3. The attic space is a part of the building's thermal, or heat, envelope, such that insulation is provided at the roof deck, rather than at the ceiling level.

903.3.1.4.2 Heat trace/insulation. Heat trace/insulation shall only be allowed where approved by the fire code official for small sections of large diameter water-filled pipe.

(Reason: In the last few years, severe winters brought to light several issues with current practices for sprinklering attics, not the least of which was wet-pipe sprinklers in ventilated attics provided with space heaters, etc. for freeze protection of such piping. This practice is not acceptable for the protection of water-filled piping in a ventilated attic space as it does not provide a reliable means of maintaining the minimum 40 degrees required by NFPA, wastes energy, and presents a potential ignition source to the attic space. Listed antifreeze is specifically included because of NFPA currently allows such even though there is no currently listed antifreeze at the time of development of these amendments. The intent of this amendment is to help reduce the large number of freeze breaks that have occurred in the past with water-filled wet-pipe sprinkler systems in the future, most specifically in attic spaces.)

****Section 903.3.5; add a second paragraph to read as follows:**

[F] Water supply as required for such systems shall be provided in conformance with the supply requirements of the respective standards; however, every water-based fire protection system shall be designed with a 10 psi safety factor. Reference Section 507.4 for additional design requirements.

(Reason: To define uniform safety factor.)

****Section 903.4; add a second paragraph after the exceptions to read as follows:**

[F] Sprinkler and standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 45 seconds. All control valves in the sprinkler and standpipe systems except for fire department hose connection valves shall be electrically supervised to initiate a supervisory signal at the central station upon tampering.

(Reason: To avoid significant water losses. Consistent with amendment to IFC 905.9.)

****Section 903.4.2; add second paragraph to read as follows:**

[F] The alarm device required on the exterior of the building shall be a weatherproof horn/strobe notification appliance with a minimum 75 candela strobe rating, installed as close as practicable to the fire department connection.

(Reason: Fire department connections are not always located at the riser; this allows the fire department faster access.)

****Section 905.2; change to read as follows:**

[F] 905.2 Installation standard. Standpipe systems shall be installed in accordance with this section and NFPA 14. Manual dry standpipe systems shall be supervised with a minimum of 10 psig and a maximum of 40 psig air pressure with a high/low alarm.

(Reason: To define manual dry standpipe supervision requirements. Helps ensure the integrity of the standpipe system via supervision, such that open hose valves will result in a supervisory low air alarm.)

****Section 905.3; add Section 905.3.9 and exception to read as follows:**

[F] 905.3.9 Buildings exceeding 10,000 sq. ft. In buildings exceeding 10,000 square feet in area per story and where any portion of the building's interior area is more than 200 feet (60960 mm) of travel, vertically and horizontally, from the nearest point of fire department vehicle access, Class I automatic wet or manual wet standpipes shall be provided.

Exceptions:

1. Automatic dry and semi-automatic dry standpipes are allowed as provided for in NFPA 14.
2. R-2 occupancies of four stories or less in height having no interior corridors.

(Reason: Allows for the rapid deployment of hose lines to the body of the fire.)

*****Section 905.4, change item 1, 3, and 5 and add item 7 to read as follows:**

- [F]
1. In every required ~~interior~~ exit stairway, a hose connection shall be provided for each story above and below grade plane. Hose connections shall be located at an intermediate landing between stories, unless otherwise approved by the fire code official.
 2. {No change.}

3. In every exit passageway, at the entrance from the exit passageway to other areas of a building. **Exception:** Where floor areas adjacent to an exit passageway are reachable from an ~~interior~~ exit stairway hose connection by a{no change to rest.}
4. {No change.}
5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a two-way-a hose connection shall be located to serve the roof or at the highest landing of an ~~interior~~ exit stairway with stair access to the roof provided in accordance with Section 1011.12.
6. {No change.}
7. When required by this Chapter, standpipe connections shall be places adjacent to all required exits to the structure and at two hundred feet (200') intervals along major corridors thereafter, or as otherwise approved by the fire code official.

(Reason: Item 1, 3, and 5 amendments to remove 'interior' will help to clarify that such connections are required for all "exit" stairways, to ensure firefighter capabilities are not diminished in these tall buildings, simply because the stair is on the exterior of the building. Item 5 reduces the amount of pressure required to facilitate testing, and provides backup protection for fire fighter safety. Item 7 allows for the rapid deployment of hose lines to the body of the fire.)

****Section 905.9; add a second paragraph after the exception to read as follows:**

[F] Sprinkler and standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 45 seconds. All control valves in the sprinkler and standpipe systems except for fire department hose connection valves shall be electrically supervised to initiate a supervisory signal at the central station upon tampering.

(Reason: To avoid significant water losses. Consistent with amendment to IFC 903.4.)

****Section 907.1; add Section 907.1.4 and 907.1.4.1 to read as follows:**

[F] 907.1.4 Design standards. Where a new fire alarm system is installed, the devices shall be addressable. Fire alarm systems utilizing more than 20 smoke detectors shall have analog initiating devices.

(Reason: Provides for the ability of descriptive identification of alarms, and reduces need for panel placement in the future. Updated wording to match the language of the new requirement at 907.5.2.3. Change of terminology allows for reference back to definitions of NFPA 72.)

****Section 907.2.1; change to read as follows:**

[F] 907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies ~~where the having an~~ occupant load ~~due to the assembly occupancy is of~~ 300 or more persons or more than 100 persons above or below the lowest level of exit discharge. Group A occupancies not separated from one another in accordance with Section 707.3-10 of the *International Building Code* shall be considered as a single occupancy for the purposes of applying this section. Portion of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: {No change.}

Activation of fire alarm notification appliances shall:

1. Cause illumination of the means of egress with light of not less than 1 foot-candle (11 lux) at the walking surface level, and
2. Stop any conflicting or confusing sounds and visual distractions.

(Reason: Increases the requirement to be consistent with Group B requirement. Also addresses issue found in Group A occupancies of reduced lighting levels and other A/V equipment that distracts from fire alarm notification devices or reduces ability of fire alarm system to notify occupants of the emergency condition.)

****Section 907.2.3; change to read as follows:**

[F] 907.2.3 Group E. A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E educational occupancies. When *automatic sprinkler systems* or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system. An approved smoke detection system shall be installed in Group E day care occupancies. Unless separated by a minimum of 100' open space, all buildings, whether portable buildings or the main building, will be considered one building for alarm occupant load consideration and interconnection of alarm systems.

Exceptions:

1. {No change.}
 - 1.1. Residential In-Home day care with not more than 12 children may use interconnected single station detectors in all habitable rooms. (For care of more than five children 2 ½ or less years of age, see Section 907.2.6.)
- {No change to reminder of exceptions.}

(Reason: To distinguish educational from day care occupancy minimum protection requirements. Further, to define threshold at which portable buildings are considered a separate building for the purpose of alarm systems. Exceptions provide consistency with State law concerning such occupancies.)

****Section 907.2.13, Exception 3; change to read as follows:**

[F] 3. Open air portions of buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the *International Building Code*; however, this exception does not apply to accessory uses including but not limited to sky boxes, restaurants and similarly enclosed areas.

(Reason: To indicate that enclosed areas within open air seating type occupancies are not exempted from automatic fire alarm system requirements.)

****Section 907.4.2; add Section 907.4.2.7 to read as follows:**

[F] 907.4.2.7 Type. Manual alarm initiating devices shall be an approved double action type.

(Reason: Helps to reduce false alarms.)

****Section 907.6.1; add Section 907.6.1.1 to read as follows:**

[F] 907.6.1.1 Wiring Installation. All fire alarm systems shall be installed in such a manner that a failure of any single initiating device or single open in an initiating circuit conductor will not interfere with the normal operation of other such devices. All signaling line circuits (SLC) shall be installed in such a way that a single open will not interfere with the operation of any addressable devices (Class A). Outgoing and return SLC conductors shall be installed in accordance with NFPA 72 requirements for Class A circuits and shall have a minimum of four feet separation horizontal and one foot vertical between supply and return circuit conductors. The initiating device circuit (IDC) from a signaling line circuit interface device may be wired Class B, provided the distance from the interface device to the initiating device is ten feet or less.

(Reason: To provide uniformity in system specifications and guidance to design engineers. Improves reliability of fire alarm devices and systems.)

*****Section 907.6.3; delete all four Exceptions.**

(Reason: To assist responding personnel in locating the emergency event for all fire alarm systems.)

*****Section 907.6.6; - add sentence at end of paragraph to read as follows:**

[F] See 907.6.3 for the required information transmitted to the supervising station.

(Reason: To assist responding personnel in locating the emergency event for all fire alarm systems. This was moved from 907.6.5.3 in the 2012 IFC and reworded to match new code language and sections.)

*****Section 909.22; add to read as follows:**

[F] 909.22 Stairway or ramp pressurization alternative. Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and the stair pressurization alternative is chosen for compliance with Building Code requirements for a smokeproof enclosure, interior exit stairways or ramps shall be pressurized to a minimum of 0.10 inches of water (25 Pa) and a maximum of 0.35 inches of water (87 Pa) in the shaft relative to the building measured with all interior exit stairway and ramp doors closed under maximum anticipated conditions of stack effect and wind effect. Such systems shall comply with Section 909, including the installation of a separate fire-fighter's smoke control panel as per Section 909.16, and a Smoke Control Permit shall be required from the Fire Department as per Section 105.7.

[F] 909.22.1 Ventilating equipment. The activation of ventilating equipment for the stair or ramp pressurization system shall be by smoke detectors installed at each floor level at an approved location at the entrance to the smokeproof enclosure. When the closing device for the stairway or ramp shaft and vestibule doors is activated by smoke detection or power failure, mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.3.

[F] 909.22.1.1 Ventilation systems. Smokeproof enclosure ventilation systems shall be independent of other building ventilation systems. The equipment, control wiring, power wiring and ductwork shall comply with one of the following:

1. Equipment, control wiring, power wiring and ductwork shall be located exterior to the building and directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.
2. Equipment, control wiring, power wiring and ductwork shall be located within the smokeproof enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by not less than 2-hour barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.
3. Equipment, control wiring power wiring and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code less than 2-hour fire barriers constructed in accordance with Section 711 of the Building Code, or both.

Exceptions:

1. Control wiring and power wiring utilizing a 2-hour rated cable or cable system.
2. Where encased with not less than 2 inches (51 mm) of concrete.
3. Control wiring and power wiring protected by a listed electrical circuit protective system with a fire-resistance rating of not less than 2 hours.

[F] 909.22.1.2 Standby power. Mechanical vestibule and stairway and ramp shaft ventilation systems and automatic fire detection systems shall be provided with standby power in accordance with Section 2702 of the Building Code.

[F] 909.22.1.3 Acceptance and testing. Before the mechanical equipment is approved, the system shall be tested in the presence of the fire code official to confirm that the system is operating in compliance with these requirements.

(Reason: To assist with enforcement of such as a smoke control system, as per Section 909.6.3, especially since a permit is now specifically required for such systems in the Fire Code. Also ensures that a firefighter's override panel is provided as per 909.16 for such systems. The above amendment copies the applicable requirements for such systems from Section 909.20 of the Building Code into the Fire Code. Although the published code did copy the elevator pressurization requirements into the Fire Code, it did not copy over the stair pressurization requirements.)

*****Section 910.2; change Exception 2 and 3 to read as follows:**

- [F] 2.** Only manual smoke and heat removal shall ~~not~~ be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers. Automatic smoke and heat removal is prohibited.
3. Only manual smoke and heat removal shall ~~not~~ be required in areas of buildings equipped with control mode special application sprinklers with a response time index of $50(m^*S)^{1/2}$ or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers. Automatic smoke and heat removal is prohibited.

(Reason: Allows the fire department to control the smoke and heat during and after a fire event, while still prohibiting such systems from being automatically activated, which is a potential detriment to the particular sprinkler systems indicated.)

*****Section 910.2; add subsections 910.2.3 with exceptions to read as follows:**

[F] 910.2.3 Group H. Buildings and portions thereof used as a Group H occupancy as follows:

1. In occupancies classified as Group H-2 or H-3, any of which are more than 15,000 square feet (1394 m²) in single floor area.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

2. In areas of buildings in Group H used for storing Class 2, 3, and 4 liquid and solid oxidizers, Class 1 and unclassified detonable organic peroxides, Class 3 and 4 unstable (reactive) materials, or Class 2 or 3 water-reactive materials as required for a high-hazard commodity classification.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

(Reason: Maintains a fire protection device utilized in such occupancies where it is sometimes necessary to allow chemicals to burn out, rather than extinguish.)

****Section 910.3; add section 910.3.4 to read as follows:**

[F] 910.3.4 Vent operation. Smoke and heat vents shall be capable of being operated by approved automatic and manual means. Automatic operation of smoke and heat vents shall conform to the provisions of Sections 910.3.2.1 through 910.3.2.3.

[F] 910.3.4.1 Sprinklered buildings. Where installed in buildings equipped with an approved automatic sprinkler system, smoke and heat vents shall be designed to operate automatically. The automatic operating mechanism of the smoke and heat vents shall operate at a temperature rating at least 100 degrees F (approximately 38 degrees Celsius) greater than the temperature rating of the sprinklers installed.

Exception: Manual only system per 910.2

[F] 910.3.4.2 Nonsprinklered buildings. Where installed in buildings not equipped with an approved automatic sprinkler system, smoke and heat vents shall operate automatically by actuation of a heat-responsive device rated at between 100°F (56°C) and 220°F (122°C) above ambient.

Exception: Listed gravity-operated drop out vents.

(Reason: Amendment continues to keep applicable wording from prior to the 2012 edition of the IFC. Specifically, an automatic activation criterion is no longer specifically required in the published code. Specifying a temperature range at which smoke and heat vents should activate in sprinklered buildings helps to ensure that the sprinkler system has an opportunity to activate and control the fire prior to vent operation.)

****Section 910.4.3.1; change to read as follows:**

[F] 910.4.3.1 Makeup air. Makeup air openings shall be provided within 6 feet (1829 mm) of the floor level. Operation of makeup air openings shall be ~~manual or~~ automatic. The minimum gross area of makeup air inlets shall be 8 square feet for 1,000 cubic feet per minute (0.74 m² per 0.4719 m³/s) of smoke exhaust.

(Reason: Makeup air has been required to be automatic for several years now in this region where mechanical smoke exhaust systems are proposed. This allows such systems to be activated from the smoke control panel by fire responders without having to physically go around the exterior of the building opening doors manually. Such requires a significant number of first responders on scene to conduct this operation and significantly delays activation and/or capability of the smoke exhaust system.)

****Section 910.4.4; change to read as follows:**

[F] 910.4.4 Activation. The mechanical smoke removal system shall be activated by manual controls only automatically by the automatic sprinkler system or by an approved fire detection system. Individual manual controls shall also be provided.

Exception: Manual only systems per Section 910.2.

(Reason: The provision of a manual only mechanical smoke removal system does not provide equivalency with automatic smoke and heat vents. This amendment clarifies that the primary intent is for automatic systems, unless exceptions are provided as in 910.2 – consistent with the charging statements of the section.)

****Section 912.2; add Section 912.2.3 to read as follows:**

[F] 912.2.3 Hydrant distance. An approved fire hydrant shall be located within 100 feet of the fire department connection as the fire hose lies along an unobstructed path.

(Reason: To accommodate limited hose lengths, improve response times where the FDC is needed to achieve fire control, and improve ease of locating a fire hydrant in those situations also. Also, consistent with NFPA 14 criteria.)

****Section 913.2.1; add second paragraph and exception to read as follows:**

[F] When located on the ground level at an exterior wall, the fire pump room shall be provided with an exterior fire department access door that is not less than 3 ft. in width and 6 ft. – 8 in. in height, regardless of any interior doors that are provided. A key box shall be provided at this door, as required by Section 506.1.

Exception: When it is necessary to locate the fire pump room on other levels or not at an exterior wall, the corridor leading to the fire pump room access from the exterior of the building shall be provided with equivalent fire resistance as that required for the pump room, or as approved by the fire code official. Access keys shall be provided in the keybox as required by Section 506.1.

(Reason: This requirement allows fire fighters safer access to the fire pump room. The requirement allows access without being required to enter the building and locate the fire pump room interior access door during a fire event. The exception recognizes that this will not always be a feasible design scenario for some buildings, and as such, provides an acceptable alternative to protect the pathway to the fire pump room.)

****Section 1006.2.2.6 Add a new Section 1006.2.2.6 as follows:**

Exceptions:

{previous exceptions unchanged}

4. Buildings regulated under State Law and built in accordance with State registered plans, including any variances or waivers granted by the State, shall be deemed to be in compliance with the requirements of Section 1009.

(Reason: To accommodate buildings regulated under Texas State Law and to be consistent with amendments to Chapter 11.)

****Section 1010.1.9.4 Bolt Locks; amend exceptions 3 and 4 as follows:**

Exceptions:

3. Where a pair of doors serves an occupant load of less than 50 persons in Group B, F, M, or S occupancy. {Remainder unchanged}
4. Where a pair of doors serves a Group A, B, F, M, or S occupancy {Remainder unchanged}

(Reason: Application to M occupancies reflects regional practice; No. 4 expanded to Group A due to it being a similar scenario to other uses; No. 4 was regional practice.)

*****Section 1015.8 Window Openings. REVISE text as follows:**

1. Operable windows where the top of the sill of the opening is located more than ~~75 feet (22 860 mm)~~ 55 feet (16 764 mm) above the finished grade or other surface below and that are provided with window fall prevention devices that comply with ASTM F 2006.

(Reason: Jurisdictions change “75 feet” to “55 feet”.)

****Section 1020.1 Construction; add exception 6 to read as follows:**

6. In group B occupancies, corridor walls and ceilings need not be of fire-resistive construction within a single tenant space when the space is equipped with approved automatic smoke-detection within the corridor. The actuation of any detector shall activate self-annunciating alarms audible in all areas within the corridor. Smoke detectors shall be connected to an approved automatic fire alarm system where such system is provided.

(Reason: Revise the 2012 published NCTCOG amendment to this section to now read closer to that of the City of Dallas 2012 amendment.)

****Section 1029.1.1.1 Delete this section. Spaced under grandstands and bleachers;**

(Reason: Unenforceable)

*****Section 1101.1 Scope. Add exception to Section 1101.1 as follows:**

Exception: Components of projects regulated by and registered with Architectural Barriers Division of Texas Department of Licensing and Regulation shall be deemed to be in compliance with the requirements of this chapter.

(Reason: To accommodate buildings regulated under state law. Further clarified in 2015 to mean components that are specifically addressed by TDLR shall be exempt.)

***Section 1203.1; amend to read as follows:

***1203.1 **General.** Buildings shall be provided with natural ventilation in accordance with Section 1203.4, or mechanical ventilation in accordance with *International Mechanical Code*.

Where air infiltration rate in a *dwelling unit* is less than 5 air changes or less per hour when tested with a blower door at a pressure of 0.2 inch w.c. (50 Pa) in accordance with Section 402.4.1.2 of the *International Energy Conservation Code*, the dwelling unit shall be ventilated by mechanical means in accordance with Section 403 of the *International Mechanical Code*.

(Reason: See IECC change to performance testing. Whole-house ventilation is recognized as necessary.)

**Table 1505.1; delete footnote c and replace footnote b with the following:

b. Non-classified roof coverings shall be permitted on buildings of U occupancies having not more than 120 sq. ft. of protected roof area. When exceeding 120 sq. ft. of protected roof area, buildings of U occupancies may use non-rated non-combustible roof coverings.

e. [delete]

(Reason: Conforms to regional practice affording increased fire protection.)

**Section 1505.7; delete the section

(Reason: Conforms to regional practice.)

**Section 1510.1; add a sentence to read as follows:

1510.1 General. Materials and methods of applications used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 15. All individual replacement shingles or shakes shall be in compliance with the rating required by Table 1505.1.

{text of exception unchanged}

(Reason: Relocated the text to more appropriate place. Previously was footnote "b" to Table 1505.1)

***Section 1704.2, Special Inspections and tests is amended to read as follows:

1704.2 Special inspections and tests. Where application is made to the Building Official for construction as specified in Section 105, the owner or the owner's authorized agent, or the registered design

professional in responsible charge, other than the contractor, shall employ one or more approved agencies to provide special inspections and tests during construction on the types of work listed under Section 1705 and identify the approved agencies to the Building Official. The special inspector shall not be employed by the contractor. These special inspections and tests are in addition to the inspections identified by the Building Official that are identified in Section 110.

(Reason: The Registered Design Professional in Responsible Charge (RDPRC) should be included in the documentation.)

***Section 1704.2.1, Special inspector qualifications, is amended to read as follows:

1704.2.1 Special inspector qualifications. Prior to the start of construction and or upon request, the approved agencies shall provide written documentation to the registered design professional in responsible charge and the building official demonstrating the competence and relevant experience or training of the special inspectors who will perform the special inspections and tests during construction. [Remainder unchanged]

(Reason: The Registered Design Professional in Responsible Charge (RDPRC) should be included in the documentation.)

***Section 1704.2.4, Report requirement, is amended to read as follows:

1704.2.4 Report requirement. Approved agencies shall keep records of special inspections and tests. The approved agency shall submit reports of special inspections and tests to the Building Official upon request, and to the registered design professional in responsible charge. Individual inspection reports ~~[Reports]~~ shall indicate that work inspected or tested was or was not completed in conformance to approved construction documents. [Remainder unchanged]

(Reason: The Registered Design Professional in Responsible Charge (RDPRC) should be included in the documentation and building official can choose to request reports as required.)

***Section 1704.2.5.2, Fabricator approval, is amended to read as follows:

1704.2.5.1 Fabricator approval. Special inspections during fabrications required by Section 1704 are not required where the work is done on the premises of a fabricator registered and approved to perform such work without special inspection. Approval shall be based upon review of the fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved agency, or a fabricator that is enrolled in a nationally accepted inspections program. At completed of fabrication, the acceptable or approved fabricator shall submit a certificate of compliance to the owner or the owner's authorized agent or the registered design professional in responsible charge, for submittal to the building official as specified in Section 1704.5 stating that the work was performed in accordance with the approved construction documents. The certificate of compliance shall also be made available to the Building Official upon request.

(Reason: The Registered Design Professional in Responsible Charge (RDPRC) should be included in the documentation and fabricators can be accepted or approved.)

****Section 2901.1; add a sentence to read as follows:**

[P] 2901.1 Scope. *{existing text to remain}* The provisions of the Chapter are meant to work in coordination with the provisions of Chapter 4 of the International Plumbing Code. Should any conflicts arise between the two chapters, the Building Official shall determine which provision applies.

(Reason: Gives building official discretion.)

****Section 2902.1; add a second paragraph to read as follows:**

In other than E Occupancies, the minimum number of fixtures in Table 2902.1 may be lowered, if requested in writing, by the applicant stating reasons for a reduced number and approved by the Building Official.

(Reason: To allow flexibility for designer to consider specific occupancy needs.)

****Section 2902.1; add footnote f to read as follows:**

f. Drinking fountains are not required in M Occupancies with an occupant load of 100 or less, B Occupancies with an occupant load of 25 or less, and for dining and/or drinking establishments.

(Reason: Adjustment meets the needs of specific occupancy types.)

****Section 2902.1.3; add new Section 2902.1.3 to read as follows:**

2902.1.3 Additional fixtures for food preparation facilities. In addition to the fixtures required in this Chapter, all food service facilities shall be provided with additional fixtures set out in this section.

2902.1.3.1 Hand washing lavatory. At least one hand washing lavatory shall be provided for use by employees that is accessible from food preparation, food dispensing and ware washing areas. Additional hand washing lavatories may be required based on convenience of use by employees.

2902.1.3.2 Service sink. In new or remodeled food service establishments, at least one service sink or one floor sink shall be provided so that it is conveniently located for the cleaning of mops or similar wet floor cleaning tool and for the disposal of mop water and similar liquid waste. The location of the service sink(s) and/or mop sink(s) shall be approved by the Tarrant County health department.

(Reason: Coordinates Health law requirements with code language for consistent regional practice.)

*****Section 3002.1 Hoistway Enclosure Protection. Add exceptions to read as follows:**

Exceptions:

1. Elevators wholly located within atriums complying with Section 404 shall not require hoistway enclosure protection.
2. Elevators in open or enclosed parking garages that serve only the parking garage, and complying with Sections 406.5 and 406.6, respectively, shall not require hoistway enclosure protection.

(Reason: Provides specific Code recognition that elevators within atriums and within parking garages do not require hoistway enclosure protection.)

*****Section 3005.4 Machine rooms, control rooms, machinery spaces and control spaces.**

Delete text as follows: ~~Elevator machine rooms, control rooms, control spaces and machinery spaces outside of but attached to a hoistway that have openings into the hoistway shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both.~~

Revise text to read: Elevator machine rooms, control rooms, control spaces and machinery spaces shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both.

[Remainder unchanged]

(Reason: This amendment eliminates code language so as to be consistent with the regional goal to require passive enclosures of these areas unless a hoistway enclosure is not required by other Code provisions. See companion change to eliminate fire sprinklers hereby eliminating shunt trip.)

*****Section 3005.7 add a Section 3005.7 as follows:**

3005.7 Fire Protection in Machine rooms, control rooms, machinery spaces and control spaces.

3005.7.1 Automatic sprinkler system. The building shall be equipped throughout with an automatic sprinkler system and in accordance with Section 903.3.1.1. except as otherwise permitted by Section 903.3.1.1.1. and as prohibited by Section 3005.7.2.1.

3005.7.2.1 Prohibited locations. Automatic sprinklers shall not be installed in machine rooms, elevator machinery spaces, control rooms, control spaces and elevator hoist-ways.

3005.7.2.2. Sprinkler system monitoring. The sprinkler system shall have a sprinkler control valve supervisory switch and water-flow initiating device provided for each floor that is monitored by the building's fire alarm system.

3005.7.3 Water protection. An approved method to prevent water from infiltrating into the hoistway enclosure from the operation of the automatic sprinkler system outside the elevator lobby shall be provided.

3005.7.4 Shunt trip. Means for elevator shutdown in accordance with Section 3005.5 shall not be installed.

(Reason: Firefighter and public safety. This amendment eliminates the shunt trip requirement of the International Building Code Section 3005.5 for the purpose of elevator passenger and firefighter safety. The new section above is intended to be identical to Sections 3007.2, 3007.3, and 3007.4 for Fire Service Access Elevators and Section 3008.2, 3008.3, and 3008.4 for Occupant Evacuation Elevators.)

*****Section 3005.8 add Section 3005.8 as follows:**

3005.8 Storage. Storage shall not be allowed within the elevator machine room, control room, machinery spaces and or control spaces. Provide approved signage at each entry to the above listed locations stating “No Storage Allowed”.

(Reason: Reinforces the need to maintain space clean and free of combustibles. See companion change to eliminate fire sprinklers therein, to always require an enclosure – with IBC 3005.4 exceptions deleted – resulting in the limited need for a shunt trip system.)

***Section 3006.2, Hoistway opening protection required. Revise text as follows:

5. The building is a high rise and the elevator hoistway is more than ~~75 feet (22 860 mm)~~ 55 feet (16 764 mm) in height. The height of the hoistway shall be measured from the lowest floor at or above grade to the highest floors served by the hoistway.

(Reason: 2015 IBC text does not address hoistways that are > 75’ in height that are both below grade and above grade but not located above the high rise classification nor does the IBC address hoistways wholly located above grade such as those that serve above sky lobbies.)

**Section 3109.1; change to read as follows:

3109.1 General. Swimming pools shall comply with the requirements of sections 3109.2 through 3109.5 and other applicable sections of this code and complying with applicable state laws.

(Reason: To recognize “state requirements”.)

EXHIBIT B
LOCAL AMENDMENTS
TO 2015 INTERNATIONAL RESIDENTIAL CODE

The following sections, paragraphs, and sentences of the *2012 International Residential Code* are hereby amended as follows: Standard type is text from the IRC. Underlined type is text inserted. ~~Lined through type is deleted text from IRC.~~ A double asterisk at the beginning of a section identifies an amendment carried over from the 2012 edition of the code and a triple asterisk identifies a new or revised amendment with the 2015 code.

In 2009, **the State Legislature enacted SB 1410 prohibiting cities from enacting fire sprinkler mandates in residential dwellings.** However, jurisdictions with ordinances that required sprinklers for residential dwellings prior to and enforced before January 1, 2009, may remain in place. Reference, Section R313 Automatic Fire Sprinkler Systems.

The energy provisions in Chapter 11 of the International Residential Code (IRC) mirror the requirements of the International Energy Conservation Code (IECC). IRC Chapter 11 is deleted in its entirety. **Reference the 2015 IECC for energy code provisions and recommended amendments.**

****Section R102.4; change to read as follows:**

R102.4 Referenced codes and standards. The codes, when specifically adopted, and standards referenced in this code shall be considered part of the requirements of this *code* to the prescribed extent of each such reference and as further regulated in Sections R102.4.1 and R102.4.2. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well. Any reference made to NFPA 70 or the *Electrical Code* shall mean the *Electrical Code* as adopted.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes. Note: the former ICC Electrical Code is now Appendix K of the IBC, but no longer called by that name. If adopting in that location, be sure to include language that includes structures under IRC and IBC.)

****Section R110 (R110.1 through R110.5); delete the section.**

(Reason: Issuing CO's for residences is not a common practice in the area.)

****Section R202; change definition of "Townhouse" to read as follows:**

TOWNHOUSE. A single-family dwelling unit constructed in a group of three or more attached units separated by property lines in which each unit extends from foundation to roof and with a yard or public way on at least two sides.

(Reason: To distinguish Townhouses on separate lots.)

****Table R301.2 (1); fill in as follows:**

GROUND SNOW LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY ^F A	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^E 22° F	ICE BARRIER UNDER- LAYMENT ^H No	FLOOD HAZARDS ^G Local Code	AIR FREEZING INDEX ^I 150	MEAN ANNUAL TEMP ^J 64.9° F
	SPEED ^D (MPH)	Topographic Effects ^K	Special Wind Region ^L	Windborne Debris Zone ^M		Weathering A	Front Line Depth ^B	Termite ^C					
	5 lb/ft	115 (3 sec- gust)/ 76 fastest mile	NO	NO	NO	Moderate	6"	Very Heavy					

(Reason: To promote regional uniformity.)

****Section R302.1; add exception #6 to read as follows:**

Exceptions: {previous exceptions unchanged}

6. Open non-combustible carport structures may be constructed when also approved within adopted ordinances.

(Reason: Refers to other ordinances, such as zoning ordinances.)

****Section R302.3; add Exception #3 to read as follows:**

Exceptions:

1. {existing text unchanged}
2. {existing text unchanged}
3. Two-family dwelling units that are also divided by a property line through the structure shall be separated as required for townhouses.

(Reason: Provide guidance for a common construction method in this area. Correlates with amendment to IRC Section R202 Townhouse definition.)

*****Section R302.5.1; change to read as follows:**

R302.5.1 Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 13/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 13/8 inches (35 mm) thick, or 20-minute fire-rated doors ~~equipped with a self-closing device.~~

(Reason: Absence of data linking self-closing devices to increased safety. Self-closing devices often fail to close the door entirely.)

****Section R303.3, Exception; amend to read as follows:**

Exception: {existing text unchanged} Exhaust air from the space shall be exhaust out to the outdoors unless the space contains only a water closet, a lavatory, or water closet and a lavatory may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

(Reason: Consistent with common local practice as recirculating fans are recognized as acceptable air movement.)

Section R313 Automatic Fire Sprinkler Systems. Delete subsections in their entirety.

(Reason: In 2009, the State Legislature enacted SB 1410 prohibiting cities from enacting fire sprinkler mandates in residential dwellings. However, jurisdictions with ordinances that required sprinklers for residential dwellings prior to and enforced before January 1, 2009, may remain in place.)

*****Section R315.2.2 Alterations, repairs and additions. Amend to read as follows:**

Exception:

2. Installation, alteration or repairs of electrical powered {remaining text unchanged}

(Reason: Code intent to protect against the products of combustion.)

*****Section R326 Swimming Pools, Spas and Hot Tubs. Amended to read as follows:**

R326.1 General. The design and construction of pools and spas shall comply with the ~~International Swimming Pool and Spa Code~~ **2015 IRC Appendix Q. Swimming Pools, Spas and Hot Tubs.**

(Reason: New Pool and Spa code not under review. In lieu of adoption of new pool code, previous edition of 2012 Appendix G is proposed for continued use but renamed 2015 Appendix Q.)

****Section R401.2, amended by adding a new paragraph following the existing paragraph to read as follows:**

Section R401.2. Requirements. {existing text unchanged} ...

Every foundation and/or footing, or any size addition to an existing post-tension foundation, regulated by this code shall be designed and sealed by a Texas-registered engineer.

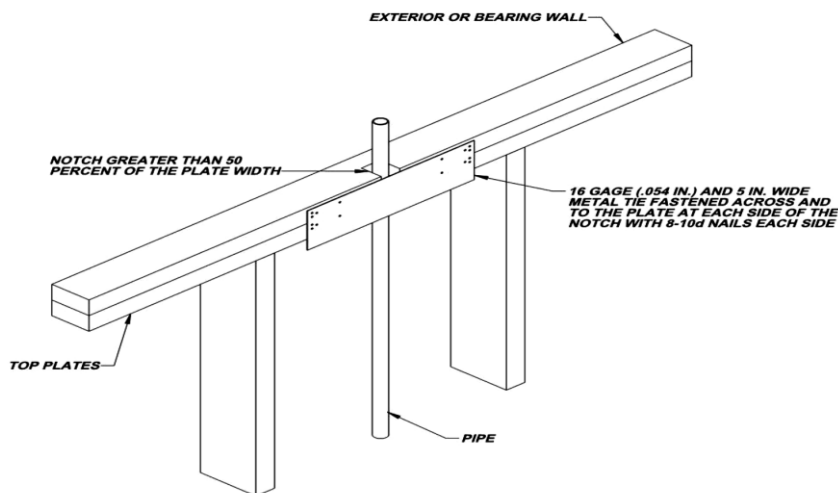
(Amendment to 2012 IRC carried forward to 2015 IRC.)

****Section R602.6.1; amend the following:**

R602.6.1 Drilling and notching of top plate. When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than 50 percent of its width, a galvanized metal tie not less than 0.054 inch thick (1.37 mm) (16 Ga) and ~~1 ½ inches (38 mm)~~ 5 inches (127 mm) wide shall be fastened across and to the plate at each side of the opening with not less than eight 10d (0.148 inch diameter) having a minimum length of 1 ½ inches (38 mm) at each side or equivalent. Fasteners will be offset to prevent splitting of the top plate material. The metal tie must extend a minimum of 6 inches past the opening. See figure R602.6.1. {remainder unchanged}

(Amendment to 2012 IRC carried forward to 2015 IRC.)

****Figure R602.6.1; delete the figure and insert the following figure:**



(Amendment to 2012 IRC carried forward to 2015 IRC also provides additional assurance of maintaining the integrity of the framing by spreading the nailing pattern.)

****Section R703.8.4.1; add a second paragraph to read as follows:**

In stud framed exterior walls, all ties shall be anchored to studs as follows:

1. When studs are 16 in (407 mm) o.c., stud ties shall be spaced no further apart than 24 in (737 mm) vertically starting approximately 12 in (381 mm) from the foundation; or
2. When studs are 24 in (610 mm) o.c., stud ties shall be spaced no further apart than 16 in (483 mm) vertically starting approximately 8 in (254 mm) from the foundation.

(Reason: Amendment to 2012 IRC carried forward to 2015 IRC. Provide easy to install and inspect dimensions to clarify how to anchor and to distinguish “studs” from other types of construction.)

****Section R902.1; Amend and add exception #3 to read as follows:**

R902.1 Roofing covering materials. Roofs shall be covered with materials as set forth in Sections R904 and R905. Class A, B, or C roofing shall be installed in areas designated by law as requiring their use or when the edge of the roof is less than 3 feet from a lot line. {remainder unchanged}

Exceptions:

1. {text unchanged}
2. {text unchanged}
3. {text unchanged}
4. {text unchanged}
5. Non-classified roof coverings shall be permitted on one-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 175 square feet.

(Reason: to address accessory structures Group U exempt from permits per Section R105.2)

***** Chapter 11 [RE] – Energy Efficiency is deleted in its entirety and replaced with the following:**

N1101.1 Scope. This chapter regulates the energy efficiency for the design and construction of buildings regulated by this code.

N1101.2 Compliance. Compliance shall be demonstrated by meeting the requirements of the residential provisions of 2015 International Energy Conservation Code.

(Reason: The text of the residential provisions of the 2015 IRC is extracted from the 2015 editions of the International Energy Conservation Code – Residential Provisions and has been editorially revised to conform to the scope and application of this code. The section numbers appearing in parenthesis after each section number are the section numbers of the corresponding text in the International Energy Conservation Code – Residential Provisions. This approach simply minimizes the number of amendments to the IRC.)

****Section M1305.1.3; change to read as follows:**

M1305.1.3 Appliances in attics. Attics containing *appliances* shall be provided . . . {bulk of paragraph unchanged} . . . sides of the appliance where access is required. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), or larger and large enough to allow

removal of the largest appliance. A walkway to an appliance shall be rated as a floor as approved by the building official. As a minimum, for access to the attic space, provide one of the following:

1. A permanent stair.
2. A pull down stair with a minimum 300 lb (136 kg) capacity.
3. An access door from an upper floor level.

Exceptions:

1. The passageway and level service space are not required where the appliance can be services and removed through the required opening.
2. Where the passageway is unobstructed...{remaining text unchanged}

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Consistent with regional amendment to IFGC and IMC 306.3.)

****Section M1411.3; change to read as follows:**

M1411.3 Condensate disposal. Condensate from all cooling coils or evaporators shall be conveyed from the drain pan outlet to ~~an approved place of disposal~~ a sanitary sewer through a trap, by means of a direct or indirect drain. {remaining text unchanged}

(Reason: Reflects regional practice and to reduce excessive runoff into storm drains.)

****Section M1411.3.1, Items 3 and 4; add text to read as follows:**

M1411.3.1 Auxiliary and secondary drain systems. {bulk of paragraph unchanged}

1. {text unchanged}
2. {text unchanged}
3. An auxiliary drain pan... {bulk of text unchanged}... with Item 1 of this section. A water level detection device may be installed only with prior approval of the building official.
4. A water level detection device... {bulk of text unchanged}... overflow rim of such pan. A water level detection device may be installed only with prior approval of the building official.

(Reason: Reflects standard practice in this area.)

****Section M1411.3.1.1; add text to read as follows:**

M1411.3.1.1 Water-level monitoring devices. On down-flow units ...{bulk of text unchanged}... installed in the drain line. A water level detection device may be installed only with prior approval of the building official.

(Reason: Reflects standard practice in this area.)

****M1503.4 Makeup Air Required; Amend and add exception as follows:**

M1503.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of 400 cubic feet per minute (0.19 m³/s) shall be provided with makeup air at a rate approximately equal to the difference between the exhaust air rate and 400 cubic feet per minute. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

Exception: Where all appliances in the house are of sealed combustion, power-vent, unvented, or electric, the exhaust hood system shall be permitted to exhaust up to 600 cubic feet per minute (0.28 m³/s) without providing makeup air. Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute (0.28 m³/s) shall be provided with a makeup air at a rate approximately equal to the difference between the exhaust air rate and 600 cubic feet per minute.

(Reason: Exception requires makeup air equaling the amount above and beyond 400 cfm for larger fan which will address concerns related to “fresh” air from the outdoors in hot humid climates creating a burden on HVAC equipment and negative efficiency impacts from back-drafting and wasted energy.)

****Section M2005.2; change to read as follows:**

M2005.2 Prohibited locations. Fuel-fired water heaters shall not be installed in a room used as a storage closet. Water heaters located in a bedroom or bathroom shall be installed in a sealed enclosure so that *combustion* air will not be taken from the living space. Access to such enclosure may be from the bedroom or bathroom when through a solid door, weather-stripped in accordance with the exterior door air leakage requirements of the International Energy Conservation Code and equipped with an approved self-closing device. Installation of direct-vent water heaters within an enclosure is not required.

(Reason: Corresponds with the provisions of IFGC Section 303, exception #5.)

****Section G2408.3 (305.5); delete.**

(Reason: This provision does not reflect standard practice in this area.)

****Section G2415.2.1 (404.2.1); add a second paragraph to read as follows:**

Both ends of each section of medium pressure gas piping shall identify its operating gas pressure with an approved tag. The tags are to be composed of aluminum or stainless steel and the following wording shall be stamped into the tag:

“WARNING: 1/2 to 5 psi gas pressure – Do Not Remove”

(Reason: To protect homeowners and plumbers.)

****Section G2415.2.2 (404.2.2); add an exception to read as follows:**

Exception: Corrugated stainless steel tubing (CSST) shall be a minimum of 1/2" (18 EDG).

(Reason: Pipe less than 1/2" has a history in this region of causing whistling.)

****Section G2415.12 (404.12); change to read as follows:**

G2415.12 (404.12) Minimum burial depth. Underground piping systems shall be installed a minimum depth of ~~12 inches (305 mm)~~ 18 inches (457 mm) below grade, ~~except as provided for in Section G2415.12.1.~~

(Reason: To provide increased protection to piping systems.)

****Section G2417.1 (406.1); change to read as follows:**

G2417.1 (406.1) General. Prior to acceptance and initial operation, all piping installations shall be inspected and pressure tested to determine that the materials, design, fabrication, and installation practices comply with the requirements of this code. The permit holder shall make the applicable tests prescribed in Sections 2417.1.1 through 2417.1.5 to determine compliance with the provisions of this code. The permit holder shall give reasonable advance notice to the building official when the piping system is ready for testing. The equipment, material, power and labor necessary for the inspections and test shall be furnished by the permit holder and the permit holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests.

(Reason: To utilize language used in the IPC regarding who is responsible for testing procedures.)

****Section G2417.4; change to read as follows:**

G2417.4 (406.4) Test pressure measurement. Test pressure shall be measured with a monometer or with a pressure-measuring device designed and calibrated to read, record, or indicate a pressure loss cause by leakage during the pressure test period. The source of pressure shall be isolated before the pressure tests are made. ~~Mechanical gauges used to measure test pressures shall have a range such that the highest end of the scale is not greater than five times the test pressure.~~

(Reason: To require the use of more accurate diaphragm gauges. Spring gauges do not provide accurate measurement below approximately 17 psig.)

****Section G2417.4.1; change to read as follows:**

G2417.4.1 (406.4.1) Test pressure. The test pressure to be used shall be no less than 3 psig (20 kPa gauge), or at the discretion of the Code Official, the piping and valves may be tested at a pressure of at least six (6) inches (152 mm) of mercury, measured with a manometer or slope gauge, irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe. For tests requiring a pressure of 3 psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one half inches (3 ½”), a set hand, 1/10 pound incrementation and pressure range not to exceed 6 psi for tests requiring a pressure of 3 psig. For tests requiring a pressure of 10 psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half inches (3 ½”), a set hand, a minimum of 2/10 pound incrementation and a pressure range not to exceed 20 psi. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa) (1/2 psi) and less than 200 inches of water column pressure (52.2 kPa) (7.5 psi), the test pressure shall be not less than one and one-half times the proposed maximum working pressure.

Diaphragm gauges used for testing must display a current calibration and be in good working condition. The appropriate test must be applied to the diaphragm gauge used for testing.

(Reason: To provide for lesser pressures to coordinate with the use of more accurate diaphragm gauges.)

****Section G2417.4.2; change to read as follows:**

G2417.4.2 (406.4.2) Test duration. The test duration shall be held for a length of time satisfactory to the Building Official, but in no case for be not less than 10 fifteen (15) minutes. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa), the test duration shall be held for a length of time satisfactory to the Building Official, but in no case for less than thirty (30) minutes.

(Reason: To comply with accepted regional practices.)

****Section G2420.1 (406.1); add Section G2420.1.4 to read as follows:**

G2420.1.4 Valves in CSST installations. Shutoff valves installed with corrugated stainless steel (CSST) piping systems shall be supported with an approved termination fitting, or equivalent support, suitable for the size of the valves, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration but in no case greater than 12-inches from the center of the valve. Supports shall be installed so as not to interfere with the free expansion and contraction of the system’s piping, fittings, and valves between anchors. All valves and supports shall be designed and installed so they will not be disengaged by movement of the supporting piping.

(Reason: To provide proper security to CSST valves. These standards were established in this region in 1999 when CSST was an emerging technology.)

****Section G2420.5.1 (409.5.1); add text to read as follows:**

G2420.5.1 (409.5.1) Located within the same room. The shutoff valve ...*{bulk of paragraph unchanged}*... in accordance with the appliance manufacturer's instructions. A secondary shutoff valve must be installed within 3 feet (914 mm) of the firebox if appliance shutoff is located in the firebox.

(Reason: Reflects regional practice and provides an additional measure of safety.)

****Section G2421.1 (410.1); add text and Exception to read as follows:**

G2421.1 (410.1) Pressure regulators. A line pressure regulator shall be ...*{bulk of paragraph unchanged}*... approved for outdoor installation. Access to regulators shall comply with the requirements for access to appliances as specified in Section M1305.

Exception: A passageway or level service space is not required when the regulator is capable of being serviced and removed through the required attic opening.

(Reason: To require adequate access to regulators.)

****Section G2422.1.2.3 (411.1.3.3); delete Exception 1 and Exception 4.**

(Reason: To comply with accepted regional practices.)

****Section G2445.2 (621.2); add Exception to read as follows:**

G2445.2 (621.2) Prohibited use. One or more unvented room heaters shall not be used as the sole source of comfort heating in a dwelling unit.

Exception: Existing approved unvented room heaters may continue to be used in dwelling units, in accordance with the code provisions in effect when installed, when approved by the Building Official unless an unsafe condition is determined to exist as described in International Fuel Gas Code Section 108.7 of the Fuel Gas Code.

(Reason: Gives code official discretion.)

****Section G2448.1.1 (624.1.1); change to read as follows:**

G2448.1.1 (624.1.1) Installation requirements. The requirements for water heaters relative to access, sizing, relief valves, drain pans and scald protection shall be in accordance with this code.

(Reason: To clarify installation requirements. Also corresponds with amendments regarding water heater access.)

*****Section P2801.6.1; change to read as follows:**

Section P2801.6.1 Pan size and drain. The pan shall not be less than 1 ½ inches (38 mm) in depth and shall be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a diameter of not less than ¾ inch (19 mm). Piping for safety pan drains shall be of those materials listed in Table 605.4. Multiple pan drains may terminate a single discharge piping system when approved by the administrative authority and permitted by the manufactures installation instructions and installed with those instructions.

*****Section P2804.6.1; change to read as follows:**

Section P2804.6.1 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap ~~located in the same room as the water heater.~~
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

Exception: Multiple relief devices may be installed to a single T & P discharge piping system when approved by the administrative authority and permitted by the manufactures installation instructions and installed with those instructions.

5. Discharge ~~to the floor,~~ to an indirect waste receptor or to the outdoors.

[remainder unchanged]

(Reason: To ensure the T&P is ran to the exterior.)

****Section P2801.7; add Exception to read as follows:**

Exceptions:

1. Electric Water Heater.

(Reason: To coordinate with Section 2408.2 of the IRC, which recognizes this exception.)

****Section P2902.5.3; change to read as follows:**

P2902.5.3 Lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a double-check assembly or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer.

(Reason: To provide clarity.)

*****Section P3009.9; change to read as follows:**

P3003.9. Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASM D 2855. Solvent cement joints shall be permitted above or below ground.

Exception: A primer is not required where both of the following conditions apply.

1. The solvent cement used is third-party certified as conforming to ASTM D 2564.
2. The solvent cement is used only for joining PVC drain, waste, and vent pipe and fitting in not pressure applications in sizes up to and including 4 inches (102mm) in diameter.

(Reasoning: to keep the “process of joining PVC pipe”)

****Section P3111; delete.**

(Reason: A combination waste and vent system is not approved for use in residential construction.)

****Section P3112.2; delete and replace with the following:**

P3112.2 Installation. Traps for island sinks and similar equipment shall be roughed in above the floor and may be vented by extending the vent as high as possible, but not less than the drainboard height and then returning it downward and connecting it to the horizontal sink drain immediately downstream from the vertical fixture drain. The return vent shall be connected to the horizontal drain through a wye-branch fitting and shall, in addition, be provided with a foot vent taken off the vertical fixture vent by means of a wye-branch immediately below the floor and extending to the nearest partition and then through the roof to the open air and may be connected to other vents at a point not less than six (6) inches (152 mm) above the flood level rim of the fixtures served. Drainage fittings shall be used on all parts of the vent below the floor level and a minimum slop of one-quarter (1/2) inch per foot (20.9 mm/m) back to the drain shall be

maintained. The return bend used under the drain-board shall be a one (1) piece fitting or an assembly of a forty-five (45) degree (0.79 radius), a ninety (90) degree (1.6 radius) and a forty-five (45) degree (0.79 radius) elbow in the order named. Pipe sizing shall be as elsewhere required in this Code. The island sink drain, upstream of the return vent, shall serve no other fixtures. An accessible cleanout shall be installed in the vertical portion of the foot vent.

(Reason: To clarify the installation of island venting and to provide a regional guideline on a standard installation method for this region.)

*****Appendix Q Reserved. Amended to read as follows:**

Appendix Q. Swimming Pools, Spas and Hot Tubs.

SECTION AQ101 GENERAL

AQ101.1 General.

The provisions of this appendix shall control the design and construction of swimming pools, spas and hot tubs installed in or on the lot of a one- or two-family dwelling.

AQ101.2 Pools in flood hazard areas.

Pools that are located in flood hazard areas established by Table R301.2(1), including above-ground pools, on-ground pools and in-ground pools that involve placement of fill, shall comply with Section AQ101.2.1 or AQ101.2.2.

Exception: Pools located in riverine flood hazard areas which are outside of designated floodways.

AQ101.2.1 Pools located in designated floodways.

Where pools are located in designated floodways, documentation shall be submitted to the building official which demonstrates that the construction of the pool will not increase the design flood elevation at any point within the jurisdiction.

AQ101.2.2 Pools located where floodways have not been designated.

Where pools are located where design flood elevations are specified but floodways have not been designated, the applicant shall provide a floodway analysis that demonstrates that the proposed pool will not increase the design flood elevation more than 1 foot (305 mm) at any point within the jurisdiction.

SECTION AQ102 DEFINITIONS

AQ102.1 General.

For the purposes of these requirements, the terms used shall be defined as follows and as set forth in Chapter 2.

ABOVE-GROUND/ON-GROUND POOL. See “Swimming pool.”

BARRIER. A fence, wall, building wall or combination thereof which completely surrounds the swimming pool and obstructs access to the swimming pool.

HOT TUB. See “Swimming pool.”

IN-GROUND POOL. See “Swimming pool.”

RESIDENTIAL. That which is situated on the premises of a detached one- or two-family dwelling, or a one-family townhouse not more than three stories in height.

SPA, NONPORTABLE. See “Swimming pool.”

SPA, PORTABLE. A nonpermanent structure intended for recreational bathing, in which all controls, water-heating and water-circulating equipment are an integral part of the product.

SWIMMING POOL. Any structure intended for swimming or recreational bathing that contains water more than 24 inches (610 mm) deep. This includes in-ground, above-ground and on-ground swimming pools, hot tubs and spas.

SWIMMING POOL, INDOOR. A swimming pool which is totally confined within a structure and surrounded on all four sides by the walls of the enclosing structure.

SWIMMING POOL, OUTDOOR. Any swimming pool which is not an indoor pool.

SECTION AQ103 SWIMMING POOLS.

AQ103.1 In-ground pools.

In-ground pools shall be designed and constructed in compliance with ANSI/NSPI-5.

AQ103.2 Above-ground and on-ground pools.

Above-ground and on-ground pools shall be designed and constructed in compliance with ANSI/NSPI-4.

AQ103.3 Pools in flood hazard areas.

In flood hazard areas established by Table R301.2 (1), pools in coastal high-hazard areas shall be designed and constructed in compliance with ASCE 24.

SECTION AQ104 SPAS AND HOT TUBS

AQ104.1 Permanently installed spas and hot tubs.

Permanently installed spas and hot tubs shall be designed and constructed in compliance with ANSI/NSPI-3.

AQ104.2 Portable spas and hot tubs.

Portable spas and hot tubs shall be designed and constructed in compliance with ANSI/NSPI-6.

SECTION AQ105 BARRIER REQUIREMENTS.

AQ 105.1 Application.

The provisions of this appendix shall control the design of barriers for residential swimming pools, spas and hot tubs. These design controls are intended to provide protection against potential drownings and near-drownings by restricting access to swimming pools, spas and hot tubs.

AQ105.2 Outdoor swimming pool. An outdoor swimming pool, including an in-ground, above-ground or on-ground pool, hot tub or spa shall be surrounded by a barrier which shall comply with the following:

1. The top of the barrier shall be at least 48 inches (1219mm) above grade measured on the side of the barrier, which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches (51mm) measured on the side of the barrier, which faces away from the swimming pool. Where the top of the pool structure is above grade, such as an above-ground pool, the barrier may be at ground level, such as the pool structure, or mounted on top of the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches (102mm).

2. Openings in the barrier shall not allow passage of a 4-inch diameter (102mm) sphere.

3. Solid barriers which do not have openings, such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.

4. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1.75 inches (44mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44mm) in width.

5. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143mm) or more, spacing between vertical members shall not exceed 4 inches (102mm). Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 (44mm) in width.

6. Maximum mesh size for chain link fences shall be a 2.25-inch (57mm) square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to not more than 1.75 inches (44mm).

7. Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall not be more than 1.75 inches (44mm).

8. Access gates shall comply with the requirements of Section AQ105.2, Items 1 through 7, and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the

pool and shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches (1372mm) from the bottom of the gate, the release mechanism and openings shall comply with the following:

8.1. The release mechanism shall be located on the pool side of the gate at least 3 inches (76 mm) below the top of the gate, and

8.2. The gate and barrier shall have not opening greater than 0.5 inch (13 mm) within 18 inches (457 mm) of the release mechanism.

9. Where a wall of a dwelling serves a part of the barrier one of the following conditions shall be met:

9.1. The pool shall be equipped with a powered safety cover in compliance with ASTM F1346; or

9.2. Doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warned when the door and/or its screen, if present, are opened. The alarm shall be listed and labeled in accordance with UL 2017. The deactivation switch (es) shall be located at least 54 inches (1372 mm) above the threshold of the door; or

9.3. Other means of protection, such as self-closing doors with self-latching devices, which are approved by the governing body, shall be acceptable as long as the degree of protection afforded is not less than the protection afforded by Item 9.1 or 9.2 described above.

10. Where an above-ground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure and the means of access is a ladder or steps, then:

10.1. The ladder or steps shall be capable of being secured, locked or removed to prevent access, or

10.2. The ladder or steps shall be surrounded by a barrier which meets the requirements of Section AQ105.2, Items 1 through 9. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a 4-inch diameter (102 mm) sphere.

AQ105.3 Indoor swimming pool. Walls surrounding an indoor swimming pool shall comply with Section AQ105.2, Item 9.

AQ105.4 Prohibited locations. Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb them.

AQ105.5 Barrier exceptions. Spas or hot tubs with a safety cover which complies with ASTM F 1346, as listed in Section AQ107, shall be exempt from the provisions of this appendix.

SECTION AQ106 ENTRAPMENT PROTECTION FOR SWIMMING POOL AND SPA SUCTION OUTLETS

AQ106.1 General.

Suction outlets shall be designed and installed in accordance with ANSI/APSP-7.

SECTION AQ107 ABBREVIATIONS

AQ107.1 General.

ANSI – American National Standards Institute
11 West 42nd Street
New York, NY 10036

APSP – Association of Pool and Spa Professionals
NSPI – National Spa and Pool Institute
2111 Eisenhower Avenue
Alexandria, VA 22314

ASCE – American Society of Civil Engineers
1801 Alexander Bell Drive
Reston, VA 98411-0700

ASTM – ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428

UL – Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, IL 60062-2096

SECTION AQ108 REFERENCED STANDARDS

AQ108.1 General.

ANSI/NSP

<u>ANSI/NSPI-</u> <u>3-99</u>	<u>Standard for Permanently Installed</u> <u>Residential Spas</u>	<u>AQ104.1</u>
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<u>ANSI/NSPI-</u> <u>4-99</u>	<u>Standard for Above-ground/</u> <u>On-ground Residential</u> <u>Swimming Pools</u>	<u>AQ103.2</u>
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<u>ANSI/NSPI-</u> <u>5-03</u>	<u>Standard for Residential</u> <u>In-ground Swimming Pools</u>	<u>AQ103.1</u>
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<u>ANSI/NSPI-</u> <u>6-99</u>	<u>Standard for Residential</u> <u>Portable Spas</u>	<u>AQ104.2</u>
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ANSI/APSP

<u>ANSI/APSP-7-06</u>	<u>Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs and Catch Basins</u>	<u>AQ106.1</u>
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ASCE

<u>ASCE/SEI-24-05</u>	<u>Flood-resistant Design and Construction</u>	<u>AQ103.3</u>
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ASTM

<u>ASTM F1346-91 (2003)</u>	<u>Performance Specification for Safety Covers and Labeling Requirements for All Covers For Swimming Pools Spas and Hot Tubs</u>	<u>AQ 105.2, AQ105.5</u>
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UL

<u>UL 2017-2000</u>	<u>Standard for General-purpose Signaling Devices and Systems – with revisions through June 2004</u>	<u>AQ105.2</u>
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(Reason: New Pool and Spa code not under review. In lieu of adoption of new pool code, previous edition of 2012 Appendix G is proposed for continued use but renamed 2015 Appendix Q.)

END

EXHIBIT C
LOCAL AMENDMENTS
TO 2015 INTERNATIONAL PLUMBING CODE

The following sections, paragraphs, and sentences of the *2015 International Plumbing Code* are hereby amended as follows: Standard type is text from the IPC. Underlined type is text inserted. ~~Lined through type is deleted text from the IPC.~~ A double asterisk at the beginning of a section identifies an amendment carried over from the 2012 edition of the code and a triple asterisk identifies a new or revised amendment with the 2015 edition of the code.

****Table of Contents, Chapter 7, Section 714; change to read as follows:**

714 Engineered ~~Computerized~~ Drainage Design 69

(Reason: Editorial change to make compatible with amendment to Section 714.1.)

****Section 102.8; change to read as follows:**

102.8 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 15 and such codes, when specifically adopted, and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference. Where the differences occur between provisions of this code and the referenced standards, the provisions of this code shall be the minimum requirements. Whenever amendments have been adopted to the referenced code and standards, each reference to said code and standard shall be considered to reference the adopted amendments. Any reference to NFPA 70 or the National Electrical Code (NEC) shall mean the Electrical Code as adopted.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes.)

****Sections 106.6.2 and 106.6.3; change to read as follows:**

106.6.2 Fee schedule. The fees for all plumbing work shall be as ~~indicated in the following schedule:~~
~~(JURISDICTION TO INSERT APPROPRIATE SCHEDULE)~~ adopted by resolution of the governing body of the jurisdiction.

106.6.3 Fee Refunds. The code official shall establish a policy for ~~authorize~~ authorizing the refunding of fees ~~as follows.~~ {Delete balance of section}

(Reason: This calls to attention of local jurisdictions considering adoption that they need a fee schedule and refund policy.)

****Section 109; delete entire section and insert the following:**

109.1 Application for appeal. Any person shall have the right to appeal a decision of the code official to the board of appeals established by ordinance. The board shall be governed by the enabling ordinance.

(Reason: Most jurisdictions already have an ordinance establishing and governing an appeals board for this code. This also calls to the attention of jurisdictions not having such a board that it needs to be established.)

****Section 305.4.1; change to read as follows:**

305.4.1 Sewer depth. ~~Building sewers that connect to private sewage disposal systems shall be a minimum of [number] inches (mm) below finished grade at the point of septic tank connection.~~ Building sewers shall be a minimum of 12 inches (304 mm) below grade.

(Reason: Provides sewer depth that is common in this region. Deleted reference to private sewage disposal because a private sewage disposal code is not typically adopted in this region.)

****Section 305.7; change to read as follows:**

305.7 Protection of components of plumbing system. Components of a plumbing system installed within 3 feet along alleyways, driveways, parking garages or other locations in a manner in which they could be exposed to damage shall be recessed into the wall or otherwise protected in an *approved* manner.

(Reason: Provide a common cutoff point to designate a general separation distance at which plumbing systems should be safe for consistency in enforcement.)

****Section 314.2.1; change to read as follows:**

314.2.1 Condensate disposal. Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of disposal ...{text unchanged}... Condensate shall not discharge into a street, alley, sidewalk, rooftop, or other areas so as to cause a nuisance.

(Reason: Greater specificity in prohibited locations for condensate discharge. It is the intent of this amendment to send condensate discharge into a sanitary sewer drain. Consistent with regional amendment to IMC 307.2.1.)

****Section 409.2; change to read as follows:**

409.2 Water connection. The water supply to a commercial dishwashing machine shall be protected against backflow by an air gap or backflow preventer in accordance with Section 608. (Remainder of section unchanged)

(Reason: Domestic dishwashing machines would be difficult to enforce and should already come equipped with backflow preventers. Consistent with regional amendments in IPC Section 608.)

****Section 412.4; change to read as follows:**

412.4 Required location for floor drains ~~Public laundries and central washing facilities.~~ Floor drains shall be installed in the following areas.

1. In public coin-operated laundries and in the central washing facilities of multiple family dwellings, the rooms containing automatic clothes washers shall be provided with floor drains located to readily drain the entire floor area. Such drains shall have a minimum outlet of not less than 3 inches (76 mm) in diameter.
2. Commercial kitchens. In lieu of floor drains in commercial kitchens, the code may accept floor sinks.
3. Public restrooms.

(Reason: To make more compatible with local health code practices.)

****Section 419.3; change to read as follows:**

419.3 Surrounding material. Wall and floor space to a point 2 feet (610 mm) in front of a urinal lip and 4 feet (1219 mm) above the floor and at least 2 feet (610 mm) to each side of the urinal shall be waterproofed with a smooth, readily cleanable, hard, nonabsorbent material.

(Reason: Match un-amended IBC 1210.2.2.)

*****Section 502.3; change to read as follows:**

502.3 Appliances in attics. Attics containing a water heater shall be provided . . . {bulk of paragraph unchanged}. . . side of the water heater. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), or larger where such dimensions be not less than 20 inches by 30 inches (508 mm by 762 mm) where such dimensions are large enough to allow removal of the water heater. A walkway to an appliance shall be rated as a floor as approved by the building official. As a minimum, for access to the attic space, provide one of the following:

1. A permanent stair.
2. A pull down stair with a minimum 300 lb (136 kg) capacity.
3. An access door from an upper floor level.
4. Access Panel may be used in lieu of items 1, 2, and 3 with prior approval of the code official due to building conditions.

Exceptions:

1. The passageway and level service space are not required where the appliance is capable of being serviced and removed... {remainder of section unchanged}

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Consistent with regional amendment to IMC and IFGC)

****Section 502.6; add Section 502.6 to read as follows:**

502.6 Water heaters above ground or floor. When the attic, roof, mezzanine or platform in which a water heater is installed is more than eight (8) feet (2438 mm) above the ground or floor level, it shall be made accessible by a stairway or permanent ladder fastened to the building.

Exception: A max 10 gallon water heater (or larger with approval) is capable of being accessed through a lay-in ceiling and a water heater is installed is not more than ten (10) feet (3048 mm) above the ground or floor level and may be reached with a portable ladder.

(Reason: To provide safe access to water heaters. (Consistent with regional amendments to IFGC 306.7 and IMC 306.3. Note reference to amendment above.)

****Section 504.6; change to read as follows:**

504.6 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap. ~~Located in the same room as the water heater.~~
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

Exception: Multiple relief devices may be installed to a single T & P discharge piping system when *approved by the administrative authority and permitted by the manufactures installation instructions and installed with those instructions.*

5. Discharge ~~to the floor,~~ to an indirect waste receptor or to the outdoors.
6. Discharge in a manner that does not cause person injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.

9. Be installed so as to flow by gravity.
10. Terminate not more than 6 inches above and not less than two times the discharge pipe diameter above the floor or floor level rim of the waste receptor.
11. Not have a threaded connection at the end of such piping.
12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and *approved* for such use in accordance with ASME A112.4.1.

(Reason: To provide a higher degree of safety.)

*****Section 504.7.1; change to read as follows:**

Section 504.7.1 Pan size and drain to read as follows: The pan shall be not less than 1 ½ inches (38 mm) in depth and shall be of sufficient size and shape to receive all dropping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a diameter of not less than ¾ inch (19 mm). Piping for safety pan drains shall be of those materials listed in Table 605.4. Multiple pan drains may terminate to a single discharge piping system when approved by the administrative authority and permitted by the manufactures installation instructions and installed with those instructions.

****Section 604.4; add Section 604.4.1 to read as follows:**

604.4.1 State maximum flow rate. Where the State mandated maximum flow rate is more restrictive than those of this section, the State flow rate shall take precedence.

(Reason: To recognize State standards.)

****Section 606.1; delete items #4 and #5.**

(Reason: The code is too restrictive as written.)

****Section 606.2; change to read as follows:**

606.2 Location of shutoff valves. Shutoff valves shall be installed in the following locations:

1. On the fixture supply to each plumbing fixture other than bathtubs and showers in one- and two- family residential occupancies, and other than in individual sleeping units that are provided with unit shutoff valves in hotels, motels, boarding houses and similar occupancies.
2. ~~On the water supply pipe to each sillcock.~~

3. On the water supply pipe to each appliance or mechanical equipment.

(Reason: To provide shut-off valves to every fixture.)

****Section 608.1; change to read as follows:**

608.1 General. A potable water supply system shall be designed, installed and maintained in such a manner so as to prevent contamination from non-potable liquids, solids or gases being introduced into the potable water supply through cross-connections or any other piping connections to the system. Backflow preventer applications shall conform to applicable local regulations, Table 608.1, ~~except~~ and as specifically stated in Section 608.2 through 608.16.10.

(Reason: To recognize local requirements.)

****Section 608.16.5; change to read as follows:**

608.16.5 Connections to lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a double-check assembly or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle *backflow preventer*.

(Reason: To recognize regional practices.)

****Section 610.1; add exception to read as follows:**

610.1 General. New or repaired potable water systems shall be purged of deleterious matter and disinfected prior to utilization. The method to be followed shall be that prescribed by the health authority of water purveyor having jurisdiction or, in the absence of a prescribed method, the procedure described in either AWWA C651 or AWWA C652, or as described in this section. This requirement shall apply to “on-site” or “in-plant” fabrication of a system or to a modular portion of a system.

1. The pipe system shall be flushed with clean, potable water until dirty water does not appear at the point of outlet.
2. The system or part thereof shall be filled with a water/chlorine solution containing at least 50 parts per million (50 mg/L) of chlorine, and the system or part thereof shall be valved off and allowed to stand for 24 hours; or the system or part thereof shall be filled with a water/chlorine solution containing at least 200 parts per million (200 mg/L) of chlorine and allowed to stand for 3 hours.
3. Following the required standing time, the system shall be flushed with clean potable water until the chlorine is purged from the system.

4. The procedure shall be repeated where shown by a bacteriological examination that contamination remains present in the system.

Exception: With prior approval the Code Official may waive this requirement when deemed un-necessary. by the Code Official.

(Reason: May not always be needed)

Section 703.6; Delete

(Reason: not a standard practice in this region)

***Section 704.5; added to read as follows:

704.5 Single stack fittings. Single stack fittings with internal baffle, PVC schedule 40 or cast iron single stack shall be designed by a registered engineer and comply to a national recognized standard.

(Reason: to allow owners, installers, inspectors, and design professionals to ready identify product markers to determine they meet all required standards.)

***Section 705.11.2; change to read as follows:

705.11.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent cement joints shall be permitted above or below ground.

~~Exception: A primer is not required where both of the following conditions apply:~~

- ~~1. The solvent cement used is third part certified as conforming to ASTM D 2564~~
- ~~2. The solvent cement is used only for joining PVC drain, waste, and vent pipe and fittings in not pressure applications in sizes up to and including 4 inches (102 mm) in diameter.~~

(Reason: to keep the "process of joint PVC pipe)

**Section 712.5; add Section 712.5 to read as follows:

712.5 Dual Pump System. All sumps shall be automatically discharged and, when in any "public use" occupancy where the sump serves more than 10 fixture units, shall be provided with dual pumps or

ejectors arranged to function independently in case of overload or mechanical failure. For storm drainage sumps and pumps systems, see Section 1113.

(Reason: To address dual pump systems. To provide reference for storm drainage systems.)

****Section 714, 714.1; change to read as follows:**

**SECTION 714
ENGINEERED COMPUTERIZED DRAINAGE DESIGN**

714.1 Design of drainage system. The sizing, design and layout of the drainage system shall be ~~permitted to be~~ designed by a registered engineer using approved computer design methods.

(Reason: Code was too restrictive.)

*****Section 804.2; added to read as follows:**

804.2 Special waste pipe, fittings, and components. Pipes, fittings, and components receiving or intended to receive the discharge of any fixture into which acid or corrosive chemicals are placed shall be constructed of CPVC, high silicone iron, PP, PVDF, chemical resistant glass, or glazed ceramic materials.

(Reason: To clarify the allowable materials which are specifically listed for chemical drainage applications.)

****Section 903.1; change to read as follows:**

903.1 Roof extension. Open vent pipes that extend through a roof shall terminate not less than six (6) inches (152 mm) above the roof. Where a roof is to be used for assembly or as a promenade, observation desk, sunbathing deck or similar purposes, open vent pipes shall terminate not less than 7 feet (2134 mm) above the roof.

(Reason: To provide regional guideline on standard installation method for this area and address reference number correction.)

****Section 917 Single stack vent system. Delete entire section.**

(Reason: Not in conformance with regional practices.)

****Section 1002.10; delete.**

(Reason: Texas State regulations cover plumbing in mental health centers. Consistent with regional amendment to IPC 405.6.)

****Section 1101.8; change to read as follows:**

1101.8 Cleanouts required. Cleanouts or manholes shall be installed in the building storm drainage system and shall comply with the provisions of this code for sanitary drainage pipe cleanouts.

Exception: ~~Subsurface drainage system~~

(Reason: To specify ~~that where~~ cleanouts are ~~only~~ required. in the building.)

****Section 1106.1; change to read as follows:**

1106.1 General. The size of the vertical conductors and leaders, building storm drains, building storm sewers, and any horizontal branches of such drains or sewers shall be based on six (6) inches per hour the 100 year hourly rainfall rate indicated in Figure 1106.1 or on other rainfall rates determined from approved local weather data.

(Reason: Specify the roof drain size normally used in the area.)

****Section 1108.3; change to read as follows:**

1108.3 Sizing of secondary drains. Secondary (emergency) roof drain systems shall be sized in accordance with Section 1106 ~~based on the rainfall rate for which the primary system is sized in Figure 1106.1 or on other rainfall rates determined from approved local weather data.~~ Scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1101.7. Scuppers shall not have an opening dimension of less than 4 inches (102 mm). The flow through the primary system shall not be considered when sizing the secondary roof drain system.

(Reason: Specify that overflow drainage is to be the same size as the normal roof drains.)

****Section 1109; delete this section...**

****Section 1202.1; delete Exception 2.**

(Reason: State law already specifies that vacuum systems must comply with NFPA 99C.)

END

EXHIBIT D
LOCAL AMENDMENTS
TO 2015 INTERNATIONAL MECHANICAL CODE

The following sections, paragraphs, and sentences of the 2015 *International Mechanical Code* (IMC) are hereby amended as follows: Standard type is text from the IMC. Underlined type is text inserted. ~~Lined through type is deleted text from the IMC.~~ A double asterisk at the beginning of a section identifies an amendment carried over from the 2012 edition of the code and a triple asterisk identifies a new or revised amendment with the 2015 edition of the code.

****Section 102.8; change to read as follows:**

102.8 Referenced Codes and Standards. The codes and standards referenced herein shall be those that are listed in Chapter 15 and such codes, when specifically adopted, and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the adopted amendments. Any reference to NFPA 70 or the National Electrical Code (NEC) shall mean the Electrical Code as adopted.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes.)

Section 306.3; change to read as follows:

306.3 Appliances in Attics. Attics containing appliances shall be provided . . . *{bulk of paragraph unchanged}* . . . side of the appliance. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), or larger where such dimensions are not large enough to allow removal of the largest appliance. A walkway to an appliance shall be rated as a floor as approved by the building official. As a minimum, for access to the attic space, provide one of the following:

1. A permanent stair.
2. A pull down stair with a minimum 300 lb. (136 kg) capacity.
3. An access door from an upper floor level.
4. Access Panel may be used in lieu of items 1, 2, and 3 with prior approval of the code official due to building conditions.

Exceptions:

1. The passageway and level service space are not required where the appliance is capable of being serviced and removed... *{remainder of section unchanged}*

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Consistent with regional amendment to International Fuel and Gas Code (IFGC) 306.3.)

****Section 306.5; change to read as follows:**

306.5 Equipment and Appliances on Roofs or Elevated Structures. Where *equipment* requiring access or appliances are located on an elevated structure or the roof of a building such that personnel will have to climb higher than 16 feet (4877 mm) above grade to access, ~~an~~ a permanent interior or exterior means of access shall be provided. Permanent exterior ladders providing roof access need not extend closer than 8 12 feet (2438 mm) to the finish grade or floor level below and shall extend to the *equipment* and appliances' level service space. Such access shall . . . {bulk of section to read the same} . . . on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope) . . . {bulk of section to read the same}.

(Reason: To assure safe access to roof appliances and provide a greater level of security for equipment locate more than 16 feet above grade. Consistent with IFGC amendments.)

****Section 306.5.1; change to read as follows:**

306.5.1 Sloped Roofs. Where appliances, *equipment*, fans or other components that require service are installed on a roof having a slope of 3 units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a catwalk at least 16 inches in width with substantial cleats spaced not more than 16 inches apart shall be provided from the roof access to a level platform at the appliance. The level platform shall be provided on each side of the appliance to which access is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*.

(Reason: To provide safe access to water heaters and to provide lighting and receptacle for maintenance of equipment. Consistent with regional amendments to IFGC 306.7 and International Plumbing Code (IPC) 502.5.)

****Section 306; add Section 306.6 to read as follows:**

306.6 Water Heaters Above Ground or Floor. When the mezzanine or platform in which a water heater is installed is more than eight (8) feet (2438 mm) above the ground or floor level, it shall be made accessible by a stairway or permanent ladder fastened to the building.

Exception: A maximum 10 gallon water heater (or larger with approval) is capable of being accessed through a lay-in ceiling and the water heater installed is not more than ten (10) feet (3048 mm) above the ground or floor level and may be reached with a portable ladder.

(Reason: To provide safe access to water heaters and to provide lighting and receptacle for maintenance of equipment. Consistent with regional amendments to IFGC 306.7 and International Plumbing Code (IPC) 502.5.)

****Section 307.2.3; amend item 2 to read as follows:**

2. A separate overflow drain line shall be connected to the drain pan provided with the equipment. Such overflow drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line shall connect to the drain pan at a higher level than the primary drain connection. However, the conspicuous point shall not create a hazard such as dripping over a walking surface or other areas so as to create a nuisance.

(Reason: Greater specificity in prohibited locations for condensate discharge. Consistent with regional amendment to IPC 314.2.1.)

****Section 403.2.1; add an item 5 to read as follows:**

5. Toilet rooms within private dwellings that contain only a water closet, lavatory, or combination thereof may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

(Reason: Consistent with common regional practice. Consistent with regional amendment to International Residential Code (IRC) R303.3.)

****Section 501.3; add an exception to read as follows:**

501.3 Exhaust Discharge. The air removed by every mechanical exhaust system shall be discharged outdoors at a point where it will not cause a public nuisance and not less than the distances specified in Section 501.3.1. The air shall be discharged to a location from which it cannot again be readily drawn in by a ventilating system. Air shall not be exhausted into an attic, crawl space, or be directed onto walkways.

Exceptions:

1. Whole-house ventilation-type attic fans shall be permitted to discharge into the attic space of dwelling units having private attics.
2. Commercial cooking recirculating systems.

3. Where installed in accordance with the manufacturer's instructions and where mechanical or natural ventilation is otherwise provided in accordance with Chapter 4, listed and labeled domestic ductless range hoods shall not be required to discharge to the outdoors.
4. Toilet room exhaust ducts may terminate in a warehouse or shop area when infiltration of outside air is present.

(Reason: Provide a reasonable alternative in areas where a large volume of outside air is present.)

****Section 607.5.1; change to read as follows:**

607.5.1 Fire Walls. Ducts and air transfer openings permitted in fire walls in accordance with Section 705.11 of the International Building Code shall be protected with listed fire dampers installed in accordance with their listing. For hazardous exhaust systems see Section 510.1-510.9 IMC.

(Reason: Correspond with un-amended IBC 710.7.)

END

EXHIBIT E
LOCAL AMENDMENTS
TO 2015 INTERNATIONAL FUEL GAS CODE

The following sections, paragraphs, and sentences of the 2015 International Fuel Gas Code are hereby amended as follows: Standard type is text from the IFGC. Underlined type is text inserted. ~~Lined through text is deleted text from IFGC.~~ A double asterisk at the beginning of a section identifies an amendment carried over from the 2012 edition of the code and a triple asterisk identifies a new or revised amendment with the 2015 code.

****Section 102.2; add an exception to read as follows:**

Exception: Existing dwelling units shall comply with Section 621.2.

(Reason: Previous code provisions made unvented heater provisions retroactive except as provided for in local amendment. This amendment and amendment to IFGC 621.2 better clarifies what the code already states: existing systems may stay unless considered unsafe.)

****Section 102.8; change to read as follows:**

102.8 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 8 and such codes, when specifically adopted, and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well. ~~Any reference to NFPA 70 or the ICC Electrical Code shall mean the Electrical Code as adopted.~~

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes.)

****Section 306.3; change to read as follows:**

[M] 306.3 Appliances in attics. Attics containing appliances shall be provided . . . *{bulk of paragraph unchanged}* . . . side of the *appliance*. The clear access openings shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), ~~and or larger where such dimensions are not~~ large enough to allow removal of the largest *appliance*. A walkway to an appliance shall be rated as a floor as approved by the building official. As a minimum, for access to the attic space, provide one of the following:

1. A permanent stair.
2. A pull down stair with a minimum 300 lb (136 kg) capacity.

3. An access door from an upper floor level.
4. Access Panel may be used in lieu of items 1, 2, and 3 with prior approval of the code official due to building conditions.

Exceptions:

1. The passageway and level service space are not required where the appliance is capable of being serviced and removed through the required opening.
2. Where the passageway is not less than . . . {bulk of section to read the same}.

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Consistent with regional amendment to IMC 306.3.)

****Section 306.5; change to read as follows:**

[M] 306.5 Equipment and appliances on roofs or elevated structures. Where *equipment* requiring access or appliances are located on an elevated structure or the roof of a building such that personnel will have to climb higher than 16 feet (4877 mm) above grade to access, ~~an~~ a permanent interior or exterior means of access shall be provided. Permanent exterior ladders providing roof access need not extend closer than 8 12 feet (2438 mm) to the finish grade or floor level below and shall extend to the *equipment* and appliances' level service space. Such access shall . . . {bulk of section to read the same} . . . on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope). . . {bulk of section to read the same}.

(Reason: To assure safe access to roof appliances. Consistent with IMC amendments.)

****Section 306.5.1; change to read as follows:**

[M] 306.5.1 Sloped roofs. Where appliances, *equipment*, fans or other components that require service are installed on a roof having a slope of 3 units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a catwalk at least 16 inches in width with substantial cleats spaced not more than 16 inches apart shall be provided from the roof access to a level platform at the appliance. The level platform shall be provided on each side of the appliance to which access is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*.

(Reason: To assure safe access to roof appliances. Consistent with IMC amendments.)

****Section 306; add Section 306.7 with exception and subsection 306.7.1 to read as follows:**

306.7 Water heaters above ground or floor. When the attic, roof, mezzanine or platform in which a water heater is installed is more than eight (8) feet (2438 mm) above the ground or floor level, it shall be made accessible by a stairway or permanent ladder fastened to the building.

(Reason: To provide more stringent safe access to water heaters. Consistent with regional amendments to IPC 502.5 and IMC 306.6.)

****Section 401.5; add a second paragraph to read as follows:**

Both end of each section of medium pressure gas piping shall identify its operating gas pressure with an approved tag. The rags are to be composed of aluminum or stainless steel and the following wording shall be stamped into the tag:

“WARNING
½ to 5 psi gas pressure
Do Not Remove”

(Reason: To protect homeowners and plumbers.)

****Section 402.3; add an exception to read as follows:**

Exception: Corrugated stainless steel tubing (CSST) shall be a minimum of ½” (18 EHD).

(Reason: Pipe less than ½” has a history in this region of causing whistling.)

****Section 404.12; change to read as follows:**

404.12 Minimum burial depth. Underground piping systems shall be installed a minimum depth of 42 18 inches (305 458 mm) top of pipe below grade, except as provided for in Section 404.12.1.

(Reason: To provide increased protection to piping systems and address reference number change.)

****Section 406.1; change to read as follows:**

406.1 General. Prior to acceptance and initial operation, all piping installations shall be inspected and pressure tested to determine that the materials, design, fabrication, and installation practices comply with the requirements of this code. The permit holder shall make the applicable testes prescribed in Section 406.1.1 through 406.1.5 to determine compliance with the provisions of this code. The permit holder shall give reasonable advance notice to the code official when the piping system is ready for testing. The equipment, material, power and labor necessary for the inspections and test shall be furnished by the permit holder and the permit holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests.

(Reason: To utilize language used in the IPC regarding who is responsible for testing procedures.)

****Section 406.4; change to read as follows:**

406.4 Test pressure measurement. Test pressure shall be measured with a monometer or with a pressure-measuring device designed and calibrated to read, record, or indicate a pressure loss caused by leakage during the pressure test period. The source of pressure shall be isolated before the pressure tests are made. Mechanical gauges used to measure test pressures shall have a range such that the highest end of the scale is not greater than five times the test pressure.

(Reason: To require the use of more accurate diaphragm gauges. Spring gauges do not provide accurate measurement below approximately 17 psig.)

****Section 406.4.1; change to read as follows:**

406.4.1 Test pressure. The test pressure to be used shall be no less than ~~1 ½ times the proposed maximum working pressure, but no less than 3~~ 3 psig (20 kPa gauge), or at the discretion of the Code Official, the piping and valves may be tested at a pressure of at least six (6) inches (152 mm) of mercury, measured with a manometer or slope gauge, irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe. For tests requiring a pressure of psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one half inches (3 ½”), a set hand, 1/10 pound incrementation and pressure range not to exceed 6 psi for tests requiring a pressure of 2 psig. For tests requiring a pressure of 10 psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half inches (3 ½”), a set hand, a minimum of 2/10 pound incrementation and a pressure range not to exceed 20 psi. For welded piping, and for piping carrying gas at pressure in excess of fourteen (14) inches of water column pressure (3.48 kPa)(1/2 psi) and less than 200 inches of water column pressure (52.2 kPa)(7.5 psi), the test pressure shall not be less than ten (10) pounds per square inch (69.6 kPa). For piping carrying gas at a pressure that exceeds 200 inches of water column (52.2 kPa)(7.5 psi), the test pressure shall be not less than one and one-half times the proposed maximum working pressure.

Diaphragm gauges used for testing must display a current calibration and be in good working condition. The appropriate test must be applied to the diaphragm gauge used for testing.

(Reason: To provide for lesser pressures to coordinate with the use of more accurate diaphragm gauges.)

****Section 406.4.2; change to read as follows:**

406.4.2 Test duration. Test duration shall be held for a length of time satisfactory to the Code Official, but in no case for less than fifteen (15) minutes. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa), the test duration shall be

held for a length of time satisfactory to the Code Official, but in no case for less than thirty (30) minutes.
(Delete remainder of section).

(Reason: To comply with accepted regional practices.)

****Section 409.1; add Section 409.1.4 to read as follows:**

409.1.4 Valves in CSST installations. Shutoff valves installed with corrugated stainless steel (CSST) piping systems shall be supported with an approved termination fitting, or equivalent support, suitable for the size of the valves, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration but in no case greater than 12-inches from the center of the valve. Supports shall be installed so as not to interfere with the free expansion and contraction of the system's piping, fittings, and valves between anchors. All valves and supports shall be designed and installed so they will not be disengaged by movement of the supporting piping.

(Reason: To provide proper security to CSST valves. These standards were established in this region in 1999 when CSST was an emerging technology.)

****Section 410.1; add a second paragraph and exception to read as follows:**

Access to regulators shall comply with the requirements for access to appliances as specified in Section 306.

Exception: A passageway or level service space is not required when the regulator is capable of being serviced and removed through the required attic opening.

(Reason: To require adequate access to regulators.)

****Section 621.2; add exception as follows:**

621.2 Prohibited use. One or more unvented room heaters shall not be used as the sole source of comfort heating in a dwelling unit.

Exception: Existing approved unvented heaters may continue to be used in dwelling units, in accordance with the code provisions in effect when installed, when approved by the Code Official unless an unsafe condition is determined to exist as described in Section 108.7.

(Reason: Gives code official discretion.)

END

EXHIBIT F
LOCAL AMENDMENTS
TO 2015 INTERNATIONAL ENERGY CONSERVATION CODE

The following sections, paragraphs, and sentences of the *2015 International Energy Conservation Code* (IECC) are hereby amended as follows: Standard type is text from the IECC. Underlined type is text inserted. ~~Lined through type is deleted text from IECC.~~ A double (**) asterisk at the beginning of a section identifies an amendment carried over from the 2012 edition of the code and a tripe (***) asterisk identifies a new or revised amendment with the 2015 code.

The 2015 IECC contains separate provisions for commercial buildings and for residential buildings 3 stories or less. The provisions of the commercial buildings are preceded by “C” for Commercial. The provisions for residential buildings 3 stories or less are preceded by “R” for Residential buildings. Each set of provisions are separately applied to buildings within their respective scope. Each set of provisions also contains a Scope and Administration chapter, a Definitions chapter, a General Requirements chapter and a chapter containing energy efficiency requirements applicable to building within their respective scope.

Recommended amendments that match sections in each of the respective provisions (“C” and “R”) are written to represent both sections rather than duplicating the recommended amendment in the document.

****Section C102/R102; add Section C102.1.2 and R102.1.2 to read as follows:**

C102.1.2 Alternative compliance. A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this section may, at the option of the Code Official, be considered in compliance. The United States Environmental Protection Agency’s Energy Star Program certification of energy code equivalency shall be considered in compliance.

R102.1.2 Alternative compliance. A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this section may, at the option of the Code Official, be considered in compliance. The United States Environmental Protection Agency’s Energy Star Program certification of energy code equivalency shall be considered in compliance. Regardless of the program or the path to compliance, each 1- and 2- family dwelling shall be tested for air a duct leakage as prescribed in Section R402.4 and R403.3.3 respectively.

(Reason: This amendment is added to allow alternative compliance in accordance with Texas HV 1365, 78th Legislature. Codified Chapter 388 Texas Building Energy Performance Standards: §388.003(i). The last sentence to Section R102.1.2 was added to insure that every house is tested in accordance with the mandatory provisions of the code.)

Section C202 and R202; add the following definition:

*****PROJECTION FACTOR.** The ration of the horizontal depth of the overhang, eave or permanently attached shading device, divided by the distance measured vertically from the bottom of the fenestration glazing to the underside of the overhang, eave or permanently attached shading device.

*(Reason: The amendment to **Section 102.3.2 Glazed fenestration SHGC** was proposed by the TAB and ESL determined the proposal to be not less restrictive than the 2009, 2012 and 2015 IECC. This added definition is necessary as part of that amendment. The amendment will provide additional options for SHGC selection.)*

Section R202; add the following definition:

*****DYNAMIC GLAZING.** Any fenestration product that has the fully reversible ability to change its performance properties, including *U*-factor, solar heat gain coefficient (SHGC), or visible transmittance (VT).

(Reason: This term is referenced in Section R402.3.2. This definition of DYNAMIC GALZING is also found in the Commercial provisions of the code.)

*****Section R402.3.2 Glazed fenestration SHGV; amend by adding a paragraph and table following the exception to read as follows:**

Where vertical fenestration is shaded by an overhang, eave, or permanently attached shading device, the SHGC required in Table R402.1.2 shall be reduced by using the multipliers in Table R402.3.2 SHGC Multipliers for Permanent Projections.

Table R402.3.2 SHGC Multipliers for Permanent Projections ^a

Projection Factor	SHGC Multiplier (all Other Orientation)	SHGC Multiplier (North Oriented)
0 – 0.10	1.00	1.00
>0.10 – 0.20	0.91	0.95
>0.20 – 0.30	0.82	0.91
>0.30 – 0.40	0.74	0.87
>0.40 – 0.50	0.67	0.84
>0.50 – 0.60	0.61	0.81
>0.60 – 0.70	0.56	0.78
>0.70 – 0.80	0.51	0.76
>0.80 – 0.90	0.47	0.75
>0.90 – 1.00	0.44	0.73

^a North oriented means with 45 degrees of true north.

*(Reason: the amendment to **Section 402.3.2 Glazed fenestration SHGC** was proposed by the TAB and ESL determined the proposal to be not less restrictive than the 2009 and 2015 IECC. This added definition is necessary as part of that amendment. The amendment will provide additional options for SHGC selection.)*

*****R402.4.1.2 Testing; Add a last paragraph to read as follows:**

Mandatory testing shall only be performed by individuals that are certified to perform air infiltration testing certified by national or state organizations as approved by the building official. The certified individuals must be an independent third-party entity, and may not be employed; or have any financial interest in the company that constructs the structure.

(Reason: The 2012/15 International Residential Code (IRC) and International Energy Conservation Code (IECC) includes enhanced emphasis on envelope infiltration and duct leakage. Significant changes in the residential energy requirements include more frequent requirement of performance testing for leakage. Residential Duct systems must be tested unless all ducts and equipment are located within the conditioned space. Envelope testing is required to demonstrate compliance with maximum allowable leakage rate. This language puts the regulatory authority on notice that the testing requires specialized credentials and establishes a conflict of interest baseline.)

*****R403.3.3 Duct Testing (Mandatory) Add a last paragraph to read as follows:**

Mandatory testing shall only be performed by individuals that are certified to perform duct testing leakage testing certified by national or state organizations as approved by the building official. The certified individuals must be an independent third-party entity, and may not be employed; or have any financial interest in the company that constructs the structure.

(Reason: The 2015 International Residential Code (IRC) and International Energy Conservation Code (IECC) includes enhanced emphasis on envelope infiltration and duct leakage. Significant changed in the residential energy requirements include more frequent requirement of performance testing for leakage. Residential Duct systems must be tested unless all ducts and equipment are located within the conditioned space. Envelope testing is required to demonstrate compliance with maximum allowable leakage rate. This language puts the regulatory authority on notice that the testing requires specialized credentials and establishes a conflict of interest baseline.)

****Section C402.2.7/R402.2; Add Section C402.2.9 and R402.2.14 to read as follows:**

Section C402.2.7/R402.2.14 Insulation installed in walls. To insure that insulation remains in place, insulation installed in walls shall be totally enclosed on all sides consisting of framing lumber, gypsum, sheathing, wood structural panel sheathing, netting or other equivalent material approved by the building official.

(Reason: This will increase the performance of the insulation by ensuring that the insulation stays in place.)

*****Section R405.6.2; add the following sentence to the end of paragraph;**

Acceptable performance software simulation tools may include, but are not limited to, REM Rate™, Energy Gauge and IC3. Other performance software programs accredited by RESNET BESTEST and having the ability to provide a report as outlined in R405.4.2 may also be deemed acceptable performance simulation programs and may be considered by the building official.

(Reason: These performance software tools are accredited by RESNET at the time of recommendation.)

****TABLE R406.4 MAXIMUM ENERGY RATING INDEX; amend to read as follows:**

**TABLE R406.4¹
MAXIMUM ENERGY RATING INDEX**

CLIMATE ZONE	ENERGY RATING INDEX
3	65

¹ This table is effective until August 31, 2019.

**TABLE R406.4²
MAXIMUM ENERGY RATING INDEX**

CLIMATE ZONE	ENERGY RATING INDEX
3	63

² This table is effective until September 1, 2019 to August 31, 2022.

**TABLE R406.4³
MAXIMUM ENERGY RATING INDEX**

CLIMATE ZONE	ENERGY RATING INDEX
3	59

³ This table is effective on or after September 1, 2022.

(Reason: The tables reflect the values and time table set forth in HB1736.)

END

EXHIBIT G
LOCAL AMENDMENTS
TO 2015 INTERNATIONAL FIRE CODE

The following sections, paragraphs, and sentences of the 2015 International Fire Code (IFC) are hereby amended as follows: Standard type is text from the IFC. Underlined type is text inserted. Lined through type is deleted text from IFC. A double asterisk (**) at the beginning of a section identifies an amendment carried over from the 2012 edition of the code and a triple asterisk (***) identifies a new or revised amendment with the 2015 code.

****Section 102.1; change #3 to read as follows:**

3. Existing structures, facilities, and conditions when required in Chapter 11 or in specific sections of this code.

(Reason: To clarify that there are other provisions in the fire code applicable to existing buildings that are not located in Chapter 11, such as Section 505 Premises Identification.)

****Section 105.3.3; change to read as follows:**

105.3.3 Occupancy Prohibited before Approval. The building or structure shall not be occupied prior to the fire code official issuing a permit when required and conducting associated inspections indicating the applicable provisions of this code have been met.

(Reason: For clarity to allow for better understanding in areas not requiring such permits, such as unincorporated areas of counties. This amendment may be struck by a city.)

****Section 105.7; add Section 105.7.19 to read as follows:**

105.7.19 Electronic access control systems. Construction permits are required for the installation or modification of an electronic access control system, as specified in Chapter 10. A separate construction permit is required for the installation or modification of a fire alarm system that may be connected to the access control system. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

(Reason: Adds construction permit requirements for electronic access control systems affecting access and/or egress to ensure proper design and installation of such systems. These changes reflect local practices of municipalities in this region.)

**** [B] AMBULATORY CARE FACILITY.** Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing, or similar care on a less than 24-hour basis to persons who are rendered

incapable of self-preservation by the services provided. This group may include but not be limited to the following:

-Dialysis Centers

-Procedures involving sedation

-Sedation dentistry

-Surgery centers

-Colonic centers

-Psychiatric centers

(Reason: to clarify the range of uses included in the definition)

**** [B] ATRIUM.** An opening connecting ~~two~~ three or more stories... *{remaining text unchanged}*

(Reason: Accepted practice in the region based on legacy codes. IBC Section 1009 permits unenclosed two story stairways under certain circumstances.)

***** [B] DEFEND IN PLACE.** A method of emergency response that engages building components and trained staff to provide occupant safety during an emergency. Emergency response involves remaining in place, relocating within the building, or both, without evacuating the building.

(Reason: Added from International Building Code (IBC) definitions for consistency in interpretation of the subject requirements pertaining to such occupancies.)

****FIRE WATCH.** A temporary measure intended to ensure continuous and systematic surveillance of the building or portion thereof by one or more qualified individuals or standby personnel when required by the fire code official, for the purposes of identifying and controlling fire hazards, detecting early signs of unwanted fire, raising an alarm of fire and notifying the fire department.

(Reason: Clearly defines options to the fire department for providing a fire watch.)

****FIREWORKS.** Any composition or device for the purpose of producing a visible or an audible effect for entertainment purposes by combustion, deflagration, ~~or~~ detonation, and/or activated by ignition with a match or other heat producing device that meets the definition of 1.4G fireworks or 1.3G fireworks as set forth herein ...*{remainder of text unchanged}*...

(Reason: Increased safety from fireworks related injuries.)

****HIGH-PILED COMBUSTIBLE STORAGE:** add a second paragraph to read as follows:

Any building classified as a group S Occupancy or Speculative Building exceeding 6,000 sq. ft. that has a clear height in excess of 14 feet, making it possible to be used for storage in excess of 12 feet, shall be considered to be high-piled storage. When a specific product cannot be identified, a fire protection system and life safety features shall be installed as for Class IV commodities, to the maximum pile height.

(Reason: To provide protection for worst-case scenario in flexible or unknown situations.)

****HIGH-RISE BUILDING.** A building with an occupied floor located more than ~~75~~ 55 feet (~~22-860~~ 16 764 mm) above the lowest level of fire department vehicle access.

(Reason: Allows for additional construction safety features to be provided, based on firefighting response capabilities.)

****REPAIR GARAGE.** A building, structure or portion thereof used for servicing or repairing motor vehicles. This occupancy shall also include garages involved in minor repair, modification and servicing of motor vehicles for items such as lube changes, inspections, windshield repair or replacement, shocks, minor part replacement, and other such minor repairs.

(Reason: To further clarify types of service work allowed in a repair garage, as well as to correspond with definition in the IBC.)

****SELF-SERVICE STORAGE FACILITY.** Real property designed and used for the purpose of renting or leasing individual storage spaces to customers for the purpose of storing and removing personal property on a self-service basis.

(Reason: To provide a definition that does not exist in the code.)

****STANDBY PERSONNEL.** Qualified fire service personnel, approved by the Fire Chief. When utilized, the number required shall be as directed by the Fire Chief. Charges for utilization shall be as normally calculated by the jurisdiction.

****UPGRADED OR REPLACED FIRE ALARM SYSTEM.** A fire alarm system that is upgraded or replaced includes, but is not limited to the following:

- ☐ Replacing one single board or fire alarm control unit component with a newer model
- ☐ Installing a new fire alarm control unit in addition to or in place of an existing one
- ☐ Conversion from a horn system to an emergency voice/alarm communication system
- ☐ Conversion from a conventional system to one that utilizes addressable or analog devices

The following are not considered an upgrade or replacement:

- ☐ Firmware updates
- ☐ Software updates
- ☐ Replacing boards of the same model with chips utilizing the same or newer firmware

(Reason: This is referenced in several places, but the wording of “upgraded or replaced” is somewhat ambiguous and open to interpretation. Defining it here allows for consistent application across the region.)

****Section 307.1.1; change to read as follows:**

307.1.1 Prohibited Open Burning. Open burning shall be prohibited that is offensive or objectionable because of smoke emissions or when atmospheric conditions or local circumstances make such fires hazardous shall be prohibited.

Exception: {No change.}

(Reason: To further protect adjacent property owners/occupants from open burning and/or smoke emissions from open burning.)

****Section 307.2; change to read as follows:**

307.2 Permit Required. A permit shall be obtained from the fire code official in accordance with Section 105.6 prior to kindling a fire for recognized silvicultural or range or wildlife management practices, prevention or control of disease or pests, or open burning ~~a bonfire~~. Application for such approval shall only be presented by and permits issued to the owner of the land upon which the fire is to be kindled.

Examples of state or local law, or regulations referenced elsewhere in this section may include but not be limited to the following:

1. Texas Commission on Environmental Quality (TCEQ) guidelines and/or restrictions.
2. State, County, or Local temporary or permanent bans on open burning.
3. Local written policies as established by the fire code official.

(Reason: Amendments to 307.2, 307.4, 307.4.3, and 307.5 better explain current requirements and recognize that jurisdictions have local established policies that best fit their environments.)

****Section 307.3; change to read as follows:**

307.3 Extinguishment Authority. ~~When open burning creates or adds to a hazardous situation, or a required permit for open burning has not been obtained, the fire code official is authorized to order the extinguishment of the open burning operation.~~ The fire code official is authorized to order the extinguishment by the permit holder, another person responsible or the fire department of open burning that creates or adds to a hazardous or objectionable situation.

(Reason: Provides direction as to responsible parties relative to extinguishment of the subject open burning.)

****Section 307.4; change to read as follows:**

307.4 Location. The location for open burning shall not be less than ~~50~~ 300 feet (~~15-240~~ 91 440 mm) from any structure, and provisions shall be made to prevent the fire from spreading to within ~~50~~ 300 feet (~~15-240~~ 91 440 mm) of any structure.

Exceptions: {No change.}

(Reason: To increase the separation distance thereby increasing the safety to adjacent properties, as per applicable TCEQ rules and regulations regarding outdoor burning.)

****Section 307.4.3, Exceptions: add exception #2 to read as follows:**

Exceptions:

2. Where buildings, balconies and decks are protected by an approved automatic sprinkler system.

(Reason: To reflect similar allowances for open-flame cooking in these same locations.)

****Section 307.4.4 and 5; add section 307.4.4 and 307.4.5 to read as follows:**

307.4.4 Permanent Outdoor Firepit. Permanently installed outdoor firepits for recreational fire purposes shall not be installed within 10 feet of a structure or combustible material.

Exception: Permanently installed outdoor fireplaces constructed in accordance with the International Building Code.

307.4.5 Trench Burns. Trench burns shall be conducted in air curtain trenches and in accordance with Section 307.2.

(Reason: To provide a greater level of safety for this potentially hazardous fire exposure condition. Decrease in separation distance allowed for outdoor firepits due to permanent nature of construction having substantial securement.)

****Section 307.5; change to read as follows:**

307.5 Attendance. Open burning, trench burns, bonfires, recreational fires, and use of portable outdoor fireplaces shall be constantly attended until the ... *{Remainder of section unchanged}*

(Reason: Adds attendance for trench burns based on previous amendment provision for such.)

****Section 308.1.4; change to read as follows:**

308.1.4 Open-flame Cooking Devices. ~~Charcoal burners and other~~ Open-flame cooking devices, charcoal grills and other similar devices used for cooking shall not be ~~operated~~ located or used on combustible balconies, decks, or within 10 feet (3048 mm) of combustible construction.

Exceptions:

1. One- and two-family dwellings, except that LP-gas containers are limited to a water capacity not greater than 50 pounds (22.68 kg) [nominal 20 pound (9.08 kg) LP-gas capacity] with an aggregate LP-gas capacity not to exceed 100 lbs. (5 containers).
2. Where buildings, balconies and decks are protected by an approved automatic sprinkler system, except that LP-gas containers are limited to a water capacity not greater than 50

pounds (22.68 kg) [nominal 20 pound (9.08 kg) LP-gas capacity], with an aggregate LP-gas capacity not to exceed 40lbs. (2 containers).

3. {No change.}

(Reason: Decrease fire risk in multi-family dwellings and minimizes ignition sources and clarify allowable limits for 1 & 2 family dwellings, and allow an expansion for sprinklered multi-family uses. This amendment adds clarification and defines the container size allowed for residences.)

****Section 308.1.6.2, Exception #3; change to read as follows:**

Exceptions:

3. Torches or flame-producing devices in accordance with Section ~~308.4~~ 308.1.3.

(Reason: Section identified in published code is inappropriate.)

*****Section 308.1.6.3; change to read as follows:**

308.1.6.3 Sky Lanterns. A person shall not release or cause to be released an ~~untethered-unmanned free-floating devices~~ containing an open flame or other heat source, such as but not limited to a sky lantern.

(Reason: Eliminates the potential fire hazard presented by utilization of such devices and the potential accidental release of such devices.)

****Section 311.5; change to read as follows:**

311.5 Placards. ~~Any~~ The fire code official is authorized to require marking of any vacant or abandoned buildings or structures determined to be unsafe pursuant to Section 110 of this code relating to structural or interior hazards, ~~shall be marked~~ as required by Section 311.5.1 through 311.5.5.

(Reason: There may be situations where placarding is not desired or necessary; also clarifies intent that it is not the fire code official's responsibility to provide the placard.)

*****Section 403.5; change Section 403.5 to read as follows:**

403.5 Group E Occupancies. An approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group E occupancies and for buildings containing both a Group E occupancy and an atrium. A diagram depicting two evacuation routes shall be posted in a conspicuous location in each classroom. Group E occupancies shall also comply with Section 403.5.1 through 403.5.3.

(Reason: The diagrams are intended to assist with egress in such occupancies – specifically, the primary teacher is not always present to assist children with egress. Also, such will help reinforce evacuation drill requirements.)

*****Section 404.2.2; add Number 4.10 to read as follows:**

4.10 Fire extinguishing system controls.

(Reason: The committee believed this information could be of great help to such plans to facilitate locating sprinkler valves to minimize water damage, for instance.)

*****Section 405.4; change Section 405.4 to read as follows:**

405.4 Time. The fire code official may require an evacuation drill at any time. Drills shall be held at unexpected times and under varying conditions to simulate the unusual conditions that occur in case of fire.

(Reason: This change clarifies who may require a fire or evacuation drill.)

****Section 501.4; change to read as follows:**

501.4 Timing of Installation. When fire apparatus access roads or a water supply for fire protection is required to be installed for any structure or development, they shall be installed, tested, and approved prior to the time of which construction has progressed beyond completion of the foundation of any structure. ~~, such protection shall be installed and made serviceable prior to and during the time of construction except when approved alternative methods of protection are provided. Temporary street signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles in accordance with Section 505.2.~~

(Reason: Reflects current practice in the region relative to ensuring fire department and EMS access during construction, which can be a time of increased frequency for emergency incidents.)

****Section 503.1.1; add sentence to read as follows:**

Except for one- or two-family dwellings, the path of measurement shall be along a minimum of a ten feet (10') wide unobstructed pathway around the external walls of the structure.

(Reason: Recognizes that the hose lay provision can only be measured along a pathway that is wide enough for fire fighter access.)

****Section 503.2.1; change to read as follows:**

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than ~~20~~ 24 feet (~~6096 mm~~ 7315 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than ~~13 feet 6 inches (4115 mm)~~ 14 feet (4267 mm).

Exception: Vertical clearance may be reduced; provided such reduction does not impair access by fire apparatus and approved signs are installed and maintained indicating the established vertical clearance when approved.

(Reason: Amendments to 503.2.1 and 503.2.2 recognize that the equipment now used in firefighting is increasing in size. The code already recognizes that larger dimensions may be required under Section 503.2.2. The amendments are to standardize the dimensions for this area. With the increase in fire apparatus size, this will allow for the passage of two fire apparatus during a fire or EMS emergency.)

****Section 503.2.2; change to read as follows:**

503.2.2 Authority. The fire code official shall have the authority to require an increase in the minimum access widths and vertical clearances where they are inadequate for fire or rescue operations.

(Reason: Amendments to 503.2.1 and 503.2.2 recognize that the equipment now used in firefighting is increasing in size. The code already recognizes that larger dimensions may be required under Section 503.2.2. The amendments are to standardize the dimensions for this area. With the increase in fire apparatus size, this will allow for the passage of two fire apparatus during a fire or EMS emergency.)

*****Section 503.2.3; change Section 503.2.3 to read as follows:**

503.2.3 Surface. Fire apparatus access roads shall be designed and maintained to support imposed loads of 80,000 Lbs. for fire apparatus and shall be surfaced so as to provide all-weather driving capabilities.

(Reason: To address the current size of fire trucks in use – figure derived from DOT requirements for waiver of vehicle exceeding such weight.)

****Section 503.3; change to read as follows:**

503.3 Marking. ~~Where required by the fire code official, approved signs or other approved notices or markings that include the words NO PARKING — FIRE LANE~~ Striping, signs, or other markings, which approved by the fire code official, shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. ~~The means by which fire lanes are designated~~ Striping, signs and other markings shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

(1) Striping – Fire apparatus access roads shall be continuously marked by painted lines of red traffic paint six inches (6”) in width to show the boundaries of the lane. The words “NO PARKING

FIRE LANE” or “FIRE LANE NO PARKING” shall appear in four inch (4”) white letters at 25 feet intervals on the red border markings along both sides of the fire lanes. Where a curb is available, the striping shall be on the vertical face of the curb.

(2) Signs – Signs shall read “NO PARKING FIRE LANE” or “FIRE LANE NO PARKING” and shall be 12” wide and 18” high. Signs shall be painted on a white background with letters and borders in red, using not less than 2” lettering. Signs shall be permanently affixed to a stationary post and the bottom of the sign shall be six feet, six inches (6’6”) above finished grade. Signs shall be spaced not more than fifty feet (50’) apart along both sides of the fire lane. Signs may be installed on permanent buildings or walls or as approved by the Fire Chief.

(Reason: Establishes a standard method of marking and reflects local long-standing practices.)

****Section 503.4; change to read as follows:**

503.4 Obstruction of Fire Apparatus Access Roads. Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances established in Section 503.2.1 and any area marked as a fire lane as described in Section 503.3 shall be maintained at all times.

(Reason: As originally worded, the section implied that vehicles could be parking in the marked fire lane and not be in violation of the minimum width is still maintained. Current accepted enforcement practice is to require the entire marked fire lane to be maintained clear and unobstructed.)

****Section 505.1; change to read as follows:**

505.1 Address Identification. New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall be contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be not less than ~~4 inches (102 mm)~~ 6 inches (152.4 mm) high with a minimum stroke width of ½ inch (12.7 mm). Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road, buildings do not immediately front a street, and/or the building cannot be viewed from the public way, a monument, pole or other sign with approved 6 inch (152.4 mm) height building numerals or addresses and 4 inch (101.6 mm) height suite/apartment numerals of a color contrasting with the background of the building or other approved means shall be used to identify the structure. Numerals or addresses shall be posted on a minimum 20 inch (508 mm) by 30 inch (762 mm) background on border. Address identification shall be maintained.

Exception: R-3 Single Family occupancies shall have approved numerals of a minimum 3 ½ inches (88.9 mm) in height and a color contrasting with the background clearly visible and legible from the street fronting the property and rear alleyway where such alleyway exists.

(Reason: To increase the minimum addressing requirements for commercial properties and establish a minimum for single-family residential properties. Such improves legibility of these signs which are critical to emergency response in a more timely manner.)

****Section 507.4; change to read as follows:**

507.4 Water Supply Test Date and Information. The water supply test used for hydraulic calculation of fire protection systems shall be conducted in accordance with NFPA 291 “Recommended Practice for Fire Flow Testing and Marking of Hydrants” and within a year of sprinkler plan submittal. The fire code official shall be notified prior to the water supply test. Water supply tests shall be witnessed by the fire code official, as required or approved documentation of the test shall be provided to the fire code official prior to final approval of the water supply system. The exact location of the static/residual hydrant and the flow hydrant shall be indicated on the design drawings. All fire protection plan submittals shall be accompanied by a hard copy of the waterflow test report, or as approved by the fire code official. The report must indicate the dominant water tank level at the time of the test and the maximum and minimum operating levels of the tank, as well, or identify applicable water supply fluctuation. The licensed contractor must then design the fire protection system based on this fluctuation information, as per the applicable referenced NFPA standard. Reference Section 903.3.5 for additional design requirements.

(Reason: Clarifies intent of the test to ensure contractor accounts for water supply fluctuations.)

****Section 507.5.4; change to read as follows:**

507.5.4 Obstruction. Unobstructed access to fire hydrants shall be maintained at all times. Posts, fences, vehicles, growth, trash, storage and other materials or objects shall not be placed or kept near fire hydrants, fire department inlet connections or fire protection system control valves in a manner that would prevent such equipment or fire hydrants from being immediately discernible. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.

(Reason: Maintains wording from 2006 Code to ensure these critical devices are available in an emergency incident.)

****Section 509.1.2; add new Section 509.1.2 to read as follows:**

509.1.2 Sign Requirements. Unless more stringent requirements apply, lettering for signs required by this section shall have a minimum height of 2 inches (50.8 mm) when located inside a building and 4 inches (101.6 mm) when located outside, or as approved by the fire code official. The letters shall be of a color that contrasts with the background.

(Reason: Provides direction as to appropriate sign criteria to develop consistency in this regard.)

****Section 603.3.2.1, Exception; change exception to read as follows:**

Exception: The aggregate capacity limit shall be permitted to be increased to 3,000 gallons (11,356 L) in accordance with all requirements of Chapter 57. ~~Of Class II or III liquid storage in protected above-ground tanks...~~ {Delete remainder of Exception}.

(Reason: Change to Section 5704.2.9.5 is included in this amendment package.)

****Section 603.3.2.2; change to read as follows:**

603.3.2.2 Restricted Use and Connection. Tanks installed in accordance with Section 603.3.2 shall be used only to supply fuel oil to fuel-burning ~~or generator~~ equipment installed in accordance with Section 603.3.2.4. Connections between tanks and equipment supplied by such tanks shall be made using closed piping systems.

(Reason: Relocate the exception to Chapter 57 for applicability to generator sets, due to contradictory charging statement in 603.1 to not apply to internal combustion engines. Further, such large quantities of combustible liquid are more thoroughly addressed in Chapter 57 relative to such tanks.)

*****Section 604; change and add to read as follows:**

604.1.1 Stationary Generators. Stationary emergency and standby power generators required by this code shall be listed in accordance with UL 2200.

604.1.2 Installation. Emergency power systems and standby power systems shall be installed in accordance with the International Building Code, NFPA 70, NFPA 110 and NFPA 111. Existing installations shall be maintained in accordance with the original approval, except as specified in Chapter 11.

604.1.3 through 604.1.8 {No changes to these sections.}

604.1.9 Critical Operations Power Systems (COPS). For Critical Operations Power Systems necessary to maintain continuous power supply to facilities or parts of facilities that require continuous operation for the reasons of public safety, emergency management, national security, or business continuity, see NFPA 70.

604.2 Where Required. Emergency and standby power systems shall be provided where required by Sections 604.2.1 through ~~604.2.16~~ 604.2.24 or elsewhere identified in this code or any other referenced code.

604.2.1 through 604.2.3 {No change.}

604.2.4 ~~Group A occupancies.~~ Emergency Voice/alarm Communications Systems. Emergency power shall be provided for emergency voice/alarm communications systems in the following occupancies, or as specified elsewhere in this code, as required in Section 907.5.2.2.5. The systems shall be capable of powering the required load for a duration of not less than 24 hours, as required in NFPA 72.

Covered and Open Malls, Section 907.2.20 and 914.2.3

Group A Occupancies, Section 907.2.1 and 907.5.2.2.4.

Special Amusement Buildings, Section 907.2.12.3

High-rise Buildings, Section 907.2.13

Atriums, Section 907.2.14

Deep Underground Buildings, Section 907.2.19

604.2.5 through 604.2.11 {No change.}

604.2.12 Means of Egress Illumination. Emergency power shall be provided for means of egress illumination in accordance with Sections 1008.3 and 1104.5.1. (90 minutes)

604.2.13 Membrane Structures. Emergency power shall be provided for exit signs in temporary tents and membrane structures in accordance with Section 3103.12.6.1. (90 minutes) Standby power shall be provided for auxiliary inflation systems in permanent membrane structures in accordance with Section 2702 of the International Building Code. (4 hours) Auxiliary inflation systems shall be provided in temporary air-supported and air-inflated membrane structures in accordance with Section 3103.10.4.

604.2.14 {No change.}

604.2.15 Smoke Control Systems. Standby power shall be provided for smoke control systems in the following occupancies, or as specified elsewhere in this code, as required in Section 909.11:

Covered Mall Building, International Building Code, Section 402.7

Atriums, International Building Code, Section 404.7

Underground Buildings, International Building Code, Section 405.8

Group I-3, International Building Code, Section 408.4.2

Stages, International Building Code, Section 410.3.7.2

Special Amusement Buildings (as applicable to Group A's), International Building Code, Section 411.1

Smoke Protected Seating, Section 1029.6.2.1

604.2.17 Covered and Open Mall Buildings. Emergency power shall be provided in accordance with Section 907.2.20 and 914.2.3.

604.2.18 Airport Traffic Control Towers. A standby power system shall be provided in airport traffic control towers more than 65 ft. in height. Power shall be provided to the following equipment:

1. Pressurization equipment, mechanical equipment and lighting.

2. Elevator operating equipment.

3. Fire alarm and smoke detection systems.

604.2.19 Smokeproof Enclosures and Stair Pressurization Alternative. Standby power shall be provided for smokeproof enclosures, stair pressurization alternative and associated automatic fire detection systems as required by the International Building Code, Section 909.20.6.2.

604.2.20 Elevator Pressurization. Standby power shall be provided for elevator pressurization system as required by the International Building Code, Section 909.21.5.

604.2.21 Elimination of Smoke Dampers in Shaft Penetrations. Standby power shall be provided when eliminating the smoke dampers in ducts penetrating shafts in accordance with the International Building Code, Section 717.5.3, exception 2.3.

604.2.22 Common Exhaust Systems for Clothes Dryers. Standby power shall be provided for common exhaust systems for clothes dryers located in multistory structures in accordance with the International Mechanical Code, Section 504.10, Item 7.

604.2.23 Hydrogen Cutoff Rooms. Standby power shall be provided for mechanical ventilation and gas detection systems of Hydrogen Cutoff Rooms in accordance with the International Building Code, Section 421.8.

604.2.24 Means of Egress Illumination in Existing Buildings. Emergency power shall be provided for means of egress illumination in accordance with Section 1104.5 when required by the fire code official. (90 minutes in I-2, 60 minutes elsewhere.)

604.3 through 604.7 {No change.}

604.8 Energy Time Duration. Unless a time limit is specified by the fire code official, in this chapter or elsewhere in this code, or in any other referenced code or standard, the emergency and standby power system shall be supplied with enough fuel or energy storage capacity for not less than 2-hour full-demand operation of the system.

Exception: Where the system is supplied with natural gas from a utility provided and is approved.

(Reason: These provisions provide a list to complete and match that throughout the codes. The only new items are the reference to COPS in NFPA 70, and the specified Energy time duration. Other changes are a reference to a code provision that already exists.)

*****Section 609.2; change to read as follows:**

609.2 Where Required. A Type I hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors, including but not limited to cooking equipment used in fixed, mobile, or temporary concessions, such as trucks, buses, trailers, pavilions, or any form of roofed enclosure, as required by the fire code official.

Exceptions:

1. Tents, as provided for in Chapter 31.
2. {No change to existing Exception.}

Additionally, fuel gas and power provided for such cooking appliances shall be interlocked with the extinguishing system, as required by Section 904.12.2. Fuel gas containers and piping/hose shall be properly maintained in good working order and in accordance with the applicable regulations.

(Reason: To require fire protection and prevention for mobile food trucks and other mobile commercial cooking operations for the protection of occupants and first responders, including the fuel gas utilized for the cooking operation.)

****Section 704.1; change to read as follows:**

704.1 Enclosure. Interior vertical shafts including, but not limited to, stairways, elevator hoistways, service and utility shafts, that connect two or more stories of a building shall be enclosed or protected in accordance with the codes in effect at the time of construction but, regardless of when constructed, not less than as required in Chapter 11. New floor openings in existing buildings shall comply with the International Building Code.

(Reason: Provides standard minimum protection retroactively, but clarifies that this section is not to be used to reduce higher protection levels that were required when originally constructed.)

*****Section 807.3; change to read as follows:**

807.3 Combustible Decorative Materials. ~~In other than Group I-3~~ In occupancies in Groups A, E, I, and R-1, and dormitories in Group R-2, curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall comply with Section 807.4 and shall not exceed 10 percent of the specific wall or ceiling area to which they are attached.

(Reason: Section 807 was re-arranged and modified from the 2012 IFC: previously, curtains were required to be NFPA 701 compliant and limited to 10 percent of the applicable wall in A, E, I, R-1, and R-2 dormitory occupancies, but now, per the published 2015 IFC, Section 807.3 would apply to all occupancies, except I-3 (non-combustible only). Such a change is a tremendous expansion of the requirement, and no justification was provided in the proposed code change at the code hearings as to the reasons for such an expansion of the requirement, especially considering that it also applies to existing buildings. The board believes that this change is an over-reach for such a stringent requirement and that maintenance of the legacy language is appropriate at this time.)

****Section 807.5.2.2 and 807.5.2.3; change to read as follows:**

807.5.2.2 Artwork in Corridors. Artwork and teaching materials shall be limited on the walls of corridors to not more than 20 percent of the wall area. Such materials shall not be continuous from floor to ceiling or wall to wall. Curtains, draperies, wall hangings, and other decorative material suspended from the walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 807 or be noncombustible.

Exception: Corridors protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 shall be limited to 50 percent of the wall area.

807.5.2.3 Artwork in Classrooms. Artwork and teaching materials shall be limited on walls of classrooms to not more than 50 percent of the specific wall area to which they are attached. Curtains, draperies, wall hangings and other decorative material suspended from the walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 807 or be noncombustible.

(Reason: This change allows an increase in wall coverage due to the presence of sprinklers. Also provides additional guidance relative to fire resistance requirements in these areas.)

****Section 807.5.5.2 and 807.5.5.3; change to read as follows:**

807.5.5.2 Artwork in Corridors. Artwork and teaching materials shall be limited on the walls of corridors to not more than 20 percent of the wall area. Such materials shall not be continuous from floor to ceiling or wall to wall. Curtains, draperies, wall hangings, and other decorative material suspended from the walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 807 or be noncombustible.

Exception: Corridors protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 shall be limited to 50 percent of the wall area.

807.5.5.3 Artwork in Classrooms. Artwork and teaching materials shall be limited on walls of classrooms to not more than 50 percent of the specific wall area to which they are attached. Curtains,

draperies, wall hangings and other decorative material suspended from the walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 807 or be noncombustible.

(Reason: This change allows an increase in wall coverage due to the presence of sprinklers. Also provides additional guidance relative to fire resistance requirements in these areas.)

****Section 901.6.1; add Section 901.6.1.1 to read as follows:**

901.6.1.1 Standpipe Testing. Buildings owners/managers must maintain and test standpipe systems as per NFPA 25 requirements. The following additional requirements shall be applied to the testing that is required every 5 years:

1. The piping between the Fire Department Connection (FDC) and the standpipe shall be backflushed when foreign material is present and also hydrostatically tested for all FDC's on any type of standpipe system. Hydrostatic testing shall also be conducted in accordance with NFPA 25 requirements for the different types of standpipe systems.
2. For any manual (dry or wet) standpipe system not having an automatic water supply capable of flowing water through the standpipe, the tester shall connect hose from a fire hydrant or portable pumping system (as approved by the fire code official) to each FDC, and flow water through the standpipe system to the roof outlet to verify that each inlet connection functions properly. Confirm that there are no open hose valves prior to introducing water into a dry standpipe. There is no required pressure criterion at the outlet. Verify that check valves function properly and there are no closed control valves on the system.
3. Any pressure relief, reducing, or control valves shall be tested in accordance with the requirements of NFPA 25. All hose valves shall be exercised.
4. If the FDC is not already provided with approved caps, the contractor shall install such caps for all FDC's as required by the fire code official.
5. Upon successful completion of standpipe test, place a blue tag (as per Texas Administrative Code, Fire Sprinkler Rules for Inspection, Test and Maintenance Service (ITM) Tag) at the bottom of each standpipe riser in the building. The tag shall be check-marked as "Fifth year" for Type of ITM, and the note on the back of the tag shall read "5 Year Standpipe Test" at a minimum.
6. The procedures required by Texas Administrative Code Fire Sprinkler Rules with regard to Yellow Tags and Red Tags or any deficiencies noted during the testing, including the required notification of the local Authority Having Jurisdiction (fire code official) shall be followed.
7. Additionally, records of the testing shall be maintained by the owner and contractor, if applicable, as required by the State Rules mentioned above and NFPA 25.

8. Standpipe system tests where water will be flowed external to the building shall not be conducted during freezing conditions or during the day prior to expected night time freezing conditions.
9. Contact the fire code official for requests to remove existing fire hose from Class II and III standpipe systems where employees are not trained in the utilization of this firefighting equipment. All standpipe hose valves must remain in place and be provided with an approved cap and chain when approval is given to remove hose by the fire code official.

(Reason: Increases the reliability of the fire protection system and re-emphasizes the requirements of NFPA 25 relative to standpipe systems, as well as ensuring that FDC connections are similarly tested/maintained to ensure operation in an emergency incident.)

****Section 901.6.3; add Section 901.6.3 to read as follows:**

901.6.3 False Alarms and Nuisance Alarms. False alarms and nuisance alarms shall not be given, signaled or transmitted or caused or permitted to be given, signaled or transmitted in any manner.

(Reason: Places the responsibility on the business or property owner to maintain their fire alarm systems in approved condition. Allows the enforcement of "prohibition of false alarms". Replaces text lost from the legacy codes that helps to ensure the maintenance of life safety systems.)

****Section 901.7; change to read as follows:**

901.7 Systems Out of Service. Where a required fire protection system is out of service or in the event of an excessive number of activations, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall either be evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service. ... {remaining text unchanged}

(Reason: Gives fire code official more discretion with regards to enforcement of facilities experiencing nuisance alarm or fire protection system activations necessitating correction/repair/replacement. The intent of the amendment is to allow local jurisdictions to enforce fire watches, etc., where needed to ensure safety of occupants where fire protection systems are experiencing multiple nuisance activations.)

*****Section 901.8.2; change to read as follows:**

901.8.2 Removal of ~~existing~~ Occupant-use Hose Lines. The fire code official is authorized to permit the removal of ~~existing~~ occupant-use hose lines and hose valves where all of the following conditions exist:

1. ~~Installation is not required by this code or the International Building Code.~~
2. The hose line(s) would not be utilized by trained personnel or the fire department.

3. ~~If the remaining outlets~~ occupant-use hose lines are removed, but the hose valves are required to remain as per the fire code official, such shall be ~~are~~ compatible with local fire department fittings.

(Reason: Occupant-use hose lines have been an issue of concern that fire code officials have struggled with for many years now, primarily in that they are required by the published code, even though occupants are rarely properly trained in their use or provided with the OSHA-required protective gear for such use, such as with an industrial fire brigade. The allowance for these hose lines to remain only promotes the possibility of an occupant attempting to fight fire for an unknown duration, rather than evacuate, and potentially injure themselves others through such action. They present greater risk than benefit to the occupants, and as such, the above gives the fire code official the authorization to allow removal of such at his or her discretion.)

****Section 903.1.1; change to read as follows:**

903.1.1 Alternative Protection. Alternative automatic fire-extinguishing systems complying with Section 904 shall be permitted ~~instead of~~ in addition to automatic sprinkler protection where recognized by the applicable standard ~~and, or as~~ approved by the fire code official.

(Reason: Such alternative systems do not provide the reliability of automatic sprinkler protection. Most gaseous type systems are highly susceptible to open doors, ceiling or floor tile removal, etc. However, an applicant could pursue an Alternate Method request to help mitigate the reliability issues with these alternative systems with the fire code official if so desired, or there may be circumstances in which the fire code official is acceptable to allowing an alternate system in lieu of sprinklers, such as kitchen hoods or paint booths.)

****Section 903.2; add paragraph to read as follows:**

Automatic Sprinklers shall not be installed in elevator machine rooms, elevator machine spaces, and elevator hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances. Storage shall not be allowed within the elevator machine room. Signage shall be provided at the entry doors to the elevator machine room indicating “ELEVATOR MACHINERY – NO STORAGE ALLOWED.”

(Reason: Firefighter and public safety. This amendment eliminates the shunt trip requirements of the International Building Code Section 3006.5 for the purpose of elevator passenger and firefighter safety. This amendment is contingent on the Building Code amendment eliminating the Exceptions to Section 3006.4, such that passive fire barriers for these areas are maintained.)

****Section 903.2; delete the exception.**

(Reason: The exception deletion is due to the fact that such telecom areas pose an undue fire risk to the structural integrity of the building.)

***Section 903.2.9; add Section 903.2.9.3 to read as follows:

903.2.9.3 Self-Service Storage Facility. An automatic sprinkler system shall be installed throughout all self-service storage facilities.

(Reason: Fire departments are unable to inspect these commercial occupancies and are unaware of the contents being stored. Previous allowance to separate units by fire barriers is difficult to enforce maintenance after opening.)

**Section 903.2.11; change 903.2.11.3 and add 903.2.11.7, 903.2.11.8, and 903.2.11.9 as follows:

903.2.11.3 Buildings ~~55~~ 35 feet or more in height. An automatic sprinkler system shall be installed throughout buildings that have one or more stories with an occupant load of 30 or more, other than penthouses in compliance with Section 1510 of the International Building Code, located 55 35 feet (16 764 10 668 mm) or more above the lowest level of fire department vehicle access, measured to the finished floor.

Exceptions:

- 1.—Open parking structures in compliance with Section 406.5 of the International Building Code, having no other occupancies above the subject grade.
- 2.—Occupancies in Group F-2.

903.2.11.7 High-Piled Combustible Storage. For any building with a clear height exceeding 12 feet (4572 mm), see Chapter 32 to determine if those provisions apply.

903.2.11.8 Spray Booths and Rooms. New and existing spray booths and spraying rooms shall be protected by an approved automatic fire-extinguishing system.

903.2.11.9 Buildings Over 6,000 sq. ft. An automatic sprinkler system shall be installed throughout all buildings with a building area 6,000 sq. ft. or greater and in all existing buildings that are enlarged to be 6,000 sq. ft. or greater. For the purpose of this provision, fire walls shall not define separate buildings.

Exception: Open parking garages in compliance with Section 406.5 of the international Building Code.

(Reason: Provides jurisdictions options as to their desired level of sprinkler protection based on multiple factors including firefighting philosophies/capabilities.)

**Section 903.3.1.1.1; change to read as follows:

903.3.1.1.1 Exempt Locations. When approved by the fire code official, automatic sprinklers shall not be required in the following rooms or areas where such ... {text unchanged} ... because it is damp, of fire-resistance-rated construction or contains electrical equipment.

1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard.
2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the code official.
3. Generator and transformer rooms, under the direct control of a public utility, separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.
- ~~4. In rooms or areas that are of noncombustible construction with wholly noncombustible contents.~~
5. ~~Fire service access~~ Elevator machine rooms, and machinery spaces, and hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances.
6. {Delete.}

(Reason: Gives more direction to code official. Exception 4 deleted to provide protection where fire risks are poorly addressed. Amendment 903.2 addresses Exception 5 above relative to the elimination of sprinkler protection in these areas to avoid the shunt trip requirement.)

****Section 903.3.1.2.3; add section to read as follows:**

[F] Section 903.3.1.2.3 Attics and Attached Garages. Sprinkler protection is required in attic spaces of such buildings two or more stories in height, in accordance with NFPA 13 and/or NFPA 13R requirements, and attached garages.

(Reason: Attic protection is required due to issues with fire exposure via soffit vents, as well as firefighter safety. Several jurisdictions indicated experience with un-protected attic fires resulting in displacement of all building occupants. NFPA 13 provides for applicable attic sprinkler protection requirements, as well as exemptions to such, based on noncombustible construction, etc. Attached garages already require sprinklers via NFPA 13r – this amendment just re-emphasizes the requirement.)

*****Section 903.3.1.3; change to read as follows:**

903.3.1.3 NFPA 13D Sprinkler Systems. Automatic sprinkler systems installed in one- and two-family dwellings; Group R-3; Group R-4 Condition 1 and townhouses shall be permitted to be installed throughout accordance with NFPA 13D or in accordance with state law.

(Reason: To allow the use of the Plumbing section of the International Residential Code (IRC) and recognize current state stipulations in this regard.)

*****Section 903.3.1.4; add to read as follows:**

[F] 903.3.1.4 Freeze protection. Freeze protection systems for automatic fire sprinkler systems shall be in accordance with the requirements of the applicable referenced NFPA standard and this section.

903.3.1.4.1 Attics. Only dry-pipe, preaction, or listed antifreeze automatic fire sprinkler systems shall be allowed to protect attic spaces.

Exception: Wet-pipe fire sprinkler systems shall be allowed to protect non-ventilated attic spaces where:

1. The attic sprinklers are supplied by a separate floor control valve assembly to allow ease of draining the attic system without impairing sprinklers throughout the rest of the building, and
2. Adequate heat shall be provided for freeze protection as per the applicable reference NFPA standard, and
3. The attic space is a part of the building's thermal, or heat, envelope, such that insulation is provided at the roof deck, rather than at the ceiling level.

903.3.1.4.2 Heat trace/insulation. Heat trace/insulation shall only be allowed where approved by the fire code official for small section of large diameter water-filled pipe.

(Reason: In the last few years, severe winters brought to light several issues with current practices for sprinklering attics, not the least of which was wet-pipe sprinklers in ventilated attics provided with space heaters, etc. for freeze protection of such piping. This practice is not acceptable for the protection of water-filled piping in a ventilated attic space as it does not provide a reliable means of maintaining the minimum 40 degrees required by NFPA, wastes energy, and presents a potential ignition source to the attic space. Listed antifreeze is specifically included because NFPA currently allows such even though there is no currently listed antifreeze at the time of development of these amendments. The intent of this amendment is to help reduce the large number of freeze breaks that have occurred in the past with water-filled wet-pipe sprinkler systems in the future, most specifically in attic spaces.)

****Section 903.3.5; add a second paragraph to read as follows:**

[F] Water supply as required for such systems shall be provided in conformance with the supply requirements of the respective standards; however, every water-based fire protection system shall be designed with a 10 psi safety factor. Reference Section 507.4 for additional design requirements.

(Reason: To define uniform safety factor.)

****Section 903.4; add a second paragraph after the exceptions to read as follows:**

Sprinkler and standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 45 seconds. All control valves in the sprinkler and standpipe systems except for fire department hose connection valves shall be electrically supervised to initiate a supervisory signal at the central station upon tampering.

(Reason: To avoid significant water losses. Consistent with amendment to IFC 905.9.)

****Section 903.4.2; add second paragraph to read as follows:**

The alarm device required on the exterior of the building shall be a weatherproof horn/strobe notification appliance with a minimum 75 candela strobe rating., installed as close as practicable to the fire department connection.

(Reason: Fire department connections are not always located at the riser; this allows the fire department faster access.)

****Section 905.2; change to read as follows:**

905.2 Installation Standard. Standpipe systems shall be installed in accordance with this section and NFPA 14. Manual dry standpipe systems shall be supervised with a minimum of 10 psig and a maximum of 40 psig air pressure with a high/low alarm.

(Reason: To define manual dry standpipe supervision requirements. Helps ensure the integrity of the standpipe system via supervision, such that open hose valves will result in a supervisory low air alarm.)

*****Section 905.3; add Section 905.3.9 and exception to read as follows:**

905.3.9 Buildings Exceeding 10,000 sq. ft. In buildings exceeding 10,000 square feet in area per story and where any portion of the building's interior area is more than 200 feet (60960 mm) of travel, vertically and horizontally, from the nearest point of fire department vehicle access, Class I automatic wet or manual wet standpipes shall be provided.

Exceptions:

1. Automatic dry and semi-automatic dry standpipes are allowed as provided for in NFPA 14.
2. R-2 occupancies of four stories or less in height having no interior corridors.

(Reason: Allows for the rapid deployment of hose lines to the body of the fire.)

*****Section 905.4, change Item 1, 3, and 5, and add Item 7 to read as follows:**

1. In every required ~~interior~~-exit stairway, a hose connection shall be provided for each story above and below grade plane. Hose connections shall be located at an intermediate landing between stories, unless otherwise approved by the fire code official.
2. {No change.}
3. In every exit passageway, at the entrance from the exit passageway to other areas of a building.
Exception: Where floor areas adjacent to an exit passageway are reachable from an ~~interior~~-exit stairway hose connection by a... {No change to rest.}
4. {No change.}
5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a two-way a hose connection shall be located to serve the roof or at the highest landing of an ~~interior~~-exit stairway with stair access to the roof provided in accordance with Section 1011.12.

6. {No change.}

7. When required by this Chapter, standpipe connections shall be placed adjacent to all required exits to the structure and at two hundred feet (200') intervals along major corridors thereafter, or as otherwise approved by the fire code official.

(Reason: Item 1, 3, and 5 amendments to remove 'interior' will help to clarify that such connections are required for all 'exit' stairways, to ensure firefighter capabilities are not diminished in these tall buildings, simply because the stair is on the exterior of the building. Item 5 reduces the amount of pressure required to facilitate testing, and provides backup protection for fire fighter safety. Item 7 allows for the rapid deployment of hose lines to the body of the fire.)

****Section 905.9; add a second paragraph after the exceptions to read as follows:**

Sprinkler and standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 4 seconds. All control valves in the sprinkler and standpipe systems except for fire department hose connection valves shall be electrically supervised to initiate a supervisory signal at the central station upon tampering.

(Reason: To avoid significant water losses. Consistent with amendment to IFC 903.4.)

****Section 907.1; add Section 907.1.4 and 907.1.4.1 to read as follows:**

907.1.4 Design Standards. Where a new fire alarm system is installed, the devices shall be addressable. Fire alarm systems utilizing more than 20 smoke detectors shall have analog initiating devices.

(Reason: Provides for the ability of descriptive identification of alarms, and reduces need for panel replacement in the future. Updated wording to match the language of the new requirement at 907.5.2.3. Change of terminology allows for reference back to definitions of NFPA 72)

****Section 907.2.1; change to read as follows:**

907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies ~~where the~~ having an occupant load ~~due to the assembly occupancy is of~~ 300 or more persons or more than 100 persons above or below the lowest level of exit discharge. Group A occupancies not separated from one another in accordance with Section 707.3-10 of the International Building Code shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: {No change.}

Activation of fire alarm notification appliances shall:

1. Cause illumination of the means of egress with light of not less than 1 foot-candle (11 lux) at the walking surface level, and
2. Stop any conflicting or confusing sounds and visual distractions.

(Reason: Increases the requirement to be consistent with Group B requirement. Also addresses issues found in Group A occupancies of reduced lighting levels and other A/V equipment that distracts from fire alarm notification devices or reduces ability of fire alarm system to notify occupants of the emergency condition.)

*****Section 907.2.3; change to read as follows:**

907.2.3 Group E. A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E educational occupancies. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system. An approved smoke detection system shall be installed in Group e day care occupancies. Unless separated by a minimum of 100' open space, all buildings, whether portable buildings or the main building will be considered one building for alarm occupant load consideration and interconnection of alarm systems.

Exceptions:

1. {No change.}
 - 1.1. Residential In-Home day care with not more than 12 children may use interconnected single station detectors in all habitable rooms. (For care of more than five children 2 1/2 or less years of age, see Section 907.2.6.) {No change to remainder of exceptions.}

(Reason: To distinguish educational from day care occupancy minimum protection requirements. Further, to define threshold at which portable buildings are considered a separate building for the purposes of alarm systems. Exceptions provide consistency with State law concerning such occupancies.)

****Section 907.2.13, Exception 3; change to read as follows:**

3. Open air portions of buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the International Building Code; however, this exception does not apply to accessory uses including but not limited to sky boxes, restaurants, and similarly enclosed areas.

(Reason: To indicate that enclosed areas within open air seating type occupancies are not exempted from automatic fire alarm system requirements.)

****Section 907.4.2; add Section 907.4.2.7 to read as follows:**

907.4.2.7 Type. Manual alarm initiating devices shall be an approved double action type.

(Reason: Helps to reduce false alarms.)

*****Section 907.6.1; add Section 907.6.1.1 to read as follows:**

907.6.1.1 Wiring Installation. All fire alarm systems shall be installed in such a manner that a failure of any single initiating device or single open in an initiating circuit conductor will not interfere with the normal operation of other such devices. All signaling line circuits (SLC) shall be installed in such a way that a single open will not interfere with the operation of any addressable devices (Class A). Outgoing and return SLC conductors shall be installed in accordance with NFPA 72 requirements for Class A circuits and shall have a minimum of four feet separation horizontal and one foot vertical between supply and return circuit conductors. The initiating device circuit (IDC) from a signaling line circuit interface device may be wired Class B, provided the distance from the interface device to the initiating device is ten feet or less.

(Reason: To provide uniformity in system specifications and guidance to design engineers. Improves reliability of fire alarm devices and systems.)

*****Section 907.6.3; delete all four Exceptions.**

(Reason: To assist responding personnel in locating the emergency event for all fire alarm systems. This is moved from 907.6.5.3 in the 2012 IFC and reworded to match new code language and sections.)

*****Section 907.6.6; – add sentence at end of paragraph to read as follows:**

[F] See 907.6.3 for the required information transmitted to the supervising station.

(Reason: To assist responding personnel in locating the emergency event for all fire alarm systems. This is moved from 907.6.5.3 in the 2012 IFC and reworded to match new code language and sections.)

*****Section 909.22; add to read as follows:**

909.22 Stairway or Ramp Pressurization Alternative. Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and the stair pressurization alternative is chosen for compliance with Building Code requirements for a smokeproof enclosure, interior exit stairways or ramps shall be pressurized to a minimum of 0.10 inches of water (25 Pa) and a maximum of 0.35 inches of water (87 Pa) in the shaft relative to the building measured with all interior exit stairway and ramp doors closed under maximum anticipated conditions of stack effect and wind effect. Such systems shall comply with Section 909, including the installation of a separate fire-fighter's smoke control panel as per Section 909.16, and a Smoke Control Permit shall be required from the fire department as per Section 105.7.

[F] 909.22.1 Ventilating equipment. The activation of ventilating equipment for the stair or ramp

pressurization system shall be by smoke detectors installed at each floor level at an approved location at the entrance to the smokeproof enclosure. When the closing device for the stairway or ramp shaft and vestibule doors is activated by smoke detection or power failure, the mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.3.

909.22.1.1 Ventilation Systems. Smokeproof enclosure ventilation systems shall be independent of other building ventilation systems. The equipment, control wiring, power wiring and ductwork shall comply with one of the following:

1. Equipment, control wiring, power wiring and ductwork shall be located exterior to the building and directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.
2. Equipment, control wiring, power wiring and ductwork shall be located within the smokeproof enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by not less than 2-hour barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.
3. Equipment, control wiring, power wiring and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.

Exceptions:

1. Control wiring and power wiring utilizing a 2-hour rated cable or cable system.
2. Where encased with not less than 2 inches (51 mm) of concrete.
3. Control wiring and power wiring protected by a listed electrical circuit protective systems with a fire-resistance rating of not less than 2 hours.

909.21.1.2 Standby Power. Mechanical vestibule and stairway and ramp shaft ventilation systems and automatic fire detection systems shall be provided with standby power in accordance with Section 2702 of the Building Code.

909.22.1.3 Acceptance and Testing. Before the mechanical equipment is approved, the system shall be tested in the presence of the fire code official to confirm that the system is operating in compliance with these requirements.

(Reason: To assist with enforcement of such as a smoke control system, as per Section 909.6.3, especially since a permit is now specifically required for such systems in the Fire Code. Also ensures that a

firefighter's override panel is provided as per 909.16 for such systems. The above amendment copies the applicable requirements for such systems from Section 909.20 of the Building Code into the Fire Code. Although the published code did copy the elevator pressurization requirements into the Fire Code, it did not copy over the stair pressurization requirements.)

*****Section 910.2; change Exception 2. and 3.to read as follows:**

- [F] 2. Only manual smoke and heat removal shall not be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers. Automatic smoke and heat removal is prohibited.
3. Only manual smoke and heat removal shall not be required in areas of buildings equipped with control mode special application sprinklers with a response time index of $50(m \cdot S)^{1/2}$ or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers. Automatic smoke and heat removal is prohibited.

(Reason: Allows the fire department to control the smoke and heat during and after a fire event, while still prohibiting such systems from being automatically activated, which is a potential detriment to the particular sprinkler systems indicated.)

****Section 910.2; add subsections 910.2.3 with exceptions to read as follows:**

910.2.3 Group H. Buildings and portions thereof used as a Group H occupancy as follows:

1. In occupancies classified as Group H-2 or H-3, any of which are more than 15,000 square feet (1394 m²) in single floor area.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

2. In areas of buildings in Group H used for storing Class 2, 3, and 4 liquid and solid oxidizers, Class 1 and unclassified detonable organic peroxides, Class 3 and 4 unstable (reactive) materials, or Class 2 or 3 water-reactive materials as required for a high-hazard commodity classification.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

(Reason: Maintains a fire protection device utilized in such occupancies where it is sometimes necessary to allow chemicals to burn out, rather than extinguish.)

*****Section 910.3; add section 910.3.4 to read as follows:**

910.3.4 Vent Operation. Smoke and heat vents shall be capable of being operated by approved automatic and manual means. Automatic operation of smoke and heat vents shall conform to the provisions of Sections 910.3.2.1 through 910.3.2.3.

[F] 910.3.4.1 Sprinklered buildings. Where installed in buildings equipped with an approved automatic sprinkler system, smoke and heat vents shall be designed to operate automatically. The automatic operating mechanism of the smoke and heat vents shall operate at a temperature rating at least 100 degrees F (approximately 38 degrees Celsius) greater than the temperature rating of the sprinklers installed.

Exception: Manual only systems per Section 910.2.

910.3.4.2 Nonsprinklered Buildings. Where installed in buildings not equipped with an approved automatic sprinkler system, smoke and heat vents shall operate automatically by actuation of a heat-responsive device rated at between 100°F (56°C) and 220°F (122°C) above ambient.

Exception: Listed gravity-operated drop out vents.

(Reason: Amendment continues to keep applicable wording from prior to the 2012 edition of the IFC. Specifically, an automatic activation criterion is no longer specifically required in the published code. Specifying a temperature range at which smoke and heat vents should activate in sprinklered buildings helps to ensure that the sprinkler system has an opportunity to activate and control the fire prior to vent operation.)

***Section 910.4.3.1; change to read as follows:

910.4.3.1 Makeup Air. Makeup air openings shall be provided within 6 feet (1829 mm) of the floor level. Operation of makeup air openings shall be ~~manual or~~ automatic. The minimum gross area of makeup air inlets shall be 8 square feet per 1,000 cubic feet per minute (0.74 m² per 0.4719 m³/s) of smoke exhaust.

(Reason: Makeup air has been required to be automatic for several years now in this region when mechanical smoke exhaust systems are proposed. This allows such systems to be activated from the smoke control panel by first responders without having to physically go around the exterior of the building opening doors manually. Such requires a significant number of first responders on scene to conduct this operation and significantly delays activation and/or capability of the smoke exhaust system.)

***Section 910.4.4; change to read as follows:

910.4.4 Activation. The mechanical smoke removal system shall be activated ~~by manual controls only~~ automatically by the automatic sprinkler system or by an approved fire detection system. Individual manual controls shall also be provided.

Exception: Manual only systems per Section 910.2.

(Reason: The provision of a manual only mechanical smoke removal system does not provide equivalency

with automatic smoke and heat vents. This amendment clarifies that the primary intent is for automatic systems, unless exceptions are provided as in 910.2 – consistent with the charging statements of the section.)

****Section 912.2; add Section 912.2.3 to read as follows:**

912.2.3 Hydrant Distance. An approved fire hydrant shall be located within 100 feet of the fire department connection as the fire hose lays along an unobstructed path.

(Reason: To accommodate limited hose lengths, improve response times where the FDC is needed to achieve fire control, and improve ease of locating a fire hydrant in those situations also. Also, consistent with NFPA 14 criteria.)

****Section 913.2.1; add second paragraph and exception to read as follows:**

When located on the ground level at an exterior wall, the fire pump room shall be provided with an exterior fire department access door that is not less than 3 ft. in width and 6 ft. – 8 in. in height, regardless of any interior doors that are provided. A key box shall be provided at this door, as required by Section 506.1.

Exception: When it is necessary to locate the fire pump room on other levels or not at an exterior wall, the corridor leading to the fire pump room access from the exterior of the building shall be provided with equivalent fire resistance as that required for the pump room, or as approved by the fire code official. Access keys shall be provided in the key box as required by Section 506.1.

(Reason: This requirement allows fire fighters safer access to the fire pump room. The requirement allows access without being required to enter the building and locate the fire pump room interior access door during a fire event. The exception recognizes that this will not always be a feasible design scenario for some buildings, and as such, provides an acceptable alternative to protect the pathway to the fire pump room.)

*****Section 914.3.1.2; change to read as follows:**

914.3.1.2 Water Supply to required Fire Pumps. In buildings that are more than ~~420~~ 120 feet (128 m) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: {No change to exception.}

(Reason: The 2009 edition of the IFC added this requirement based on a need for redundancy of the water supply similar to the redundancy of the power supply to the fire pumps required for such tall

buildings, partially due to the fact that these buildings are rarely fully evacuated in a fire event. More commonly, the alarm activates on the floor of the event, the floor above and the floor below. Back-up power to the fire pump becomes critical for this reason. Certainly, the power is pointless if the water supply is impaired for any reason, so a similar requirement is provided here for redundant water supplies. The 2015 edition changes the requirement to only apply to very tall buildings over 420 ft. This amendment modifies/lowers the requirement to 120 ft., based on this same height requirement for fire service access elevators. Again, the language from the 2009 and 2012 editions of the code applied to any high-rise building. This compromise at 120 ft. is based on the above technical justification of defend-in-place scenarios in fire incidents in such tall structures.)

****Section 1006.2.2.6; add a new Section 1006.2.2.6 as follows:**

1006.2.2.6 Electrical Rooms. For electrical rooms, special exiting requirements may apply. Reference the Electrical Code as adopted.

(Reason: Cross reference necessary for coordination with the NEC which has exiting requirements as well.)

****Section 1009.1; add the following Exception 4:**

Exceptions:

{previous exceptions unchanged}

4. Buildings regulated under State Law and built in accordance with State registered plans, including any variances or waivers granted by the State, shall be deemed to be in compliance with the requirements of Section 1009.

(Reason: To accommodate buildings regulated under Texas State Law and to be consistent with amendments to Chapter 11.)

****Section 1010.1.9.4 Bolt Locks; change Exceptions 3 and 4 to read as follows:**

Exceptions:

3. Where a pair of doors serves an *occupant load* of less than 50 persons in a Group B, F, M or S occupancy. *{Remainder unchanged}*
4. Where a pair of doors serves a Group A, B, F, M or S occupancy *{Remainder unchanged}*

(Reason: Application to M occupancies reflects regional practice; No. 4 expanded to Group A due to it being a similar scenario to other uses; No. 4 was regional practice.)

*****Section 1015.8 Window Openings; change number 1 to read as follows:**

1. Operable windows where the top of the sill of the opening is located more than ~~75 feet (22 860 mm)~~ 55 (16 764 mm) above the finished grade or other surface below and that are provided with window fall prevention devices that comply with ASTM F 2006.

(Reason: In Option B jurisdictions, change "75 feet" to "55 feet".)

****Section 1020.1 Construction; add Exception 6 to read as follows:**

6. In group B occupancies, corridor walls and ceilings need not be of fire-resistive construction within a single tenant space when the space is equipped with approved automatic smoke-detection within the corridor. The actuation of any detector shall activate self-annunciating alarms audible in all areas within the corridor. Smoke detectors shall be connected to an approved automatic fire alarm system where such system is provided.

(Reason: Revise the 2012 published NCTCOG amendment to this section to clarify intent is not to require automatic fire alarm system or notification throughout the tenant space, but rather, only in the corridor.)

****Section 1029.1.1.1; delete this section. Spaces under Grandstands and Bleachers:**

(Reason: Unenforceable.)

****Section 1031.2; change to read as follows:**

1031.2 Reliability. Required exit accesses, exits and exit discharges shall be continuously maintained free from obstructions or impediments to full instant use in the case of fire or other emergency ~~when the building area served by the means of egress is occupied.~~ An exit or exit passageway shall not be used for any purpose that interferes with a means of egress.

(Reason: Maintain legacy levels of protection and long-standing regional practice, and provide firefighter safety.)

****Section 1103.3; add sentence to end of paragraph as follows:**

Provide emergency signage as required by Section 607.3.

(Reason: Coordinates requirements of previous amendment.)

****Section 1103.5; add Section 1103.5.1 to read as follows:**

1103.5.1 Group A-2. ~~An automatic sprinkler system shall be installed in accordance with Section 903.3.1.1 throughout existing buildings or portions thereof used as Group A-2 occupancies with an occupant load of 300 or more.~~ **Spray Booths and Rooms.** Existing spray booths and spray rooms shall be protected by an approved automatic fire-extinguishing system in accordance with Section 2404.

(Reason: Consistent with amendment to IFC 2404, and long-standing regional requirement. The published 1103.5.1 requiring sprinklers retroactively in A-2 occupancies was deleted by ICC Errata.)

*****Section 1103.7; add Section 1103.7.8 and 1103.7.8.1 to read as follows:**

1103.7.8 Fire Alarm System Design Standards. Where an existing fire alarm system is upgraded or replaced, the devices shall be addressable. Fire alarm systems utilizing more than 20 smoke and/or heat detectors shall have analog initiating devices.

Exception: Existing systems need not comply unless the total building, or fire alarm system, remodel or expansion exceeds 30% of the building. When cumulative building, or fire alarm system, remodel or expansion initiated after the date of original fire alarm panel installation exceeds 50% of the building, or fire alarm system, the fire alarm system must comply within 18 months of permit application.

1103.7.8.1 Communication requirements. Refer to Section 907.6.6 for applicable requirements.

(Reason: To assist responding personnel in locating the emergency event and provide clarity as to percentages of work that results in a requirement to upgrade the entire fire alarm system.)

****Section 2304.1; change to read as follows:**

2304.1 Supervision of Dispensing. ~~The dispensing of fuel at motor fuel-dispensing facilities shall be conducted by a qualified attendant or shall be under the supervision of a qualified attendant at all times or shall be in accordance with Section 2204.3.~~ the following:

1. Conducted by a qualified attendant; and/or,
2. Shall be under the supervision of a qualified attendant; and/or
3. Shall be an unattended self-service facility in accordance with Section 2304.3.

At any time the qualified attendant of item Number 1 or 2 above is not present, such operations shall be considered as an unattended self-service facility and shall also comply with Section 2304.3.

(Reason: Allows a facility to apply the attended and unattended requirements of the code when both are potentially applicable.)

****Section 2401.2; delete this section.**

(Reason: This section eliminates such booths from all compliance with Chapter 15 including, but not limited to: size, ventilation, fire protection, construction, etc. If the product utilized is changed to a more flammable substance, the lack of compliance with Chapter 15 could result in significant fire or deflagration and subsequent life safety hazard.)

*****Table 3206.2, footnote j; change text to read as follows:**

j. ~~Not required~~—Where storage areas are protected by either early suppression fast response (ESFR) sprinkler systems or control mode special application sprinklers with a response time index of 50 (m • s) 1/2 or less that are listed to control a fire in the stored commodities with 12 or fewer sprinklers, installed in accordance with NFPA 13, manual smoke and heat vents or manually activated engineered mechanical smoke exhaust systems shall be required within these areas.

(Reason: Allows the fire department to control the smoke and heat during and after a fire event, while ensuring proper operation of the sprinkler protection provided. Also, gives an alternative to smoke and heat vents.)

****Section 3310.1; add sentence to end of paragraph to read as follows:**

When fire apparatus access roads are required to be installed for any structure or development, they shall be approved prior to the time at which construction has progressed beyond completion of the foundation of any structure.

(Reason: Reference requirement of Section 501.4.)

****Section 5601.1.3; change to read as follows:**

5601.1.3 Fireworks. The possession, manufacture, storage, sale, handling, and use of fireworks are prohibited.

Exceptions:

1. Only when approved for fireworks displays, storage, and handling of fireworks as allowed in Section 5604 and 5608.
2. ~~Manufacture, assembly and testing of fireworks as allowed in Section 5605.~~
3. ~~2.~~ The use of fireworks for approved fireworks displays as allowed in Section 5608.
4. ~~The possession, storage, sale...~~ {Delete remainder of text.}

(Reason: Restricts fireworks to approved displays only, which is consistent with regional practice. Such is intended to help protect property owners and individuals from unintentional fireworks fires within the jurisdiction, as well as to help protect individuals from fireworks injuries. It is noted that there has been

a change in the State Law to allow possession of unopened fireworks in certain areas of the vehicle, and it is highly recommended that AHJ's familiarize themselves with the applicable State Laws in this regard.)

****Section 5703.6; add a sentence to read as follows:**

5703.6 Piping Systems. Piping systems, and their component parts, for flammable and combustible liquids shall be in accordance with Sections 5703.6.1 through 5703.6.11. An approved method of secondary containment shall be provided for underground tank and piping systems.

(Reason: Increased protection in response to underground leak problems and remediation difficulty in underground applications. Coordinates with TCEQ requirements.)

****Section 5704.2.9.5; change Section 5704.2.9.5 and add Section 5704.2.9.5.3 to read as follows:**

5704.2.9.5 Above-ground Tanks Inside of Buildings. Above-ground tanks inside of buildings shall comply with Section 5704.2.9.5.1 ~~and 5704.2.9.5.2~~ through 5704.2.9.5.3.

5704.2.9.5.1 {No change.}

5704.2.9.5.2 {No change.}

5704.2.9.5.3 Combustible Liquid Storage Tanks Inside of Buildings. The maximum aggregate allowable quantity limit shall be 3,000 gallons (11 356 L) of Class II or III combustible liquid for storage in protected aboveground tanks complying with Section 5704.2.9.7 when all of the following conditions are met:

1. The entire 3,000 gallon (11 356 L) quantity shall be stored in protected above-ground tanks;
2. The 3,000 gallon (11 356 L) capacity shall be permitted to be stored in a single tank or multiple smaller tanks;
3. The tanks shall be located in a room protected by an automatic sprinkler system complying with Section 903.3.1.1; and
4. Tanks shall be connected to fuel-burning equipment, including generators, utilizing an approved closed piping system.

The quantity of combustible liquid stored in tanks complying with this section shall not be counted towards the maximum allowable quantity set forth in Table 5003.1.1(1), and such tanks shall not be required to be located in a control area. Such tanks shall not be located more than two stories below grade.

(Reason: Relocated from exception to 603.3.2.1 as published, as per reason statement for deletion in that section.)

****Section 5704.2.11.4; add a sentence to read as follows:**

5704.2.11.4 Leak Prevention. Leak prevention for underground tanks shall comply with Sections 5704.2.11.4.1 ~~and 5704.2.11.5.2~~ through 5704.2.11.4.3. An approved method of secondary containment shall be provided for underground tank and piping systems.

(Reason: Increased protection in response to underground leak problems and remediation difficulty in underground applications.)

****Section 5704.2.11.4.2; change to read as follows:**

5704.2.11.4.2 Leak Detection. Underground storage tank systems shall be provided with an *approved* method of leak detection from any component of the system that is designed and installed in accordance with NFPA 30 and as specified in Section 5704.2.11.4.3.

(Reason: Reference to IFC Section 5704.2.11.4.3 amendment.)

****Section 5704.2.11.4; add Section 5704.2.11.4.3 to read as follows:**

5704.2.11.4.3 Observation Wells. Approved sampling tubes of a minimum 4 inches in diameter shall be installed in the backfill material of each underground flammable or combustible liquid storage tank. The tubes shall extend from a point 12 inches below the average grade of the excavation to ground level and shall be provided with suitable surface access caps. Each tank site shall provide a sampling tube at the corners of the excavation with a minimum of 4 tubes. Sampling tubes shall be placed in the product line excavation within 10 feet of the tank excavation and one every 50 feet routed along product lines towards the dispensers, a minimum of two are required.

(Reason: Provides an economical means of checking potential leaks at each tank site.)

****Section 6103.2.1; add Section 6103.2.1.8 to read as follows:**

6103.2.1.8 Jewelry Repair, Dental Labs and Similar Occupancies. Where natural gas service is not available, portable LP-Gas containers are allowed to be used to supply approved torch assemblies or similar appliances. Such containers shall not exceed 20-pound (9.0 kg) water capacity. Aggregate capacity shall not exceed 60-pound (27.2 kg) water capacity. Each device shall be separated from other containers by a distance of not less than 20 feet.

(Reason: To provide a consistent and reasonable means of regulating the use of portable LP-Gas containers in these situations. Reduces the hazard presented by portable containers when natural gas is

already available. Please note that current State Law does not allow for the enforcement of any rules more stringent than that adopted by the State, so this amendment is only applicable as to the extent allowed by that State Law.)

Section 6104.2, Exception; add an exception 2 to read as follows:

Exceptions:

1. {existing text unchanged}
2. Except as permitted in Sections 308 and 6104.3.2, LP-gas containers are not permitted in residential areas.

(Reason: To provide a consistent and reasonable means of regulating the use LP-Gas containers. Reduces the hazard presented by such containers when natural gas is already available. References regional amendment to IFC 6104.3.2. Please note that current State Law does not allow for the enforcement of any rules more stringent than that adopted by the State, so this amendment is only applicable as to the extent allowed by that State Law.)

****Section 6104.3; add Section 6104.3.2 to read as follows:**

6104.3.2 Spas, Pool Heaters, and Other Listed Devices. Where natural gas service is not available, an LP-gas container is allowed to be used to supply spa and pool heaters or other listed devices. Such container shall not exceed 250-gallon water capacity per lot. See Table 6104.3 for location of containers.

Exception: Lots where LP-gas can be off-loaded wholly on the property where the tank is located may install up to 500 gallon above ground or 1,000 gallon underground approved containers.

(Reason: Allows for an alternate fuel source. Dwelling density must be considered and possibly factored into zoning restrictions. Reduces the hazard presented by over-sized LP-Gas containers. Please note that current State Law does not allow for the enforcement of any rules more stringent than that adopted by the State, so this amendment is only applicable as to the extent allowed by that State Law.)

*****Section 6107.4 and 6109.13; change to read as follows:**

6107.4 Protecting Containers from Vehicles. Where exposed to vehicular damage due to proximity to alleys, driveways or parking areas, LP-gas containers, regulators and piping shall be protected in accordance with ~~NEPA 58~~ Section 312.

6109.13 Protection of Containers. LP-gas containers shall be stored within a suitable enclosure or otherwise protected against tampering. Vehicle impact protection shall be provided as required by Section 6107.4.

~~**Exception:** Vehicle impact protection shall not be required for protection of LP-gas containers where the containers are kept in lockable, ventilated cabinets of metal construction.~~

(Reason: NFPA 58 does not provide substantial physical protection [it allows raised sidewalks, fencing, ditches, parking bumpers as 'vehicle barrier protection'] of the container(s) from vehicular impact as is required and has been required historically, as per Section 312, i.e. bollard protection. Further, the exception to Section 6109.13 would allow for portable containers in ventilated metal cabinets to not require any physical protection whatsoever from vehicular impact, regardless of the location of the containers. Please note that current State Law does not allow for the enforcement of any rules more stringent than that adopted by the State, so this amendment is only applicable as to the extent allowed by that State Law.)

*****Table B105.2; change footnote a. to read as follows:**

a. The reduced fire-flow shall be not less than 1,000 1,500 gallons per minute.

(Reason: The minimum fire-flow of 1,500 gpm for other than one- and two- family dwellings has existed since the 2000 edition of the IFC, as well as the Uniform Fire Code before that. Little to no technical justification was provided for the proposed code change at the code hearings. The board believes that the already-allowed 75 percent reduction in required fire-flow for the provision of sprinkler protection is already a significant trade-off. The minimum 1,500 gpm is not believed to be overly stringent for the vast majority of public water works systems in this region, especially since it has existed as the requirement for so many years. Further, the continued progression of trading off more and more requirements in the codes for the provision of sprinkler protection has made these systems extremely operation-critical to the safety of the occupants and properties in question. In other words, should the sprinkler system fail for any reason, the fire-flow requirements drastically increase from that anticipated with a sprinkler-controlled fire scenario.

END

EXHIBIT H
LOCAL AMENDMENTS
TO 2014 NATIONAL ELECTRIC CODE

The following articles, paragraphs, and sentences of the 2014 National Electrical Code (NEC) are hereby amended as follows: Standard type is text from the NEC. Underlined wording is text inserted. ~~Lined through type is deleted text from NEC.~~ A double asterisk (**) at the beginning of an article identifies an amendment carried over from the 2011 edition of the code and a triple asterisk (***) identifies a new or revised amendment with the 2014 code.

*****Article 100; add the following to definitions:**

Engineering Supervision. Supervision by a Qualified State of Texas Licensed Professional Engineer engaged primarily in the design or maintenance of electrical installations.

(Reason: To better define the qualifications for engineering supervision. This term is used twenty four times in the National Electrical Code.)

*****Article 100, amend the following definition:**

Intersystem Bonding Termination. A device that provides a means for connection intersystem bonding conductors for communication systems and other systems ~~such as metallic gas piping systems~~ to the grounding electrode system. Bonding conductors for other systems shall not be larger than 6 AWG.

(Reason: To allow for a termination point for other bonding conductors in addition to communication systems that are required by the various model codes. 6 AWG was chosen to coincide with the minimum size of bonding conductor required to the intersystem bonding jumper.)

*****Article 110.2; change the following to read as follows:**

110.2 Approval. The conductors and equipment required or permitted by this Code shall be acceptable only if approved. Approval of equipment may be evident by listing and labeling of equipment by a Nationally Recognized Testing Lab (NRTL) with a certification mark of that laboratory or a qualified third party inspection agency approved by the AHJ.

Exception: Unlisted equipment that is relocated to another location within a jurisdiction or is field modified is subject to the approval by this AHJ. This approval may be by a field evaluation by a NRTL or qualified third party inspection agency approved by the AHJ.

~~Manufacturer's self-certification of any equipment shall not be used as a basis for approval by the AHJ.~~

Informational Note No. 1: See 90.7, Examination of Equipment for Safety, and 110.3, Examination, Identification, Installation, and Use of Equipment. See definitions of Approved, Identified, Labeled, and Listed.

Informational Note No. 2: Manufacturer's self-certification of equipment may not necessarily comply with US product safety standards are certified by a Nationally Recognized Testing Lab.

Informational Note No. 3: NFPA 790 and 791 provide an example of an approved method for qualifying a third party inspection agency.

(Reason: To add clarity and provide more positive options for enforcement and approval of unlisted equipment.)

*****Article 210.52 (G) (1) Garages: delete the following:**

(1) Garages. In each attached garage and in each detached garage with electric power. ~~The branch circuit supplying this receptacle(s) shall not supply outlets outside of the garage.~~ At least one receptacle outlet shall be installed for each car space.

(Reason: Installations in compliance with this Code are not necessarily efficient, convenient, or adequate for good service or future expansion of electrical use.)

****Article 230.71 (A); add the following exception:**

Exception: Multi-occupant buildings. Individual service disconnecting means is limited to six for each occupant. The number of individual disconnects at one location may exceed six.

(Reason: This is currently the accepted installation practice of the region. No noteworthy complaints have surfaced. It is more reasonable than the current NEC requirements. IT allows more than six disconnects grouped at one location. This also allows designers more flexibility in the placement of electrical meters and main service disconnects.)

*****Article 240.91; delete the Article.**

(Reason: Present day equipment is not listed and has not been evaluated for the use. Removing this article may prevent both installers and AHJ's from misapplying the Code.)

****Article 300.11; add the following exception:**

Exception: Ceiling grid support wires may be used for structural supports when the associated wiring is located in that area, not more than two raceways or cables supported per wire, with a maximum nominal metric designation 16 (trade six ½”).

(Reason: To provide limited support of raceways and cables by ceiling grid support wire.)

****Article 310.15 (B) (7); change to read as follows:**

(7) This Article shall not be used in conjunction with 220.82.

(Reason: 310.15 (B) (7) has been revised and the table has been deleted.)

*****Article 500.8 (A) (3); change to read as follows:**

500.8 Equipment.

Articles 500 through 504 require equipment construction and installation that ensure safe performance under conditions of proper use and maintenance.

Informational Note No. 1: It is important that inspection authorities and users exercise more than ordinary care with regard to installation and maintenance.

Informational Note No. 2: Since there is no consistent relationship between explosion properties and ignition temperature, the two are independent requirements.

Informational Note No. 3: Low ambient conditions require special consideration. Explosion proof or dust-ignition proof equipment may not be suitable for use at temperatures lower than -25°C (-13°F) unless they are identified for low-temperature service. However, at low ambient temperatures, flammable concentrations of vapors may not exist in a location classified as Class I, Division 1 at normal ambient temperature.

(A) Suitability. Suitability of identified equipment shall be determined by one of the following:

- (1) Equipment listing or labeling
- (2) Evidence of equipment evaluation from a qualified testing laboratory or inspection agency concerned with product evaluation.
- (3) Evidence acceptable to the authority having jurisdiction such as a manufacturer's self-evaluation or ~~an owner's engineering judgment.~~ an engineering judgment signed and sealed by a qualified Registered licensed Professional Engineer in the State of Texas.

Informational Note: Additional documentation for equipment may include certificates demonstrating compliance with applicable equipment standards, indicating special conditions of use, and other pertinent information.

(Reason: Carry over from previous amendment with change to better define the qualifications for an engineering judgment.)

*****Article 505.7 (A); change to read as follows:**

505.7 Special Precaution.

Article 505 requires equipment construction and installation that ensures safe performance under conditions of proper use and maintenance.

Informational Note No. 1: It is important that inspection authorities and users exercise more than ordinary care with regard to the installation and maintenance of electrical equipment in hazardous (classified) locations.

Informational Note No. 2: Low ambient conditions require special consideration. Electrical equipment depending on the protection techniques described by 505.8 (A) may not be suitable for use at temperatures lower than -20°C (-4°F) unless they are identified for use at lower temperatures. However, at low ambient temperatures, flammable concentrations of vapors may not exist in a location classified Class I, Zones 0, 1, or 2 at normal ambient temperature.

(A) Implementation of one Classification System. Classification of areas, engineering and design, selection of equipment and wiring methods, installation, and inspection shall be performed by a qualified persons Registered licensed Professional Engineer in the State of Texas.

(Reason: Carry over from previous amendment with change to better define the qualifications for an engineering judgment.)

*****Article 517.30 Essential Electrical Systems for Hospitals; create a new (H) and add the following language:**

(G) Coordination. Overcurrent protective devices serving the equipment branch of the essential electrical system shall be coordinated for the period of time that a fault's duration extends beyond 0.1 second.

Exception No. 1: Between transformer primary and secondary overcurrent protective devices, where only one overcurrent protective device or set of overcurrent protective devices exists on the transformer secondary.

Exception No. 2: Between overcurrent protective devices of the same size (ampere rating) in series.

Informational Note: The terms coordination and coordinated as used in this section do not cover the full range of overcurrent conditions.

(H) Selective Coordination. Overcurrent protective devices serving the life safety, and critical branches of the essential electrical system shall be selectively coordinated with all supply-side overcurrent protective devices.

Exception No. 1: Between transformer primary and secondary overcurrent protective devices, where only one overcurrent protective device or set of overcurrent protective devices exists on the transformer secondary.

Exception No. 2: Between overcurrent protective devices of the same size (ampere rating) in series.

Informational Note: The terms coordination and coordinated as used in this section do not cover the full range of overcurrent conditions.

(Reason: Changes made by deleting the definition of emergency systems in Article 517 Health Care Facilities and removing emergency systems as “Essential Electrical Systems for Hospitals” in 517.30 (B) (2), plus the new addition of Section 517.30 (G) for “Coordination” instead of using selective coordination, has diminished the reliability of the “Life Safety and Critical Branches of the Essential Electrical System” to deliver power to vital loads. By providing only “coordination,” the instantaneous portion of the time-current curve has been eliminated from the overcurrent device settings.)

*****Article 680.25 (A); change to read as follows:**

680.25 Feeders.

These provisions shall apply to any feeder on the supply side of panelboards supplying branch circuits for pool equipment covered in Part II of this article and on the load side of the service equipment or the source of a separately derived system.

(A) Wiring Methods.

(1) Feeders. Feeders shall be installed in rigid metal conduit, intermediate metal conduit. The following wiring methods shall be permitted if not subject to physical damage.

- (1) Liquid tight flexible nonmetallic conduit
- (2) Rigid polyvinyl chloride conduit
- (3) Reinforced thermosetting resin conduit
- (4) Electrical metallic tubing where installed on or in a building
- (5) Electrical nonmetallic tubing where installed within a building
- (6) Type MC Cable where installed within a building and if not subject to corrosive environment
- (7) Nonmetallic-sheathed cable
- (8) Type SE cable

~~**Exception:** A feeder within a one family dwelling or two family dwelling unit between remote panelboard and service equipment shall be permitted to run in flexible metal conduit or an approved cable assembly that includes an insulated equipment grounding conductor within its outer sheath. The equipment grounding conductor shall comply with 250.24 (A) (5).~~

(Reason: Carry over from previous amendments. Text changed to reflect 2014 National Electrical Code. Exception deleted per Errata No.70-14-2)

END



Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: EXECUTIVE SESSION - A.

I. Subject:

The City Council may meet in closed session at any time during the work session or the regular session, pursuant to Section 551.071 of the Texas Government Code for consultation with the City Attorney pertaining to any matter in which the duty of the City Attorney under the Texas Disciplinary Rules of Professional Conduct may conflict with the Open Meetings Act, including discussion on any item posted on the agenda.

The City Council will meet in closed session pursuant to Section 551.072 of the Texas Government Code to deliberate the purchase, exchange, lease, or value of real property for the following:

1. 108 New Hope Road
2. 6727 Hudson Village Creek

II. Originated by:

III. Summary:

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:

Staff Report to the Honorable Mayor and City Council

Date: August 15, 2016

Agenda Item No: EXECUTIVE SESSION - B.

I. Subject:

The City Council will meet in closed session pursuant to Section 551.074 of the Texas Government Code to deliberate the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee.

1. City Manager's Annual Evaluation

II. Originated by:

III. Summary:

At this time the City Council will meet in executive session.

IV. Fiscal Impact Summary:

V. Legal Impact:

VI. Recommendation:

VII. Alternative Actions:

VIII. Attachments:

1.	City Manager Annual Evaluation Form	City Manager Evaluation.doc
2.	2016 Ends Statement with Sub-ends	2016 Ends Statement.pdf
3.	Governance Policies	Governance Policies.pdf