



GARLAND

AGENDA

REGULAR MEETING OF THE CITY COUNCIL

City of Garland
Council Chambers, City Hall
200 North Fifth Street
Garland, Texas
December 6, 2016
7:00 p.m.

The City Council extends to each visitor a sincere welcome. We value your interest in your community and your participation in the meetings of this governing body. Regular meetings of the City Council are held the 1st and 3rd Tuesdays of each month, beginning at 7:00 p.m.; the City Council meets regularly in work sessions at 6:00 p.m. the Monday preceding each regular meeting.

Garland City Hall and Council Chambers is wheelchair accessible. Special parking is available on the east side of City Hall and on Austin & State Street west of City Hall. Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services must contact the City Secretary's Office at (972) 205-2404 at least two working days prior to the meeting so that appropriate arrangements can be made. **BRILLE IS NOT AVAILABLE.**

CITY COUNCIL GOALS 2020

(Adopted by Resolution No. 9402 on December 20, 2005)

- Sustainable quality development and redevelopment
- Financially stable government with tax base that supports community needs
- Defends rightful powers of municipalities
- Fully informed and engaged citizenry
- Consistent delivery of reliable City services
- Safe, family-friendly neighborhoods
- Embrace diversity

MAYORAL PROCLAMATIONS, RECOGNITIONS AND ANNOUNCEMENTS

The Mayor may present proclamations and recognize attendees or award winners, and may make announcements regarding upcoming City events and matters of interest to citizens. There will be no Council deliberations or votes on these matters.

CONSENT AGENDA

All items under this section are recommended for approval by a single motion of Council, without discussion. Council has had the opportunity to review each of these items and approval of the consent agenda authorizes the City Manager to implement each item. The Mayor will announce the agenda and provide an opportunity for members of the audience and the City Council to request that an item be removed and considered separately.

1. Consider approval of the minutes of the November 15, 2016 Regular Meeting.
2. Consider approval of the following bids:
 - a. **ASPEN Model Build and Relay Coordination Study** **Bid No. 0139-17**

Power Engineers, Inc.	\$117,519.00
Optional Contingency	<u>11,747.90</u>
TOTAL	\$129,266.90

This request is to obtain Professional Engineering Services related to the design and build of an ASPEN short circuit model to include: sixty 345kV, 138kV, and 69kV buses; eighty 345kV, 138kV, and 69kV lines; fifteen autotransformers; sixty distribution transformers; and six hundred protective elements. The purpose of the ASPEN model is to evaluate phase & ground distance and overcurrent element coordination throughout the GP&L system. A coordination study of the entire GP&L system will then be performed based on the completed ASPEN model. This study will help to locate any potential relay issues that would contribute to a misoperation of GP&L Transmission relaying, and it will pinpoint areas where modified settings will optimize relay performance.

b. Garland Power & Light IT Annual Support **Bid No. 0151-17**

SHI Government Solutions **\$130,799.00**

This request is to provide Microsoft licensing, server maintenance, anti-virus support, and software support renewal for Garland Power & Light's IT system. GP&L has historically managed seven separate support contracts for these services. This will be a combined Term Contract with four optional renewals.

c. Construction Services for Backup 911 and Flex Space **Bid No. 0154-17**

Concord Commercial Services, Inc. **\$167,772.00**

This request is to provide construction services for the Backup 911 and Flex Space to be built at Emergency Management and Information Technology Facility located on State Highway 66. The contract will include construction of a data room to house radio and 911 equipment, a backup location for 911 operations, and a flexible office space for 22 occupants.

d. Garland Municipal Court Collection Contract **Bid No. 6734-16**

Perdue, Brandon, Fielder, Collins, & Mott, LLP **\$150,000.00**

Article 103.0031 of the Texas Code of Criminal Procedure authorizes the Garland Municipal Court to contract with a private attorney for collection of delinquent fines, fees, etc., and impose an additional fee of 30% on each debt that is more than 60 days past due. These cases are referred to the attorney for collection. This is a Term Contract with four optional renewals.

e. Design Services for Bobtown Road and Waterhouse Boulevard **Bid No. 5703-15**

Huitt-Zollars, Inc. **\$119,995.00**

This request is to provide funding for additional engineering design services to the original contract approved at the August 18, 2015 City Council Meeting. In order to maximize cost savings, staff would like to combine a separate Water Department project in the area. This will include a 24" water line upgrade on South Country Club Road from Rowlett Road to Bobtown Road and on Bobtown Road from Waterhouse Boulevard to a point approximately 450 feet west of the intersection of Bobtown and Roan Roads.

ITEMS FOR INDIVIDUAL CONSIDERATION

Speaker Regulations:

Anyone wishing to speak for, against, or on agenda items must fill out a speaker card and give it to the City Secretary before speaking (cards are located at the entrance to the Council Chambers). The Mayor will recognize speakers; he may impose a time limit and may provide for rebuttal. All comments and testimony are to be presented from the podium.

3. Hold public hearings on:

- a. Consider the application of CBRE, Inc., requesting approval of 1) a change in zoning from Industrial (IN) District to Planned Development (PD) District for Multi-Family Uses and 2) a Detail Plan for an Elder Care - Nursing/Convalescent Care Facility. This property is located at the northwest corner of West Walnut Street and Peggy Lane. (File No. Z 16-27, District 8). (This item was postponed from the October 18, 2016 Regular Meeting).

Being a 506,239 square feet or 11.6217 acre tract of land situated in the John W. Keen Survey, Abstract No. 738, City of Garland, Dallas County, Texas, being all of Lot 1R, Block 1, Baylor Medical Office, an addition to the City of Garland, Dallas County, Texas, according to the plat recorded in Instrument No. 200600277215, Official Public Records, Dallas County, Texas, as conveyed to Baylor Health Care System by Special Warranty Deed recorded in Volume 2004239, Page 4474 and by Deed Without Warranty recorded in Instrument No. 200600149048, Official Public Records, Dallas County, Texas, The subject property is located at the northwest corner of West Walnut Street and Peggy Lane.

- b. Consider the application of RGM Architects requesting approval of 1) a Detail Plan for Restaurant, Drive-Through and 2) a Specific Use Provision for a Restaurant, Drive-Through on property zoned Planned Development (PD) 12-56 District for Community Retail. This property is located at 4940 N. Garland Avenue. (File No. Z 16-31, District 1).

Being approximately a 0.84-acre tract of land and identified as Lot 3, Block 1, of Mayor Foundation Addition No. 2 Lots 1-7, Block 1, an addition to the City of Garland, Texas. This property is located 4940 N. Garland Avenue.

- c. Consider the application of RGM Architects requesting approval of 1) a Detail Plan for Restaurant, Drive-Through and 2) a Specific Use Provision for a Restaurant, Drive-Through on property zoned Planned Development (PD) 12-56 District for Community Retail. This property is located at 4920 N. Garland Avenue. (File No. Z 16-32, District 1).

Being approximately a 0.84-acre tract of land and identified as Lot 2, Block 1, of Mayor Foundation Addition No. 2 Lots 1-7, Block 1, an addition to the City of

Garland, Texas. This property is located 4920 N. Garland Avenue.

- d. **Consider the application of Clinton Coultias requesting approval of a Specific Use Provision for Restaurant, Drive-Through on a property zoned Community Retail (CR) District. This property is located on the south and west side of Broadway Boulevard, approximately 500 feet southeast from the intersection of Broadway Boulevard and East Centerville Road. (File No. Z 16-37, District 4).**

Being an approximate 0.827 acre tract of land and a portion of Lot 1, Block 1, of the replat of Lot 1-RR and Lot 3-R, Block 1, of the Broadway Crossing Addition, an Addition to the City of Garland, Dallas County, Texas, according to the plat thereof recorded in Volume 93252, Page 2780, Map Records, Dallas County, Texas. This property is located on the south and west side of Broadway Boulevard, approximately 500 feet southeast from the intersection of Broadway Boulevard and East Centerville Road.

- e. **Consider the application of the City of Garland requesting approval of a Change in Zoning from Planned Development (PD) 77-88 District for Retail Uses to Single-Family-7 (SF-7) District. The subject properties are located at the north corner of Little Lane and Robin Road. (File No. Z 16-40, District 4).**

The subject properties, comprised of approximately 2.9 acres, are generally located north and northeast of the corner of Little Lane and Robin Road.

4. Public Hearing and Consideration to Adopt an Updated Impact Fee Ordinance Establishing New Roadway and Water Impact Fees

The City Council will continue the public hearing from November 15, 2016 to consider the adoption of an updated Impact Fee Ordinance, including an amendment of the Land Use Assumptions and Capital Improvements Plan and the establishment of new Maximum Roadway and Water Impact Fees.

5. Garland Development Code Amendment

Public Hearing and Consideration of an amendment to Chapter 2: Zoning Regulations, Article 5, Division 2 - Land Use Matrix, Section 2.51 of the Garland Development Code (GDC), Ordinance 6773, regarding Self-Storage Facilities (mini-warehouse) in the Light Commercial (LC) District.

6. Citizen comments.

Persons wishing to address issues not on the agenda may have three minutes to address Council at this time. Council is prohibited from discussing any item not posted according to the Texas Open Meetings Act.

7. Adjourn.

All Regular Council meetings are broadcast live on CGTV, Time Warner Cable Channel 16, and Verizon FIOS TV 44. Meetings are rebroadcast at 9:00 a.m. and 7:00 p.m. on Wednesday-Sunday and at 7:30 p.m. on Thursday. Live streaming and on-demand videos of the meetings are also available online at www.garlandtx.gov. Copies of the meetings can be purchased through the City Secretary's Office – audio CD's are \$1 each and DVD's are \$3 each.



GARLAND

City Council Regular Session Agenda

Agenda Item 1.

Meeting Date: December 6, 2016

Item Title:

Submitted By: Rene Dowl, City Secretary, City Secretary

Summary:

Consider approval of the minutes of the November 15, 2016 Regular Meeting.

Attachments

November 15, 2016 Minutes

The City Council of the City of Garland convened in regular session at 7:00 p.m. on Tuesday, November 15, 2016 in the Council Chambers at City Hall, 200 North Fifth Street, Garland, Texas, with the following members present:

COUNCIL PRESENT:

Mayor	Douglas Athas
Mayor Pro Tem	Scott LeMay
Council Member	David Gibbons
Council Member	Anita Goebel
Council Member	Stephen Stanley
Council Member	B. J. Williams
Council Member	Rich Aubin
Council Member	Lori Dodson
Council Member	James Cahill

STAFF PRESENT:

City Manager	Bryan L. Bradford
City Attorney	Brad Neighbor
City Secretary	Eloyce René Dowl

CALL TO ORDER:

The meeting was called to order by Mayor Douglas Athas. Council Member Aubin led the pledge and invocation.

CEREMONIALS:

Mayor Athas, along with Council Members Anita Goebel and B. J. Williams, presented a special recognition to Azzie Arnick, Arnick's Barber Shop, for his 65 years of service as a business owner in Garland.

Mayor Athas recognized two former Council Members in attendance: Lowell Hyatt, who represented District 8, and Jackie Feagin, who represented District 5.

CONSENT AGENDA:

All items marked with asterisks (**) on the Consent Agenda were voted on at the beginning of the meeting. Mayor Athas read those items into the record. Motion was made by Council Member Aubin to approve the Consent Agenda as presented, seconded by Council Member Dodson, to approve items 1, 2a, 2b, 2c, 2e, 3a, 4, 5, 6, 7, and 8. Motion carried, 9 ayes, 0 nays. Item 2d was pulled by Council Member Stanley for discussion.

1. APPROVED**

Approval of the Minutes of the November 1, 2016 Regular Meeting.

2a. APPROVED**

Bid No. 0047-17 awarded to Rush Truck Center in the amount of \$322,171.17 for Sewer Jet Trucks.

This request is to purchase two Sewer Jet Trucks to be used by the Wastewater Collection Department in their daily operations.

2b. APPROVED**

Bid No. 0048-17 awarded to Chastang Ford in the amount of \$39,973.00 and CUES, Inc. in the amount of \$209,035.71, for a total bid of \$249,008.71 for a CCTV Van.

This request is to purchase one CCTV Van and all necessary mounted equipment to be used by the Wastewater Collection Department in their daily operations.

2c. APPROVED**

Bid No. 6159-16 awarded to LD Kemp Excavating, Inc. in the amount of \$235,000.00 for Queuing Road and Solid Waste Disposal Convenience Center.

The purpose of this Change Order is to construct an approximately 2,000-foot queuing road and a Solid Waste Disposal Convenience Center (SWDCC) within the permit boundary at Hinton Landfill. The additional queuing road is necessary to alleviate traffic congestion caused by solid waste collection vehicles attempting to enter the Landfill facility from Elm Grove Road. In addition, the Texas Commission on Environmental Quality has requested the City of Garland address this issue by submitting a site permit modification request to construct an additional queuing road that will resolve the backup of vehicles on a public road. The proposed SWDCC will be constructed near the Hinton Scale house and used primarily as a safe and convenient disposal area for customers operating noncommercial vehicles such as cars and pickup trucks. The SWDCC will prevent this type of vehicular traffic from delivering solid waste directly to the active landfill disposal working area used by large commercial solid waste collection vehicles. This project was funded in the 2016 CIP as part of the Construction of Waste Cell #7.

2d. APPROVED
PULLED AND
DISCUSSED
SEPARATELY

Bid No. 0078-17 awarded to Civil Consulting Group, PLLC in the amount of \$186,918.00 for Design Services for Broadway, Syracuse, and Intrepid Water Improvements.

This request is to provide surveying and engineering services for the design of approximately 3,000 LF of 8" water line along Broadway Boulevard from Wynn Joyce Road to Marilee Drive, 1200 LF 8" water line along Syracuse Drive from Vandebilt Drive to End, and 900 LF of 8" water line along Intrepid Drive from Hilltop Drive to Inwood Drive.

Mayor Athas opened the discussion at 7:18 p.m. The speaker on this item was Michael Polocek, Director of Engineering. Motion was made by Council Member Stanley to approve the item as presented, seconded by Council Member Aubin to close the discussion at 7:22 p.m. Motion carried, 9 ayes, 0 nays.

2e. APPROVED**

Bid No. 0005-17 awarded to Freedom Chevrolet in the amount of \$347,600.00 and to Caldwell Country Chevrolet in the amount of \$308,992.00, for a total bid of \$656,592.00 for New Police Vehicles.

This request is to purchase seventeen new Chevrolet Malibus and eleven new Chevrolet Tahoes to be used by the Police Department in their daily operations.

3a. APPROVED**

Ordinance No. 6867 amending the Garland Development Code of the City of Garland, by approving a change in zoning from Planned Development (PD) District 75-13 for Retail Uses to Community Retail (CR) District on a 0.67-acre tract of land located at 313 Castle Drive. Providing for conditions, restrictions, and regulations; providing a penalty under the provisions of Sec. 10.05 of the Code of Ordinances of the City of Garland; providing a Savings Clause and a Severability Clause; and providing an effective date. (File No. Z 16-34, Steven Chen, District 2)

4. APPROVED** Resolution No. 10263 approving and funding the 2016-2017 Cycle 1 Neighborhood Vitality Staff Initiated Special Projects.

Council approved the Neighborhood Vitality Staff-Initiated Special Projects resolution.

5. APPROVED** Ordinance No. 6868 authorizing the issuance of “City of Garland, Texas General Obligation Refunding Bonds, Series 2016”; specifying the terms and features of said bonds; levying a continuing direct annual ad valorem tax for the payment of said bonds; providing for the redemption of certain outstanding obligations of the City; and resolving other matters incident and related to the issuance, sale, payment and delivery of said bonds, including the approval and execution of a Paying Agent/Registrar Agreement, a Purchase Agreement and an Escrow Agreement, and the approval and distribution of a Preliminary Official Statement and an Official Statement, and providing an effective date.

Council approved the sale of General Obligation Refunding Bonds, Series 2016.

6. APPROVED** Ordinance No. 6869 authorizing the issuance of “City of Garland, Texas, Water and Sewer System Revenue Refunding Bonds, Series 2016”; pledging net revenues of the City’s Water and Sewer System to the security of and the payment of the principal of and interest on said bonds; specifying the terms and conditions of such bonds; resolving other matters incident and related to the issuance, payment, security, sale and delivery of said bonds, including the approval and execution of a Paying Agent/Registrar Agreement, a Purchase Agreement and an Escrow Agreement; and the approval and distribution of a Preliminary Official Statement and an Official Statement; and providing an effective date.

Council approved the sale of Water and Sewer System Revenue Refunding Bonds, Series 2016.

7. APPROVED**

Ordinance No. 6870 authorizing the issuance of “City of Garland, Texas, Electric Utility System Revenue Refunding Bonds, Series 2016A”, pledging the new revenues of the City’s electric utility system to the payment of the principal of and interest on said bonds; specifying the terms and conditions of such bonds; resolving other matters incident and related to the issuance, payment, security, sale and delivery of said bonds, including the approval and execution of a Paying Agent/Registrar Agreement, a Purchase Agreement and an Escrow Agreement, and the approval and distribution of a Preliminary Official Statement and an Official Statement, and providing an effective date.

Council approved the sale of Electric Utility System Revenue Refunding Bonds. Series 2016A.

8. APPROVED**

Ordinance No. 6871 authorizing the issuance of “City of Garland, Texas, Electric Utility System Revenue Refunding Bonds, Series 2016B”, pledging the net revenues of the City’s electric utility system to the payment of the principal of and interest on said bonds; specifying the terms and conditions of such bonds; resolving other matters incident and related to the issuance, payment, security, sale and delivery of said bonds, including the approval and execution of a Paying Agent/Registrar Agreement and a Purchase Agreement; and the approval and distribution of a Preliminary Official Statement and an Official Statement, and providing an effective date.

Council approved the sale of Electric Utility System Revenue Refunding Bonds, Series 2016B.

9a. POSTPONED

Consider the application of Westwood Professional Services, requesting approval of 1) a change in zoning from Community Retail (CR) District to Planned Development for Community Retail Uses, 2) a Detail Plan for a Self-Storage Facility

(mini-warehouse) and 3) a Specific Use Provision for a Self-Storage Facility (mini-warehouse) on property zoned Community Retail (CR) District. The property is located at 3341 West Campbell Road. (File No. Z 16-17, District 1)

Being a 2.0128-acre tract of land situated in the D. Crumpacker Survey, Abstract No. 258, Dallas County, Texas; said tract being all of Lot 2RR and part of Lot 1RR, Block 1, Jupiter Road Apartments, an addition to the City of Garland, Texas according to the plat recorded in Volume 87026, Page 4129 of the Deed Records of Dallas County, Texas; said tract also being all of that certain tract of land described as Property No. 6 in Deed to Mohammed I Jetpuri and Farida Yasmin Jetpuri recorded in County Clerk's File No. 200900262023 of the Official Public Records of Dallas County, Texas. This property is located at 3341 West Campbell Road.

Mayor Athas opened the public hearing at 7:23 p.m. The speaker on this item was Isaac Williams, Development Planner. The speaker for the applicant was Rick Jones. Citizens expressing opposition to the request were: Jeanie Curto, Chris Curto, Sandra Garza, Chris Becker, Carl Vickery, Lynn Jackson, and Li Barron. Motion was made by Council Member Gibbons to postpone the matter until December 13, seconded by Council Member Aubin to close the hearing at 9:34 p.m. Motion carried 9 ayes, 0 nays.

RECESS

Mayor Athas recessed the meeting at 9:35 p.m.

RECONVENED

Mayor Athas reconvened the meeting at 9:45 p.m.

10. PUBLIC HEARING
HELD

Council is requested to consider the 2016 Water and Roadway Impact Fee Study: Land Use Assumptions, Roadway and Water Impact Fee CIP, and Maximum Fee.

Mayor Athas opened the public hearing at 9:45 p.m. The speakers on this item were Will Guerin, Director of Planning, Rick Vasquez, Assistant City Manager, Pete Kelly and

Anthony Samarripas with Kimley-Horn. The hearing will remain open until the next meeting on December 6 when Council will vote on this issue.

11. CITIZEN COMMENTS: Raymond L. Johnson

12. ADJOURN: There being no further business to come before the City Council, Mayor Athas adjourned the meeting at 10:35 p.m.

CITY OF GARLAND, TEXAS

/s/ Douglas Athas, Mayor

/s/ Eloyce René Dowl, City Secretary



**GARLAND
PURCHASING REPORT**

City Council Regular Session Agenda

Agenda Item 2. a.

Meeting Date: December 6, 2016

Item Title: ASPEN Model Build and Relay Coordination Study

Submitted By: Ross Owen, Director of Transmission & Distr

PURCHASE JUSTIFICATION:

The purpose of this contract is to obtain Professional Engineering Services related to the design and build of an ASPEN short circuit model to include: sixty (60) 345kV, 138kV, and 69kV buses; eighty (80) 345kV, 138kV, and 69kV lines; fifteen (15) autotransformers; sixty (60) distribution transformers; and six hundred (600) protective elements. The purpose of the ASPEN model is to evaluate phase & ground distance and overcurrent element coordination throughout the GP&L system. A coordination study of the entire GP&L system will then be performed based on the completed ASPEN model. This study will help to locate any potential relay issues that would contribute to a misoperation of GP&L Transmission relaying, and it will pinpoint areas where modified settings will optimize relay performance.

AWARD RECOMMENDATION:

<u><i>Vendor</i></u>	<u><i>Item</i></u>	<u><i>Amount</i></u>
Power Engineers, Inc.	All	\$117,519.00
Optional Contingency		11,747.90
TOTAL:		\$129,266.90

Basis for Award: Most Qualified

Fiscal Impact

Total Project/Account: \$1,002,348
Expended/Encumbered to Date: 202,005
Balance: \$800,343
This Item: 129,267
Proposed Balance: \$671,076
Account #: 211-3711-7101
Fund/Agency/Project – Description and Comments:

Attachments

Bid Recap
Executive Summary

Fiscal Reference:

Budget Type: Operating Budget

Fiscal Year: 2016-17

Document Location: Page D-64

Budget Director Approval:	Approval Date:
Ron Young	11/16/2016

Purchasing Director Approval:	Approval Date:
Gary L. Holcomb	11/15/2016



GARLAND
PURCHASING EXECUTIVE SUMMARY

Bid 0139-17
ASPEN Model Build and Relay Coordination Study

Recommended Vendor:
Power Engineers, Inc.

Total Recommended Award:
\$129,266.90

Basis for Award:
Most Qualified

Purpose:
The purpose of this contract is to obtain Professional Engineering Services related to the design and build of an ASPEN short circuit model to include: sixty (60) 345kV, 138kV, and 69kV buses; eighty (80) 345kV, 138kV, and 69kV lines; fifteen (15) autotransformers; sixty (60) distribution transformers; and six hundred (600) protective elements. The purpose of the ASPEN model is to evaluate phase & ground distance and overcurrent element coordination throughout the GP&L system. A coordination study of the entire GP&L system will then be performed based on the completed ASPEN model. This study will help to locate any potential relay issues that would contribute to a misoperation of GP&L Transmission relaying and it will pinpoint areas where modified settings will optimize relay performance.

Evaluation:
Power Engineers, Inc. was selected as the most qualified firm for this study based on their response to Request for Qualifications 5771-15.

Recommendation:
Staff recommends the approval of the ASPEN study.

Funding Information:
GP&L Substation Operating account 211-3711-7101

Department Director:
Ross Owen, Transmission & Distribution Director, 972-205-2667



**GARLAND
PURCHASING REPORT**

City Council Regular Session Agenda

Agenda Item 2. b.

Meeting Date: December 6, 2016

Item Title: Garland Power & Light IT Annual Support

Submitted By: Ross Owen, Director of Transmission & Distr

PURCHASE JUSTIFICATION:

The purpose of this contract is to provide Microsoft licensing, server maintenance, anti-virus support, and software support renewal for Garland Power & Light's IT system. GP&L has historically managed seven (7) separate support contracts for these services, but this will be a combined Term Contract with four (4) optional renewals. Funding for this project was approved in the 2016-17 Operating Budget.

AWARD RECOMMENDATION:

<u>Vendor</u>	<u>Item</u>	<u>Amount</u>
SHI Government Solutions	All	\$130,799.00
TOTAL:		\$130,799.00

Basis for Award: Cooperative Purchase

Fiscal Impact	
Total Project/Account:	\$197,300
Expended/Encumbered to Date:	41,707
Balance:	\$155,593
This Item:	130,799
Proposed Balance:	\$24,794
Account #:	211-3141-7121
Fund/Agency/Project – Description and Comments:	
Electric Operating Fund / Administration/IT	

Attachments

Bid Recap

Executive Summary

Fiscal Reference:

Budget Type: Operating Budget

Fiscal Year: 2016-17

Document Location: Page D-64

Budget Director Approval:	Approval Date:
Ron Young	11/16/2016

Purchasing Director Approval:	Approval Date:
Gary L. Holcomb	11/15/2016



GARLAND
PURCHASING EXECUTIVE SUMMARY

Bid 0151-17
Garland Power & Light IT Annual Support

Recommended Vendor:
SHI Government Solutions

Total Recommended Award:
\$130,799.00

Basis for Award:
Cooperative Purchase

Purpose:
The purpose of this contract is to provide Microsoft licensing, server maintenance, anti-virus support, and software support renewal for Garland Power & Light's IT system. GP&L has historically managed seven (7) separate support contracts for these services, but this will be a combined Term Contract with four (4) optional renewals. Funding for this project was approved in the 2016-17 Operating Budget.

Evaluation:
These services are being provided by SHI Governmental Solutions through the Department of Information Resources (DIR) Purchasing Cooperative Contract DIR-SDD-2500.

Recommendation:
Staff recommends awarding the Term Contract and optional renewals to SHI Government Solutions.

Funding Information:
GP&L IT Operating Account 211-3141-7121

Department Director:
Ananth Palani, GP&L Technology Services Director, 972-205-3032



**GARLAND
PURCHASING REPORT**

City Council Regular Session Agenda

Agenda Item 2. c.

Meeting Date: December 6, 2016

Item Title: Construction Services for Backup 911 and Flex Space

Submitted By: Ginny Holliday, Facilities Management Director

PURCHASE JUSTIFICATION:

The purpose of this contract is to provide construction services for the Backup 911 and Flex Space to be built at Emergency Management and Information Technology Facility located on State Highway 66. The contract will include construction of a data room to house radio and 911 equipment, a backup location for 911 operations, and a flexible office space for 22 occupants. Funding for this project was approved in the 2016 CIP Budget.

AWARD RECOMMENDATION:

<u>Vendor</u>	<u>Item</u>	<u>Amount</u>
Concord Commercial Services, Inc.	All	\$167,772.00
TOTAL:		\$167,772.00

Basis for Award: Cooperative Purchase

Fiscal Impact

Total Project/Account: \$17,096,000
Expended/Encumbered to Date: 16,149,790
Balance: \$946,210
This Item: 167,772
Proposed Balance: \$778,438
Account #: 416-4599-2304700-7101
Fund/Agency/Project – Description and Comments:
Information Technology CO-Funded CIP / Information Technology / Radio System Replacement

Attachments

Bid Recap

Executive Summary

Fiscal Reference:

Budget Type: CIP

Fiscal Year: 2016

Document Location: Page PS07

Budget Director

Approval:

Ron Young

Approval Date:

11/19/2016

Purchasing Director

Approval:

Gary L. Holcomb

Approval Date:

11/18/2016

CITY OF GARLAND - BID RECAP SHEET OPENED: 11/18/2016 REQ. NO. PR 37238 BID NO. 0154-17 PAGE: 1 of 1 BUYER: Joel J. Wilson			Concord Commercial Services, Inc.								
ITEM	QTY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL
1	1	Ea.	Construction services for the Backup 9-1-1 and Flex Space to be built at Emergency Management and IT Facility located at 1490 East State Highway 66, Garland, TX.	\$167,772.00	\$167,772.00						
			TOTAL GROSS PRICE		\$167,772.00						
			CASH DISCOUNT								
			TOTAL NET PRICE		\$167,772.00						
			F.O.B.	DELIVERED		DELIVERED		DELIVERED		DELIVERED	
			DELIVERY								
NEXT LOW:					0 # IonWave Notifications		All bids submitted for the designated project are reflected on this bid tab sheet. However, the listing of a bid on this sheet should not be construed as a comment on the responsiveness of such bid or as any indication that the city accepts such bid as responsive. <u>The City will notify the successful bidder upon award of the contract and, according to the law, all bids received will be available for inspection at that time.</u>				
LOW:					0 # IonWave HUBS						
SAVINGS:			\$0.00		0 # Direct Contact HUBS						
					0 # HUBS Responded						



GARLAND
PURCHASING EXECUTIVE SUMMARY

Bid 0154-17
Construction Services for Backup 9-1-1 and Flex Space

Recommended Vendor:

Concord Commercial Services, Inc.

Total Recommended Award:

\$167,772.00

Basis for Award:

Cooperative Purchase

Purpose:

The purpose of this contract is to provide construction services for the Backup 9-1-1 and Flex Space to be built at Emergency Management and Information Technology Facility located on State Highway 66. The contract will include construction of a data room to house radio and 9-1-1 equipment, a backup location for 9-1-1 operations, and a flexible office space for 22 occupants.

Evaluation:

Concord Commercial Services, Inc. was selected through an Interlocal Agreement with the City of Mesquite. Concord is experienced with construction of similar scope and type and has a long standing relationship with the City of Garland.

Recommendation:

Staff recommends award of contract for construction services to Concord Commercial Services, Inc.

Funding Information:

CIP Account 416-4559-2304700-7101

Department Director:

Ginny Holliday, Director of Facilities Management, 972-205-4080



**GARLAND
PURCHASING REPORT**

City Council Regular Session Agenda

Agenda Item 2. d.

Meeting Date: December 6, 2016

Item Title: Garland Municipal Court Collection Contract

Submitted By: Paige Bobbitt, Municipal Court Director

PURCHASE JUSTIFICATION:

Article 103.0031 of the Texas Code of Criminal Procedure authorizes the Garland Municipal Court to contract with a private attorney for collection of delinquent fines, fees, etc., and impose an additional fee of 30% on each debt that is more than 60 days past due. These cases can be referred to the attorney for collection. This is a Term Contract with four (4) optional renewals.

AWARD RECOMMENDATION:

<u>Vendor</u>	<u>Item</u>	<u>Amount</u>
Perdue, Brandon, Fielder, Collins, & Mott, LLP		\$150,000.00
TOTAL:		\$150,000.00

Basis for Award: Best Value

Fiscal Impact

Total Project/Account: \$150,000

Expended/Encumbered to Date: 0

Balance: \$150,000

This Item: 150,000

Proposed Balance: \$0

Fund/Agency/Project – Description and Comments:

Funded by Municipal Court Overdue Judgment Collection Fees

Attachments

Bid Recap

Executive Summary

Fiscal Reference:

Budget Type: Operating Budget

Fiscal Year: 2016-17

Document Location: Page C-7

Budget Director Approval:	Approval Date:
Ron Young	11/19/2016

Purchasing Director Approval:	Approval Date:
Gary L. Holcomb	11/17/2016



**GARLAND
PURCHASING EXECUTIVE SUMMARY**

Bid 6734-16
Garland Municipal Court Collection Contract

Recommended Vendor:

Perdue, Brandon, Fielder, Collins, & Mott, LLP

Total Recommended Award:

\$ 150,000.00

Basis for Award:

Best Value

Purpose:

The purpose of this contract is to provide Collection Services for Municipal Court. In accordance with Article 103.0031 of the Texas Code of Criminal Procedure, the City of Garland has determined it is in the public interest to ensure prompt payment of delinquent Court fines, fees, etc. The Court selects a private firm for the collection of fines, fees, court costs, and any other debts ordered to be paid by the City of Garland Municipal Court. This is a term contract with four (4) optional renewals.

Evaluation:

A Request for Proposals was issued in accordance with Purchasing procedures. Two (2) proposals were received and evaluated based on the published criteria of: contractor qualifications; collection procedures; collection notices; mandatory minimum requirements; computer network; management reports; fee structure; sample contract. Perdue, Brandon, Fielder, Collins, & Mott, LLP received the highest evaluated score and is recommended as the most qualified firm for the contract.

Recommendation:

Staff recommends awarding the Collections Contract and renewals to Perdue, Brandon, Fielder, Collins, & Mott LLP.

Funding Information:

Court General Budget, Outside services

Department Director:

Paige Bobbitt, Court Director, 972-487-7304



**GARLAND
PURCHASING REPORT**

City Council Regular Session Agenda

Agenda Item 2. e.

Meeting Date: December 6, 2016

Item Title: Design Services for Bobtown Road and Waterhouse Boulevard

Submitted By: Michael Polocek, Engineering Director

PURCHASE JUSTIFICATION:

The purpose of this Change Order is to provide funding for additional engineering design services to the original contract approved at the August 18, 2015, City Council Meeting. In order to maximize cost savings, staff would like to combine a separate Water Department project in the area. This will include a 24" water line upgrade on South Country Club Road from Rowlett Road to Bobtown Road and on Bobtown Road from Waterhouse Boulevard to a point approximately 450 feet west of the intersection of Bobtown and Roan Roads.

AWARD RECOMMENDATION:

<u>Vendor</u>	<u>Item</u>	<u>Amount</u>
Huitt-Zollars, Inc.	All	\$119,995.00
TOTAL:		\$119,995.00

Basis for Award: Change Order

Fiscal Impact

Total Project/Account: \$2,400,000
Expended/Encumbered to Date: 1,938,653
Balance: \$461,347
This Item: 119,995
Proposed Balance: \$341,352
Account #: 220-4049-3021600-7101

Fund/Agency/Project – Description and Comments:

Water CIP (Commercial Paper) / Country Club Road Water Transmission Mains - Includes Extension on Bobtown Road

Attachments

Bid Recap
Executive Summary
Location Map

Fiscal Reference:

Budget Type: CIP
Fiscal Year: 2016-17
Document Location: Page W11

Budget Director	Approval Date:
Approval:	11/18/2016
Ron Young	
Purchasing Director	Approval Date:
Approval:	11/17/2016
Gary L. Holcomb	



GARLAND
PURCHASING EXECUTIVE SUMMARY

Bid 5703-15
Design Services for Bobtown Road and Waterhouse Boulevard

Recommended Vendor:
Huitt-Zollars, Inc.

Total Recommended Award:
\$119,995.00

Basis for Award:
Change Order

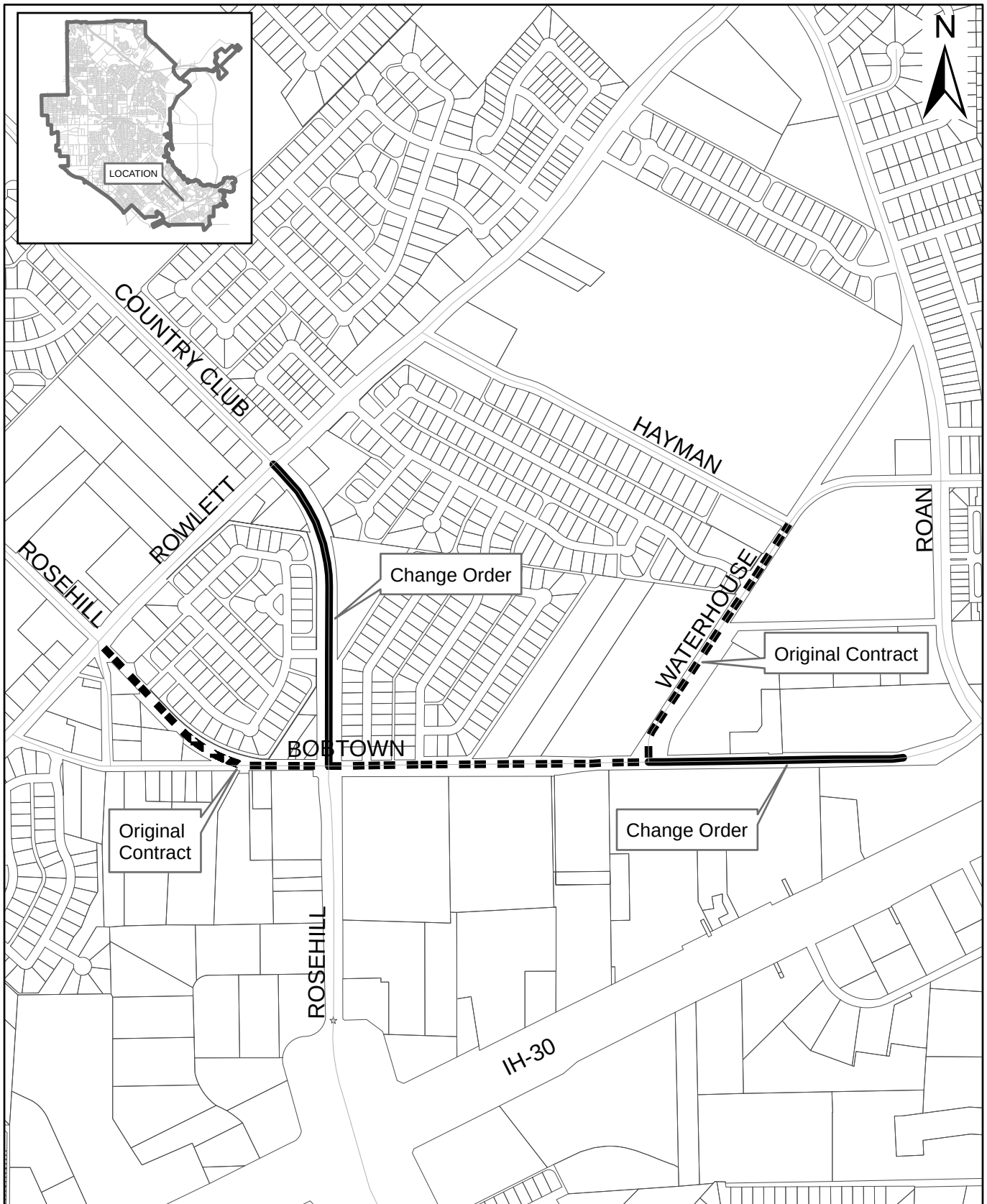
Purpose:
The purpose of this Change Order is to provide funding for additional engineering design services to the original contract approved at the August 18, 2015 City Council Meeting. The Water Department has requested additional 24" water lines be designed for construction on S. Country Club Road from Rowlett Road to Bobtown Road, and on Bobtown Road from Waterhouse Boulevard to a point approximately 450 feet west of the intersection of Bobtown and Roan Roads.

Evaluation:
Huitt-Zollars, Inc. was selected as the most qualified firm for the original contract from the short list of engineers evaluated and ranked by the published criteria RFQ 3617-13. This request is an amendment to their original contract.

Recommendation:
Staff recommends approval of Change Order No. 1 to Purchase Order 23418.

Funding Information:
Water 220-4049-3021600-7101

Department Director:
Michael C. Polocek, Director of Engineering, 972-205-2178



**BOBTOWN - ROWLETT TO WATERHOUSE &
WATERHOUSE - BOBTOWN TO HAYMAN
WATER IMPROVEMENTS**

Scale: NTS
File: BobtRow2Wtr.mxd
Date: 11/16/2016
Drawn: JMK

SHEET
1
OF
1



GARLAND PLANNING REPORT

City Council Regular Session Agenda

Agenda Item 3. a.

Meeting Date: December 6, 2016

Item Title: Z 16-27 CBRE, Inc. (District 8)

Submitted By: Isaac Williams, Development Planner

REQUEST

Approval of 1) a change in zoning from Industrial (IN) District to Planned Development (PD) District for Multi-Family Uses and 2) a Detail Plan for an Elder Care – Nursing/Convalescent Care Facility.

OWNER

Baylor Health Care System

PLAN COMMISSION RECOMMENDATION

On September 26, 2016, the Plan Commission by a vote of nine (9) to zero (0) recommended approval of 1) a change in zoning from Industrial (IN) District to Planned Development (PD) District for Multi-Family Uses and 2) a Detail Plan for an Elder Care – Nursing/Convalescent Care Facility.

STAFF RECOMMENDATION

Staff recommends approval of 1) a zoning change from Industrial (IN) District to Planned Development (PD) District for Multi-Family Uses and 2) a Detail Plan for an Elder Care – Nursing/Convalescent Care Facility.

BACKGROUND

The applicant requests a change in zoning from Industrial to a Planned Development (PD) District for the development of a 64,607 square-foot, 88-unit skilled nursing facility named Canyon Creek Rehabilitation Suites. The facility will contain double and single occupancies for a total of 129 beds.

SITE DATA

The subject site contains approximately 5.98 acres and fronts along West Walnut Street for approximately 301 feet, Peggy Lane for 750 feet and Marie Curie Boulevard for 530 feet. The now vacant tract was once a medical office complex; however, the site has been vacant since 2005.

USE OF PROPERTY UNDER CURRENT ZONING

The subject property is zoned Industrial (IN) District. The Industrial (IN) District is intended to provide for a wide range of industrial uses that are generally not compatible adjacent to residential neighborhoods, and may or may not be compatible with some non-residential uses. The subject site is within a larger meandering Industrial (IN) District (approximately 23 acres), which includes a portion of the Baylor Medical Center at Garland Campus. A Nursing/Convalescent facility is typically not permitted within the Industrial (IN) District; therefore, development of the site as proposed requires a change in zoning to a zoning district [Planned Development] where the use may be permitted.

CONSIDERATIONS

1. The applicant proposes the development of a 64,607 square-foot, 129-bed Nursing/Convalescent Care Facility. The facility provides extended full-time care for those in need of convalescent or chronic care; Canyon Creek will contract physicians to provide the required oversight of the care given. The facility provides support services such as meals, laundry, housekeeping, transportation, social/recreational activities, and hairdressing either on-site or through contracted service. Also, the facility provides on-site hospice services through third-party hospice providers.
2. **Building Design.** Canyon Creek consists of one single-story building. The proposed building meets the horizontal and vertical articulation requirements by utilizing mixed roof heights, and varying degrees of recesses and projections including alcoves and covered entries. The Building Elevation Plan reflects the incorporation of approved architectural design elements (e.g. distinct lighting features, transoms, awnings and canopies) as set forth in Chapter 4, Article 6 of the Garland Development Code.

Each external building elevation contains a 100 percent masonry façade that incorporates a predominantly stucco face with distinctive stone trims. The applicant utilizes variations in masonry color and material textures to complete an architecturally attractive aesthetic.

3. **Site Design.** Section 2.52 (A) (12) requires that indoor common or recreation areas must be provided at a rate of at least 100 square feet of gross floor area per dwelling unit; accordingly the site must provide 8,800 square feet of common area to accommodate the eighty-eight (88) units. The Detail Plan reflects a ratio of approximately eighty-six (86) square feet per dwelling unit for a total of 7,586 square feet. The applicant indicates that the common area provided is more than three times the State minimum of twenty (20) square feet per bed. The applicant also states that this standard is “more related to an assisted living or independent living facilities.” However, to mitigate the reduced indoor area, the facility will provide nearly 7,000 square feet of outdoor common area within enclosed courtyard spaces. The total common area provided between the indoor and outdoor spaces is 14,586 square feet and is provided at a ratio of 165.75 square feet per dwelling unit.

GDC Section 2.52 (A) (12) also requires the facility to provide a six-foot perimeter fence. The Detail Plan reflects development without the perimeter fencing. Typically, the perimeter fencing element of a senior living facility is a safety feature. The applicant has indicated that the facility will “ensure the safety and minimize unauthorized elopement from the facility with the use of delayed egress door hardware and audible alarms.” Staff recognizes that there are few “unauthorized elopement” deterrents that are fail proof, and

those that are may not be desirable in all development settings. Also, staff recognizes that under most conditions, the perimeter fencing may be the most effective. However, the site is within a mostly interconnected suburban and campus setting where perimeter fencing may be less desirable. Staff and the Plan Commission have no objection to the development of the facility without the perimeter fencing.

4. **Landscape and Screening.** The GDC Section 2.52 (A) (12) requires senior living facilities to dedicate a minimum of forty (40) percent of the total site to landscaping, open space areas, pools and similar outdoor recreation activities. The Landscape Plan reflects the appropriate quantity of tree plantings and landscaping materials within the landscape buffers along Walnut Street, Peggy Lane and Marie Curie Boulevard. The parking area landscaping is designed in accordance with the standards of Chapter 4, Article 3 but also with a thirty-eight (38) percent increase in planting material. The development is compliant with the Landscape and Screening standards of Chapter 4 Article 3.
5. **Parking.** The GDC requires that Nursing/Convalescent Care facilities provide parking at a rate of 0.5 parking spaces per bed, which yields approximately sixty-five (65) parking spaces. The applicant states that “during a shift change, the facility would need close to 100 parking spots just to accommodate staff.” The applicant also states that “during a shift change, the incoming shift must be in the building and physically take over the care of the residents before the outgoing shift is able to leave.” The applicant proposes a minimum parking ratio of approximately 0.8 parking spaces for each bed for a total of 109 spaces. In accordance with the parking provisions in Section 4.20, the applicant has provided a certified parking study to support the additional parking demand. The study concluded that the increase in parking is justified and is in response to the patient care demands. The parking study recommends the site provide at least 109 spaces when accounting for alternate transportation modes (e.g. car pooling and public transit). Staff finds the parking ratio of 0.8 parking spaces as proposed is appropriate for the development.

COMPREHENSIVE PLAN

The Envision Garland Plan 2030 Comprehensive Plan designates the site as Business Employment Center Building Block. Business Centers provide a cluster of business offices and/or low impact industry, including campus-type development that cumulatively employ large numbers of people.

Operations within this development type occur internal to buildings resulting in minimal negative impacts (sound, air, traffic, outdoor lighting, storage, etc.) and are compatible with adjacent development types in architecture, character, scale, and intensity.

Staff finds the request is consistent with the Envision Garland Plan 2030 Comprehensive Plan as it is the intent of the Business Employment Center Building Block to attract facilities such as the proposed use.

COMPATIBILITY OF REQUEST WITH SURROUNDING ZONING AND LAND USES

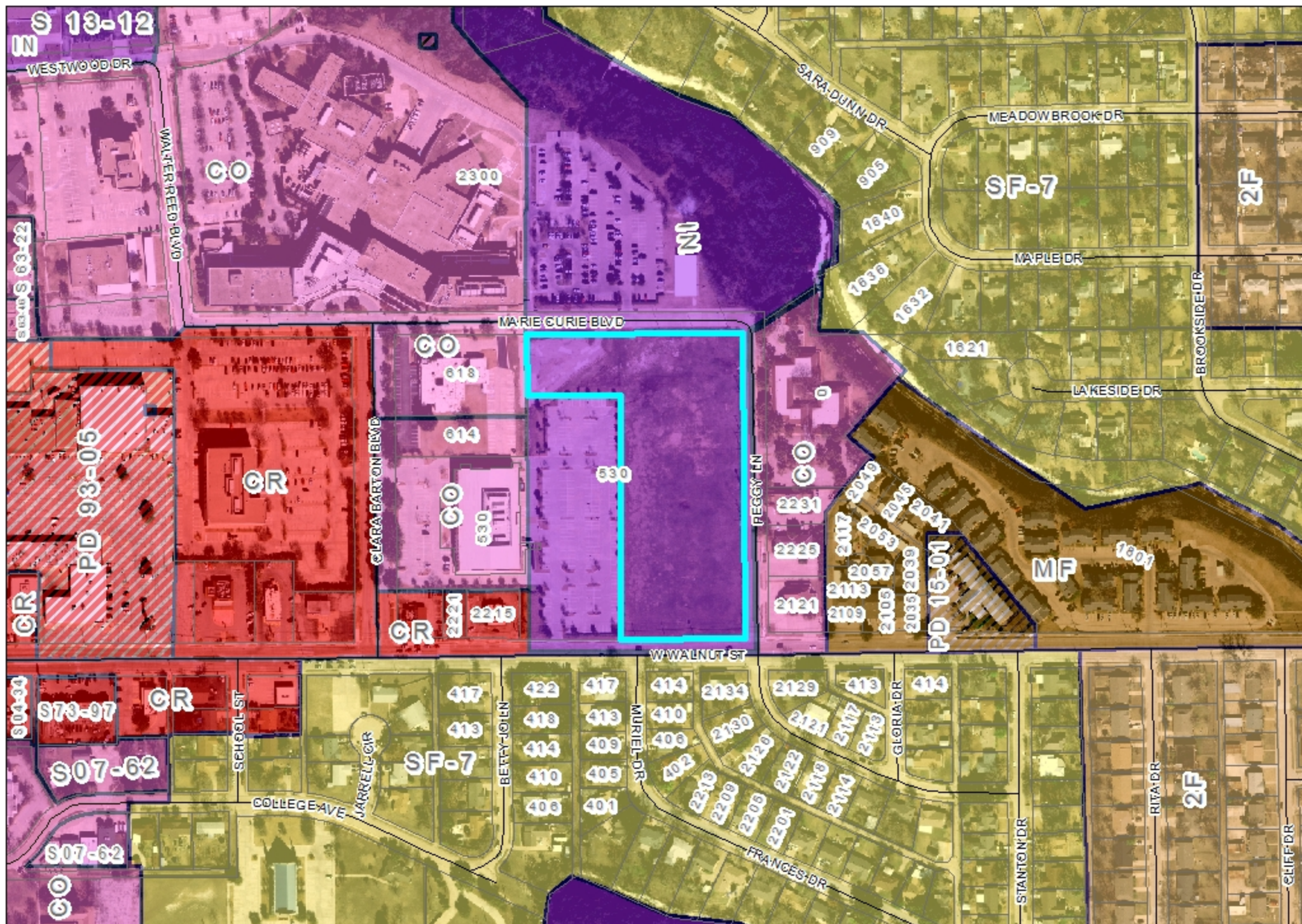
The properties to the south across West Walnut Street are zoned Single-Family-7 (SF-7) District and developed with single-family dwellings. Immediately to the east properties are zoned Community Office (CO) District, and are developed with low intensity medical office uses. The request only re-zones a portion of the larger Industrial (IN) District and thus the area along the western and northern property lines will remain under the Industrial (IN) District. Although these twenty-three (23) acres adjacent to the subject site are zoned Industrial (IN) District, there are no traditional industrial uses in this area; industrial development would be contrary to the current development pattern.

The design of the building is contemporary in character and the scale of the overall development is compatible with the surrounding low impact commercial, ancillary healthcare and medical office buildings. The architectural building design and thoughtful landscape scheme provide a complimentary value to the surrounding area.

Attachments

Z 16-27 CBRE, Inc. Attachments

Z 16-27 CBRE, Inc. Responses



0 150 300 Feet
1 inch = 300 feet

ZONING

Z 16-27

 INDICATES AREA
OF REQUEST

PLANNED DEVELOPMENT CONDITIONS

ZONING FILE Z 16-27

- I. Statement of Purpose:** The purpose of this Planned Development is to permit the development of Elder Care - Nursing/Convalescent Care Facility.
- II. Statement of Effect:** This Planned Development shall not affect any regulation found in the Garland Development Code, Ordinance No. 6773, as amended prior to adoption of this ordinance, except as specifically provided herein.
- III. General Regulations:** All regulations of the Multi-Family (MF) District as set forth in Chapter 2 of the Garland Development Code are included by reference and shall apply, except as otherwise specified by this ordinance.
- IV. Detail Plan:** Development shall be in general conformance with the Detail Plan labeled Exhibit C. In the event there is conflict between the approved Detail Plan and the Specific Regulations below, the Specific Regulations shall apply.
- V. Specific Regulations:**
 - A. Permitted Uses:** No uses shall be permitted except for an Elder Care - Nursing/Convalescent Care Facility.
 - B. Screening and Landscaping:** Screening and landscaping shall be in general conformance with the landscape plan labeled Exhibit D.
 - C. Elevations:** Building elevations shall be in general conformance with the elevations labeled Exhibit E.
 - D. Signage:** Freestanding signage shall be limited to monument signs and shall comply with the applicable regulations in the Garland Development Code.



Know what's below.
Call before you dig.

BENCHMARK EL. 580.10
ALUMINUM MONUMENT ON WEST ROW OF THE
UNPLATTED TRACT 3

BENCHMARK EL. 569.30
EXISTING WATER VALVE ON PEGGY LANE
NORTH OF WALNUT STREET INTERSECTION

ADDITIONAL NOTES

ALL MATERIALS SHALL CONFORM WITH CITY OF GARLAND STANDARDS AND SPECIFICATIONS, AND
TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR NORTH CENTRAL TEXAS
LATEST EDITION AND THE CITY OF GARLAND ADDENDUM THERETO.

ALL SIDEWALKS SHALL BE CONSTRUCT AS BARRIER FREE RAMPS AS PER ADA/TAS/TDLR STANDARDS DETAILS

SEE ARCHITECT PLANS FOR THE BUILDING EXACT DIMENSIONS

PROPOSED SITE PLAN

PARKING REQUIREMENTS

TOTAL NUMBER OF SPACES REQUIRED (NURSING HOMES)
1/2 BEDS (129/2=64.5)
TOTAL NUMBER SPACES REQUIRED = 65
TOTAL NUMBER SPACES PROVIDED = 109
(INCLUDING 8 HANDICAP)
TOTAL NUMBER OF HANDICAP SPACES REQUIRED (101-150) = 5
TOTAL NUMBER OF HANDICAP SPACES PROVIDED = 8
ALL PARKING STALLS 10'x18' UNLESS OTHERWISE NOTED

** LANDSCAPE AREAS SHOW 40.35% OF THE TOTAL LOT ACREAGE
AS REQUIRED PER CITY ORDINANCE (REFER TO LANDSCAPE PLANS)

= DENOTES SEE LANDSCAPING PLANS

(8) = DENOTES NUMBER OF CONTINUOUS PARKING STALLS

LEGEND

EXISTING

- TREE
- M.B. MAIL BOX
- SIGN
- P.P. POWER POLE
- GUY
- P.P.W/BOX
- U.C.B. U'GND. CABLE BOX
- F.H. FIRE HYDRANT
- M.H. SEWER MANHOLE
- W.M. WATER METER
- G.M. GAS METER
- G.V. GAS VALVE
- W.V. WATER VALVE

PROPOSED

- TREE
- M.B. MAIL BOX
- SIGN
- P.P. POWER POLE
- GUY
- P.P.W/BOX
- U.C.B. U'GND. CABLE BOX
- F.H. FIRE HYDRANT
- M.H. SEWER MANHOLE
- W.M. WATER METER
- G.M. GAS METER
- G.V. GAS VALVE
- W.V. WATER VALVE
- F.D.C. FIRE DEPARTMENT CONNECTION

WALNUT STREET
(60' RIGHT-OF-WAY)

MARIE CURIE BOULEVARD
(60' RIGHT-OF-WAY)

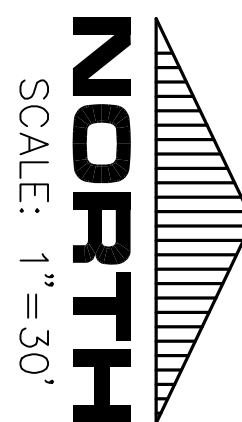


Exhibit C

CAPCOO
ENGINEERING INC.
Civil & Environmental Engineering
13044 CR 192
Tyler, Texas 75703
Tel 903.531.9670
Fax 903.531.9675
TIRE REG. NO. F-4347

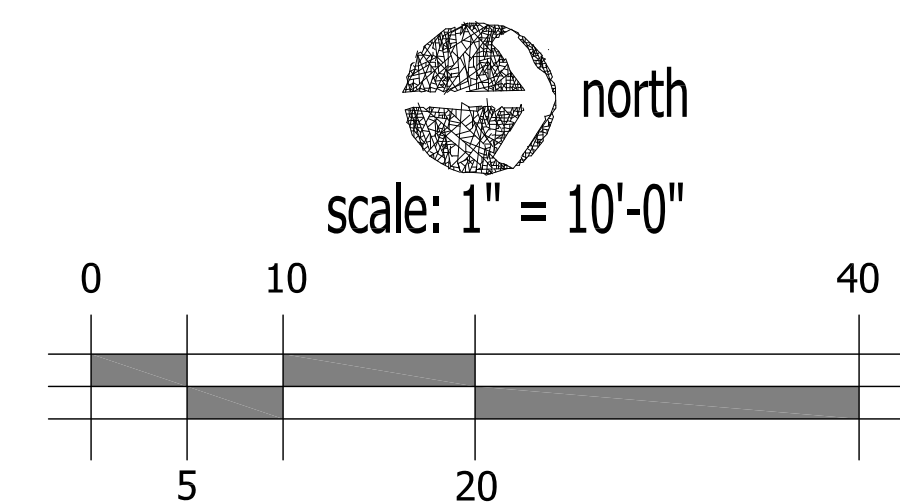
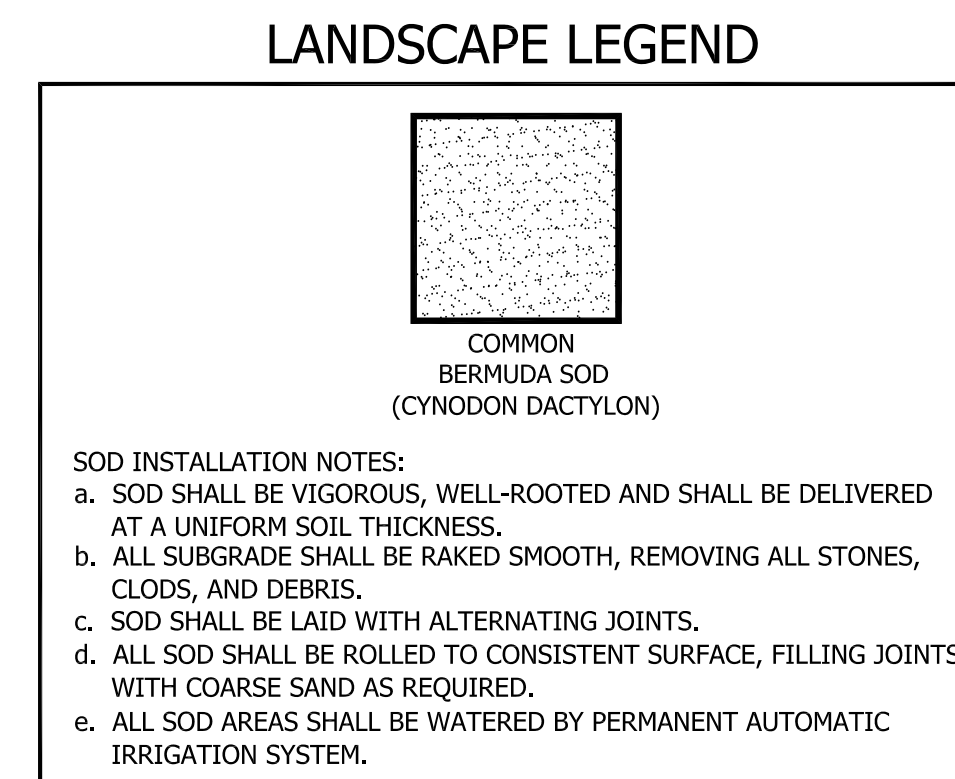
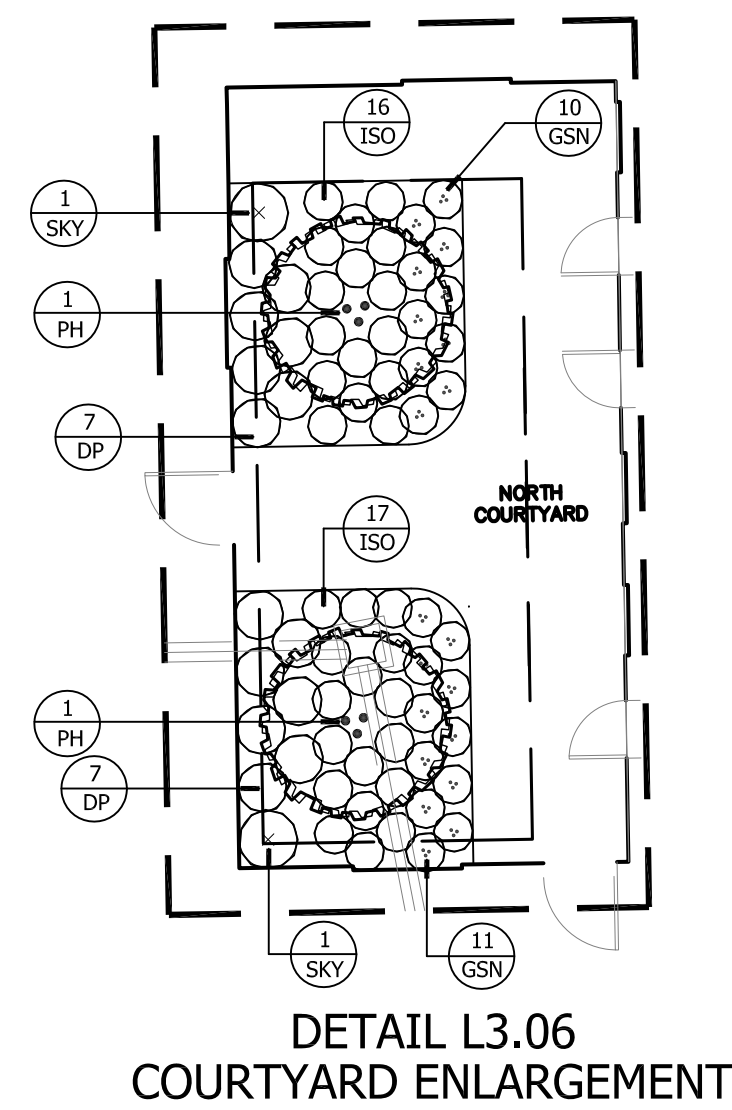
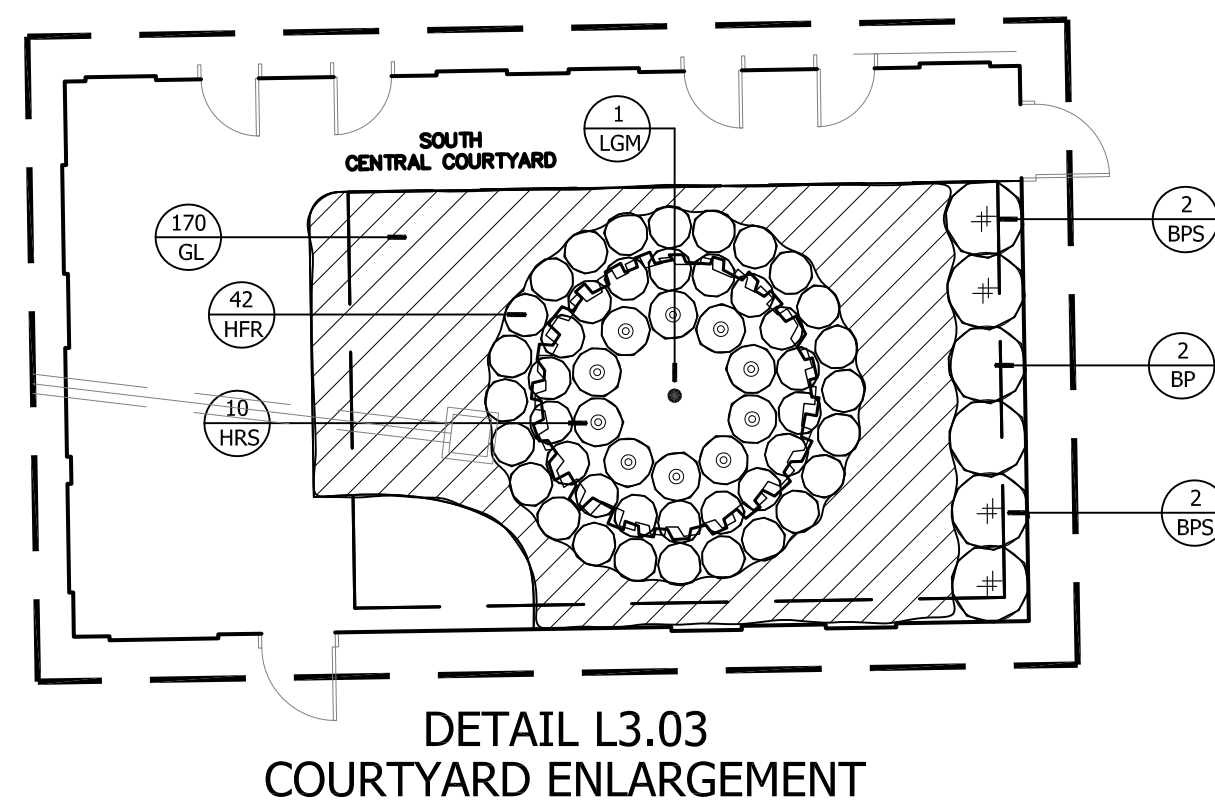
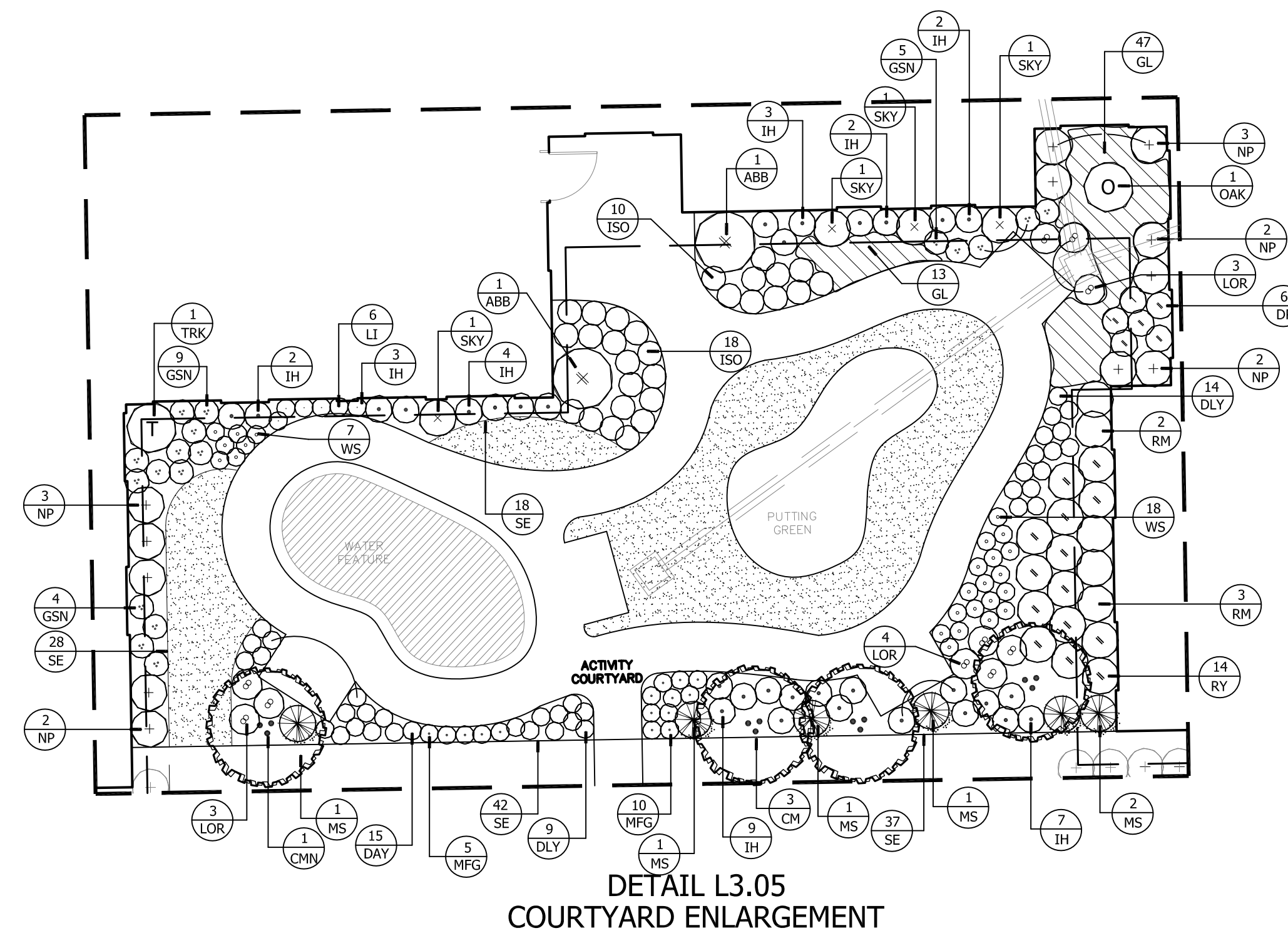
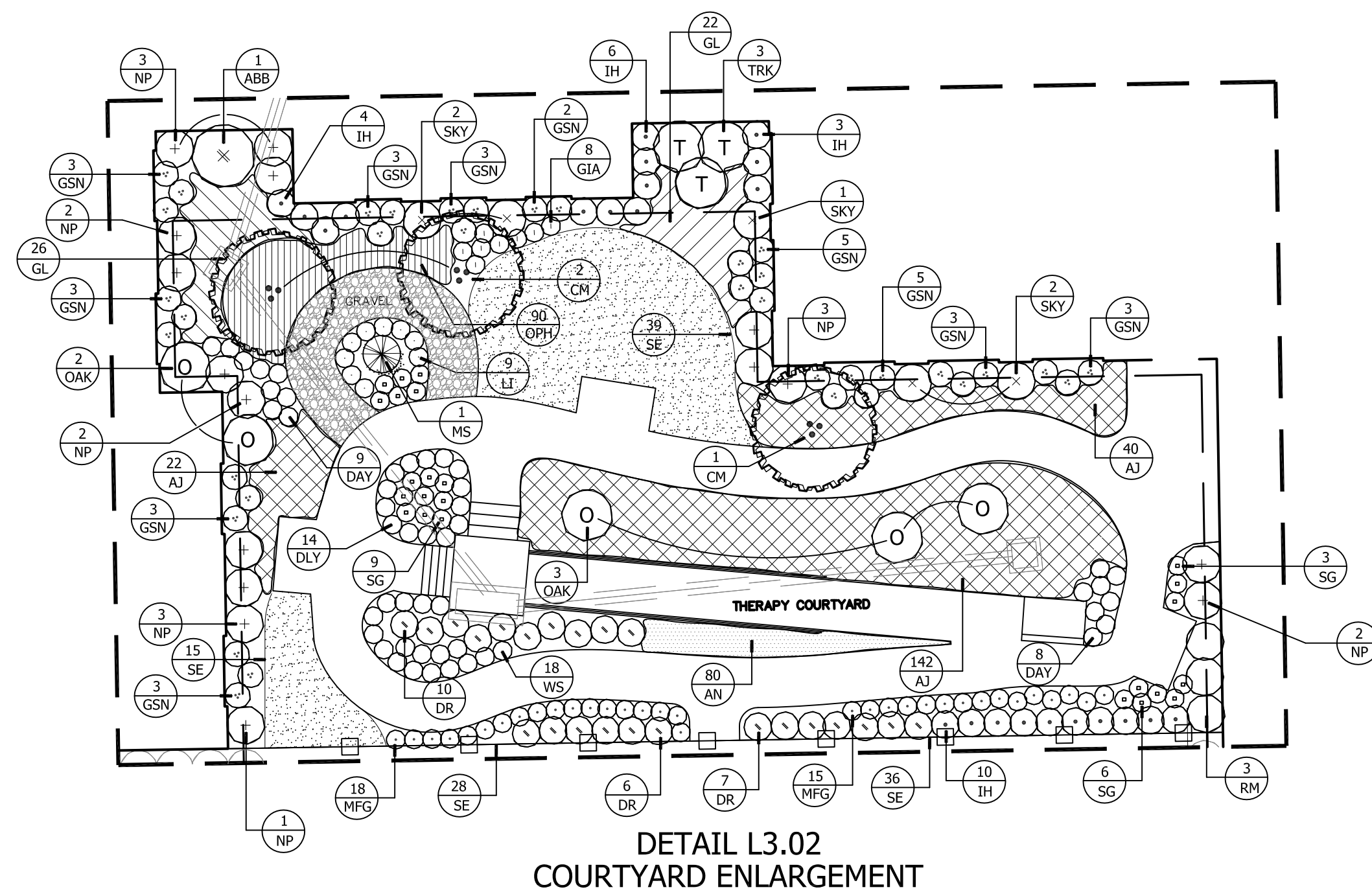
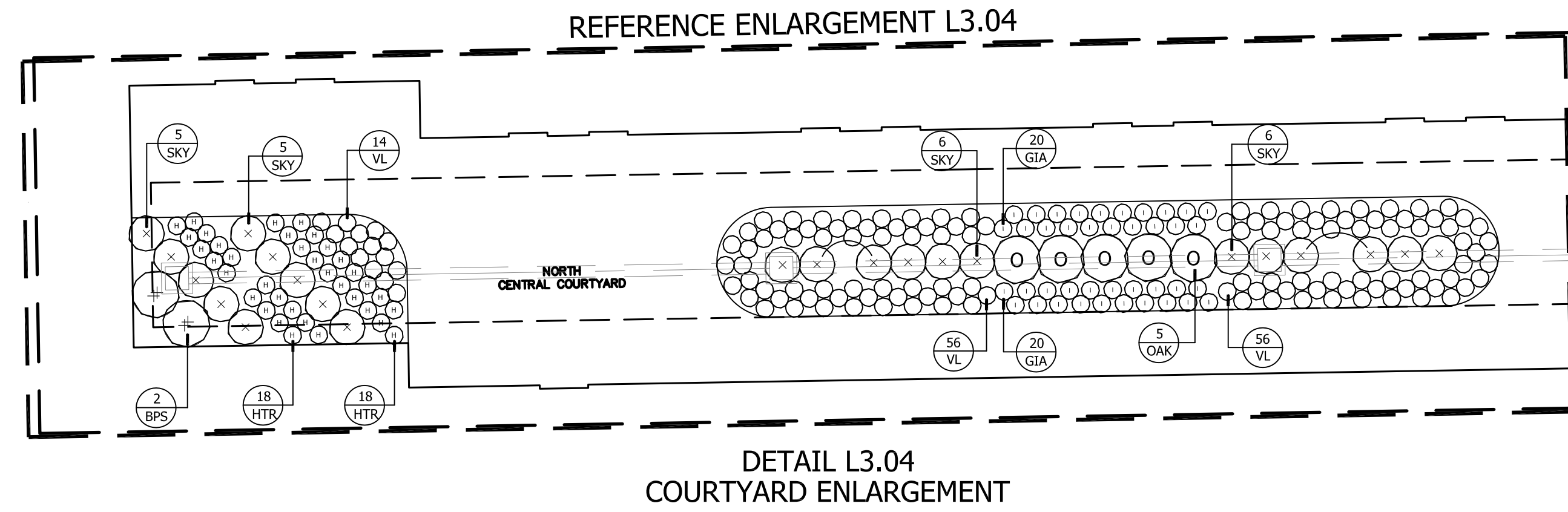
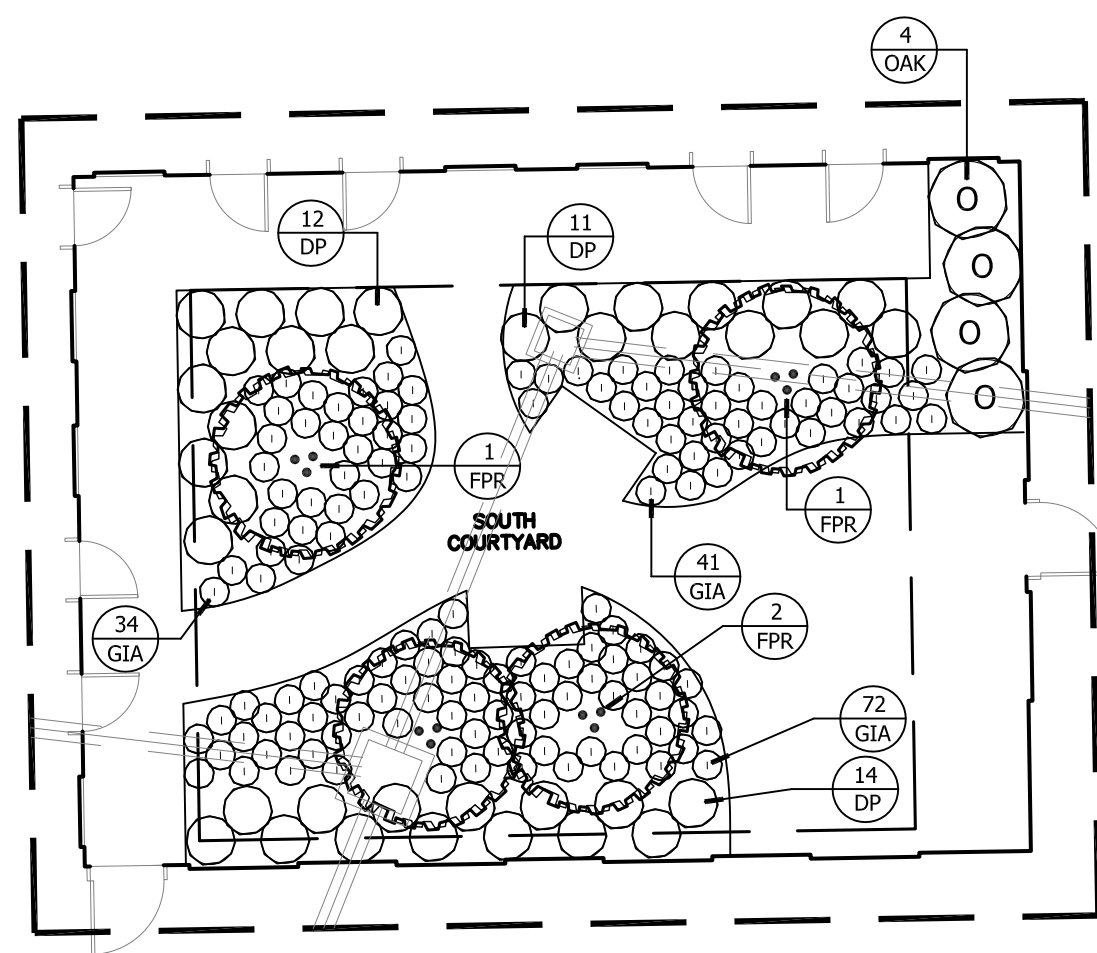
CANYON CREEK
REHABILITATION SUITES
PEGGY LANE
GARLAND, TEXAS
LEGAL DESCRIPTION
BAYLOR MEDICAL OFFICE
LOT 2 BLOCK 1
CASE #160209-1
by: **FUNDAMENTAL**

THIS DRAWING IS RELEASED UNDER
THE AUTHORITY OF
BRIAN E. CAPPS, P.E., TEXAS
REGISTRATION NO. 82604, ON
08-12-2016, FOR THE PURPOSES
OF REVIEW ONLY. IT IS NOT TO BE USED FOR
CONSTRUCTION PURPOSES.

Drawn By: Date: 05/15/2015 Project #: 160209-1
Checked By: Date: 05/15/2015 Project #: 160209-1
Scale: 1"=30' 12 AUG 2016
11110448

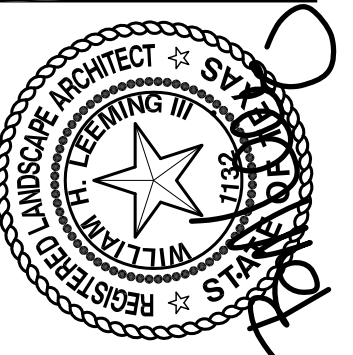
PROPOSED
SITE PLAN

SHEET NO.
5



appr. by:
drawn by:
date: 05-04-16

revisions
05-27-16
06-08-16
06-14-16
06-15-16
07-23-16
08-12-16



**Leeming
Design Group**
Landscape Architecture

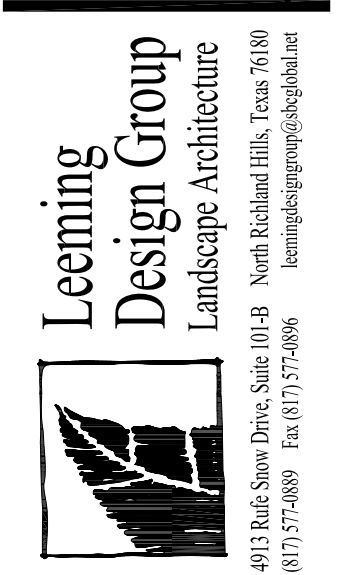
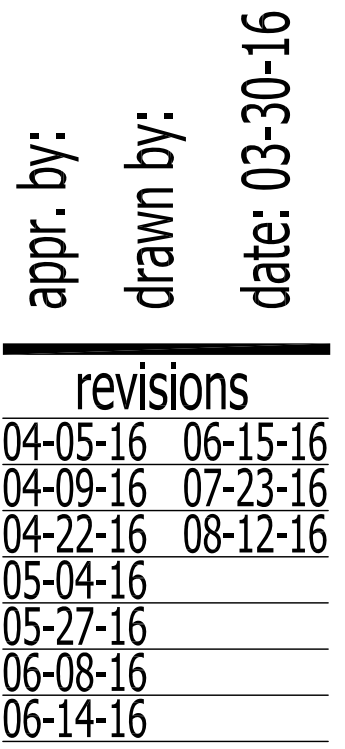
4913 Pufe Drive, Suite 101-B
North Richland Hills, Texas 76180
(817) 577-0889 Fax: (817) 577-0896
leemingsdesigngroup@sbcglobal.net

COURTYARD
LANDSCAPE
Exhibit C

CANYON CREEK REHABILITATION SUITES
PEGGY LANE at WALNUT STREET
GARLAND, TEXAS

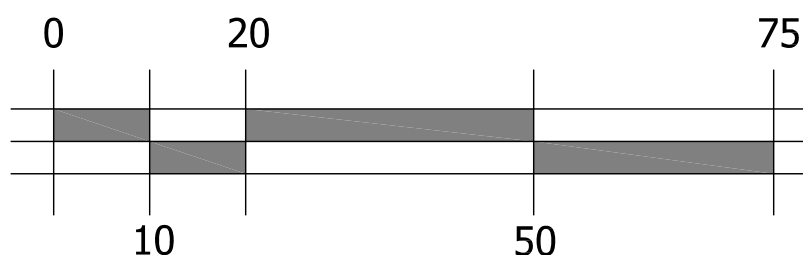
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Garland-Skilled Nursing\ldg-base_GSN.dwg

Sheet
-3



CANYON CREEK REHABILITATION SUITES
PEGGY LANE at WALNUT STREET
GARLAND, TEXAS

sheet
L-2



1. PLANT LIST FOR SHEETS L-1 THROUGH L-3.
2. PLANT LIST TO BE USED AS AIDE TO BIDDER ONLY. LANDSCAPE CONTRACTOR TO VERIFY ALL QUANTITIES.
3. AFTER INSTALLATION OF STEEL EDGING, ALL BEDS SHALL BE TILLED TO A DEPTH OF 4'-6", RAKING OUT ALL DEAD VEGETATION.
4. APPLY A 2-3" DEPTH OF ORGANIC MATERIAL OVER ENTIRE BED AND TILL INTO EXISTING SOIL. ORGANIC MATERIAL SHALL BE ONE OF FOLLOWING:
 - VITAL EARTH COMPOST
 - BACK-TO-EARTH SOIL CONDITIONER
 - LIVING EARTH COMPOST
 - SOIL BUILDING SYSTEMS COMPOST
 - SILVER CREEK MATERIALS COMPOST
5. TOPDRESS ALL PLANTING AREAS WITH MINIMUM 2" DEPTH SHREDDED NATURAL CEDAR MULCH.
6. ALL SHADE TREES SHALL BE PLANTED AS PER DETAIL THIS SHEET.
7. ALL LANDSCAPE AREAS SHALL BE WATERED WITH AUTOMATIC IRRIGATION SYSTEM, COMPLETE WITH FREEZE SENSOR, RAIN STAT, AND CONTROLLER. SYSTEM SHALL BE DESIGNED TO UTILIZE WATER-SAVING TECHNIQUES AND EQUIPMENT. INSTALLATION OF SYSTEM SHALL BE MADE BY A FIRM DULY LICENSED UNDER ARTICLE NO. 8751 VTCS (LICENSED IRRIGATORS ACT), S.B. NO. 259.

SYM	MATERIAL	QNTY	SIZE	HT	SP	NOTES	SPACING
LO	LIVE OAK	8	4" CAL.	12-14'	6-7"	NURSERY GROWN	
	QUERCUS VIRGINIANA						
CO	CHINKAPIN OAK	23	3" CAL.	10-12'	5-6"	NURSERY GROWN	
	QUERCUS MUHLBERGII						
BO	BURR OAK	3	3" CAL.	10-12'	5-6"	NURSERY GROWN	
	QUERCUS MACROCARPA						
LB	LACEBARK	3	3" CAL.	10-12'	6-7"	NURSERY GROWN	
	ULMUS PARVIFOLIA SEMPERVIRENS						
CM	CRAPE MYRTLE	17	30 GAL.	8-10'	4-5'	CONTAINER GROWN	
	LAGERSTROEMIA INDICA 'BASHAM PINK'						
CMN	CRAPE MYRTLE	6	30 GAL.	8-10'	4-5'	CONTAINER GROWN	
	LAGERSTROEMIA INDICA 'NATCHEZ'						
LGM	LITTLE GEM MAGNOLIA	1	30 GAL.	8-10'	4-5'	CONTAINER GROWN	
	MAGNOLIA GRANDIFLORA 'LITTLE GEM'						
PH	POSSUMHAW	2	30 GAL.	8-10'	4-5'	CONTAINER GROWN	
	ILEX DECIDUA						
FPR	FOREST PANSY REDBUD	4	30 GAL.	8-10'	4-5'	CONTAINER GROWN	
	CERCIS CANADENSIS 'FOREST PANSY'						
NR	NR STEVENS HOLLY	38	15 GAL.	4-5'	2-3'	CONTAINER GROWN	
	ILEX x 'NELLIE R STEVENS'						
ABB	AM. BEAUTYBERY		5 GAL.	30"	24"	FULL	48"oc
	CALICALLA AMERICANA						
OAK	OAKLEAF HYDRANGEA	15	5 GAL.	26"	20"	FULL	48"oc
	HYDRANGEA QUERCIFOLIA						
EL	ELEAGNIUS	0	5 GAL.	30"	24"	FULL	48"oc
	ELAEOGENA x 'EBBENGEI'						
ZG	ZEBRA GRASS	0	5 GAL.	28"	18"	FULL	48"oc
	MISCANTHUS SINENSIS 'ZEBRINUS'						
LM	LINDHEIMER'S MUHLY	106	5 GAL.	28"	18"	FULL	48"oc
	MUHLBERGIA LINDHEIMER						
MS	MISCANTHUS	42	5 GAL.	28"	18"	FULL	48"oc
	MISCANTHUS SINENSIS 'MORNING LIGHT'						
BPS	BLUE PRINCESS HOLLY	6	5 GAL.	20"	18"	FULL	36"oc
	ILEX x MESERVEAE 'BLUE PRINCESS'						
BP	BLUE PRINCE HOLLY	2	5 GAL.	20"	18"	FULL	36"oc
	ILEX x MESERVEAE 'BLUE PRINCE'						
NP	NEEDELPOINT HOLLY	130	5 GAL.	20"	18"	FULL	36"oc
	ILEX CORNUTA 'NEEDELPOINT'						
SKY	SKY PENCIL HOLLY	69	5 GAL.	20"	12"	FULL	36"oc
	ILEX CRENATA 'SKY PENCIL'						
SLY	SOFTLEAF YUCCA	9	5 GAL.	18"	18"	FULL	36"oc
	YUCCA RECURVIFOLIA						
RY	RED YUCCA	76	5 GAL.	18"	18"	FULL	36"oc
	HESPERALOE PARVIFOLIA						
TRK	TURK'S CAP	14	5 GAL.	20"	18"	FULL	42"oc
	MALVAVISCUS DRUMMONDII						
IH	INDIAN HAWTHORN	119	5 GAL.	12"	15"	FULL	30"oc
	RAPHIOLEPS INDICA 'CALISTO'						
RM	ROSEMARY	24	5 GAL.	18"	15"	FULL	36"oc
	ROSEMARINUS OFFICINALIS						

MIN. 40% SITE LANDSCAPE REQUIRED
TOTAL SITE 260,557 SF
REQUIRED 104,223 SF
PROVIDED 105,144 SF (40.35%)

LANDSCAPE BUFFERS

WALNUT STREET - 15' REQUIRED
(1 large tree per 30 lf buffer)

$\frac{301'}{30} = 10.03 = 10$ trees required
10 trees provided

(7 shrubs/or n grass per 30 lf buffer)

$\frac{301'}{30} = 10.03 \times 7 = 70.21 = 70$ required
75 provided

(max 75% bufferyard to be turf)

TOTAL BUFFERYARD 4515 SF
LESS PAVING -0 SF
BUFFERYARD LANDSC. 4515 SF
MAX. TURF ALLOWED 3386 SF
PROPOSED TURF 3381 SF

PEGGY LANE - 10' REQUIRED
(1 large tree per 30 lf buffer)

750' - 60' (drives)=690'

$\frac{690'}{30} = 23$ trees required
23 trees provided

(max 75% bufferyard to be turf)

TOTAL BUFFERYARD 7500 SF
LESS PAVING -604 SF
BUFFERYARD LANDSC. 6896 SF
MAX. TURF ALLOWED 5172 SF
PROPOSED TURF 5121 SF

MARIE CURRIE BLVD
(1 large tree per 30 lf buffer)

$\frac{530'}{30} = 17.66 = 18$ trees required
18 trees provided

(max 75% bufferyard to be turf)

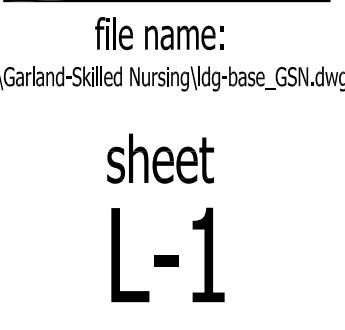
TOTAL BUFFERYARD 5300 SF
LESS PAVING -0 SF
BUFFERYARD LANDSC. 5300 SF
MAX. TURF ALLOWED 3975 SF
PROPOSED TURF 3975 SF

PARKING LANDSCAPE
(5% total parking to be landscape area)

$34,017 \text{ sf parking} \times .05 = 1,701 \text{ sf}$
4,445 sf provided

(1 large tree per 10 spaces)

$\frac{109}{10} = 10.9 = 11$ trees required
10 canopy trees and
2 - 3 ornamental tree
clusters = 12 trees





ELEVATION

**CANYON CREEK REHABILITATION SUITES
129 BED SKILLED NURSING FACILITY
GARLAND, TEXAS**

... BIXLER, AIA
P.O. BOX 117, GENDOA AR 71840
PHONE: 870.653.3362 • FAX: 870.653.3092

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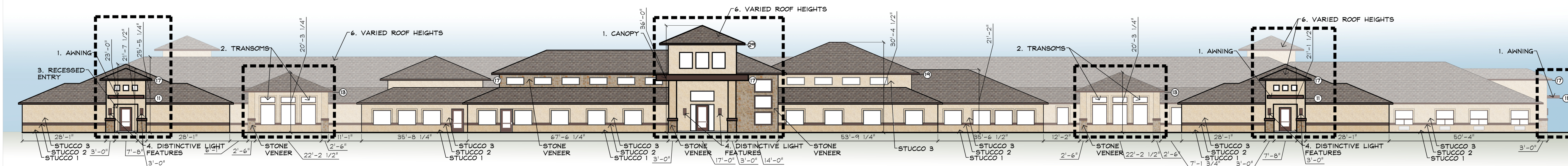
DATE:
5/27/16

SHEET NO.

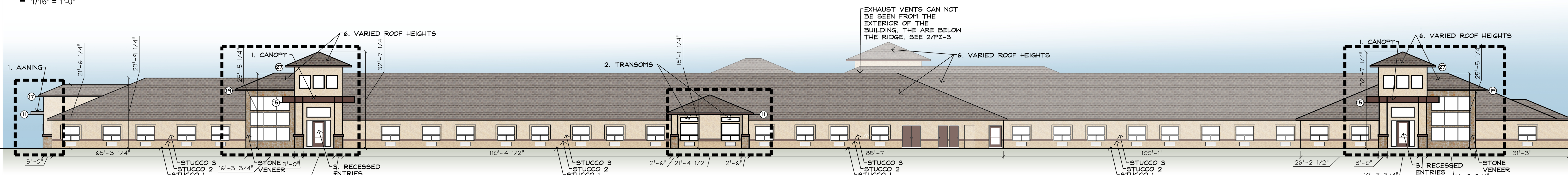
PZ-2

PLANNING AND ZONING SUBMITTAL PRELIMINARY NOT FOR CONSTRUCTION

Exhibit E

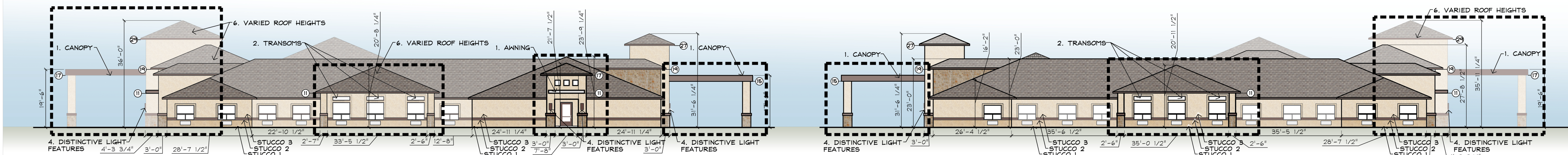


1 EAST ELEVATION

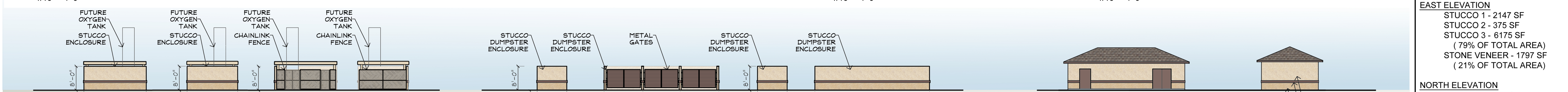
$$\frac{1}{16}'' = 1'-0''$$


WEST ELEVATION

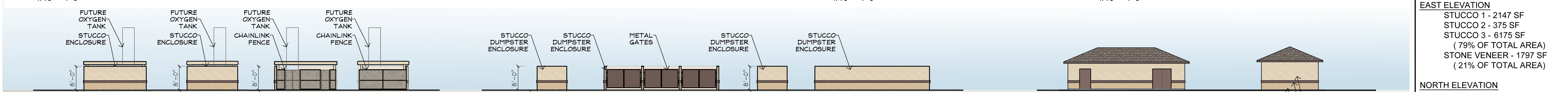
1/16" = 1'-0"



3 NORTH ELEVATION

$$\frac{1}{16}'' = 1' -$$


▲ SOUTH ELEVATION

$$1/16'' = 1'-0''$$


5 OXYGEN TANK ENCLOSURE

$$\frac{1}{16}'' = 1' -$$


0 EAST ELEVATION

EAST ELEVATION
 STUCCO 1 - 2147 SF
 STUCCO 2 - 375 SF
 STUCCO 3 - 6175 SF
 (79% OF TOTAL AREA)
 STONE VENEER - 1797 SF
 (21% OF TOTAL AREA)

NORTH ELEVATION
STUCCO 1 - 349 SF
STUCCO 2 - 80 SF
STUCCO 3 - 1185 SF
(92% OF TOTAL AREA)
STONE VENEER - 128 SF
(8% OF TOTAL AREA)

SOUTH ELEVATION
 STUCCO 1 - 463 SF
 STUCCO 2 - 85 SF
 STUCCO 3 - 787 SF
 (94% OF TOTAL AREA
 STONE VENEER - 80 SF
 (6% OF TOTAL AREA)

WEST ELEVATION
 STUCCO 1 - 1138 SF
 STUCCO 2 - 259 SF
 STUCCO 3 - 2607 SF
 (78% OF TOTAL AREA
 STONE VENEER - 887 SF
 (22% OF TOTAL AREA

TOTAL
 STUCCO 1 - 4097 SF
 STUCCO 2 - 799 SF
 STUCCO 3 - 10,754 SF
 (81.5% OF TOTAL AREA)
 STONE VENEER - 2892 SF
 (18.5% OF TOTAL AREA)

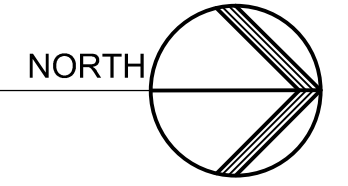
ARCHITECTURAL ELEMENTS

1. AWNINGS AND CANOPIES
2. TRANSOMS
3. RECESSED ENTRIES
4. DISTINCTIVE LIGHT FEATURES
5. BENCHES FOR OUTDOOR SEATING
6. VARIED ROOF HEIGHTS

PLANNING AND ZONING SUBMITTAL
PRELIMINARY NOT FOR CONSTRUCTION



1 COMPOSITE FLOOR PLAN
1/16" = 1'-0"
TOTAL SF - 64, 607 SF



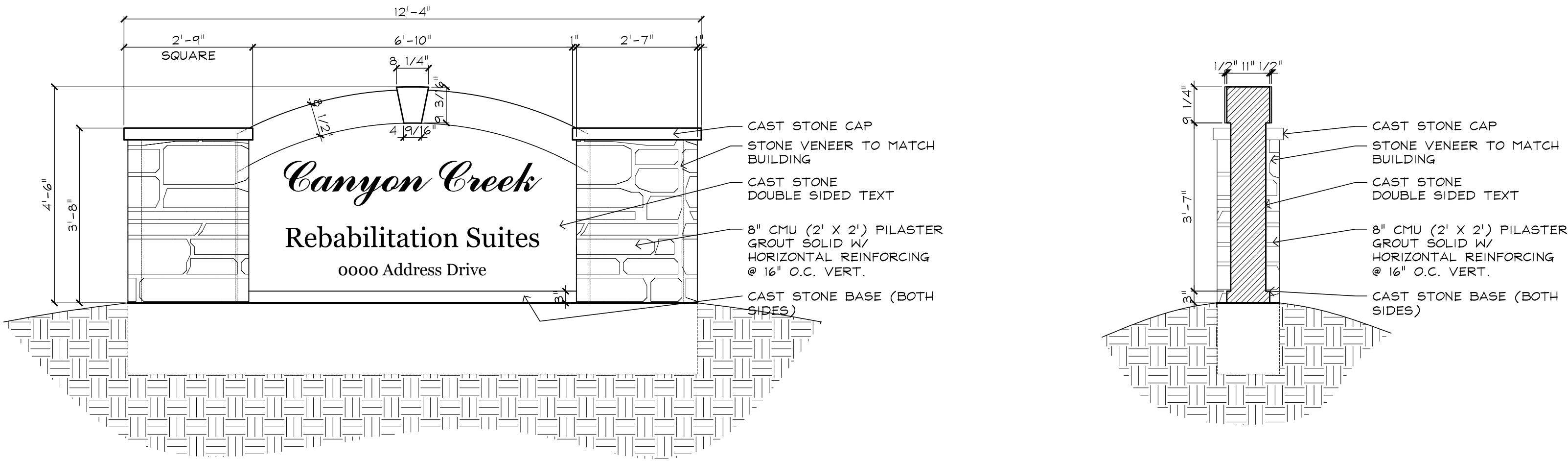
CITY OF GARLAND

THIS PROJECT HAS RESIDENT COMMON AREA DESIGNED FOR THE MAXIMUM BED COUNT OF 129 BEDS. (88 DWELLING UNITS)				
CITY OF GARLAND CHAPTER 34	REQUIRED SPACE		AREA REQUIRED	AREA PROVIDED
RESIDENT ROOMS	SEMI PRIVATE ROOMS	41 ROOMS (82 BEDS)	NO REQUIREMENT	365, 373 SF
	PRIVATE ROOMS	47 ROOMS (47 BEDS)	NO REQUIREMENT	250, 296, 347 SF
COMMON SPACES	DINING & RESIDENT ACTIVITIES		88 X 100 SF/UNIT = 8,800 SF	7,586 SF INTERIOR SPACES 6,873 SF ENCLOSED OUTDOOR COURTYARDS 14,459 SF TOTAL

LEGEND

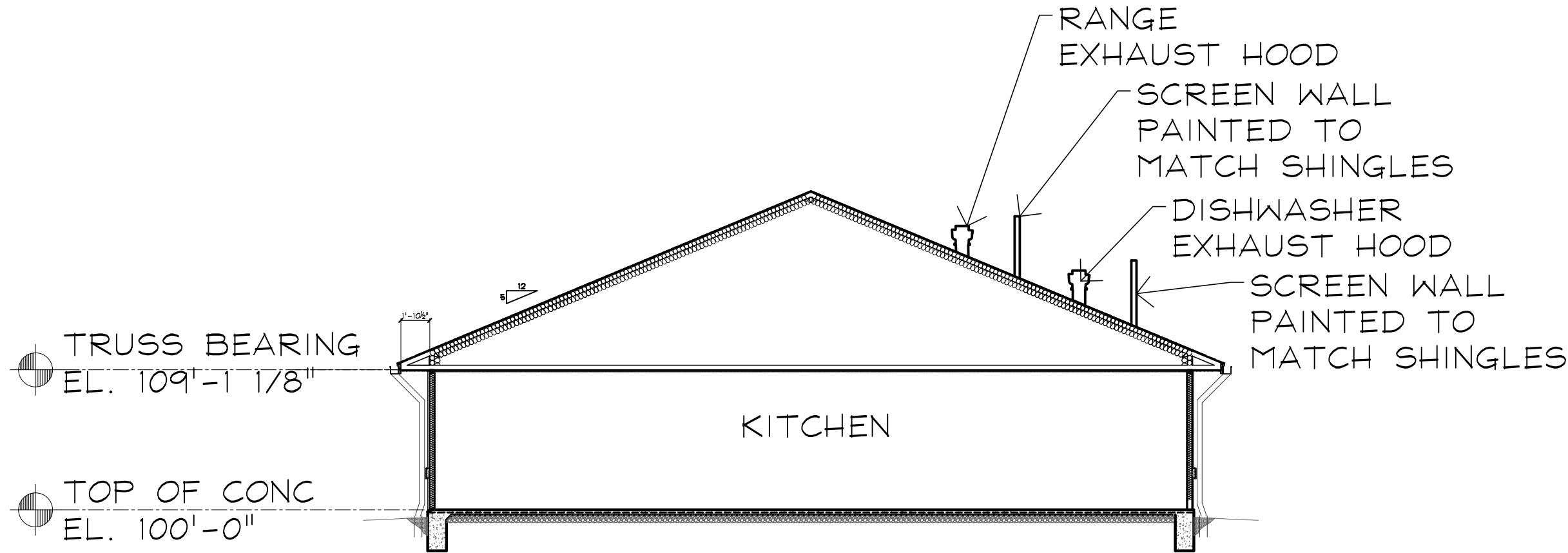
- COMMON AREAS - INTERIOR
- COMMON AREA - ENCLOSED OUTDOOR COURTYARDS

- ARCHITECTURAL ELEMENTS
- AWNINGS AND CANOPIES
 - TRANSOMS
 - RECESSED ENTRIES
 - DISTINCTIVE LIGHT FEATURES
 - BENCHES FOR OUTDOOR SEATING
 - VARIED ROOF HEIGHTS



1 MONUMENT SIGN ELEVATION

1/2" = 1'-0"



2 EXHAUST FAN ELEVATION

1/8" = 1'-0"

PLANNING AND ZONING SUBMITTAL
PRELIMINARY NOT FOR CONSTRUCTION



MONUMENT SIGN
ELEVATION
AND DETAILS

CANYON CREEK REHABILITATION SUITES
129 BED SKILLED NURSING FACILITY
GARLAND, TEXAS



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DATE:
5/27/16

SHEET NO.
PZ-3

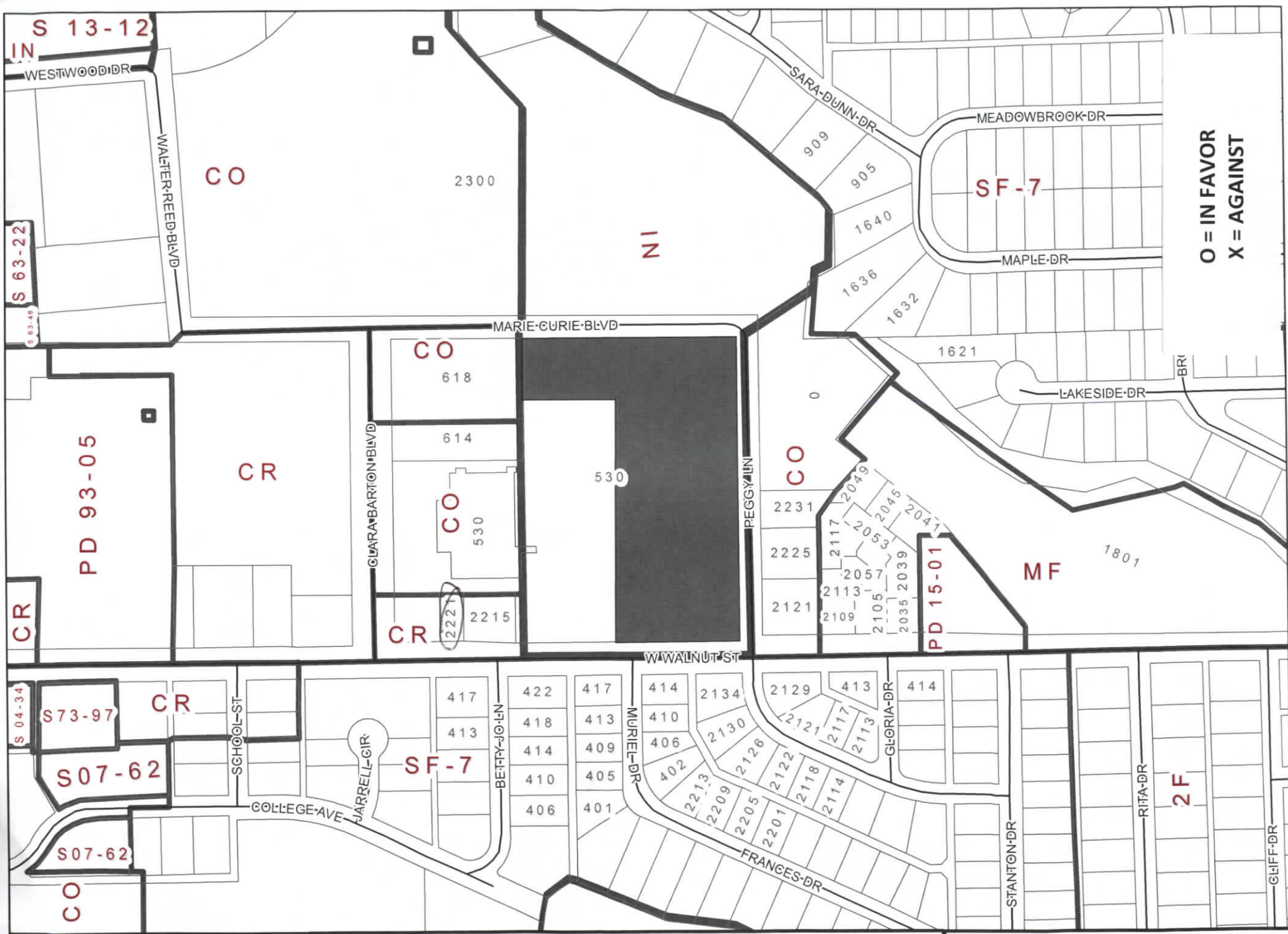
REPORT & MINUTES

P.C. Meeting, September 26, 2016 (9 Members Present)

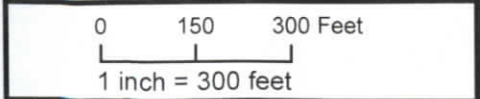
Consideration of the application of CBRE, Inc., requesting approval of 1) a zoning change from Industrial (IN) District to Planned Development (PD) District for Multi-Family (MF) Uses and 2) a Detail Plan for an Elder Care – Nursing/Convalescent Care Facility. This property is located at the northwest corner of West Walnut Street and Peggy Lane. (District 8) (File Z 16-27) (This item was postponed from the September 12, 2016 Plan Commission meeting.)

The applicant Bronz Peterson, 1540 Singleton Ct., Haslet, TX 76052, provided a brief overview of the request.

Motion was made by Commissioner Ott, seconded by Commissioner Vera to approve the request per staff recommendation. **Motion carried: 9 Ayes, 0 Nays.**



O = IN FAVOR
X = AGAINST



ZONING Z 16-27

 INDICATES AREA OF REQUEST



GARLAND

July 28, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

HEARING DATE/TIME: Plan Commission: August 8, 2016 – 7:00 PM

APPLICANT: CBRE, Inc.

File: Z 16-27

Dear Property Owner:

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, August 8, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of **CBRE, Inc.**, requesting 1) a zoning change from Industrial (IN) District to Planned Development for Elder Care – Nursing/Convalescent Care Use, and 2) a Detail Plan for an Elder Care – Nursing/Convalescent Care Facility. The property is shown on the enclosed sketch and is described as follows:

Being a 506,239 square feet or 11.6217 acre tract of land situated in the John W. Keen Survey, Abstract No. 738, City of Garland, Dallas County, Texas, being all of Lot 1R, Block 1, Baylor Medical Office, an addition to the City of Garland, Dallas County, Texas, according to the plat recorded in Instrument No. 200600277215, Official Public Records, Dallas County, Texas, as conveyed to Baylor Health Care System by Special Warranty Deed recorded in Volume 2004239, Page 4474 and by Deed Without Warranty recorded in Instrument No. 200600149048, Official Public Records, Dallas County, Texas. The subject property is located at the northwest corner of West Walnut Street and Peggy Lane. (District 8).

Note: The applicant requests approval of a zoning change and a Detail Plan for the development of a 129-bed skilled nursing facility on approximately 5.9 acres of the 11.6217 acre tract.

To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to **City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002 or by fax to 972-205-2474**. Should you have any questions, please contact Isaac Williams at 972-205-2445.

(Please Check One Below)

☒ I am in favor of the request.

☐ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

(Please complete the following information)

Your Property Address

THOMAS A. REED 2221 W. WALNUT
Printed Name

Address

GARLAND, TX
City, State

75042
Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature
Date

Thomas A. Reed
8/5/16

owner
Title



GARLAND PLANNING REPORT

City Council Regular Session Agenda

Agenda Item 3. b.

Meeting Date: December 6, 2016

Item Title: Z 16-31 RGM Architects (District 1)

Submitted By: Kira Wauwie, Principal Development Planner

REQUEST

Approval of 1) a Detail Plan for Restaurant, Drive-Through and 2) a Specific Use Provision for a Restaurant, Drive-Through on property zoned Planned Development (PD) 12-56 District for Community Retail.

OWNER

BOKF, NA d/b/a Bank of Texas, Trustee of the Oliver Dewey Mayor Foundation

PLAN COMMISSION RECOMMENDATION

On November 14, 2016, the Plan Commission by a vote of nine (9) to zero (0) recommended approval of 1) a Detail Plan for Restaurant, Drive-Through and 2) a Specific Use Provision for a Restaurant, Drive-Through for a period of 20 years.

STAFF RECOMMENDATION

Approval of 1) a Detail Plan for Restaurant, Drive-Through and 2) a Specific Use Provision for a Restaurant, Drive-Through for a period of 20 years.

BACKGROUND

In 2006, City Council approved a change of zoning on the site from Planned Development (PD) District 99-09 and Planned Development (PD) District 03-50, both for Shopping Center Uses, to Planned Development (PD) District 05-63 for Shopping Center Uses. The zoning change included approval of a Concept Plan for development of two large and two small multi-tenant buildings and four stand-alone buildings/pad sites of which two were intended for Restaurant, Drive-Through allowed with Specific Use Permits, and a Detail Plan for a Financial Institution. In 2006 the Comerica Bank was built.

In 2013, City Council approved an amendment to Planned Development (PD) 05-63 District for Shopping Center Uses [Community Retail (CR) District uses under the Garland Development Code]. That action established Planned Development (PD) 12-56 District. The Planned Development (PD) 12-56 application was for Shopping Center Uses; a Concept Plan with conditions and showing accessibility and location of the lots; and a Detail Plan with conditions to develop the Academy Sports + Outdoors retail store, four pad sites (with two particularly for Restaurant, Drive-Through use), a library site, and the plan showed the Comerica Bank site. In

2013 the Academy Sports + Outdoors retail store was built.

Also in 2013 a private agreement was established for the property contained in PD 12-56. Setback, height, and parking limitations were specified in that private agreement for the purpose of establishing a unified shopping center development. In the spirit of PD 12-56, the agreement establishes conformity to a site plan, accessible areas, drainage ways, building placement, and parking ratio. The PD 12-56 and agreement result in conformance with the Planned Development Conditions and the previous SH-190 Overlay regulations.

Consistent with the agreement, the Planned Development Concept Plan established the Restaurant, Drive-Through site on the Garland Avenue frontage adjacent to and south of the Comerica Bank. Prior to development, a Detail Plan and conditions shall be approved through the public hearing process. Additionally, a Restaurant, Drive-Through is permitted with a Specific Use Provision only. The applicant proposes a Detail Plan and Specific Use Provision request to achieve conformity with the agreement and the regulations of PD 12-56.

SITE DATA

The subject property contains approximately 0.84 acres and has frontage of approximately 143.79 linear feet along North Garland Avenue; the site will be accessible from North Garland Avenue and contains a future mutual access drive to the Comerica Bank, Academy Sports + Outdoors site, City property, and future restaurant site.

USE OF PROPERTY UNDER CURRENT ZONING

The subject property is zoned Planned Development (PD) 12-56 District for Shopping Center Uses [Community Retail (CR) District uses under the Garland Development Code]. Restaurant, Drive-Through Use requires a Specific Use Provision (SUP) approval. The proposed use is consistent with the intended development of the subject site.

CONSIDERATIONS

- 1. Detail Plan and Specific Use Provision:** The applicant requests a Detail Plan and Specific Use Provision to develop 0.84 acres with a 2,609 square-foot Burger King restaurant with drive-through. The restaurant is part of a larger development established in PD 12-56. The Burger King is proposed with both drive-through service as well as indoor sit-down dining.
- 2. Screening and Landscape:** The proposed Landscape Plan reflects 21.9% of the site dedicated to landscaping, including a thirty (30) foot wide buffer along Garland Avenue proposed with three (3) large canopy trees and a preserved 30-inch caliper Pecan tree which qualifies as two (2) large canopy trees. In order to achieve the desired parking, a minor encroachment of approximately 200 square feet into the drip line of the tree is necessitated. In accordance with the Garland Development Code, permeable pavers which will allow root zone filtration of air and water are allowed under the drip line. The new canopy trees are spaced no less than twenty-five (25) feet between trees. The landscaping buffer includes decorative grass and lawn. Additionally, 15.8% of the parking area is dedicated to landscaping within islands and planters flanking drive aisles and along the building. Along Garland Avenue the parking lot is screened with shrubs integrated into the landscape buffer. The site complies with the PD 12-56.
- 3. Exterior Elevations:** The proposed facades consist of primarily masonry materials (brick)

consisting of two colors: brown and tan. A red accent band and wraps nearly all of the building at the roof line. That red band is not lighted. Mechanical elements, store fronts and doors consist of brown painted color to complement the brown and tan brick. Roof mounted mechanical equipment will be screened by a parapet. The front façade of the building is offset two feet, four inches (2'4"), consistent with the required two (2)-foot offset.

4. **Signage:** The applicant is proposing to install attached signage and a menu board sign. An existing monument sign, which was approved with the Academy Sports + Outdoors, is located at the south of the site along Garland Avenue. This project may add signage to that monument sign. All signs will be in conformance with the PD 12-56.
5. **Parking.** The overall PD 12-56 development establishes a physical design and layout that is recognized as a unified development, functioning as a unit including parking. The approval of PD 12-56 demonstrates an acceptable parking arrangement, which the private agreement narrates as a parking ratio of thirteen (13) spaces per 1,000 square feet for restaurants not serving alcohol and without full sit-down table service. The proposal provides thirty-four (34) parking spaces in alignment with this parking ratio. The applicant requests a Specific Use Provision for a period of 20 years.

COMPREHENSIVE PLAN

The Future Land Use Map of the Envision Garland Plan recommends Community Centers for the subject property. Community Centers are areas with compact development, primarily non-residential, serving a collection of neighborhoods. This type of development consists of a mix of uses including retail, services, office use, multi-family residential, and entertainment.

Community Centers may be developed at the intersections of major arterial streets and along major arterials, highways, and turnpike corridors. This type of area is served by numerous roads and transit routes, providing a variety of connections between neighborhoods and Community Centers for pedestrians, bicycles, motorized vehicles, and transit.

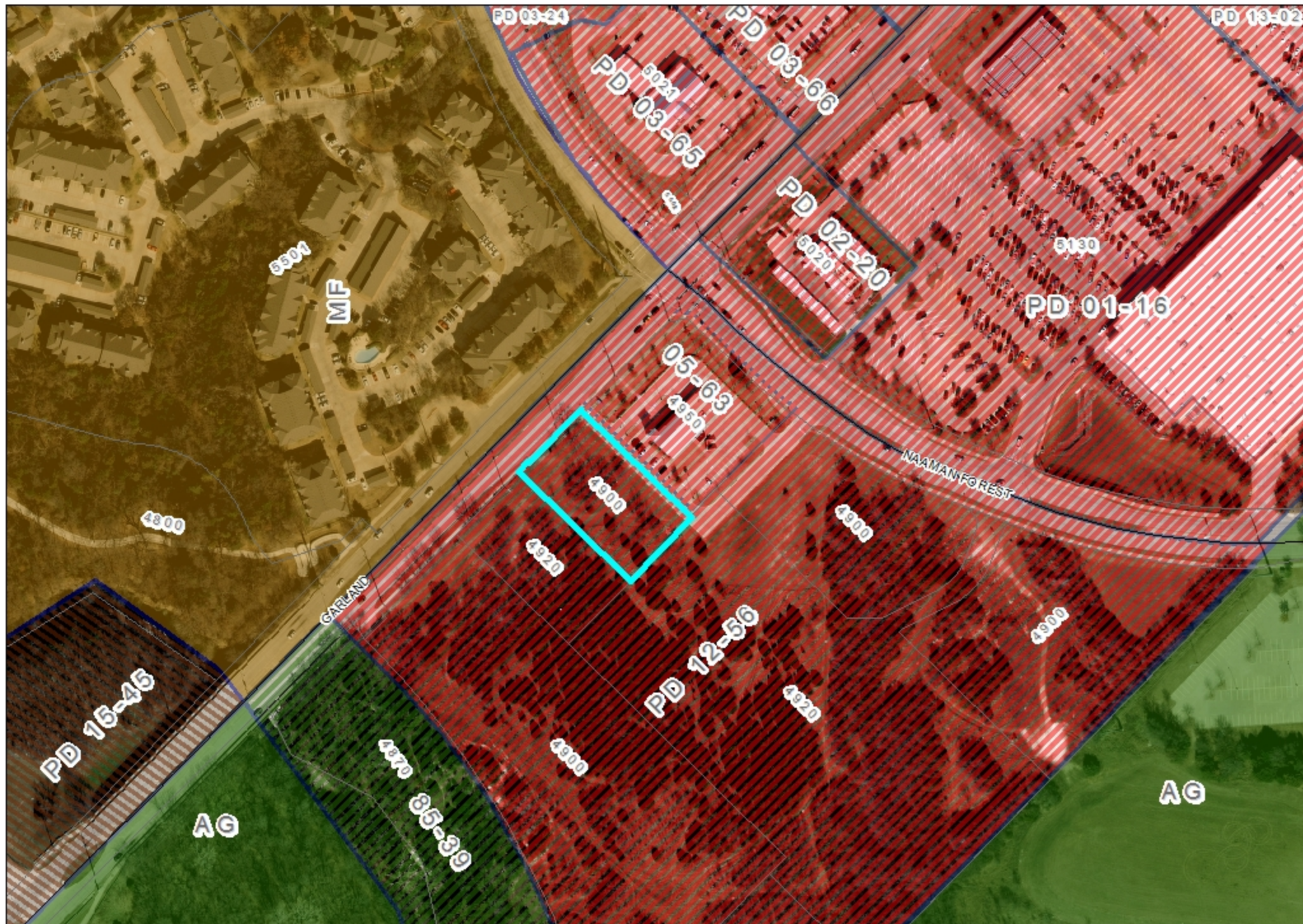
COMPATIBILITY OF REQUEST WITH SURROUNDING ZONING AND LAND USES

The area to the south, and east is zoned PD 12-56 and is part of an overall shopping center development. The vision of this Planned Development is for a retail shopping center including the existing Academy Sports + Outdoors, the bank, this restaurant, a proposed restaurant to the south of this site, and two lots for other commercial development. The property located to the west of the site, across Garland Avenue, is zoned Multi-Family (MF) District and is comprised of a multi-family rental community.

The proposed use is consistent with the development design and intent of Planned Development (PD) 12-56. Further, the designs within Planned Development (PD) 12-56 were formulated to be consistent with the original vision of this Planned Development.

Attachments

Z 16-31 RGM Architects Attachments
Z 16-31 RGM Responses



ZONING

Z 16-31

 INDICATES AREA OF REQUEST

PLANNED DEVELOPMENT CONDITIONS

**ZONING FILE Z 16-31
4940 North Garland Avenue**

- I. Statement of Purpose:** The purpose of this Planned Development District is to permit the development of a Restaurant with Drive-Through on the subject property subject to conditions.
- II. Statement of Effect:** This Planned Development shall not affect any regulation found in the Garland Development Code, Ordinance No. 6773, as amended prior to adoption of this ordinance, except as specifically provided herein.
- III. General Regulations:** All regulations of the Community Retail (CR) District set forth in Chapter 2 of the Garland Development Code, Ordinance 6773, are included by reference and shall apply, except as otherwise specified by this ordinance.
- IV. Development Plans:**
 - A. Detail Plan:** Development shall be in general conformance with the Detail Plan set forth in Exhibit C. In the event of a conflict between the Detail Plan and the following conditions, the conditions shall prevail.
- V. Specific Regulations:**
 - A. Permitted Uses:** Uses permitted shall be those permitted by Planned Development (PD) District 12-56 and a Restaurant, Drive-Through.
 - B. Screening and Landscaping:** Screening and landscaping shall be provided as reflected on Exhibit D.
 - C. Building Elevations:** The building elevations shall be in general conformance with Exhibit E.
 - D. Signage:** Attached signage shall be located as shown in Exhibit E. All other signage shall be as regulated by Planned Development (PD) District 12-56.
 - E. Parking:** Parking shall be provided at a minimum ratio of thirteen (13) parking spaces per 1,000 square feet of building area.

EXHIBIT B

SPECIFIC USE PROVISION CONDITIONS

ZONING FILE Z 16-31

4940 North Garland Avenue

- I. Statement of Purpose:** The purpose of this Specific Use Provision is to permit the development of Restaurant, Drive-Through.
- II. Statement of Effect:** This Specific Use Provision shall not affect any regulation found in the Garland Development Code, Ordinance No. 6773, as amended prior to adoption of this ordinance, except as specifically provided herein.
- III. General Regulations:** All regulations of the Community Retail (CR) District set forth in Chapter 2 of the Garland Development Code, Ordinance 6773, are included by reference and shall apply, except as otherwise specified by this ordinance.
- IV. Specific Regulations:**
 - A. Specific Use Provision:** The Specific Use Provision shall be effective for a period of 20 years.

BEING LOTS 2 AND 3, OF MAYOR FOUNDATION ADDITION NO. 2
AND ADDITION TO THE CITY OF GARLAND, DALLAS COUNTY, TEXAS,
ACCORDING TO THE PLAT PROPERTY RECORDS, DALLAS COUNTY, TEXAS

5

Proposed land use is for a Community Retail (CR) district with a restaurant with drive-through

Current Zoning - PD 12-56 Shopping Center Uses, Community Retail (CR) district per GDC, formally Shopping Center (SC) District

Burger King Square Footage
Seating Capacity

2,609 sq.ft.
~60-seating

Requirement of Community Retail (CR)	Required	Provided
Minimum lot area	none	36,573 sq.ft.
Minimum lot width	none	143.75 ft.
Minimum lot depth	none	254.25 ft.
Front yard	30 feet	82'-0"
Side yard	20 feet	38'-7"
Rear yard	30 feet	95'-5"
Not adjacent to street		
Front yard	30 feet	
Side yard	none except 20' when adjacent to residential district	
Rear yard		
Maximum building height	35 feet	21'-0"
Maximum FAR	none	0
Maximum lot coverage	40%	7.19%

6

Floor Area Ratio	
Finish floor elevation	538.7
Total impervious cover in square feet	25,573 sq.ft.
Percentage of site covered by impervious cover	70.00%
Gross floor area of building:	2,630 sq.ft.
Total area of lot:	36,573 sq.ft.
Total Building Coverage	2,630 sq.ft.

Parking Analysis

Per the Reciprocal Access, Restrictive Covenants and Easements Agreement, dated March 14, 2013, Page 10, Paragraph 5.5:
...thirteen (13) spaces per one thousand (1,000) square feet of leasable square footage for tenants or Owners using such square footage for a restaurant not serving alcohol and without full sit-down table service...

Burger King Building

2,609 sq.ft.

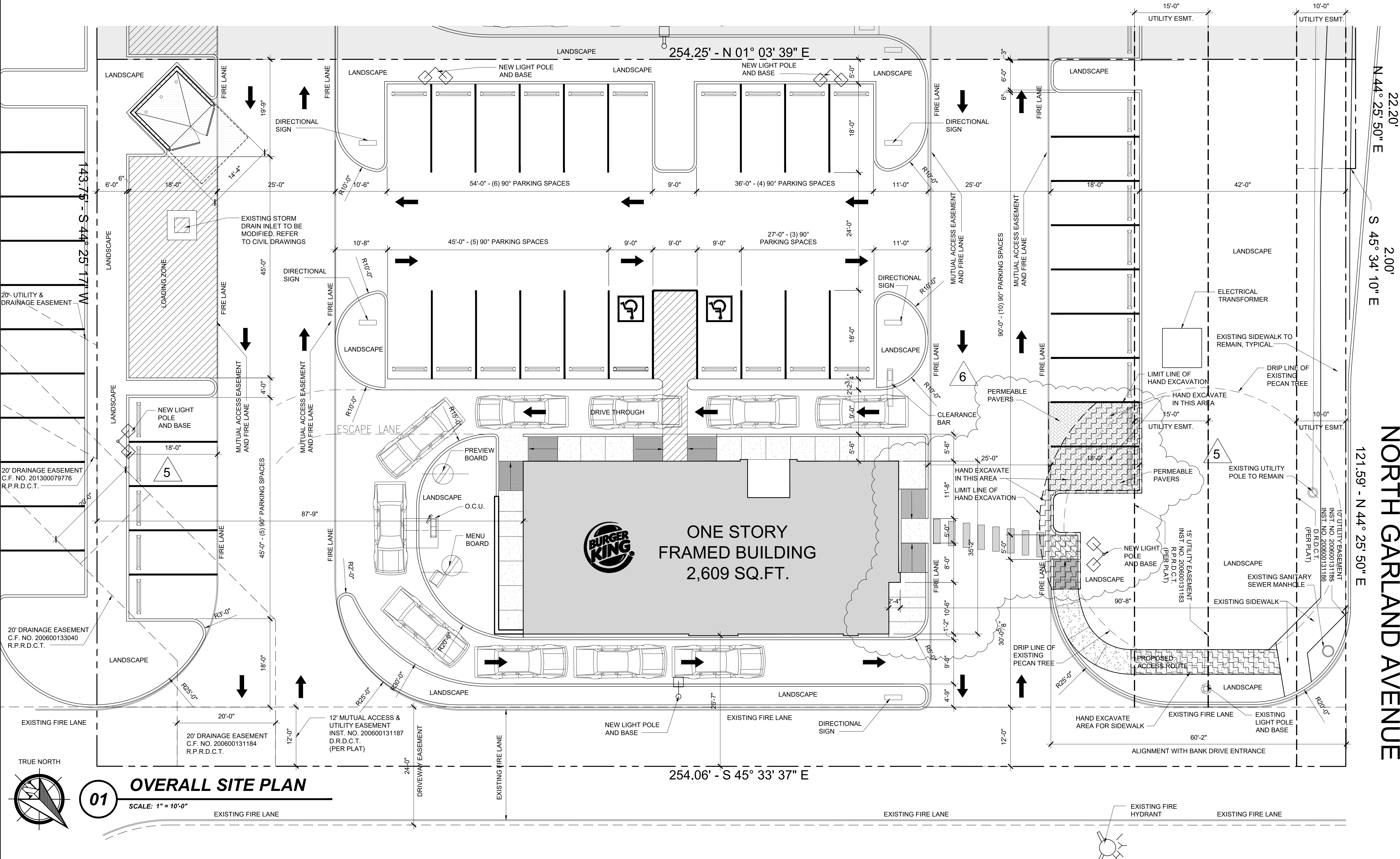
13 spaces per 1,000 sq.ft. (per Covenants)

34 spaces
34 spaces

(13 spaces per 1,000 sq.ft.)

Parking required per PD 12-56
Parking provided:

6



NORTH GARLAND AVENUE

S 45° 34' 10" E

22.20'

N 44° 25' 50" E

2.00'

121.59' - N 44° 25' 50" E

ONE STORY
FRAMED BUILDING
2,609 SQ.FT.

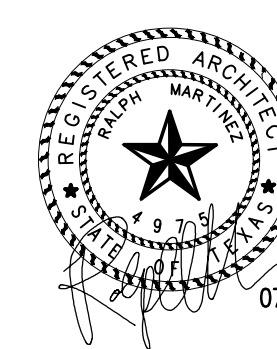


01 OVERALL SITE PLAN

SCALE: 1" = 10'-0"



RGM ARCHITECTS
2001 N. LAMAR STREET, SUITE 280
DALLAS, TEXAS 75202
VOICE - 214-563-6690
WWW.RGMARCHITECTS.COM



Owner information:

BOKF, NA, d/b/a Bank of Texas,
Trustee of the Oliver Dewey Mayor Foundation

Contact Person: Alyson Goodhartz
Alyson@TheArcherCompany.com
Voice - 214-532-8488

Address:
801 Cherry Street, Suite 3325
Fort Worth, Texas 76102

NEW BURGER KING
RESTAURANT
PRE SUBMITTAL #160607-2



4940 NORTH GARLAND AVENUE ■ GARLAND, TEXAS 75040

RGM ARCHITECT PROJECT #

16018.00

DATE ISSUED

JULY 20, 2016

REVISIONS

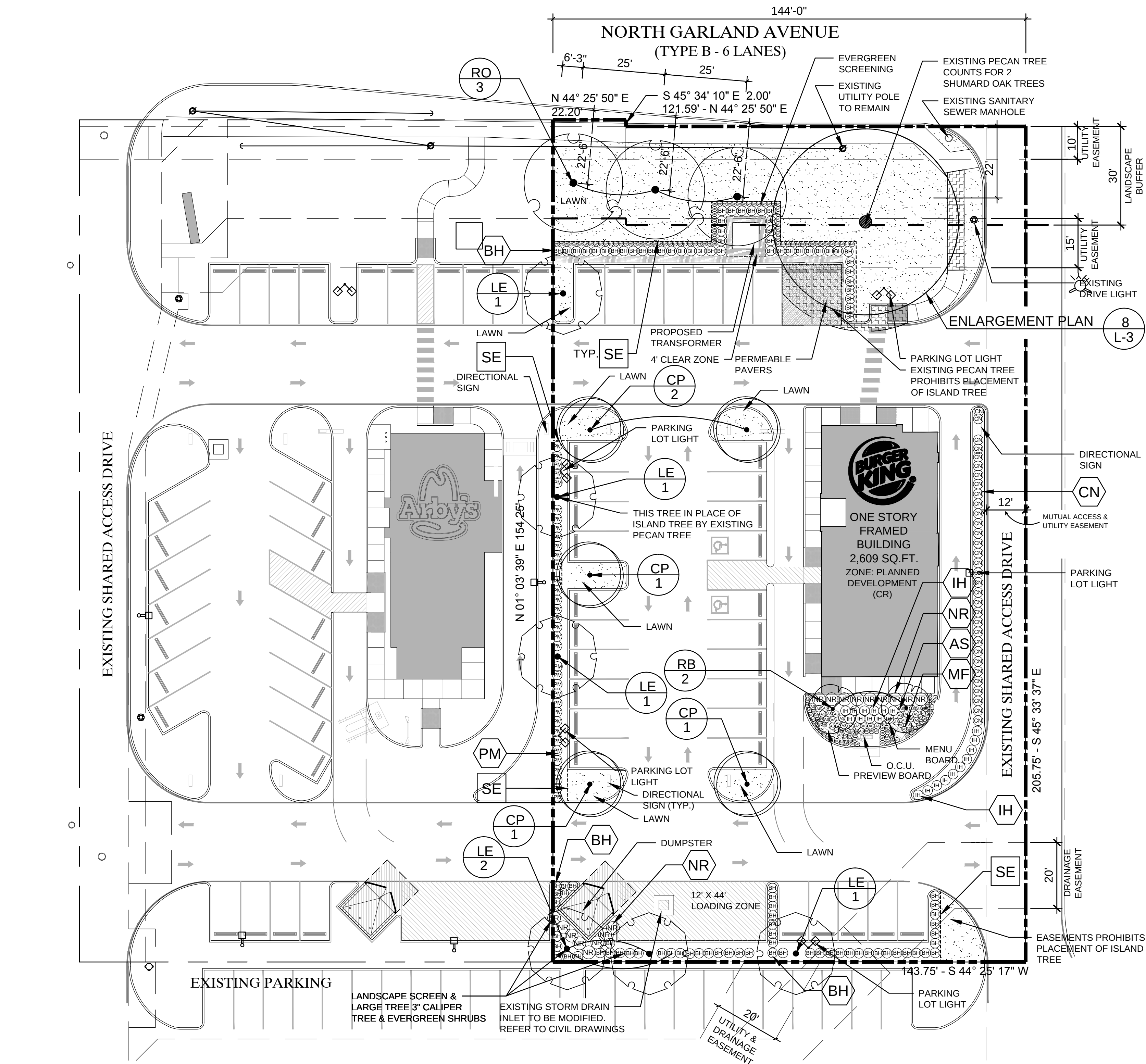
No.	DATE	DESCRIPTION
1	9-15-'16	REV. CITY COMMENTS
2	9-30-'16	REV. CITY COMMENTS
3	10-7-'16	REV. CITY COMMENTS
4	11-4-'16	REV. CITY COMMENTS
5	11-8-'16	REV. CITY COMMENTS
6	11-9-'16	REV. CITY COMMENTS

SHEET TITLE

OVERALL SITE PLAN

SHEET NUMBER

A100



SCREENING & LANDSCAPE PLAN

LEGEND

XX
X

TREE SYMBOL
TREE QUANTITY

XX

SHRUB / GRASS
SYMBOL

LAWN

MULCH

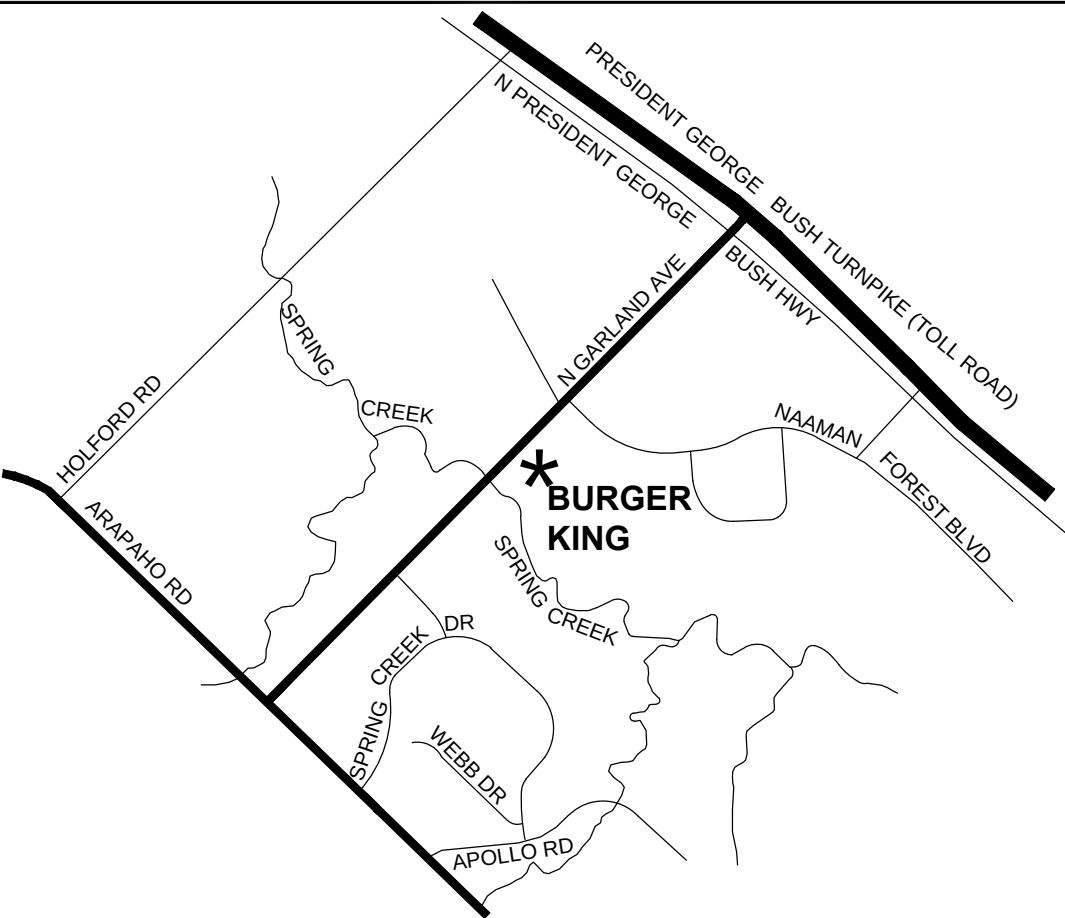
PROPERTY LINE

BUFFER LINE

STEEL EDGING

EASEMENT LINE

VICINITY MAP



190 OVERLAY LANDSCAPE TABULATION

TREE SURVEY: PROVIDED IN TREE MANAGEMENT PLAN					
TREE PROTECTION: WILL BE PROVIDED IN TREE MANAGEMENT PLAN					
TOTAL REPLACEMENT TREES REPLACEMENT TREES SHALL BE 3" CALIPER SIZE		REQUIRED REPLACEMENT TREES CALIPER INCHES	REQUIRED REPLACEMENT TREES QUANTITY	PROPOSED REPLACEMENT TREES QUANTITY	
		60	20	20	
TOTAL LANDSCAPE AREA MINIMUM 10% OF TOTAL SITE AREA		TOTAL SITE AREA SQ FT	REQUIRED LANDSCAPE AREA SQ FT	PROPOSED LANDSCAPE AREA SQ FT	
		36,591	3,659	8035	
LANDSCAPE BUFFER REQUIREMENT					
TREES & SHRUBS		LANDSCAPE BUFFER LINEAR FEET	REQUIRED PLANTS QUANTITY	PROPOSED PLANTS QUANTITY	
NORTH GARLAND AVENUE THIRTY (30) FEET LANDSCAPE BUFFER		144 N/A	5 N/A	2 N/A*	
SHUMARD OAK TREE: 1 PER 30' O.C. EXISTING 30" CALIPER PECAN TREE					
*EXISTING PECAN TREE TAKES PLACE OF 2 SHUMARD OAK TREES					
PARKING AREAS LANDSCAPING					
LANDSCAPE AREA A MIN. OF 5% OF PARKING LOT AREA		PARKING LOT AREA SQ FT	REQUIRED LANDSCAPE AREA SQ FT	PROPOSED LANDSCAPE AREA SQ FT	
		29,575	1,479	4684	
LANDSCAPED ISLAND MUST BE A MINIMUM OF 6' BY 8', OR 108 SQ FT, PLACED AT THE TERMINUS OF EACH PARKING ROW AND CONTAIN (1) LARGE CANOPY TREE; (1) LARGE CANOPY TREE IS REQUIRED FOR EVERY (10) PARKING SPACES					
PROPOSED PARKING SPACES QUANTITY	REQUIRED LANDSCAPE ISLAND QUANTITY	PROPOSED LANDSCAPE ISLAND QUANTITY	REQUIRED CANOPY TREES QUANTITY	PROPOSED CANOPY TREES QUANTITY	
35	8	8	8	7*	
*EXISTING PECAN TREE PROHIBITS PLACE OF ISLAND TREE					
SCREENING REQUIREMENT					
PARKING LOTS SCREENING FROM PUBLIC STREET A CONTINUOUS OR UNDULATING ROW OF SHRUBS OF ORNAMENTAL GRASSES THAT ARE A MINIMUM OF 24 INCHES HEIGHT SHRUBS MUST BE EVERGREEN AND A MINIMUM OF 2 FEET TALL AT TIME OF PLANTING, MATURE SIZE 3-4 FEET					
		LANDSCAPE BUFFER LINEAR FEET	REQUIRED SCREEN LINEAR FEET	REQUIRED SHRUBS QUANTITY	PROPOSED SHRUBS QUANTITY
NORTH GARLAND AVENUE		94	86	29	30
SCREENING OF LIGHT VEHICLE LOADING AREAS LIGHT VEHICLE LOADING AREA IS LOCATED ON THE BACK OF THE BUILDING, NO SCREENING IS REQUIRED. TREES AND SHRUBS ARE PROVIDED					
TOTAL SITE TREE QUANTITY					
TREE SIZE	REQUIRED TREE QUANTITY	PROPOSED TREE QUANTITY*			
4 INCH CALIPER	5	2			
3 INCH CALIPER	11	10			
TOTAL	16	12			
* EXISTING PECAN TREE COUNTS FOR 2 SHUMARD OAK TREES					

PLANT LIST

SYM	COMMON NAME	BOTANICAL NAME	QTY	SIZE	HEIGHT	SPREAD	ROOT BALL	REMARKS
LARGE CANOPY TREES								
CP	CHINESE PISTACHE	PISTACIA CHINENSIS	5	3" CAL	10'-12'	8'-10'	B & B	SINGLE TRUNK, FULL AND MATCHED
LE	LACEBARK ELM	ULMUS PARVIFOLIA	6	3" CAL	10'-12'	8'-10'	B & B	SINGLE TRUNK, FULL AND MATCHED
RO	SHUMARD RED OAK	QUERCUS SHUMARDII	3	4" CAL	10'-12'	8'-10'	B & B	SINGLE TRUNK, FULL AND MATCHED
SMALL ORNAMENTAL TREES								
RB	TEXAS REDBUD	CERCIS CANADENSIS VAR 'TEXENSIS'	2	3" CAL	8'-10'	6'-8'	B & B	SINGLE TRUNK, FULL & MATCHED
SHRUBS								
BH	DWARF BURFORD HOLLY	ILEX CORNUTA 'DWARF BURFORD'	102	N/A	24"	24"	5 GAL	FULL & MATCHED, 24" O.C. SINGLE ROW
IH	INDIAN HAWTHORN	RHAPHIOLEPIS INDICA 'CLARA'	21	N/A	18"	18"	5 GAL	FULL & MATCHED, 36" O.C. TRIA, SPACED
NR	NELLIE R STEVENS HOLLY	ILEX 'NELLIE STEVENS'	17	N/A	36"	24"-30"	10 GAL	FULL & MATCHED, 30" O.C. SINGLE ROW
CN	COMPACT NANDINA	NANDINA DOMESTICA 'COMPACTA'	32	N/A	18"	18"	5 GAL	FULL & MATCHED, 36" O.C. SINGLE ROW
PERENNIALS & ORNAMENTAL GRASSES								
AS	AUTUMN SAGE	SALVIA GREGGII	31	N/A	24"	24"	5 GAL	FULL & MATCHED, 36" O.C. TRIA, SPACED
MF	MEXICAN FEATHERGRASS	NAUSELLA TENUISSIMA	146	N/A	12"	12"	1 GAL	FULL & MATCHED, 18" O.C. TRIA, SPACED
PM	PINK MIST MUHY GRASS	MUHLENBERGIA CAPILLARIS 'REGAL MIST'	35	N/A	24"	24"	3 GAL	FULL & MATCHED, 36" O.C. SINGLE ROW
LAWN								
LAWN	BERMUDA GRASS	CYNODON SPP.						SOLID SOD
MISCELLANEOUS								
MULCH	SHREDDED HARDWOOD MULCH							3 INCH DEPTH PLACE OVER FILTER FABRIC
SE	STEEL EDGING							3/16" THICK X 6" ONLY 1/2" EXPOSED
CG	CRUSHED GRANITE 3" (WASHED)							ABOVE SOIL LINE
* CAL MEANS "CALIPER" WHICH IS A STANDARD FOR THE TRUNK MEASUREMENT. IT IS THE DIAMETER OF THE TRUNK MEASURED TWELVE (12) INCHES ABOVE GROUND LEVEL FOR NEW OR REPLACEMENT TREES. IF A TREE IS MULTI-TRUNK VARIETY, THE CALIPER OF THE TREE IS THE SUM OF THE LARGES TRUNK PLUS ONE-HALF THE TOTAL OF OTHER TRUNKS, MEASURED AT TWELVE (12) INCHES ABOVE THE ROOT BALL.								
** FOR SHRUBS MINIMUM CONTAINER SIZE IS USED UNDER ROOT BALL, HOWEVER PLANTS PLANTED SHALL MEET THE MINIMUM HEIGHT AS CALLED OUT IN THE PLANT LIST, WHICH COULD RESULT IN REQUIRING A LARGER CONTAINER SIZE TO MEET THE HEIGHT REQUIREMENT. THIS MAY REQUIRED A CONTAINER SIZE LARGER THAN THE ONES USED UNDER ROOT BALL.								

SITE BASE FOR THESE DRAWINGS PROVIDED BY:
RGM ARCHITECTS
2001 N. LAMAR STREET, SUITE 280
DALLAS, TEXAS 75202
VOICE - 214.563.6690
WWW.RGMARCHITECTS.COM

NOTE: SEE SHEET L-3 FOR LANDSCAPE DETAILS AND NOTES

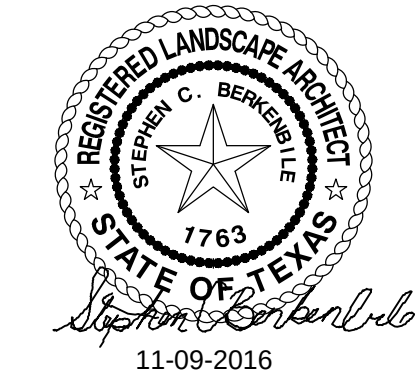
THE ORIGINAL ISSUE DATE WAS 08/15/2016. IT IS THE RESPONSIBILITY OF THE CIVIL
ENGINEERING FIRM AND THE PRIME CONSULTANT TO EMAIL UPDATED PROJECT CAD
FILES TO BERKENBILE LANDSCAPE ARCHITECTS, INC FOR THEIR USE IN UPDATING
THEIR DRAWINGS. THE CONTRACTOR SHALL VERIFY THAT THE DRAWING BACKGROUND
USED IN THESE DRAWINGS IS THE LATEST, PRIOR TO COMMENCING THEIR WORK.

BERKENBILE
LANDSCAPE ARCHITECTS
DALLAS OFFICE
2001 N Lamar St, Suite 280
Dallas, TX 75202
(214) 922-9946

SOUTHLAKE OFFICE
2355 Johnson Rd
Southlake, TX 76092
(817) 379-8853



RGM ARCHITECTS
2001 N. LAMAR STREET, SUITE 280
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Owner information:
BOKF, NA, d/b/a Bank of Texas,
Trustee of the Oliver Dewey Mayor Foundation
Contact Person: Alyson Goodhartz
Alyson@TheArcherCompany.com
Voice - 214-532-8488
Address:
801 Cherry Street, Suite 3325
Fort Worth, Texas 76102

NEW BURGER KING
RESTAURANT
PRE SUBMITTAL #160607-2

4940 NORTH GARLAND AVENUE ■ GARLAND, TEXAS 75040

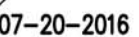
RGM ARCHITECT PROJECT #
16018.00

DATE ISSUED
NOVEMBER 09, 2016

REVISIONS		
No.	DATE	DESCRIPTION
1	9-15-16	REV. CITY COMMENTS
2	9-30-16	REV. CITY COMMENTS
3	10-7-16	REV. CITY COMMENTS
4	11-4-16	REV. CITY COMMENTS

SHEET TITLE
LANDSCAPE PLAN

SHEET NUMBER
L-2



Owner information

BOKF, NA, d/b/a Bank of Texas,
Trustee of the Oliver Dewey Mayor Foundation

Contact Person: Alyson Goodhartz
Alyson@TheArcherCompany.com
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RESTAURANT
PRE SUBMITTAL #160607-2



RGM ARCHITECT PROJECT

16018.00

DATE ISSUED

JULY 20, 2016

REVISIONS

SHEET TITLE

EXTERIOR ELEVATIONS

SHEET NUMBER

A300-A



SCALE: 1/4" = 1'-0"



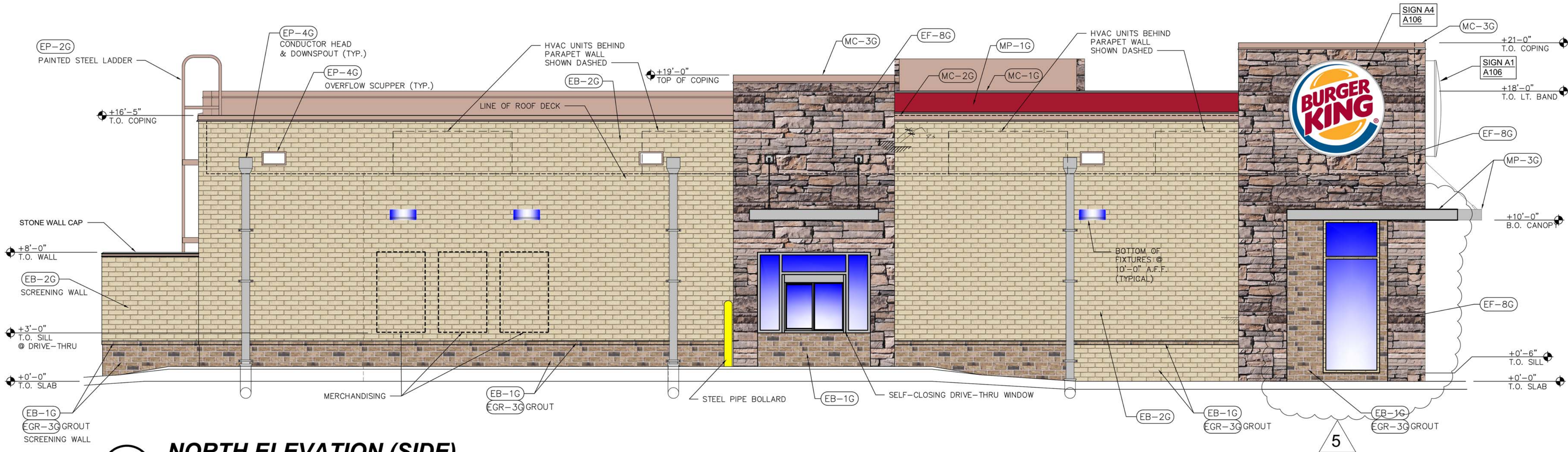
SCALE: 1/4" = 1'-0"

PRODUCT INFORMATION:
JOHN FITZWILSON AT LEKTRON
(800) 634-4059 OR (918) 622-4978 EXT 302
Email: jfitzwilson@lektroninc.com

subtotal masonry	
Non-Masonry	
Alucobond - Canopy	

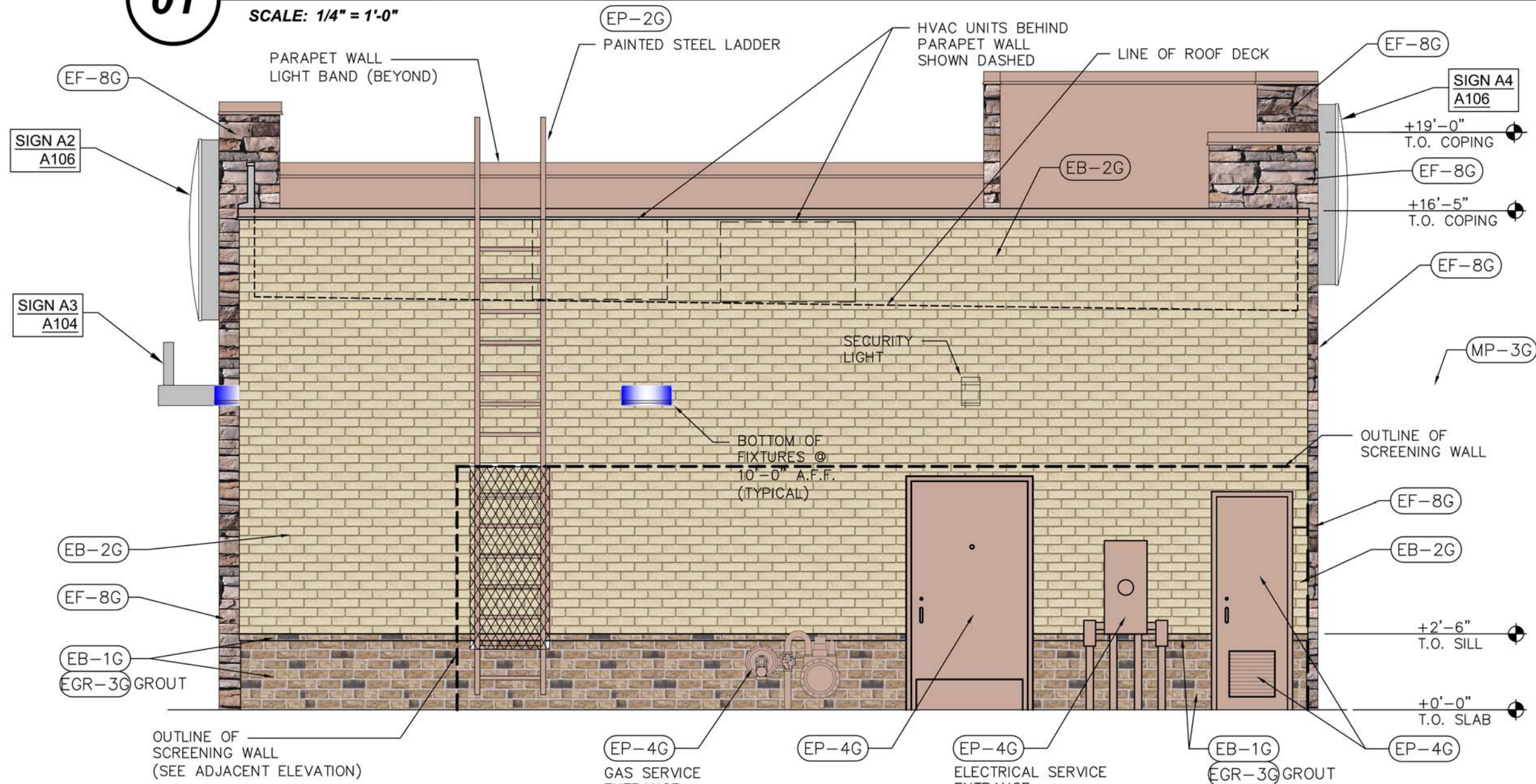
*Per Development Standards for SH-190, I-30, & IH-635 Overlay

Four triangles are shown, each containing a number. The triangles are arranged vertically and labeled 1, 2, 3, and 4 from top to bottom.



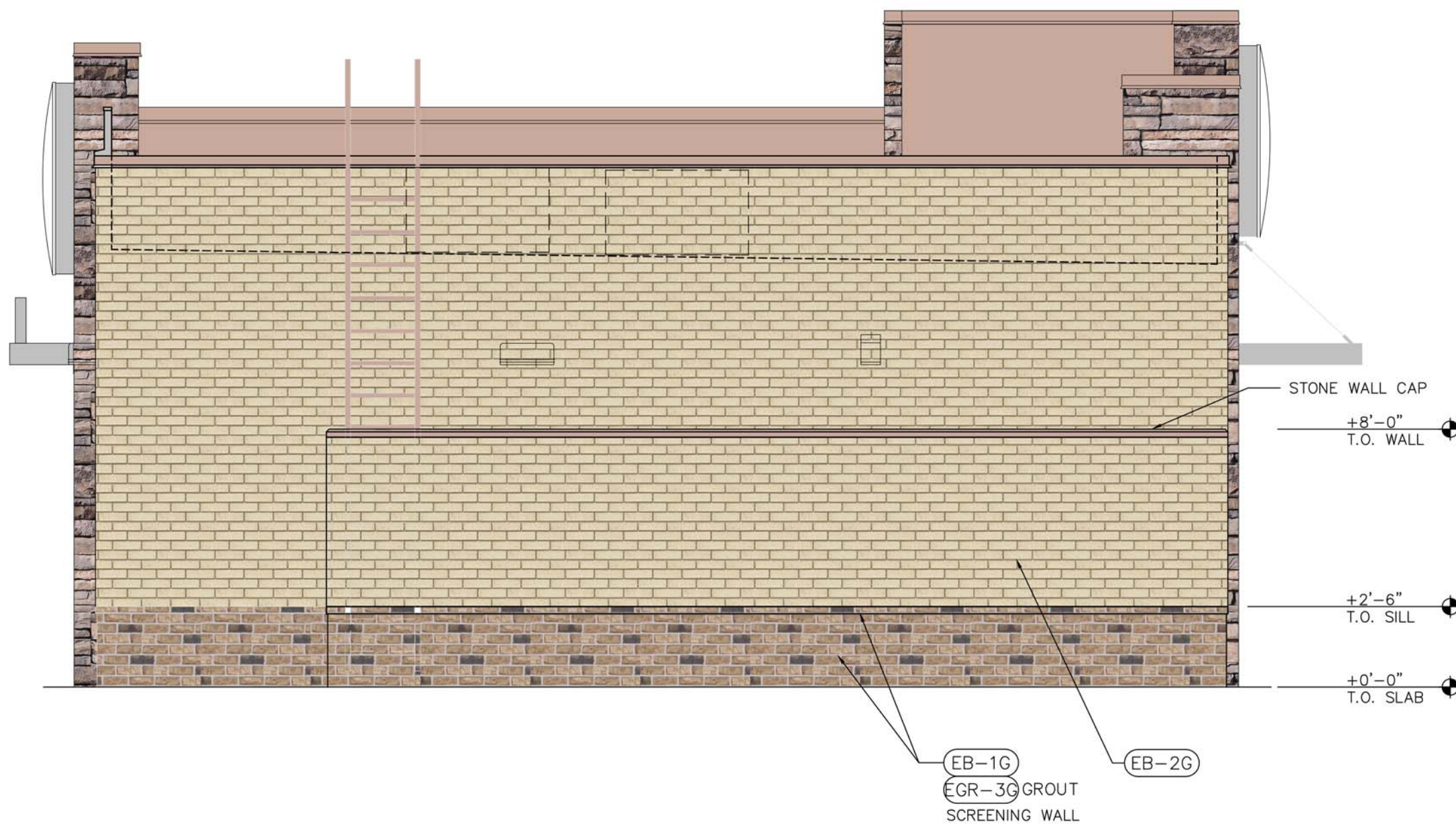
01 NORTH ELEVATION (SIDE)

SCALE: 1/4" = 1'-0"



02 EAST ELEVATION (REAR)

SCALE: 1/4" = 1'-0"



03 EAST ELEVATION (REAR VIEW OF SCREENING WALL)

SCALE: 1/4" = 1'-0"

Burger King - 20/20 Garden Grill						
Exterior Materials & Finish Schedule (not all specs are used on every project)						
CODE	MATERIAL	LOCATION	MANUFACTURER	PRODUCT	DESCRIPTION	ADDITIONAL INFORMATION
EB-1G	EXTERIOR BRICK	GENERAL	EVOLUTION BRICK	MOD / QS TUMBLED (FULL BRICK)	CLDE HILLSBORO	CONTACT: GABE POWERS (502) 558-4612 NOTE: USE WITH EGR-3G (GROUT) CONTACT: THERESA BEANE (800) 334-8689 tbeane@pinehallbrick.com NOTE: USE WITH EGR-3G (GROUT) CONTACT: SUNUP MATHEW (918) 706-9306 NOTE: USE WITH EGR-3G (GROUT)
			PINE HALL BRICK	FACE BRICK	SIERRA TUMBLED	
			H.C. MUDDOX BRICK	THIN BRICK	OLD IRVINGTON O/S	
EB-2G	EXTERIOR BRICK	GENERAL	ACME BRICK	THIN BRICK	BK WEST COAST BLEND	CONTACT:
EGR-3G	GROUT	BRICK	MAPEI	GROUT FOR BRICK	#5 "CHAMOIS"	NOTE: USE WITH EB-1G
EF-8G	EXTERIOR FINISH STONE	EXTERIOR SIGN ARCHONS	BORAL STONE PRODUCTS	COUNTRY LEDGESTONE	"ASPEN"	CONTACT: 800-255-1727 Ashley.Joyce@boral.com culturalstone@boral.com Contact: RICK GARLIN, PPG CORPORATE NATIONAL ACCOUNTS MANAGER phone: (317) 318-5800 email: garlin@ppg.com
EP-2G	EXTERIOR PAINT	EXTERIOR GENERAL	PPG	PRIMER: 17-921 PAINT: S-2045XI	"TAUPE TONE" Custom Formula	CONTACT: W.P. HICKMAN COMPANY (828) 676-1700 - WWW.WPH.COM
EP-4G	EXTERIOR PAINT	EXTERIOR WAINSCOT		PRIMER: 17-921 PAINT: S-2045XI	"MONTERREY CLIFFS" 10Y 14/080	
MC-1G	METAL COPING	TOP OF LIGHT BAND WALL CAP	W.P. HICKMAN SYSTEMS, INC.	PERMA SNAP PLUS	A-30 "SILVERSMITH"	PRODUCT INFORMATION: JOHN FITZWILSON AT LEKTRON (800) 634-4059 OR (918) 622-4978 EXT 302 Email: jfitzwilson@lektroninc.com
MC-2G	METAL COPING	BELOW LIGHT BAND		PERMA SNAP PLUS	FACTORY FINISH TO MATCH EP-2G PPG "TAUPE TONE"	
MC-3G	METAL COPING	TOP OF ARCHON		PERMA SNAP PLUS	TO BE PAINTED TO MATCH EP-8G PPG "CEDAR"	
MP-1G	RED LENS	PARAPET LIGHT BAND	LEKTRON	LED LIGHT BAND		*SEE PLANS
MP-3G	ALUCOBOND CANOPY	ABOVE DOORS AND WINDOWS	*SEE APPROVED CANOPY SUPPLIERS	CUSTOM ALUCOBOND CANOPY	COLOR: CLEAR ANODIZED	*SEE PLANS

Materials Break Down Table			
DETAIL 01: NORTH ELEVATION (SIDE)			
Material	Provided		Required*
	Square Feet	Percentage	Percentage
Masonry			
Masonry Brick	904	76%	50% Minimum
Masonry Stone	268	23%	50% Maximum
subtotal masonry	1172	99%	
Non-Masonry			
Alucobond - Canopy	12	1%	No more than 20%
Totals	1184	100%	
*Per Development Standards for SH-190, I-30, & IH-635 Overlay			
DETAIL 02: EAST ELEVATION (REAR)			
Material	Provided		Required*
	Square Feet	Percentage	Percentage
Masonry			
Masonry Brick	516	100%	50% Minimum
Masonry Stone	0	0%	50% Maximum
subtotal masonry	516	100%	
Non-Masonry			
Alucobond - Canopy	0	0%	No more than 20%
Totals	516	100%	
*Per Development Standards for SH-190, I-30, & IH-635 Overlay			



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NEW BURGER KING
RESTAURANT
PRE SUBMITTAL #160607-2



4940 NORTH GARLAND AVENUE ■ GARLAND, TEXAS 75040

RGM ARCHITECT PROJECT #

16018.00

DATE ISSUED

JULY 20, 2016

REVISIONS

No.	DATE	DESCRIPTION
1	9-15-16	REV. CITY COMMENTS
2	9-30-16	REV. CITY COMMENTS
3	10-7-16	REV. CITY COMMENTS
4	11-4-16	REV. CITY COMMENTS
5	11-9-16	REV. CITY COMMENTS

SHEET TITLE

**EXTERIOR
ELEVATIONS**

SHEET NUMBER

A300-B

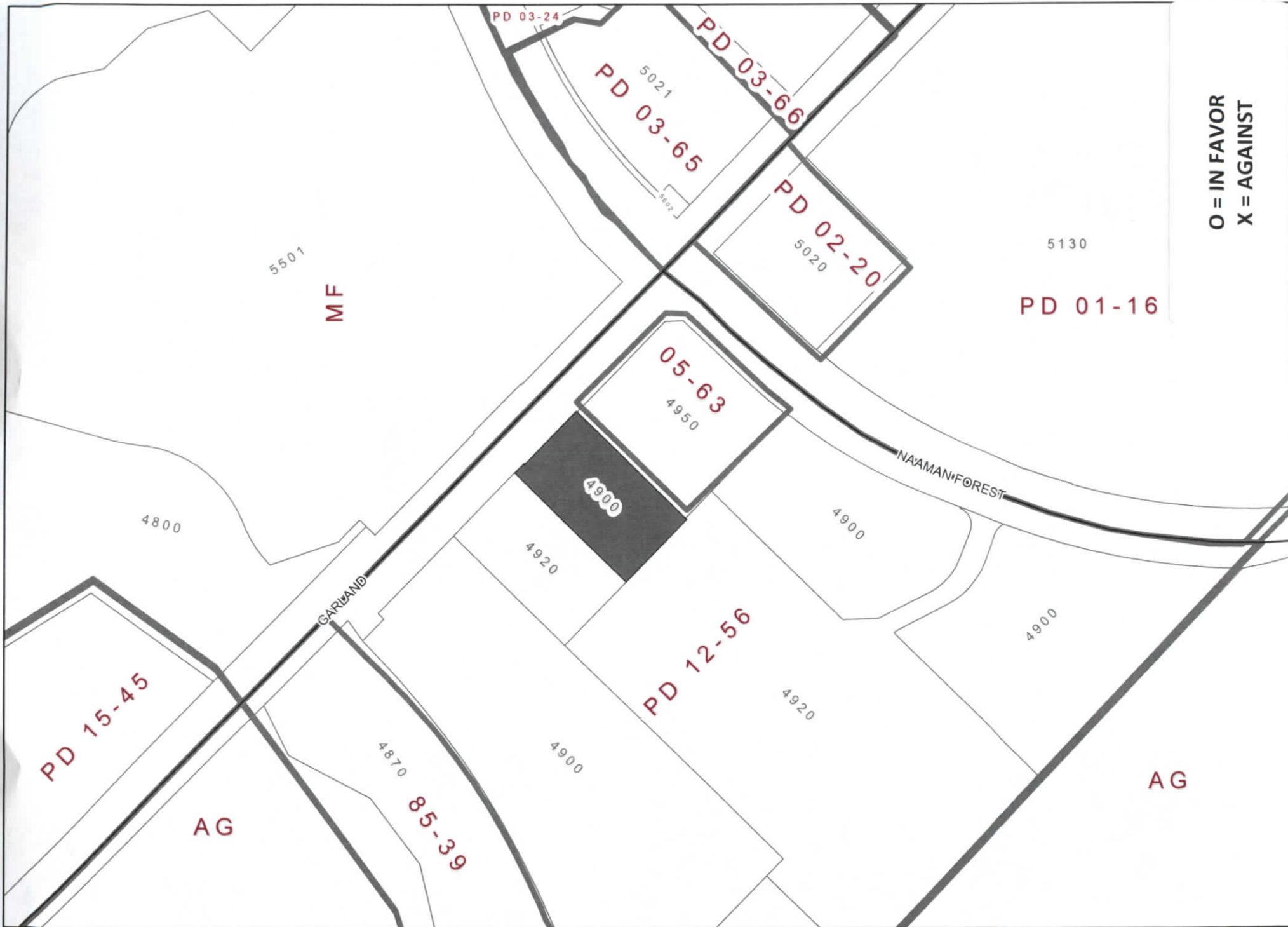
REPORT & MINUTES

P.C. Meeting, November 14, 2016

Consideration of the application of RGM Architects requesting approval of 1) a Detail Plan for Restaurant, Drive-Through and 2) a Specific Use Provision for a Restaurant, Drive-Through on property zoned Planned Development (PD) 12-56 District for Community Retail. The property is located at 4940 N Garland Avenue. (District 1) (File Z 16-31) (This item was postponed from the October 24, 2016 Plan Commission meeting.)

The applicant was available for questions. There were no questions of this applicant.

Motion was made by Commissioner Luckie, seconded by Commissioner Moore to close the Public Hearing and **approve** the request per staff recommendation. **Motion carried: 9 Ayes, 0 Nays.**



0 90 180 Feet
1 inch = 200 feet

ZONING Z 16-31

 INDICATES AREA OF REQUEST

We did not receive any responses for this case.



GARLAND PLANNING REPORT

City Council Regular Session Agenda

Agenda Item 3. c.

Meeting Date: December 6, 2016

Item Title: Z 16-32 RGM Architects (District 1)

Submitted By: Kira Wauwie, Principal Development Planner

REQUEST

Approval of 1) a Detail Plan for Restaurant, Drive-Through and 2) a Specific Use Provision for a Restaurant, Drive-Through on property zoned Planned Development (PD) 12-56 District for Community Retail.

OWNER

BOKF, NA d/b/a Bank of Texas, Trustee of the Oliver Dewey Mayor Foundation

PLAN COMMISSION RECOMMENDATION

On November 14, 2016, the Plan Commission by a vote of nine (9) to zero (0) recommended approval of 1) a Detail Plan for Restaurant, Drive-Through and 2) a Specific Use Provision for a Restaurant, Drive-Through on property zoned Planned Development (PD) 12-56 District for Community Retail for a period of 20 years.

STAFF RECOMMENDATION

Staff recommends approval of 1) a Detail Plan for Restaurant, Drive-Through and 2) a Specific Use Provision for a Restaurant, Drive-Through on property zoned Planned Development (PD) 12-56 District for Community Retail for a period of 20 years.

BACKGROUND

In 2006, City Council approved a change of zoning on the site from Planned Development (PD) District 99-09 and Planned Development (PD) District 03-50, both for Shopping Center Uses, to Planned Development (PD) District 05-63 for Shopping Center Uses. The zoning change included approval of a Concept Plan for development of two large and two small multi-tenant buildings and four stand-alone buildings/pad sites of which two were intended for Restaurant, Drive-Through allowed with Specific Use Permits, and a Detail Plan for a Financial Institution. In 2006 the Comerica Bank was built.

In 2013, City Council approved an amendment to Planned Development (PD) 05-63 District for Shopping Center Uses [Community Retail (CR) District uses under the Garland Development Code]. That action established Planned Development (PD) 12-56 District. The Planned Development (PD) 12-56 application was for Shopping Center Uses; a Concept Plan with conditions and showing accessibility and location of the lots; and a Detail Plan with conditions to

develop the Academy Sports + Outdoors retail store, four pad sites (with two particularly for Restaurant, Drive-Through use), a library site, and the plan showed the Comerica Bank site. In 2013 the Academy Sports + Outdoors retail store was built.

Also in 2013 a private agreement was established for the property contained in PD 12-56. Setback, height, and parking limitations were specified in that private agreement for the purpose of establishing a unified shopping center development. In the spirit of PD 12-56, the agreement establishes conformity to a site plan, accessible areas, drainage ways, building placement, and parking ratio. The PD 12-56 and agreement result in conformance with the Planned Development Conditions and the previous SH-190 Overlay regulations.

Consistent with the agreement, the Planned Development Concept Plan established the Restaurant, Drive-Through site on the Garland Avenue frontage south of the Comerica Bank. Prior to development, a Detail Plan and conditions shall be approved through the public hearing process. Additionally, a Restaurant, Drive-Through is permitted with a Specific Use Provision only. The applicant proposes a Detail Plan and Specific Use Provision request to achieve conformity with the agreement and the regulations of PD 12-56.

SITE DATA

The subject property contains approximately 0.84 acres and has frontage of approximately 143.79 linear feet along North Garland Avenue; the site will be accessible from North Garland Avenue and contains a future mutual access drive to the Comerica Bank, Academy Sports + Outdoors site, City property, and a future restaurant site.

USE OF PROPERTY UNDER CURRENT ZONING

The subject property is zoned Planned Development (PD) 12-56 District for Shopping Center Uses [Community Retail (CR) District uses under the Garland Development Code]. Restaurant, Drive-Through Use requires a Specific Use Provision (SUP) approval. The proposed use is consistent with the intended development of the subject site.

CONSIDERATIONS

1. **Detail Plan and Specific Use Provision:** The applicant requests a Detail Plan and Specific Use Provision to develop 0.84 acres with a 2,179 square-foot Arby's restaurant with drive-through. The restaurant is part of a larger development established in PD 12-56. The Arby's is proposed with both drive-through service as well as indoor sit-down dining.
2. **Screening and Landscape:** The proposed Landscape Plan reflects 24.8% of the site dedicated to landscaping, including a thirty (30) foot wide buffer along Garland Avenue proposed with four (4) large canopy trees [limited to no less than twenty-five (25) feet spacing between trees, and restricted by access and sign easements, only four (4) trees can be achieved in the buffer along the 143-foot property frontage], turf and ground cover, a meandering sidewalk flanked with decorative grass and lawn. Additionally, 25% of the parking area is dedicated to landscaping within islands and planters flanking drive aisles and the building. Along Garland Avenue the parking lot is screened with shrubs integrated into the landscape buffer. The site complies with PD 12-56.
3. **Exterior Elevations:** The proposed facades consist of primarily masonry materials (brick) consisting of two colors: brown and white. A red lighted accent band and canopy wraps

nearly all of the building. The canopy portion of the accent band is anchored to the ground with black painted metal posts. Mechanical elements, store fronts and doors consist of brown painted color to complement the brown brick. HVAC equipment is roof-mounted and screened by the façade parapet. The front façade of the building is offset fourteen and one-half (14.5) feet which is greater than the required two (2)-foot offset.

4. **Signage:** The applicant is proposing to install attached signage and a menu board sign. An existing monument sign, which was approved with the Academy Sports + Outdoors, is located at the south of the site along Garland Avenue. This project may add signage to that monument sign. All signs will be in conformance with PD 12-56.
5. **Parking.** The overall PD 12-56 development establishes a physical design and layout that is recognized as a unified development, functioning as a unit including parking. The approval of PD 12-56 demonstrates an acceptable parking arrangement, which the private agreement narrates as parking ratio of thirteen (13) spaces per 1,000 square feet for restaurants not serving alcohol and without full sit-down table service. The proposal provides twenty-nine (29) parking spaces in alignment with this parking ratio. The applicant requests a Specific Use Provision for a period of 20 years.
6. The applicant requests a Specific Use Provision for a period of 20 years.

COMPREHENSIVE PLAN

The Future Land Use Map of the Envision Garland Plan recommends Community Centers for the subject property. Community Centers are areas with compact development, primarily non-residential, serving a collection of neighborhoods. This type of development consists of a mix of uses including retail, services, office use, multi-family residential, and entertainment.

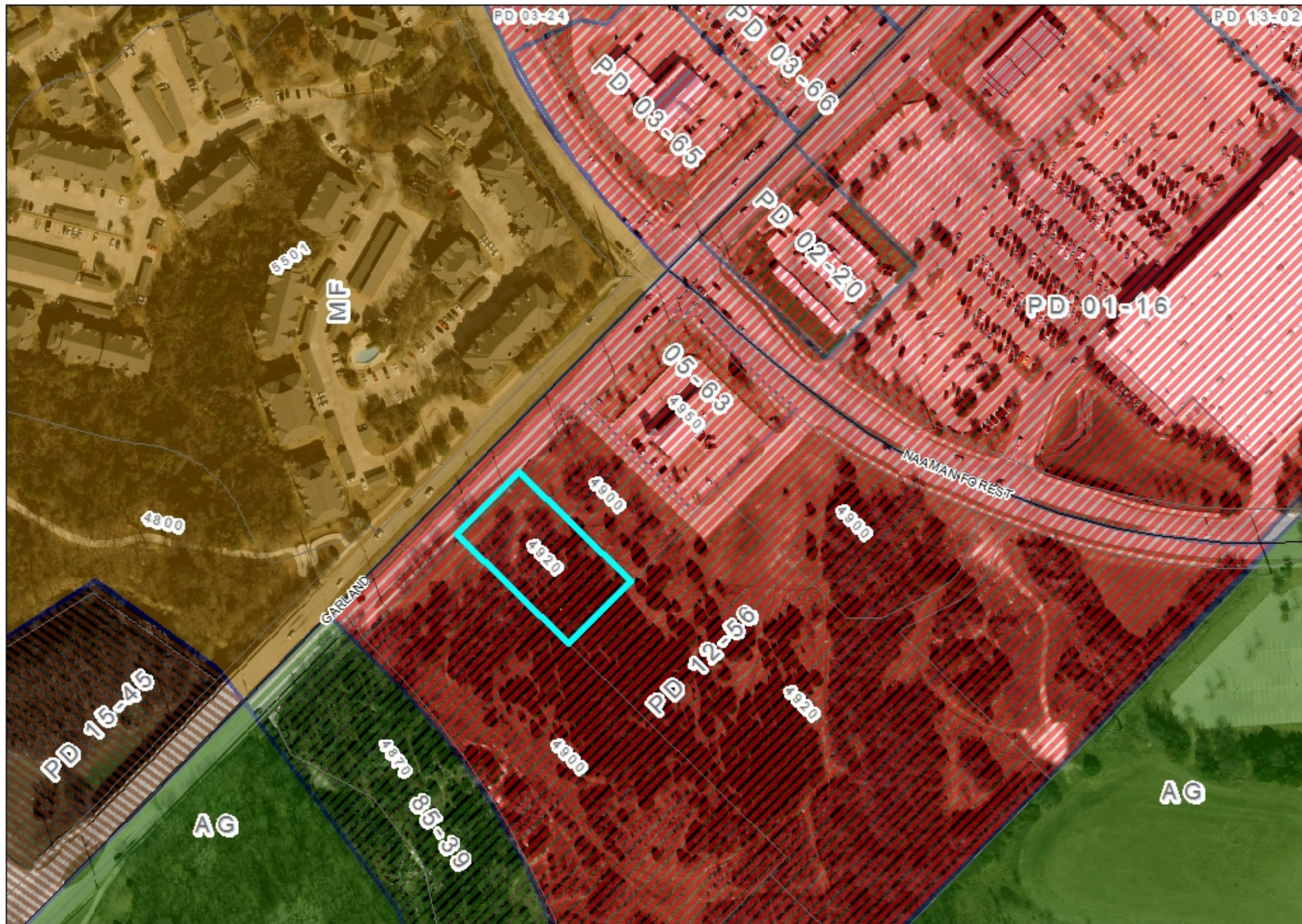
Community Centers may be developed at the intersections of major arterial streets and along major arterials, highways, and turnpike corridors. This type of area is served by numerous roads and transit routes, providing a variety of connections between neighborhoods and Community Centers for pedestrians, bicycles, motorized vehicles, and transit.

COMPATIBILITY OF REQUEST WITH SURROUNDING ZONING AND LAND USES

The area to the north, south, and east of the subject property is zoned PD 12-56 and is part of the overall shopping center development. The vision of this Planned Development is for a retail shopping center including the existing Academy Sports + Outdoors, the bank, this restaurant, a proposed restaurant to the north of this site, and two lots for other commercial development. The property located to the west of the site, across Garland Avenue, is zoned Multi-Family (MF) District and is comprised of a multi-family community.

Attachments

Z 16-32 RGM Architects Attachments
Z 16-32 RGM Architects Responses



ZONING

Z 16-32

 INDICATES AREA OF REQUEST

PLANNED DEVELOPMENT CONDITIONS

ZONING FILE Z 16-32 4920 North Garland Avenue

- I. Statement of Purpose:** The purpose of this Planned Development District is to permit the development of a Restaurant with Drive-Through on the subject property subject to conditions.
- II. Statement of Effect:** This Planned Development shall not affect any regulation found in the Garland Development Code, Ordinance No. 6773, as amended prior to adoption of this ordinance, except as specifically provided herein.
- III. General Regulations:** All regulations of the Community Retail (CR) District set forth in Chapter 2 of the Garland Development Code, Ordinance 6773, are included by reference and shall apply, except as otherwise specified by this ordinance.
- IV. Development Plans:**
 - A. Detail Plan:** Development shall be in general conformance with the Detail Plan set forth in Exhibit C. In the event of a conflict between the Detail Plan and the following conditions, the conditions shall prevail.
- V. Specific Regulations:**
 - A. Permitted Uses:** Uses permitted shall be those permitted by Planned Development (PD) District 12-56 and a Restaurant, Drive-Through.
 - B. Screening and Landscaping:** Screening and landscaping shall be provided as reflected on Exhibit D.
 - C. Building Elevations:** The building elevations shall be in general conformance with Exhibit E.
 - D. Signage:** Attached signage shall be located as shown in Exhibit E. All other signage shall be as regulated by Planned Development (PD) District 12-56.
 - E. Parking:** Parking shall be provided at a minimum ratio of thirteen (13) parking spaces per 1,000 square feet of building area.

SPECIFIC USE PROVISION CONDITIONS

ZONING FILE Z 16-32

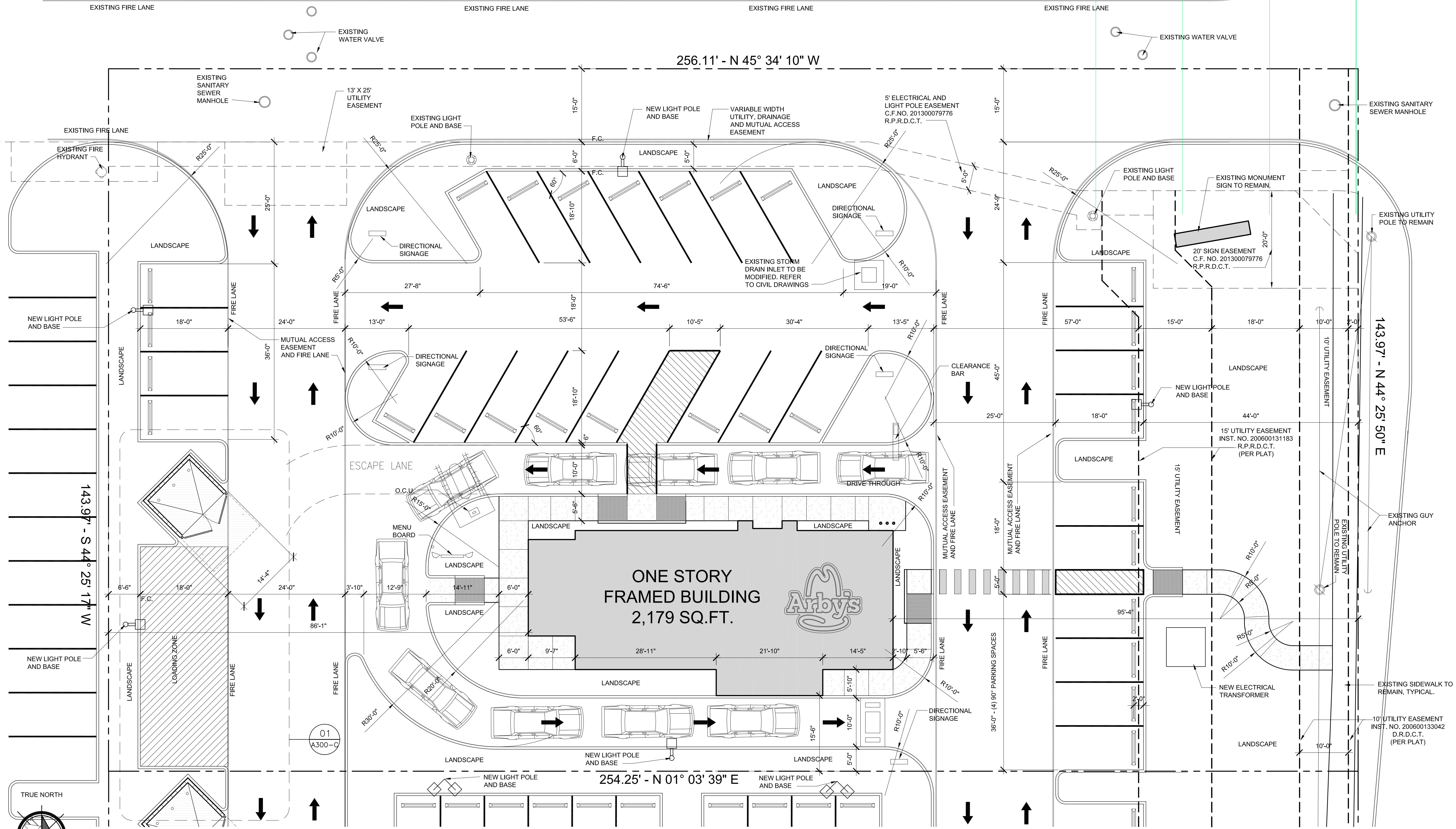
4920 North Garland Avenue

- I. Statement of Purpose:** The purpose of this Specific Use Provision is to permit the development of Restaurant, Drive-Through.
- II. Statement of Effect:** This Specific Use Provision shall not affect any regulation found in the Garland Development Code, Ordinance No. 6773, as amended prior to adoption of this ordinance, except as specifically provided herein.
- III. General Regulations:** All regulations of the Community Retail (CR) District set forth in Chapter 2 of the Garland Development Code, Ordinance 6773, are included by reference and shall apply, except as otherwise specified by this ordinance.
- IV. Specific Regulations:**
 - A. Specific Use Provision:** The Specific Use Provision shall be effective for a period of 20 years.

BEING LOTS 2 AND 3, OF MAYOR FOUNDATION ADDITION NO. 2
AND ADDITION TO THE CITY OF GARLAND, DALLAS COUNTY, TEXAS,
ACCORDING TO THE PLAT PROPERTY RECORDS, DALLAS COUNTY, TEXAS

Arby's		
Proposed land use is for a Community Retail (CR) district with a restaurant with drive-through.		
Current Zoning - PD 12-56 Shopping Center Uses, Community Retail (CR) District, formally Shopping Center (SC) District		
Proposed estimated time of completion is February 1, 2017		
Arby's Square Footage	2,179 sq. ft.	
Seating Capacity	60 seating	
Requirement of Community Retail (CR)		
Minimum lot area	Required	Provided
Minimum lot width	none	36,871 sq. ft.
Minimum lot depth	none	144 ft.
Front yard	30 feet	92'-0"
Side yard	20 feet	64'-0"
Rear yard	30 feet	89'-3"
Not adjacent to street		
Front yard	30 feet	n/a
Side yard	none except 20' when adjacent to residential district	n/a
Rear yard	n/a	n/a
Maximum building height	35 feet	19'-10"
Maximum FAR	none	0.06%
Maximum lot coverage	40%	5.90%

Floor Area Ratio	
Finish floor elevation	538.7 ft.
Total impervious cover in square feet	27,206 sq.ft.
Percentage of site covered by impervious cover	73.8 %
Gross floor area of building:	2,179 sq.ft.
Total area of lot:	36,871 sq.ft.
Parking Analysis	
Per the Reciprocal Access, Restrictive Covenants and Easements Agreement, dated March 14, 2013, Page 10, Paragraph 5.3: ...thirteen (13) spaces per one thousand (1,000) square feet of leasable square footage for tenants or Owners using such square footage for a restaurant not serving alcohol and without full sit-down table service...	
Arby's Building	2,179 sq. ft.
	13 spaces per 1,000 sq. ft. (per Covenants)
Parking required per PD 12-56:	29 spaces
Parking provided:	29 spaces (13 spaces per 1,000 sq. ft.)

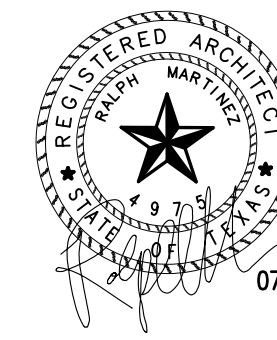


OVERALL SITE PLAN

SCALE: 1" = 10'-0"



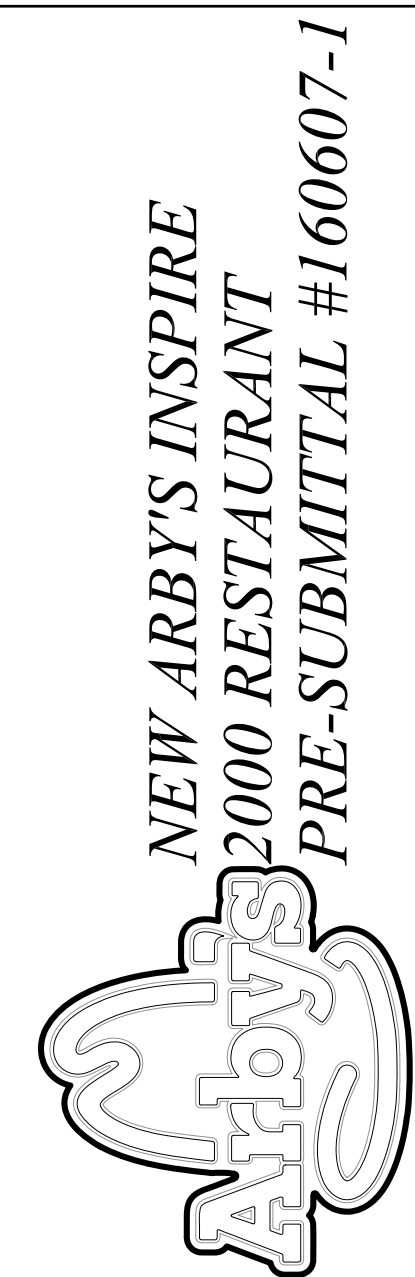
RGM ARCHITECTS
2001 N. LAMAR STREET, SUITE 280
DALLAS, TEXAS 75202
VOICE - 214.563.6690
WWW.RGMARCHITECTS.COM



Owner information:
BOKF, NA, d/b/a Bank of Texas,
Trustee of the Oliver Dewey Mayor Foundation

Contact Person: Alyson Goodhartz
Alyson@TheArcherCompany.com
Voice - 214-532-8488

Address:
801 Cherry Street, Suite 3325
Fort Worth, Texas 76102



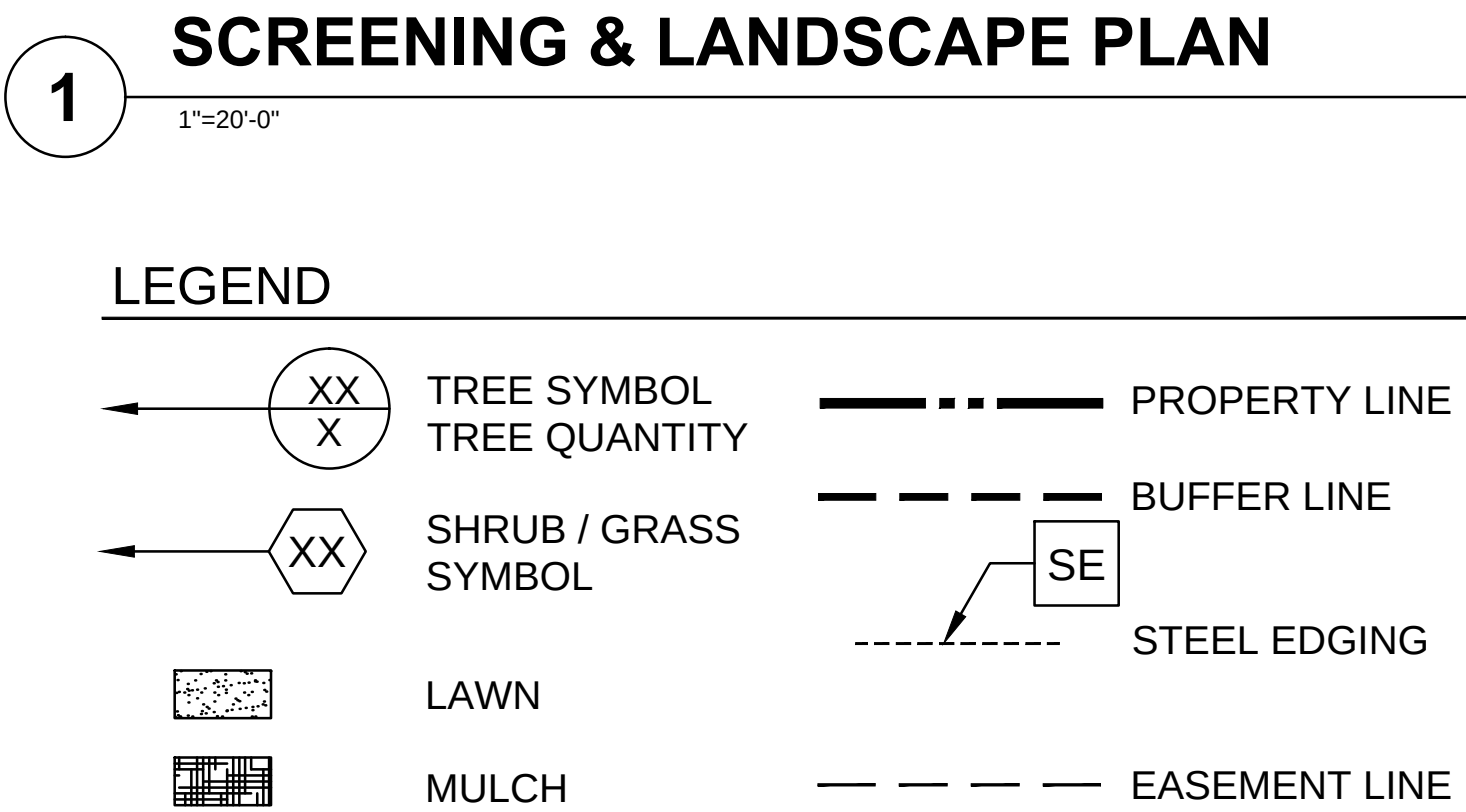
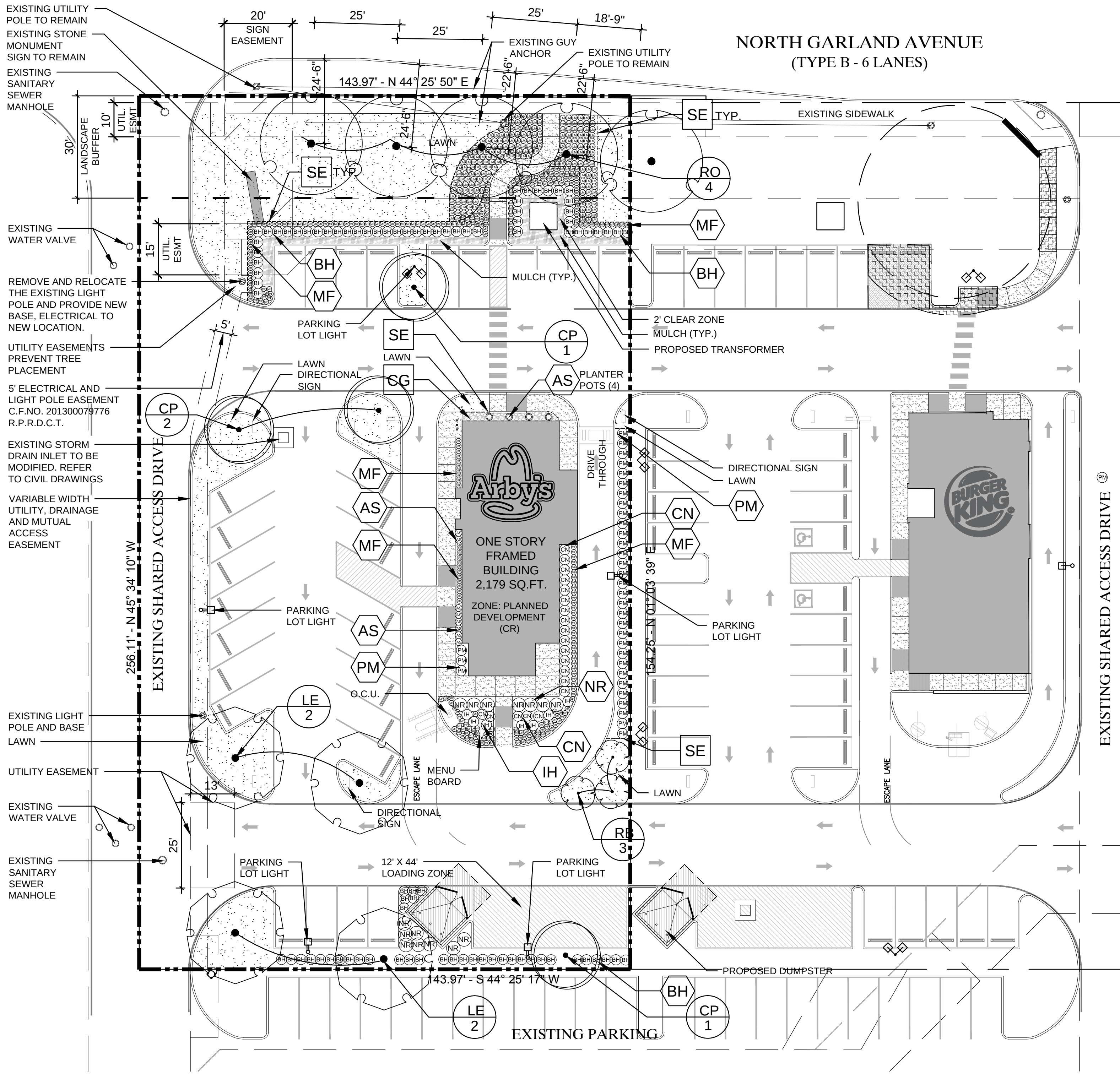
RGM ARCHITECT PROJECT #
16019.00

DATE ISSUED
JULY 20, 2016

REVISIONS		
No.	DATE	DESCRIPTION
1	9-15-16	REV. CITY COMMENTS
2	9-30-16	REV. CITY COMMENTS
3	10-7-16	REV. CITY COMMENTS
4	11-4-16	REV. CITY COMMENTS

SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER
A100



190 OVERLAY LANDSCAPE TABULATION

TREE SURVEY: NO EXISTING TREE ON SITE			
TREE PROTECTION: NO EXISTING TREE ON SITE			
TOTAL LANDSCAPE AREA	TOTAL SITE AREA	REQUIRED LANDSCAPE AREA	PROPOSED LANDSCAPE AREA
MINIMUM 10% OF TOTAL SITE AREA	SQ FT	SQ FT	SQ FT
	36,887	3,689	9150

LANDSCAPE BUFFER REQUIREMENT			
TREES & SHRUBS	LANDSCAPE BUFFER LINEAR FEET	REQUIRED PLANTS QUANTITY	PROPOSED PLANTS QUANTITY
NORTH GARLAND AVENUE	LARGE CANOPY TREE: 1 PER 30' O.C.	119	4
GROUND COVER	PROPOSED LANDSCAPE BUFFER SQ FT	REQUIRED PLANTING AREA SQ FT	PROPOSED PLANTING AREA SQ FT
NORTH GARLAND AVENUE	TURF (GRASS): MAX. 75% OTHER GROUND COVER: MIN. 25%	3,002 3,002	2,252 751

PARKING AREAS LANDSCAPING			
LANDSCAPE ARA	PARKING LOT AREA	REQUIRED LANDSCAPE AREA	PROPOSED LANDSCAPE AREA
A MIN. OF 5% OF PARKING LOT AREA	SQ FT	SQ FT	SQ FT
	22,546	1,127	5656

LANDSCAPED ISLAND				
MUST BE A MINIMUM OF 6' BY 8', OR 108 SQ FT, PLACED AT THE TERMINUS OF EACH PARKING ROW AND CONTAIN (1) LARGE CANOPY TREE; (1) LARGE CANOPY TREE IS REQUIRED FOR EVERY (10) PARKING SPACES				
PROPOSED PARKING SPACES	REQUIRED LANDSCAPE ISLAND QUANTITY	PROPOSED LANDSCAPE ISLAND QUANTITY	REQUIRED CANOPY TREES QUANTITY	PROPOSED CANOPY TREES QUANTITY *
29	7	7	7	6

* UTILITY EASEMENTS PREVENT 1 END ISLAND TREE

SCREENING REQUIREMENT				
PARKING LOTS SCREENING FROM PUBLIC STREET				
A CONTINUOUS OR UNDULATING ROW OF SHRUBS OF ORNAMENTAL GRASSES THAT ARE A MINIMUM OF 24 INCHES HEIGHT SHRUBS MUST BE EVERGREEN AND A MINIMUM OF 2 FEET TALL AT TIME OF PLANTING, MATURE SIZE 3-4 FEET				
	LANDSCAPE BUFFER LINEAR FEET	REQUIRED SCREEN LINEAR FEET	REQUIRED SHRUBS QUANTITY	PROPOSED SHRUBS QUANTITY
NORTH GARLAND AVENUE	91	68	23	24

SCREENING OF LIGHT VEHICLE LOADING AREAS				
LIGHT VEHICLE LOADING AREA IS LOCATED ON THE BACK OF THE BUILDING NO SCREENING IS REQUIRED. TREES AND SHRUBS ARE PROVIDED				

TOTAL SITE TREE QUANTITY		
TREE SIZE	REQUIRED TREE QUANTITY	PROPOSED TREE QUANTITY
4 INCH CALIPER	4	4
3 INCH CALIPER	11	11
TOTAL	15	15

PLANT LIST

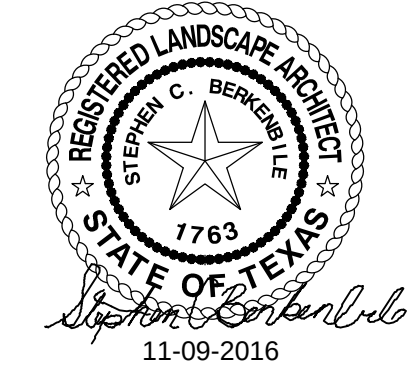
SYM	COMMON NAME	BOTANICAL NAME	QTY	SIZE	HEIGHT	SPREAD	ROOT BALL	REMARKS
*							**	
CANOPY TREES								
CP	CHINESE PISTACHE	PISTACIA CHINENSIS	4	3" CAL	10'-12'	8'-10'	B & B	SINGLE TRUNK, FULL AND MATCHED
RO	SHUMARD RED OAK	QUERCUS SHUMARDII	4	4" CAL	10'-12'	8'-10'	B & B	SINGLE TRUNK, FULL AND MATCHED
LE	LACEBARK ELM	ULMUS SHUMARDII	4	3" CAL	10'-12'	8'-10'	B & B	SINGLE TRUNK, FULL AND MATCHED
SMALL ORNAMENTAL TREES								
RB	TEXAS REDBUD	CERCIS CANADENSIS VAR 'TEXENSIS'	3	1-1/2" CAL	8'-10'	6'-8"	B & B	SINGLE TRUNK, FULL & MATCHED
SHRUBS								
BH	DWARF BURFORD HOLLY	ILEX CORNUTA 'DWARF BURFORD'	86	N/A	24"	24"	5 GAL	FULL & MATCHED, 24" O.C. SINGLE ROW
MF	COMPACT NANDINA	NANDINA DOMESTICA 'COMPACTA'	24	N/A	18"	18"	5 GAL	FULL & MATCHED, 36" O.C. TRIA. SPACED
IH	INDIAN HAWTHORN	RAPIHOLEPIS INDICA 'CLARA'	7	N/A	18"	18"	5 GAL	FULL & MATCHED, 36" O.C. TRIA. SPACED
NR	NELLIE R STEVENS HOLLY	ILEX X 'NELLIE STEVENS'	15	N/A	36"	24"-30"	10 GAL	FULL & MATCHED, 60" O.C. SINGLE ROW
GROUND COVER								
LM	LIRIOPE MISCARIA 'SUPER BLUE'	SUPER BLUE' LIRIOPE	226	N/A	8"	8"	4" POT	FULL & MATCHED, 15" O.C. TRIA. SPACED
PERENNIALS & ORNAMENTAL GRASSES								
AS	AUTUMN SAGE	SALVIA GREGGII	12	N/A	24"	24"	5 GAL	FULL & MATCHED, 36" O.C. TRIA. SPACED
MF	MEXICAN FEATHERGRASS	NASSELLA TENUISSIMA	281	N/A	12"	12"	1 GAL	FULL & MATCHED, 18" O.C. TRIA. SPACED
PM	PINK MIST MUHLY GRASS	MUHLBERGIA CAPILLARIS 'REGAL MIST'	35	N/A	24"	24"	3 GAL	FULL & MATCHED, 36" O.C. SINGLE ROW
LAWN								
LAWN	BERMUDA GRASS	CYNODON SPP.						SOLID SOD
MISCELLANEOUS								
MULCH	SHREDDED HARDWOOD MULCH							3 INCH DEPTH PLACE OVER FILTER FABRIC
SE	STEEL EDGING							3/16" THICK X 6" ONLY 1/2" EXPOSED
CG	CRUSHED GRANITE 3" (WASHED)							ABOVE SOIL LINE

* CAL. MEANS "CALIPER" WHICH IS A STANDARD FOR THE TRUNK MEASUREMENT. IT IS THE DIAMETER OF THE TRUNK MEASURED TWELVE (12) INCHES ABOVE GROUND LEVEL FOR NEW OR REPLACEMENT TREES. IF A TREE IS MULTI-TRUNK VARIETY, THE CALIPER OF THE TREE IS THE SUM OF THE LARGES TRUNK PLUS ONE-HALF THE TOTAL OF OTHER TRUNKS. MEASURED AT TWELVE (12) INCHES ABOVE THE ROOT BALL.

** FOR SHRUBS MINIMUM CONTAINER SIZE IS USED UNDER ROOT BALL, HOWEVER PLANTS PLANTED SHALL MEET THE MINIMUM HEIGHT AS CALLED OUT IN THE PLANT LIST, WHICH COULD RESULT IN REQUIRING A LARGER CONTAINER SIZE TO MEET THE HEIGHT REQUIREMENT. THIS MAY REQUIRED A CONTAINER SIZE LARGER THAN THE ONES USED UNDER ROOT BALL.



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Voice - 214-532-8488
Address:
801 Cherry Street, Suite 3325
Fort Worth, Texas 76102

NEW ARBY'S INSPIRE
2000 RESTAURANT
PRE-SUBMITTAL #160607-1

RGM ARCHITECT PROJECT #
16019.00

DATE ISSUED
NOVEMBER 09, 2016

REVISIONS		
No.	DATE	DESCRIPTION
1	9-15-16	REV. CITY COMMENTS
2	9-30-16	REV. CITY COMMENTS
3	10-7-16	REV. CITY COMMENTS
4	11-4-16	REV. CITY COMMENTS

SHEET TITLE
LANDSCAPE PLAN

SHEET NUMBER
L-1



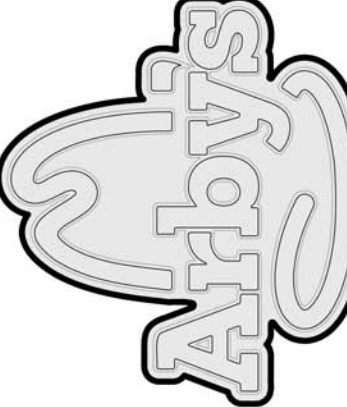
Owner information

BOKF, NA, d/b/a Bank of Texas,
Trustee of the Oliver Dewey Mayor Foundation

Contact Person: Alyson Goodhart
Alyson@TheArcherCompany.com
Voice - 214-532-8488

Address:
801 Cherry Street, Suite 3325
Fort Worth, Texas 76102

NEW ARBY'S INSPIRE
2000 RESTAURANT
PRE-SUBMITTAL #160607-1



4920 NORTH GARLAND AVENUE ■ GARLAND, TEXAS 75040

RGM ARCHITECT PROJECT

16019.00

DATE ISSUED _____

JULY 20, 2010

REVISIONS

No.	DATE	DESCRIPTION
1	9-15-'16	REV. CITY COMMENT
2	9-30-'16	REV. CITY COMMENT
3	10-7-'16	REV. CITY COMMENT
4	11-4-'16	REV. CITY COMMENT

SHEET TITLE

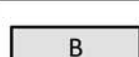
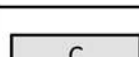
**EXTERIOR
ELEVATIONS**

SHEET NUMBER

A300-A

Materials Break Down Table			
DETAIL 02: WEST ELEVATION (FRONT)			
Material	Provided		Required*
	Square Feet	Percentage	Percentage
Masonry			
Masonry Brick	480	87%	50% Minimum
Non-Masonry			
Alucobond - Canopy	72	13%	No more than 20%
Totals	552	100%	
*Per Development Standards for SH-190, I-30, & IH-635 Overlay			
DETAIL 01: SOUTH ELEVATION (SIDE)			
Material	Provided		Required*
	Square Feet	Percentage	Percentage
Masonry			
Masonry Brick	1047	87%	50% Minimum
Non-Masonry			
Alucobond - Canopy	151	13%	No more than 20%
Totals	1198	100%	
*Per Development Standards for SH-190, I-30, & IH-635 Overlay			

FINISH SCHEDULE

MARK	MANUFACTURER	DESCRIPTION	NOTES
FINISHES			
	BELDEN BRICK	ALASKA WHITE THIN BRICK VENEER	TEXTURE: VELOUR GROUT: LATICRETE 90 LIGHT PEWTER
	BELDEN BRICK	8601 DARK	TEXTURE: SMOOTH GROUT: LATICRETE 43 CHOC. TRUFFLE
	SHERWIN WILLIAMS	SW #6869 STOP	SATIN FINISH
	SHERWIN WILLIAMS	SW #2808 ROOKWOOD DARK BROWN	SATIN FINISH
	SHERWIN WILLIAMS	SW #7005 PURE WHITE	SATIN FINISH
METALS			
	EXCEPTIONAL METALS/ DURO-LAST	TWO-PIECE SNAP-ON METAL COPING REGAL WHITE/ DURO-LAST #SR.70/TE.87	FOR USE WITH DURO-LAST ROOFING SYSTEM DETAIL FA3110
	EXCEPTIONAL METALS/ DURO-LAST	TWO-PIECE SNAP-ON METAL COPING DARK BRONZE/ DURO-LAST #SR.26/TE.87	FOR USE WITH DURO-LAST ROOFING SYSTEM DETAIL FA3110
	PRE-FABRICATED CANOPY/BAND	PRODUCT CODE: 9940-30198R PRODUCT NAME: ALUCOBOND FC SD RAL 3000 FLAME RED	ALL CANOPIES TO BE ALUCOBOND (ACM) ALUMINUM COMPOSITE MATERIAL
	PRE-FABRICATED POST	PRODUCT CODE: 9840-80957R PRODUCT NAME: FC SD RAL 8017 CHOC. BROWN	---

1. PAINT ALL EXPOSED METERS, SERVICE ENTRANCES, GAS PIPE, ROOF ACCESS LADDER, ETC. TO MATCH ADJACENT EXTERIOR WALL SURFACE.
2. PROVIDE TEMPORARY MASKING OF EXPOSED ALUCOBOND (ACM) DURING ACID WASHING OF MASONRY.
3. PROVIDE SOLID MASONRY UNITS AT THE ENDS OF JAMBS , SILLS, ETC.
4. TO HELP PREVENT EFFLORESCENCE ALL MASONRY UNITS ARE TO BE MANUFACTURED WITH INTEGRAL WATER REPELLANT. WATER REPELLANT ADMIXTURE IS TO BE MIXED IN AND PRE-WASHED SAND IS TO BE USED IN ALL MORTAR MIXES.
5. MAKE SURE THAT WALL WEEPS AND FLASHING ARE INSTALLED CORRECTLY. DO NOT BLOCK WEEPS.
6. REFER TO SHEET A8.2 FOR TEMPERED GLASS LOCATIONS.
7. ALUMINUM STOREFRONT TO BE DARK BRONZE.
8. ALL GLAZING TO BE 1" INSULATED GLAZING.
9. SIGNAGE IS SHOWN FOR REFERENCE ONLY. FINAL SIZE, LOCATION AND QUANTITY TO BE DETERMINED BY SIGNAGE VENDOR. SIGNAGE VENDOR SHALL PERMIT ALL SIGNS UNDER SEPARATE COVER.
10. REFER TO ELECTRICAL DRAWINGS FOR EXTERIOR LIGHTING SPECIFICATIONS.
11. PAINT ALL EXPOSED BRICK LINTELS TO MATCH STOREFRONT.

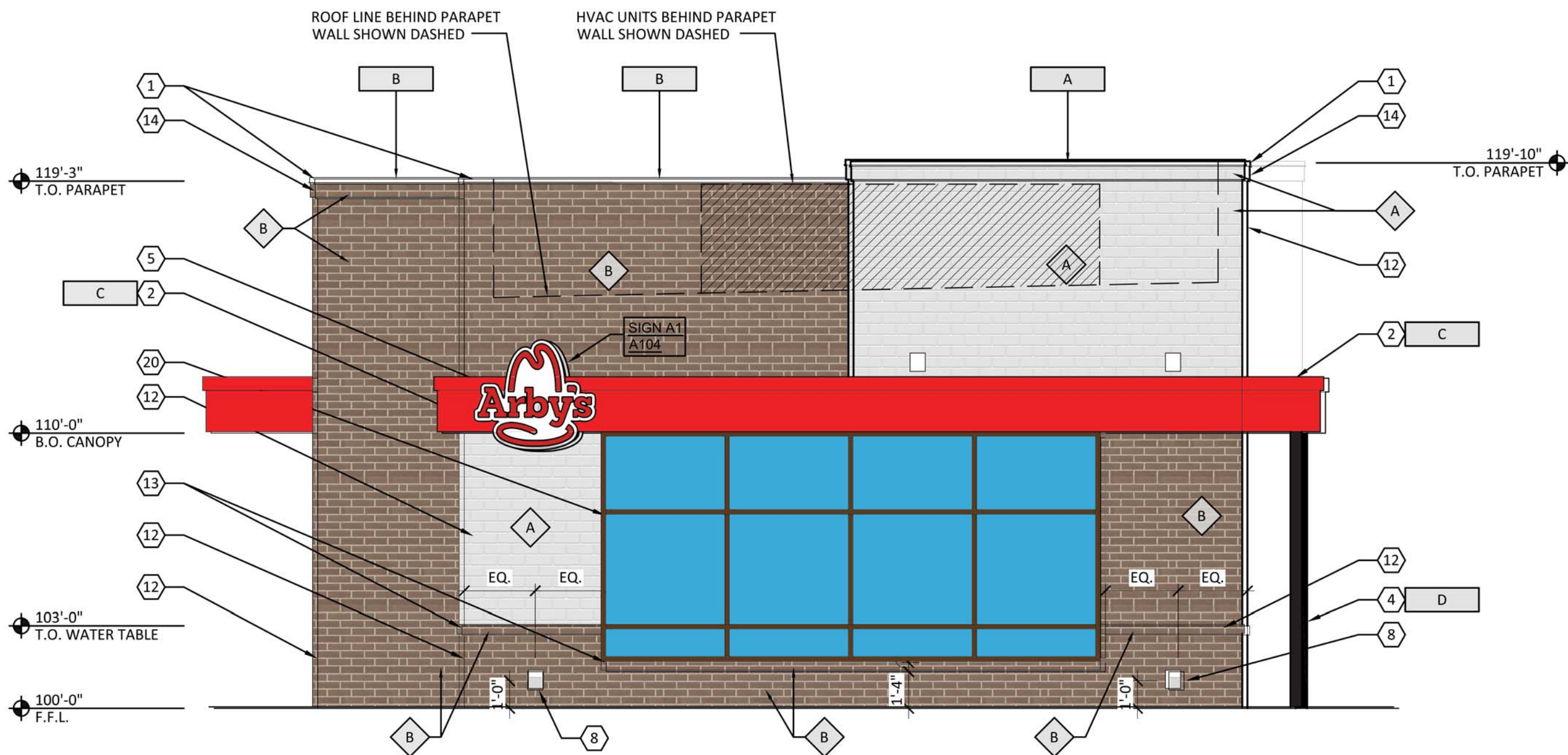
CODED NOTES

(ALL CODED NOTES MAY NOT BE USED)

1. PRE-FINISHED METAL COPING.
2. PRE-FABRICATED ALUCOBOND (ACM) CANOPY/ACCENT BAND.
3. CENTER DRIVE THRU CANOPY ON DRIVE THRU WINDOW.
4. PRE-FABRICATED METAL POST FOR CANOPY.
5. ARBY'S SIGNAGE, MOUNT ON CANOPY/ACCENT BAND. REFER TO SIGNAGE VENDOR DRAWINGS.
6. PAINT DOOR AND FRAME.
7. DRIVE THRU WINDOW. PROVIDE STAINLESS STEEL SILL.
8. WALL MOUNTED LIGHT FIXTURE.
9. PAINT BOLLARD.
10. PAINT GUARD RAIL.
11. PAINT ROOF LADDER
12. BRICK VENEER.
13. BRICK ROWLOCK SILL.
14. BRICK CORNICE, SOLDIER COURSE.
15. ELECTRICAL EQUIPMENT.
16. GAS METER.
17. GREASE OUTLET.
18. CO2 HOOKUP.
19. COOLER/FREEZER.
20. ALUMINUM STOREFRONT.

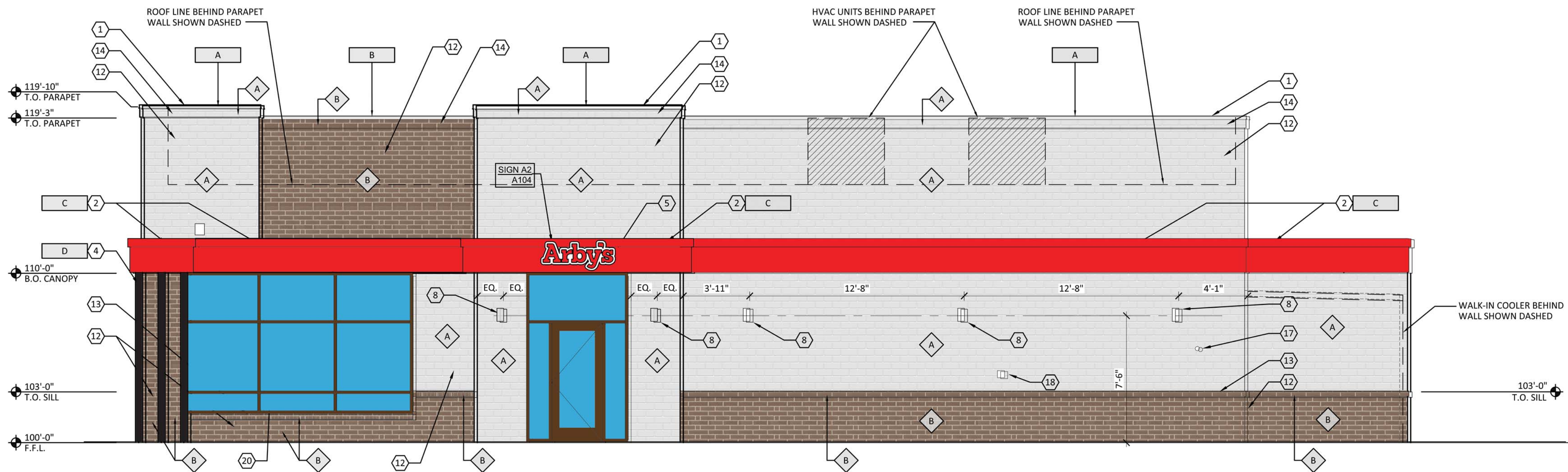
WEST ELEVATION (FRONT)

SCALE: 1/4" = 1'-0"

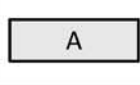
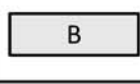
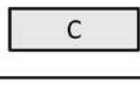
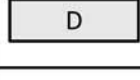


SOUTH ELEVATION (SIDE)

SCALE: 1/4" = 1'-0"



Materials Break Down Table			
DETAIL 02: EAST ELEVATION (REAR)			
Material	Provided		Required*
	Square Feet	Percentage	Percentage
Masonry			
Masonry Brick	597	89%	50% Minimum
Non-Masonry			
Alucobond - Canopy	71	11%	No more than 20%
Totals	668	100%	
*Per Development Standards for SH-190, I-30, & IH-635 Overlay			
DETAIL 01: NORTH ELEVATION (SIDE)			
Material	Provided		Required*
	Square Feet	Percentage	Percentage
Masonry			
Masonry Brick	1130	90%	50% Minimum
Non-Masonry			
Alucobond - Canopy	119	10%	No more than 20%
Totals	1249	100%	
*Per Development Standards for SH-190, I-30, & IH-635 Overlay			

FINISH SCHEDULE			
MARK	MANUFACTURER	DESCRIPTION	NOTES
FINISHES			
	BELDEN BRICK	ALASKA WHITE THIN BRICK VENEER	TEXTURE: VELOUR GROUT: LATICRETE 90 LIGHT PEWTER
	BELDEN BRICK	8601 DARK	TEXTURE: SMOOTH GROUT: LATICRETE 43 CHOC. TRUFFLE
	SHERWIN WILLIAMS	SW #5869 STOP	SATIN FINISH
	SHERWIN WILLIAMS	SW #2808 ROOKWOOD DARK BROWN	SATIN FINISH
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- PAINT ALL EXPOSED METERS, SERVICE ENTRANCES, GAS PIPE, ROOF ACCESS LADDER, ETC. TO MATCH ADJACENT EXTERIOR WALL SURFACE. - PROVIDE TEMPORARY MASKING OF EXPOSED ALUCOBOND (ACM) DURING ACID WASHING OF MASONRY. - PROVIDE SOLID MASONRY UNITS AT THE ENDS OF JAMBS, SILLS, ETC. - TO HELP PREVENT EFFLORESCENCE ALL MASONRY UNITS ARE TO BE MANUFACTURED WITH INTEGRAL WATER REPELLANT. WATER REPELLANT ADMIXTURE IS TO BE MIXED IN AND PRE-WASHED SAND IS TO BE USED IN ALL MORTAR MIXES. - MAKE SURE THAT WALL WEEPS AND FLASHING ARE INSTALLED CORRECTLY. DO NOT BLOCK WEEPS. - REFER TO SHEET A&2 FOR TEMPERED GLASS LOCATIONS. - ALUMINUM STOREFRONT TO BE DARK BRONZE. - ALL GLAZING TO BE 1" INSULATED GLAZING. - SIGNAGE IS SHOWN FOR REFERENCE ONLY. FINAL SIZE, LOCATION AND QUANTITY TO BE DETERMINED BY SIGNAGE VENDOR. SIGNAGE VENDER SHALL PERMIT ALL SIGNS UNDER SEPARATE COVER. - REFER TO ELECTRICAL DRAWINGS FOR EXTERIOR LIGHTING SPECIFICATIONS. - PAINT ALL EXPOSED BRICK LINTELS TO MATCH STOREFRONT.			

CODED NOTES		(X)	(ALL CODED NOTES MAY NOT BE USED)
1.	PRE-FINISHED METAL COPING.		
2.	PRE-FABRICATED ALUCOBOND (ACM) CANOPY/ACCENT BAND.		
3.	CENTER DRIVE THRU CANOPY ON DRIVE THRU WINDOW.		
4.	PRE-FABRICATED METAL POST FOR CANOPY.		
5.	ARBY'S SIGNAGE, MOUNT ON CANOPY/ACCENT BAND. REFER TO SIGNAGE VENDOR DRAWINGS.		
6.	PAINT DOOR AND FRAME.		
7.	DRIVE THRU WINDOW. PROVIDE STAINLESS STEEL SILL.		
8.	WALL MOUNTED LIGHT FIXTURE.		
9.	PAINT BOLLARD.		
10.	PAINT GUARD RAIL.		
11.	PAINT ROOF LADDER		
12.	BRICK VENEER.		
13.	BRICK ROWLOCK SILL.		
14.	BRICK CORNICE, SOLDIER COURSE.		
15.	ELECTRICAL EQUIPMENT.		
16.	GAS METER.		
17.	GREASE OUTLET.		
18.	Co2 HOOKUP.		
19.	COOLER/FREEZER.		
20.	ALUMINUM STOREFRONT.		

		
RGM ARCHITECTS 2001 N. LAMAR STREET, SUITE 280 DALLAS, TEXAS 75202 VOICE - 214.563.6690 WWW.RGMARCHITECTS.COM		

		
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Owner information:		
BOKF, NA, d/b/a Bank of Texas, Trustee of the Oliver Dewey Mayor Foundation		
Contact Person: Alyson Goodhartz Alyson@TheArcherCompany.com Voice - 214-532-8488		
Address: 801 Cherry Street, Suite 3325 Fort Worth, Texas 76102		

 NEW ARBY'S INSPIRE 2000 RESTAURANT PRE-SUBMITTAL #160607-1	4920 NORTH GARLAND AVENUE ■ GARLAND, TEXAS 75040
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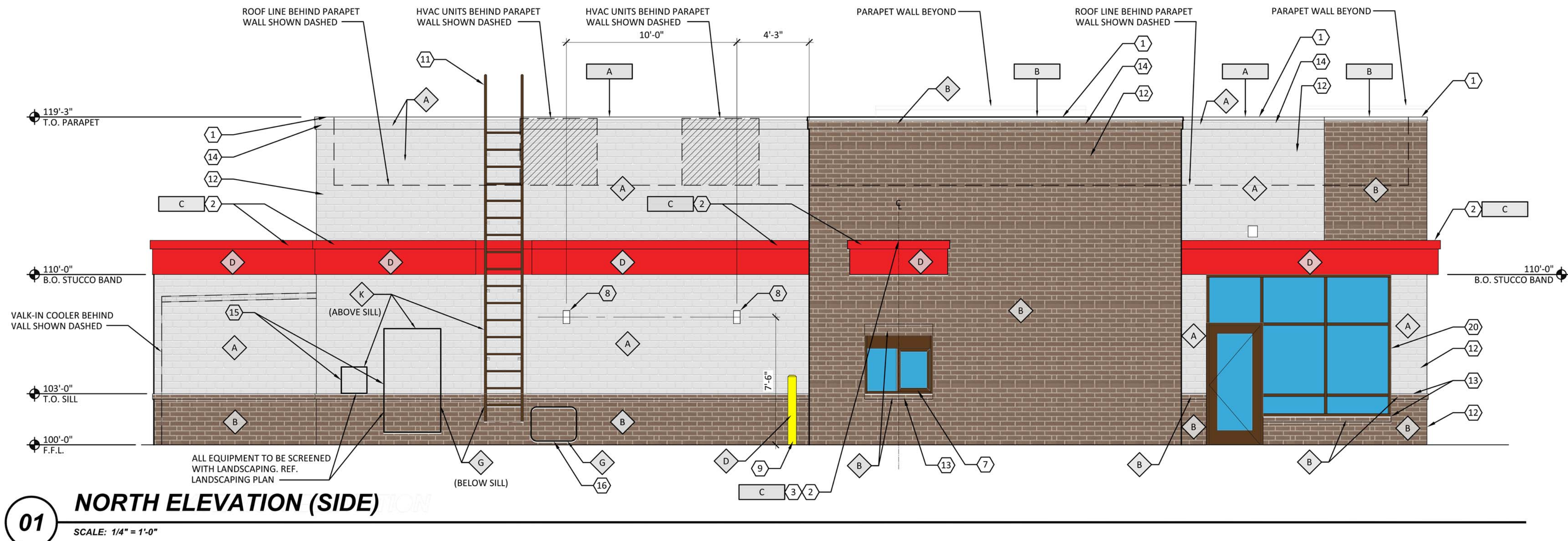
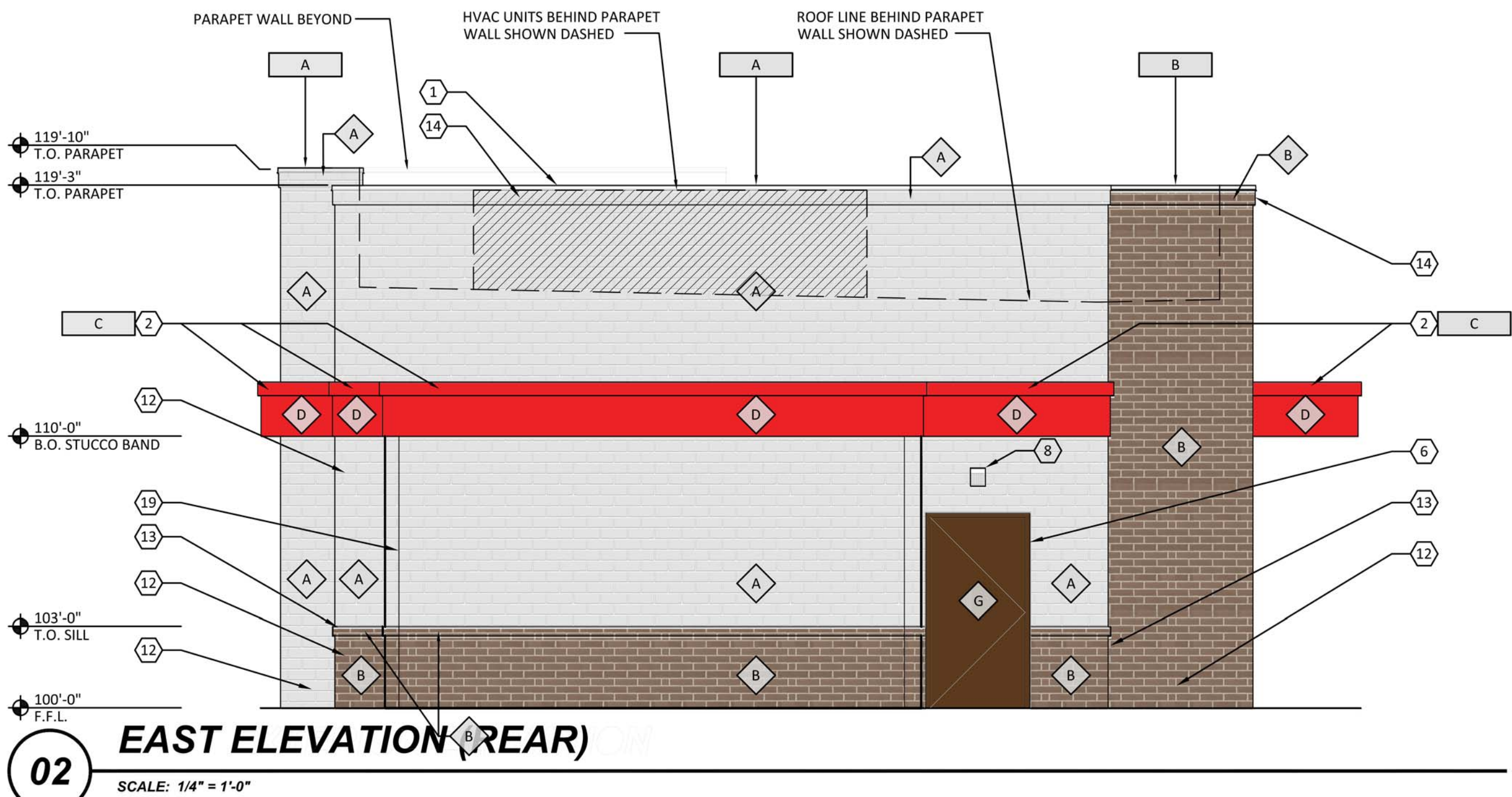
RGM ARCHITECT PROJECT #
16019.00

DATE ISSUED
JULY 20, 2016

REVISIONS		
No.	DATE	DESCRIPTION
1	9-15-'16	REV. CITY COMMENTS
2	9-30-'16	REV. CITY COMMENTS
3	10-7-'16	REV. CITY COMMENTS
4	11-4-'16	REV. CITY COMMENTS

SHEET TITLE <i>EXTERIOR ELEVATIONS</i>
--

SHEET NUMBER <i>A300-B</i>
--



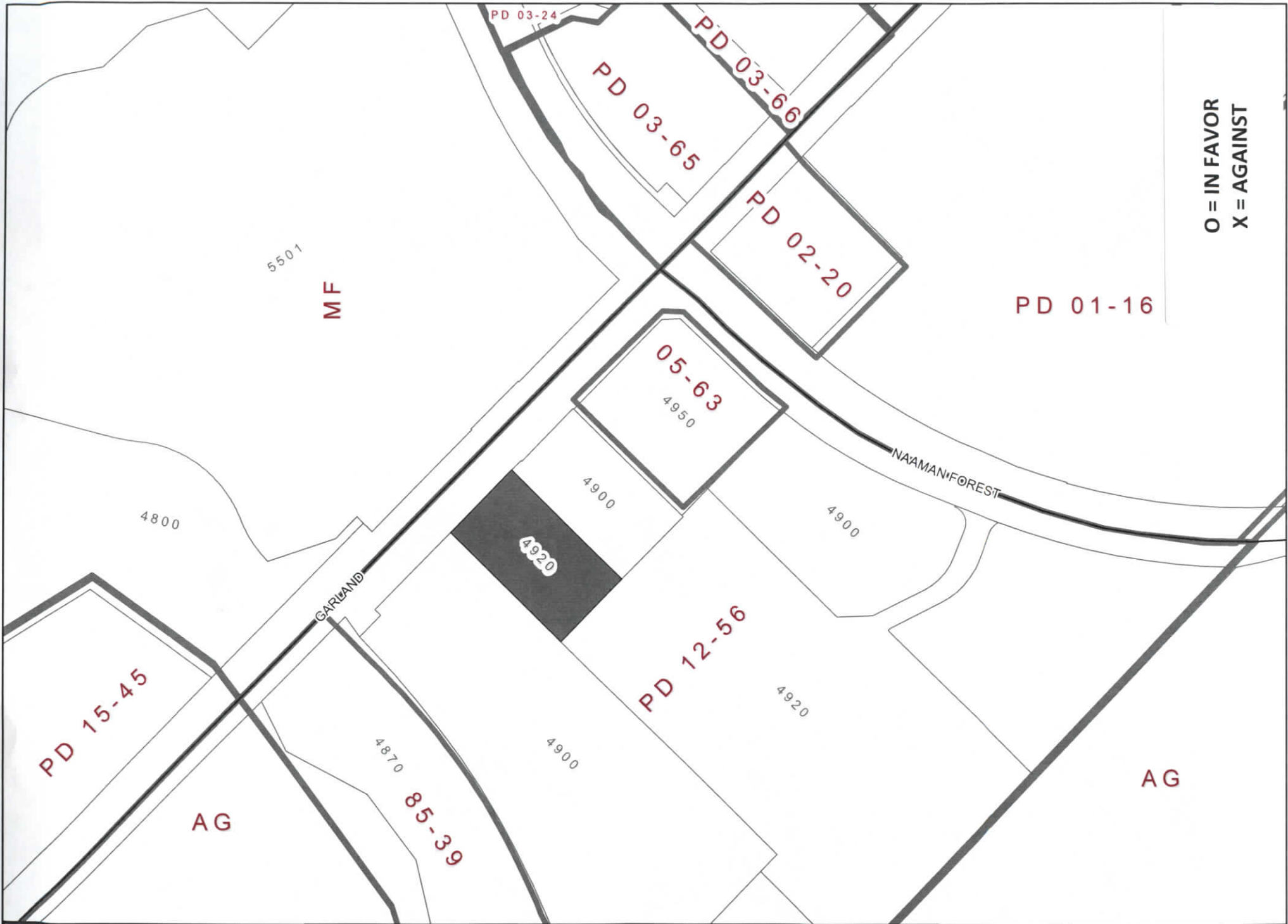
REPORT & MINUTES

P.C. Meeting, November 14, 2016

Consideration of the application of RGM Architects requesting approval of 1) a Detail Plan for Restaurant, Drive-Through and 2) a Specific Use Provision for a Restaurant, Drive-Through on property zoned Planned Development (PD) 12-56 District for Community Retail. The property is located at 4920 N Garland Avenue. (District 1) (File Z 16-32) (This item was postponed from the October 24, 2016 Plan Commission meeting.)

The applicant was available for questions. There were no questions of this applicant.

Motion was made by Commissioner Luckie, seconded by Commissioner Moore to close the Public Hearing and **approve** the request per staff recommendation. **Motion carried: 9 Ayes, 0 Nays.**



O = IN FAVOR
X = AGAINST

0 100 200 Feet
1 inch = 200 feet

ZONING Z 16-32

INDICATES AREA OF REQUEST

We did not receive any responses for this case.



GARLAND PLANNING REPORT

City Council Regular Session Agenda

Agenda Item 3. d.

Meeting Date: December 6, 2016

Item Title: Z 16-37 Clinton Coultias (District 4)

Submitted By: Josue De La Vega, Development Planner

REQUEST

Approval of a Specific Use Provision for Restaurant, Drive-Through on a property zoned Community Retail (CR) District.

OWNER

Vaquero Broadway Partners LP.

PLAN COMMISSION RECOMMENDATION

On November 14, 2016 the Plan Commission, by a vote of nine (9) to zero (0), recommended approval of a Specific Use Provision for Restaurant, Drive-Through for a period of 20 years.

Additionally, the Plan Commission approved a Variance to Section 4.34(B)(3)(d) of the Garland Development Code regarding landscape buffer plant materials to allow the large canopy trees required within the landscape buffer to be substituted with small ornamental trees at a rate of 1 large canopy tree equals 3 small ornamental trees. The request stems from the fact that the required 15-foot wide landscape buffer will overlap an existing 15-foot wide utility easement and the root system of large canopy trees could potentially conflict with the installation, service or repair of underground utilities.

STAFF RECOMMENDATION

Approval of a Specific Use Provision for Restaurant, Drive-Through for a period of 20 years.

BACKGROUND

The subject property is currently part of a parking lot serving the shopping center at the south corner of Broadway Boulevard and East Centerville Road; the applicant is proposing to create a 0.827-acre pad site from such parking lot and build a Burger King restaurant.

SITE DATA

The subject property contains approximately 0.827 acres in area, with approximately 175 lineal feet of frontage along Broadway Boulevard. The main point of access to the site is along Broadway Boulevard but the site can also be accessed from East Centerville Road and Kingsley Road via the shopping center.

USE OF PROPERTY UNDER CURRENT ZONING

The Community Retail (CR) District is intended to accommodate a variety of retail, service, and business establishments that may or may not be designed in a shopping center configuration. The district may be used as a transition district between lower intensity retail or office uses and more intense uses. A CR District is generally appropriate along major transportation corridors but is generally not appropriate in proximity to low density residential districts without significant buffering and screening features. An example of allowed use in a CR District is a retail shopping area that may be large in scale with very limited or no outside storage. Traffic generated by uses in a CR District must be focused onto the major thoroughfare network. Development in a CR District may not be designed in a manner that increases traffic through residential areas.

CONSIDERATIONS

1. The applicant is proposing to create a 0.827-acre pad site from the parking lot serving the shopping center located on the south corner of Broadway Boulevard and East Centerville Road and build a 2,626 square-foot Burger King restaurant with a drive through (Exhibit C). The land use Restaurant, Drive-Through requires approval of a Specific Use Provision through a public hearing process.

2. Section 2.51 of the Garland Development Code establishes a minimum parking requirement of 1 parking space for every 100 square feet of gross floor area. The proposed development will require 27 parking spaces and 28 parking spaces will be provided.

The applicant has provided a parking analysis demonstrating that the shopping center will continue to meet the minimum parking requirement for many of the allowable land uses in the Community Retail (CR) District including Retail Store and Personal Services in spite of the removal of 91 parking spaces to make room for the proposed Burger King restaurant.

3. With the exception of Section 4.34(B)(3)(d) of the Garland Development Code (see Plan Commission Recommendation section), the proposed landscape and screening layout (Exhibit D) complies with the applicable screening and landscape standards in Chapter 4 of the Garland Development Code.

4. The design of the building (Exhibit E) is required to comply with the following Garland Development Code building design standards:

- All building elevations are required to consist of at least eighty percent masonry per Section 4.83(A)(1).
- At least two different exterior construction materials must be applied on facades visible from the streets per Section 4.83(A)(2).
- At least six of the twelve architectural elements listed in Section 4.83(B) must be incorporated into the design of the building.

The building complies with the aforementioned design standards.

5. No final or detailed information regarding signage was provided by the applicant; however, the applicant has indicated that all signage will comply with all the applicable standards in the Garland Development Code.

6. A Specific Use Provision for Restaurant, Drive-Through for twenty (20) years is requested by the applicant.

COMPREHENSIVE PLAN

The Future Land Use Map of the Envision Garland Plan recommends Neighborhood Centers for the subject property. Neighborhood centers provide a mix of retail, services and community gathering places appropriately scaled to adjacent residential areas.

COMPATIBILITY OF REQUEST WITH SURROUNDING ZONING AND LAND USES

The properties concentrated around the intersection of Broadway Boulevard and East Centerville Road are mostly zoned for Community Retail uses; these properties are developed with an array of land uses that include a gas station, a bank, a church, restaurants with drive-through, a self-storage facility, retail and personal services.

The proposed restaurant with drive-through is consistent with the land use pattern established by the existing development which is characterized by its concentration of retail, personal services and restaurants with drive-through--land uses that are appropriate along a major intersection such as Broadway Boulevard and East Centerville Road.

Attachments

Z 16-37 Clinton Coultias Attachments

Z 16-37 Clinton Coultias Responses

SPECIFIC USE PROVISION CONDITIONS

ZONING FILE Z 16-37

On the south and west side of Broadway Boulevard, approximately 500 feet southeast from the intersection of Broadway Boulevard and East Centerville Road

- I. Statement of Purpose:** The purpose of these Specific Use Provisions is to permit Restaurant, Drive-Through.
- II. Statement of Effect:** These Specific Use Provisions shall not affect any regulation found in the Garland Development Code, Ordinance No. 6773, as amended prior to adoption of this ordinance, except as specifically provided herein.
- III. General Regulations:** All regulations of the Community Retail (CR) District as set forth in Chapter 2 of the Garland Development Code are included by reference and shall apply, except as otherwise specified by this ordinance.

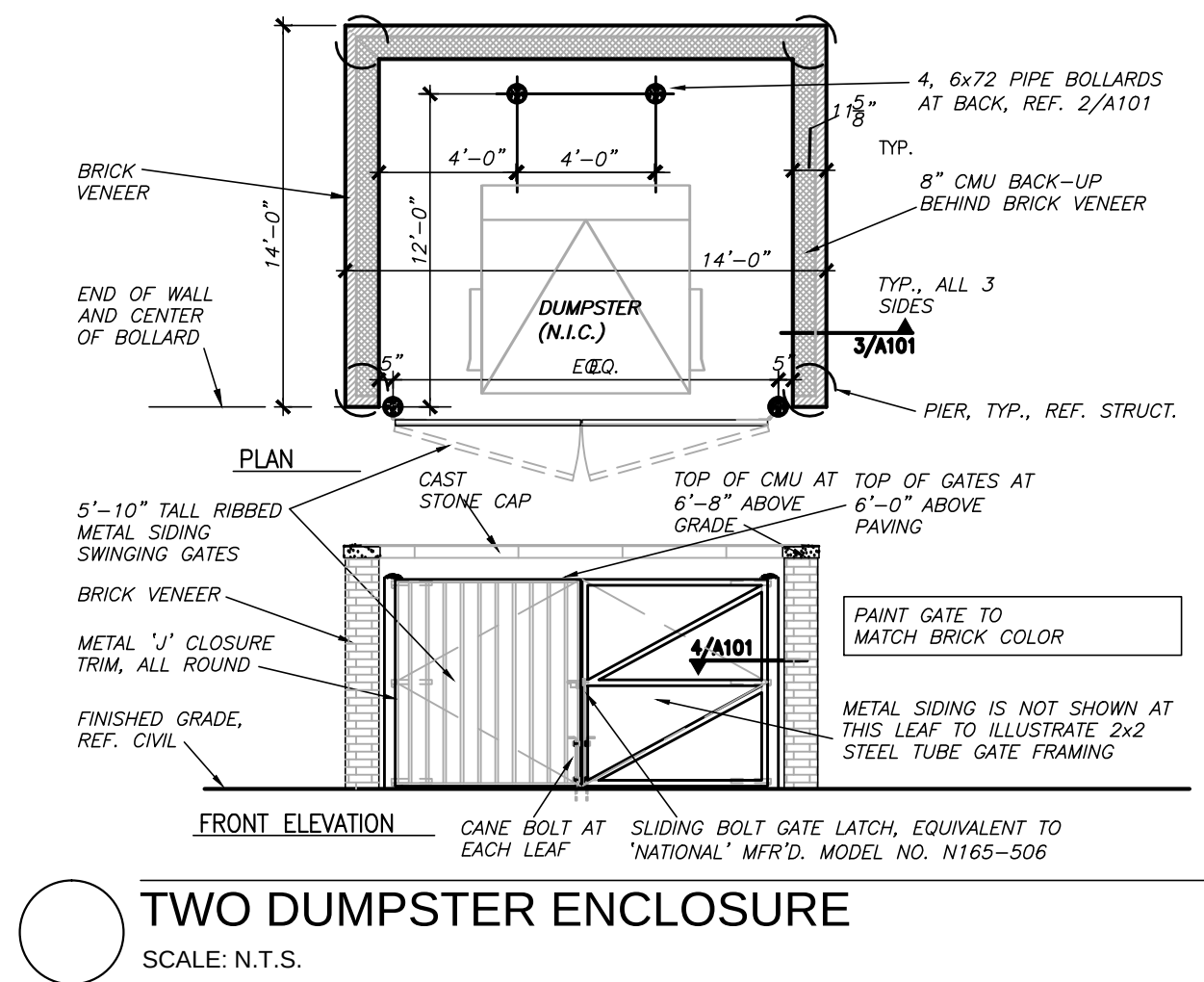
IV. Specific Regulations:

- A. SUP Time Period: The Specific Use Provision for Restaurant, Drive-Through shall be in effect for a period of 20 years.
- B. Site Layout: The site shall conform to the site layout reflected on Exhibit C.
- C. Screening and Landscaping: Screening and landscaping shall conform to the layout reflected on Exhibit D.

All new large canopy trees to be planted within the landscape buffer to comply with Section 4.34(B)(3)(a) of the Garland Development Code are permitted to be substituted with small ornamental trees at a rate of 1 large canopy tree equals 3 small ornamental trees as stipulated in Section 4.34(B)(3)(d) of the Garland Development Code.

- D. Building Elevations: Building elevations shall conform to the elevations as approved on Exhibit E.

Exhibit C



TWO DUMPSTER ENCLOSURE
SCALE: N.T.S.

COMMERCIAL NET
LEASE REALTY, INC.
VOL. 94029, PG. 3141
D.R.D.C.T.

1.51' x 172.0' ACCESS
EASEMENT
VOL. 93149, PG. 4791
D.R.D.C.T.

30' ACCESS
EASEMENT
VOL. 92140, PG. 457
D.R.D.C.T.

LOT 5-RR, BLOCK 1
BROADWAY CROSSING ADDITION
VOL. 93011, PG. 1890
M.R.D.C.T.

15' SANITARY
SEWER EASEMENT
VOL. 93011, PG. 1890
M.R.D.C.T. (PER PLAT)

30' ACCESS
EASEMENT
VOL. 92140, PG. 457
D.R.D.C.T.

15' SANITARY
SEWER EASEMENT
VOL. 93011, PG. 1890
M.R.D.C.T. (PER PLAT)

LONGITUDINAL BUTT JOINT AT
CONCRETE CONNECTION

EX CURB OPENING FOR DRAINAGE FLOW
4" WIDE WHITE PAINTED STRIPE

LONGITUDINAL BUTT JOINT AT
CONCRETE CONNECTION (TYP)

DUMPSTER ENCLOSURE. SEE
ARCHITECTURAL PLANS FOR
DETAILS

COMFORT FULL GOSPEL
MINISTRIES INTERNATIONAL, INC.
INST. NO. 201500020030
O.P.R.D.C.T.

LOT 4-R, BLOCK 1
BROADWAY CROSSING ADDITION
VOL. 89207, PG. 1592
M.R.D.C.T.

LOT 11, BLOCK 1
36,046 SQ. FT.
0.827 AC.
REPLAT OF LOT 1,
BLOCK 1 OF THE
BROADWAY
CROSSING
ADDITION

PROPOSED
BUILDING
APPROX. 2,626 SF
FFE 536.30

CONTROLLING MONUMENT
9" YELLOW PLASTIC CAPPED
REBAR STAMPED 'SURVCON INC'
N: 7007287.0
E: 2540633.5
ELEV. = 636.93'

BROADWAY BOULEVARD
CONCRETE
(100' R.O.W.)
S 45° 00' 00" E 175.02'
S 44° 56' 00" W 209.86'

LINE TABLE		
LINE #	BEARING	DISTANCE
1	S 45° 08' 52" E	22.00'
2	N 44° 51' 08" E	30.00'
3	N 45° 08' 52" W	22.00'
4	N 44° 51' 08" E	25.00'



SITE DATA TABLE		
TYPE	REQUIRED	PROVIDED
LOT (ZONE CR)	MIN. NONE	36,046 SF
	MAX. NONE	
BUILDING	MAX. 35'	1 STORY 21'-0"
	MAX. 40% LOT COV.	13% LOT COV. - 2,626 SF
PARKING	1 PER 100 GFA (27) SPACES	(28) SPACES
	100' STACKING SPACE	91' STACKING SPACE TRANSPORTATION APPR.
LANDSCAPE	15' EDGE BUFFER	15' EDGE BUFFER
LOADING	10'X25'	10'X25'

- NOTES:
- PRE-PROJECT IMPERVIOUSNESS IS DECREASED BY APPROX. 1900 SF DUE TO ADDITION OF LANDSCAPE AREA ON THE EAST SIDE OF SITE.
 - NO LANDSCAPING SUCH AS TREES, HEDGES, ABOVE AND UNDERGROUND STRUCTURES SHALL BE LOCATED WITHIN EXISTING OR PROPOSED UTILITY EASEMENTS AND RIGHT-OF-WAY.
 - SITE IS LOCATED IN ZONE X, AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANGE FLOODPLAIN PER FLOOD INSURANCE RATE MAP PANEL 48113C0240K, JULY 7, 2014.

LEGEND

---	PROPERTY LINE
---	ADJACENT PROPERTY LINE
---	EASEMENT
---	BUILDING SETBACK
---	EXISTING WATER LINE
---	EXISTING SANITARY SEWER LINE
---	EXISTING STORM SEWER LINE
---	PROPOSED WATER LINE
---	PROPOSED SANITARY SEWER LINE
---	PROPOSED GAS LINE
---	PROPOSED PVC SLEEVE
---	PROPOSED CONCRETE PAVEMENT
---	PROPOSED CONCRETE SIDEWALK
---	EXISTING CONCRETE PAVEMENT
---	EXISTING ASPHALT PAVEMENT
(M)	PROPOSED WATER METER
(BFP)	PROPOSED BACKFLOW PREVENTER
+	PROPOSED GATE VALVE
+	EXISTING FIRE HYDRANT
+	EXISTING MANHOLE
+	EXISTING POWER POLE
+	EXISTING LIGHT POLE
+	EXISTING TREE TO BE PRESERVED AND PROTECTED
+	WHITE PAINTED TRAFFIC DIRECTIONAL ARROW
+	DRAINAGE FLOW ARROW

!!!CAUTION!!!
48 HOURS BEFORE YOU DIG
CALL TEXAS 811

CAUTION EXISTING UTILITIES !!!
EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION. TO TAKE THE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION.

- PROJECT BENCHMARKS**
- THE SITE BENCHMARK IS A 1/2 INCH YELLOW PLASTIC CAPPED REBAR STAMPED "CBG SURVEYING" FOUND IN THE SOUTHEAST RIGHT-OF-WAY LINE OF CENTERVILLE ROAD, SAID POINT BEING THE WEST CORNER OF LOT 8, IN BLOCK 1, OF BROADWAY CROSSING ADDITION, AN ADDITION TO THE CITY OF DALLAS, DALLAS COUNTY, TEXAS, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN VOLUME 93252, PAGE 2780, MAP RECORDS OF DALLAS COUNTY, TEXAS, AND BEING NORTH 45 DEGREES 00 MINUTES 59 SECONDS WEST, A DISTANCE OF 105.91 FEET FROM AN X CUT FOUND IN CONCRETE FOR THE SOUTH CORNER OF SAID LOT 8. THE BENCHMARK HAS THE FOLLOWING VALUES X = 2,544,693.41' Y = 7,007,278.5' (TEXAS COORDINATE SYSTEM OF 1983, CENTRAL ZONE) | Z = 535.42' (NAVD'88).
 - THE SITE BENCHMARK IS AN X CUT FOUND IN CONCRETE FOR THE NORTH CORNER OF LOT 9, IN BLOCK 1, OF BROADWAY CROSSING ADDITION, AN ADDITION TO THE CITY OF DALLAS, DALLAS COUNTY, TEXAS, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN VOLUME 93252, PAGE 2780, MAP RECORDS OF DALLAS COUNTY, TEXAS, AND BEING NORTH 45 DEGREES 00 MINUTES 59 SECONDS WEST, A DISTANCE OF 105.91 FEET FROM AN X CUT FOUND IN CONCRETE FOR THE SOUTH CORNER OF SAID LOT 9. THE BENCHMARK HAS THE FOLLOWING VALUES X = 2,545,401.41' Y = 7,007,046.3' (TEXAS COORDINATE SYSTEM OF 1983, CENTRAL ZONE) | Z = 533.45' (NAVD'88).

EIKON
Texas Firm F-12759
1405 W. Chapman Dr.
Sanger, Texas 76266
Phone (940)458-7303
Fax (940)458-7417
www.eikoneng.com
Project # 161213

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205 BIRDCALL LANE
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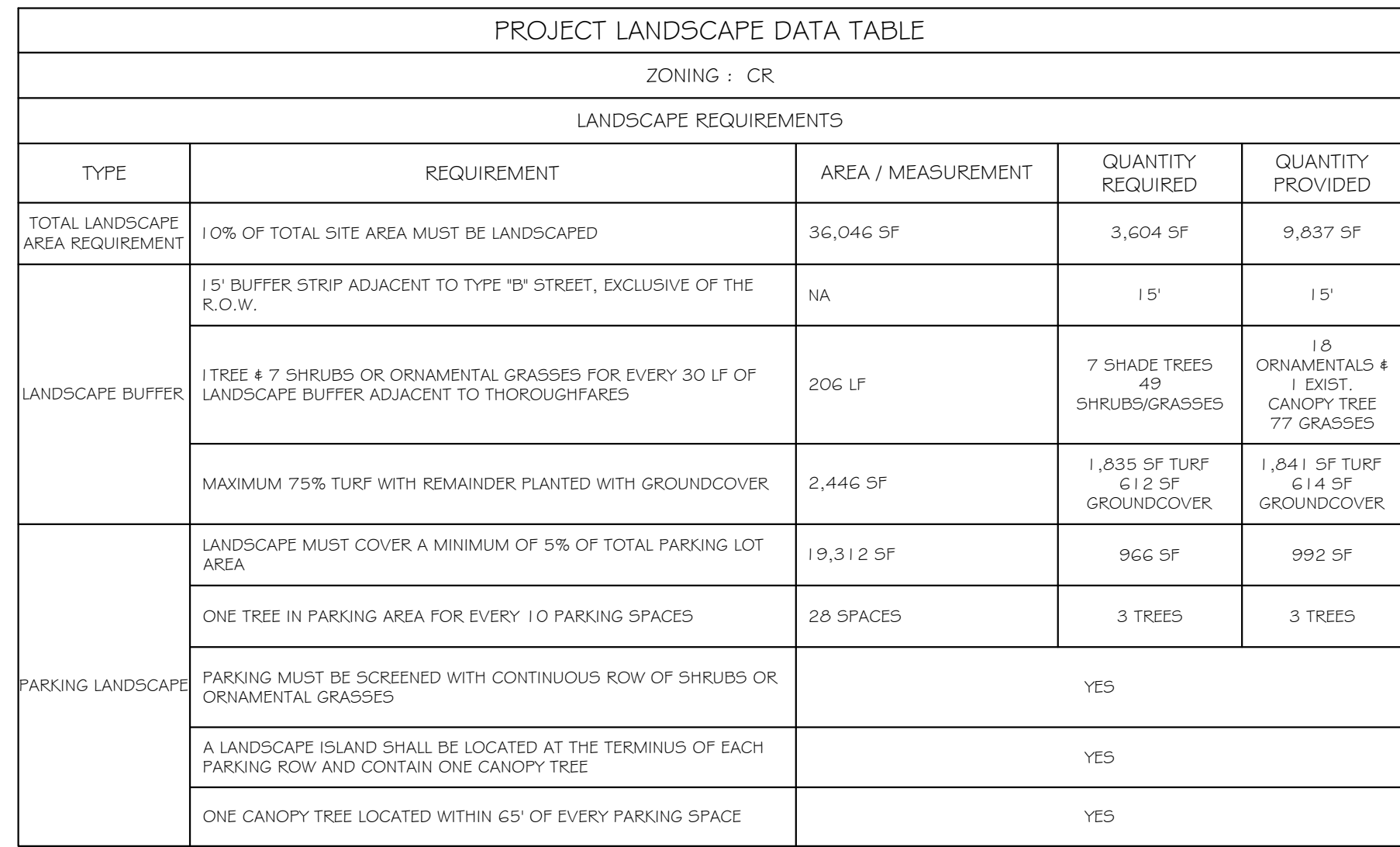
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PROJECT # 16-119 ROC-60 OPTION 4 W/2020 LIGHT IMAGE OPT.2

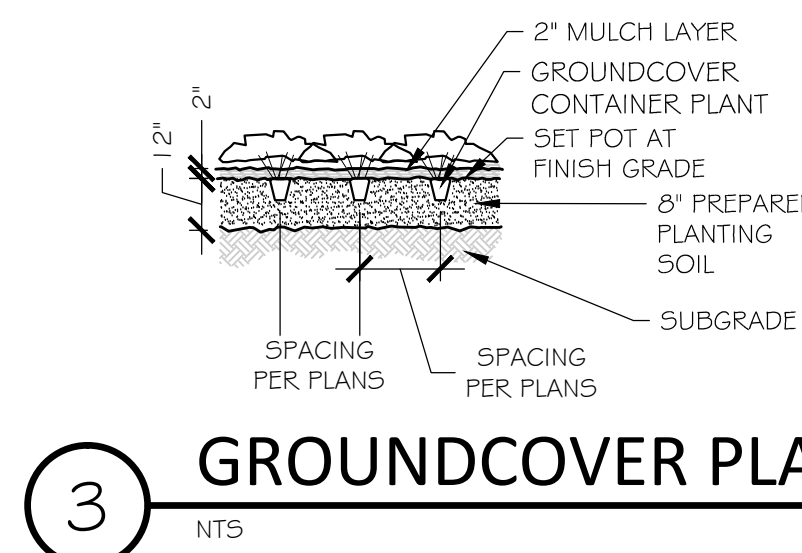
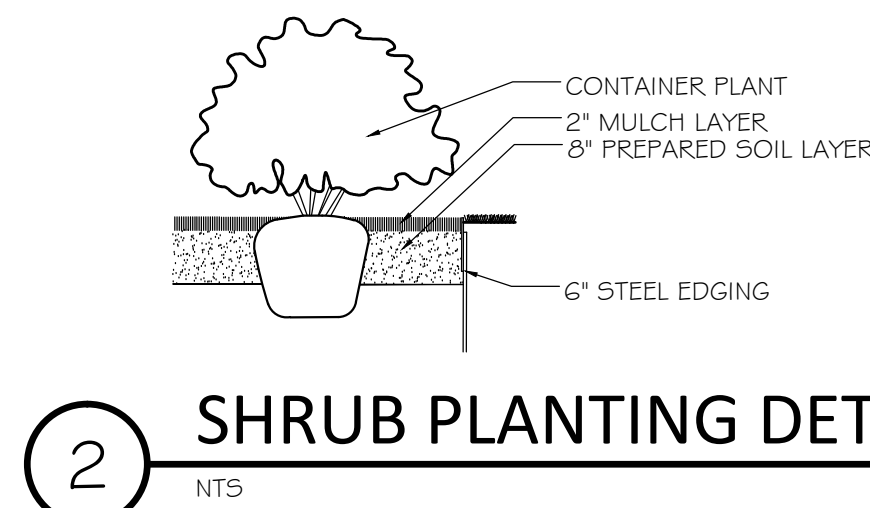
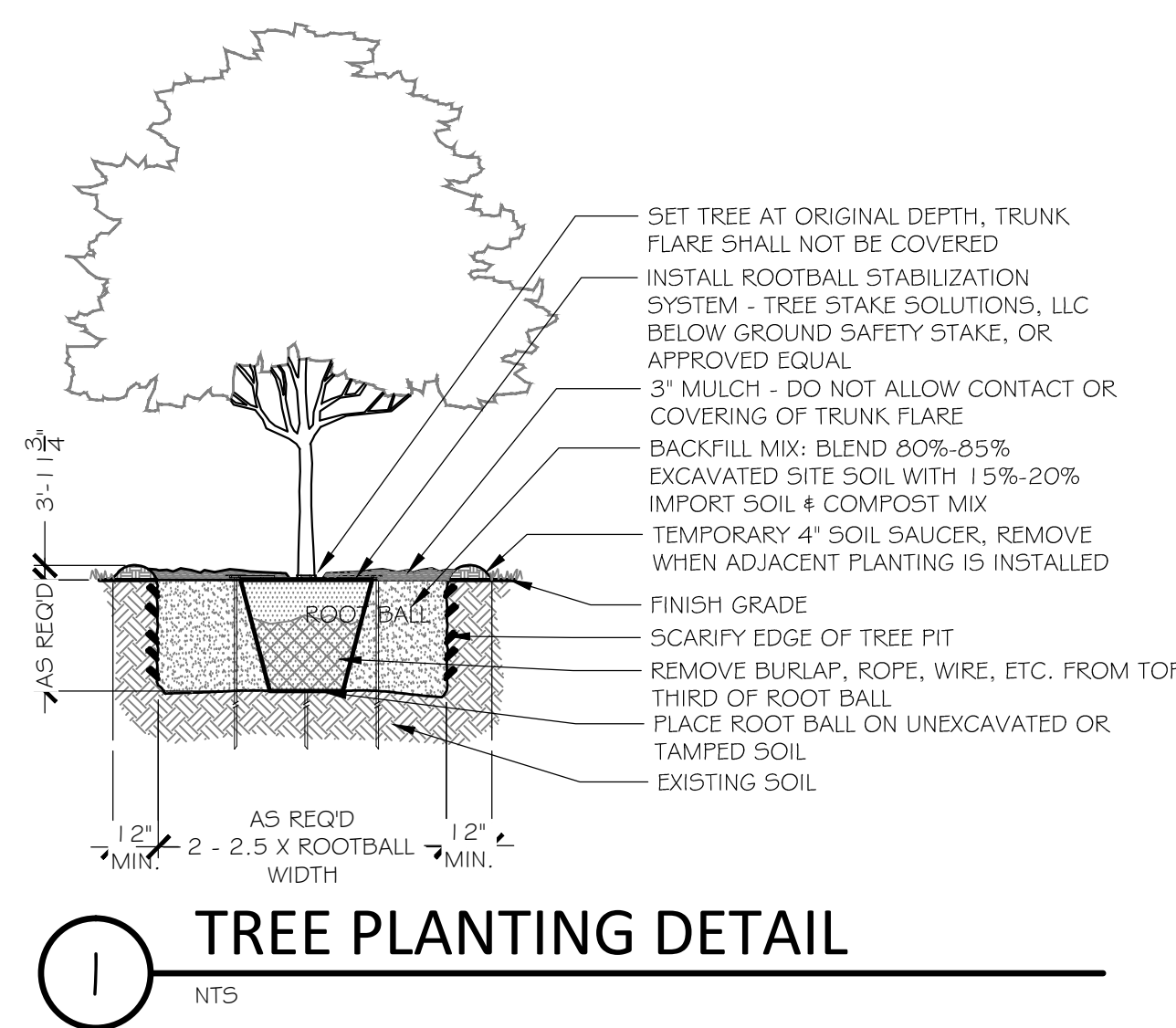
BURGER KING RESTAURANT
CASE # 160802-3
3161 BROADWAY BLVD.
GARLAND, TEXAS

SITE PLAN WITH DIMENSIONAL CONTROL

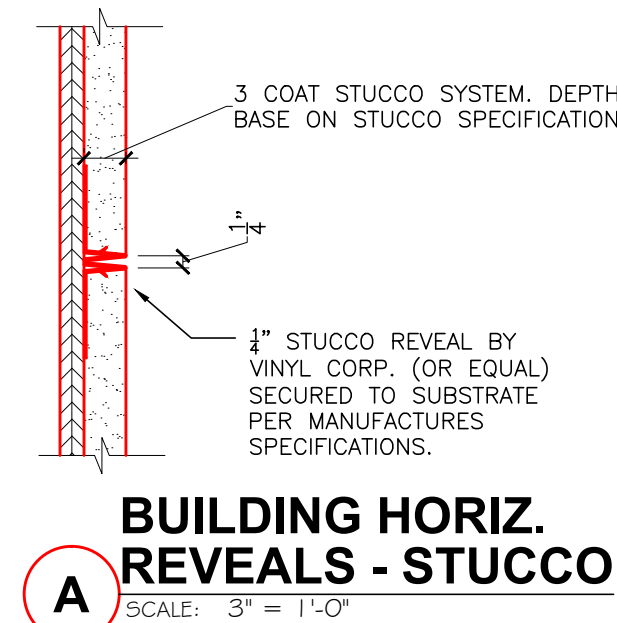
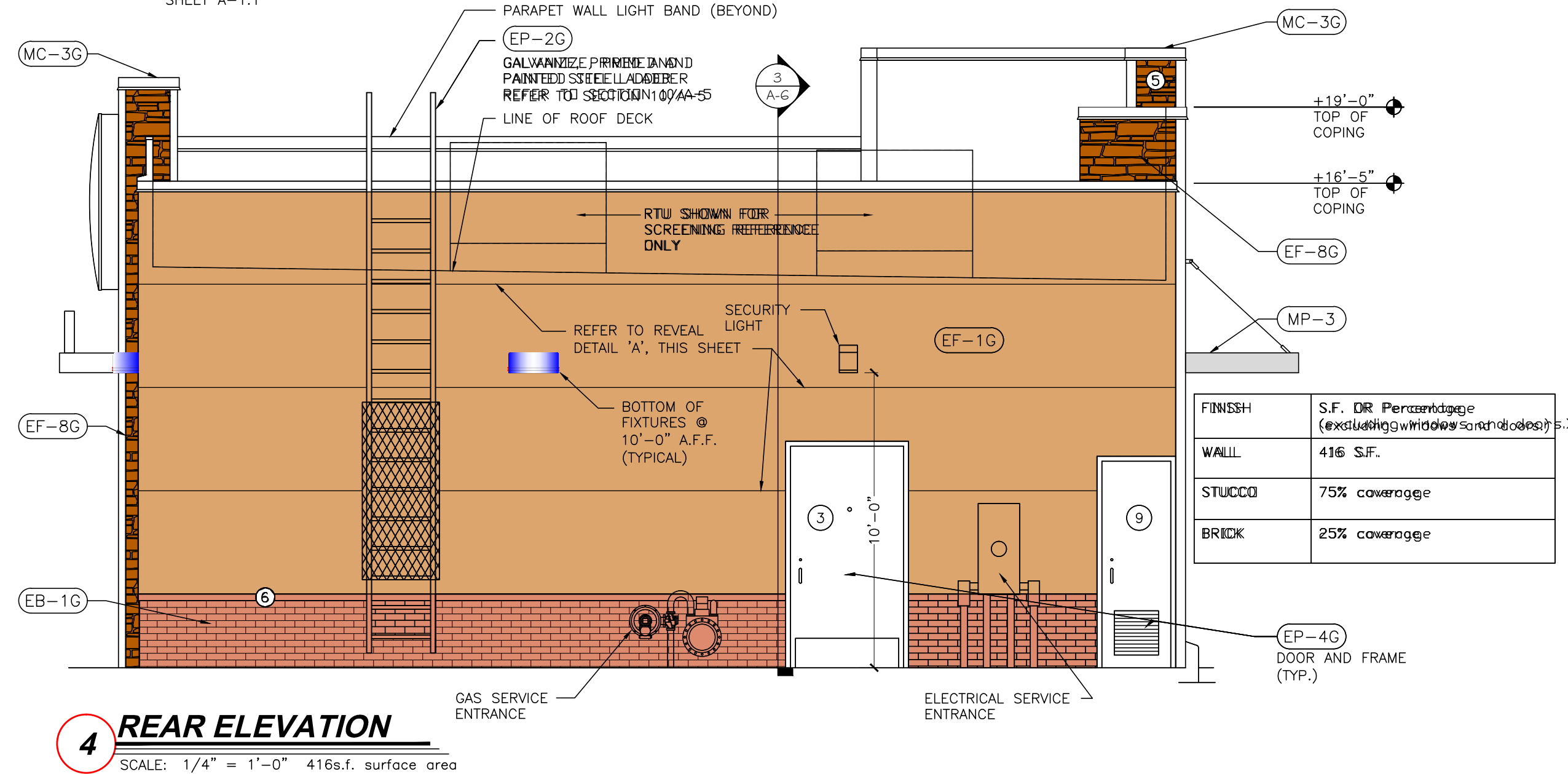
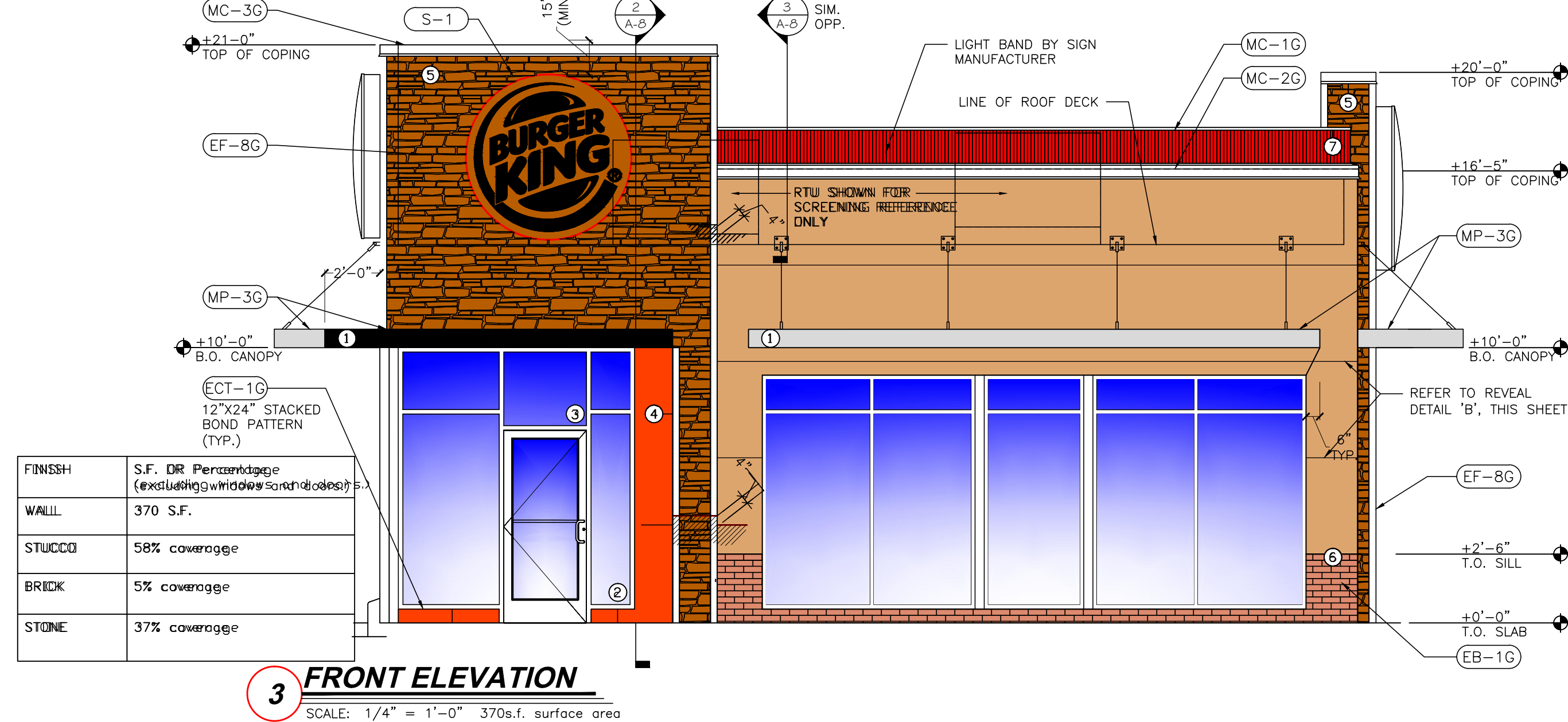
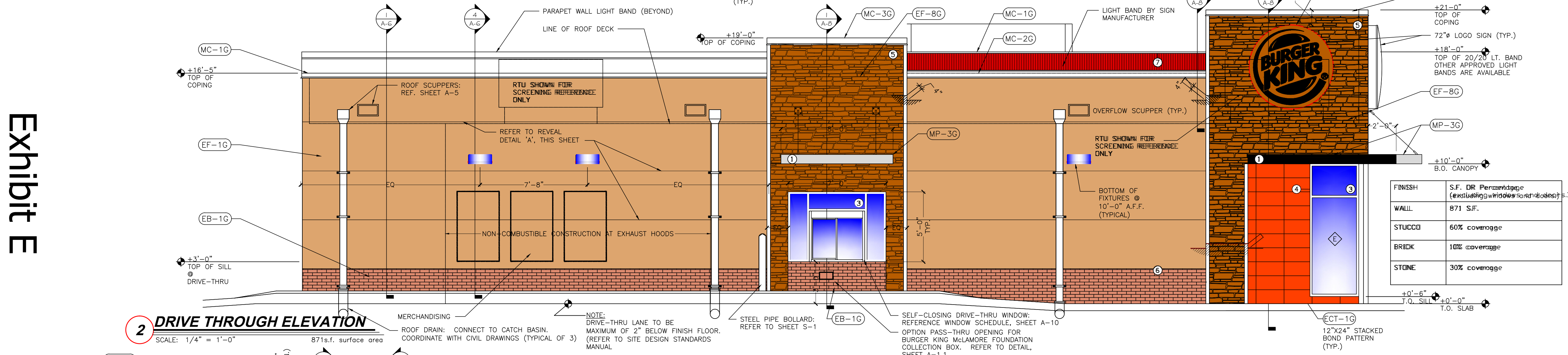
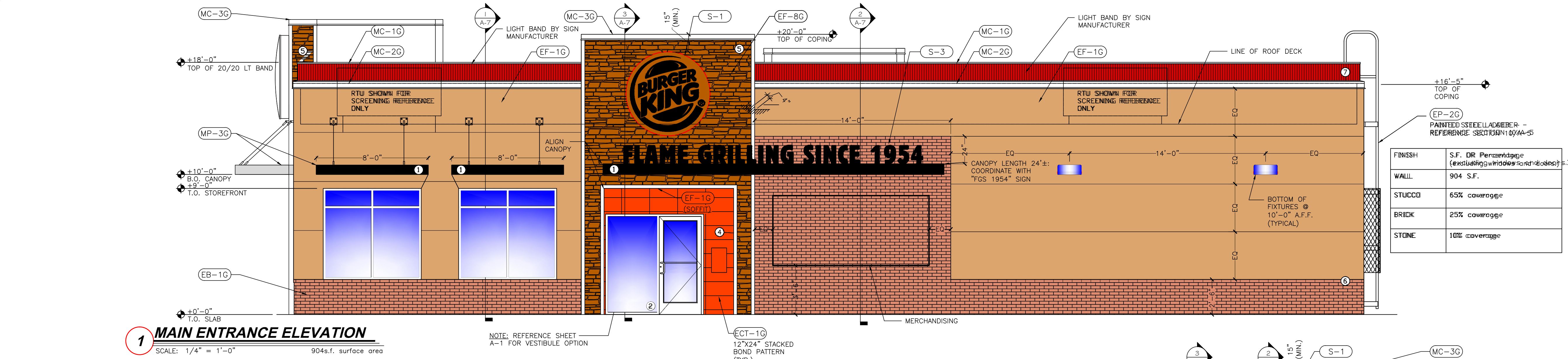
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS OF UNDERGROUND UTILITIES AND STRUCTURES PRIOR TO CONSTRUCTION.
- LANDSCAPE CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES.
- THE LANDSCAPE CONTRACTOR SHALL PROTECT ALL STORED LANDSCAPE MATERIALS FROM DAMAGE. DAMAGED PLANT MATERIAL SHALL BE REPLACED WITH SIMILAR VARIETIES AND SIZES IF DAMAGED, DESTROYED, OR LOST.
- ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY AND VIGOROUS GROWING CONDITION, AND MUST BE REPLACED WITH PLANT MATERIAL OF SIMILAR VARIETY AND SIZE IF UNHEALTHY, DAMAGED, DESTROYED, OR OTHERWISE REMOVED.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADVISE THE LANDSCAPE ARCHITECT OF ANY CONDITION FOUND ON THE SITE WHICH PROHIBITS INSTALLATION AS SHOWN ON THE DRAWINGS.
- ALL LANDSCAPE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM WITH RAIN / FREEZE SENSORS AND ET WEATHER-BASED CONTROLLERS. THE IRRIGATION SYSTEM SHALL BE INSTALLED BY A LICENSED IRRIGATOR. WATERING SCHEDULES (TYPED/WITTEN) FOR LAWN AND PLANTS SHALL BE FURNISHED TO THE STORE AND THE FRANCHISEE AT THE TIME OF THE TURNOVER. A THOROUGH REVIEW OF THE WATERING REQUIREMENTS SHALL BE GIVEN TO THE STORE MANAGER AND THE DISTRICT MANAGER AT THE SAME TIME. REQUIRED IRRIGATION SLEEVING IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR AND SHOULD BE COORDINATED WITH OTHER TRADES. GENERAL CONTRACTOR SHALL FURNISH AND INSTALL A SEPARATE WATER METER FOR THE IRRIGATION SYSTEM.
- ALL SHRUB, GROUNDCOVER, PERENNIAL & SEASONAL BEDS SHALL BE AMENDED BY REMOVING 2" OF EXISTING TOPSOIL, PLACING 2" OF COMPOST AND MIXING TO A TOTAL DEPTH OF 0".
- ALL SHRUB, GROUNDCOVER, PERENNIAL & SEASONAL BEDS SHALL HAVE A 2" THICK SHREDDED HARDWOOD MULCH LAYER, UNLESS OTHERWISE NOTED. FINISHED GRADE OF MULCH TO SIT 1" BELOW ADJACENT HARDSCAPE GRADES.
- ALL DEBRIS, WOOD CHIPS, PAVEMENT, CONCRETE AND ROCK OVER 2" IN DIA. SHALL BE REMOVED FROM THE PLANTING PIT TO A MINIMUM OF 24" DEPTH. THE ENTIRE PLANTING BED SHALL CONTAIN A MINIMUM DEPTH OF 24" OF SOIL SUITABLE FOR PLANT GROWTH AND ESTABLISHMENT AND MAY NOT BE COMPACTED OR STABILIZED.
- STRUCTURAL AND HARDSCAPE WORKS SHALL BE INSTALLED PRIOR TO PLANTING INSTALLATION.
- LANDSCAPE AREAS SHALL BE KEPT FREE OF TRASH, LITTER AND WEEDS AT ALL TIMES DURING CONSTRUCTION.
- PLANT SPACING IS AS INDICATED ON THE 'PLANT SCHEDULE' UNLESS OTHERWISE NOTED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE FULL COVERAGE IN ALL PLANTING AREAS AS SPECIFIED IN THE PLANT SCHEDULE REMARKS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT AN INDEPENDENT TAKE-OFF TO VERIFY SIZES AND QUANTITIES OF PLANT MATERIALS SHOWN.
- REFER TO PLANTING SCHEDULES FOR ALL PLANTING TYPES, SIZES AND SPACING.
- ALL PROTECTED TREES SHALL BE PROTECTED DURING CONSTRUCTION BY MARKING PROTECTED TREES, FENCING DRIP LINES AND INSPECTIONS BY THE DEVELOPER. ALL TREE PROTECTION MEASURES SHALL BE IN PLACE AND APPROVED PRIOR TO THE COMMENCEMENT OF ANY ON-SITE CONSTRUCTION. PROTECTION MEASURES SUCH AS FENCING SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
- THE GENERAL CONTRACTOR IS RESPONSIVE FOR FURNISHING TOPSOIL, WHO MAY CONTACT THE LANDSCAPE ARCHITECT FOR AN ACCEPTABLE SOURCE.
- LANDSCAPE EDGING SHALL BE GREEN COLORED 6" STEEL EDGING.
- UPON NOTIFICATION OF POSSIBLE OPENING DURING THE WINTER MONTHS, STEPS SHOULD BE TAKEN TO PROVIDE AS MUCH LANDSCAPING AS POSSIBLE.



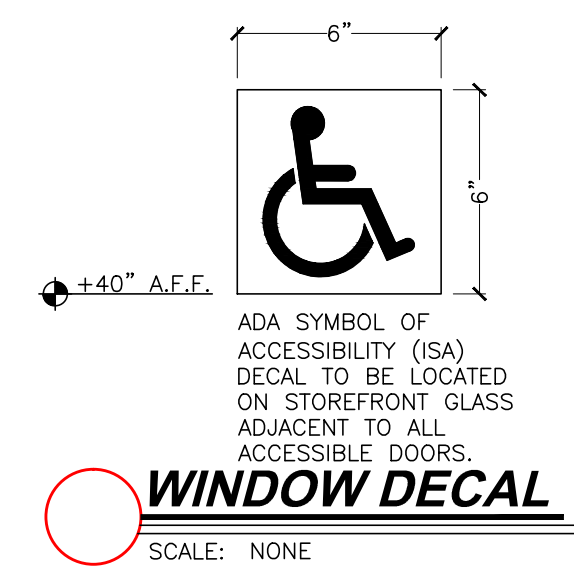
PLANT MATERIAL SCHEDULE								
SYMBOL	QUANTITY	COMMON NAME	BOTANICAL NAME	CAL.	HT.	SPREAD	CONT.	REMARKS
	SHRUBS							
	57	THUNDER CLOUD™ TEXAS SAGE	LEUCOPHYLLUM CANDIDUM 'THUNDER CLOUD'	-	24" MIN	24" MIN	5 GAL	48" O.C. OR AS INDICATED ON PLANS
	ORNAMENTAL GRASSES							
	108	LINDHEIMER MURLY	MUHLENBERGIA (LINDHEIMER)	-	24" MIN	24" MIN	3 GAL	48" O.C. SPACING
	PERENNIALS							
	30	SALVIA GREGGII RED	SALVIA GREGGII	-	18" MIN	18" MIN	1 GAL	12" O.C. TRIANGULAR SPACING, OR AS INDICATED ON PLANS
	TREES							
	7	EXISTING TREE	-	-	-	-	-	-
	2	LIVE OAK	QUERCUS VIRGINIANA	3" MIN	12'	6'	45 GAL	SINGLE TRUNK, MATCHED
	16	CEDAR ELM	ULMUS CRASSIFOLIA	3" MIN	12'	5'	45 GAL	SINGLE TRUNK, MATCHED
	7	EVES NECKLACE	SOPHORA AFFINIS	1.5" MIN	9'	4'	30 GAL	SINGLE TRUNK, MATCHED
	5	TEXAS ASH	FRAXINUS TEXENSIS	3" MIN	7'	4'	30 GAL	SINGLE TRUNK, MATCHED
	11	POSSUMHAW HOLLY	ILEX DECIDUA	1.5" MIN	30' MIN	30' MIN	7 GAL	MULT. TRUNK
	GROUNDCOVER							
	12G	BLUE FLAG JUNIPER	JUNIPERUS HORIZONTALIS 'WILTONII'	-	-	-	1 GAL	36" O.C. TRIANGULAR SPACING, OR AS INDICATED ON PLANS
	315	VINCA MINOR 'ALBA'	VINCA MINOR	-	-	-	4" POT	18" O.C. TRIANGULAR SPACING, OR AS INDICATED ON PLANS
	TURF							
	2,863 SF	BERMUDA SOD	CYNODON DACTYLON	-	-	-	-	AS INDICATED ON PLANS
	3,712 SF	BERMUDA SEED	CYNODON DACTYLON	-	-	-	-	HYDROMULCH AS INDICATED ON PLANS
	OTHER							
	191 LF	BED EDGING	STEEL LANDSCAPE EDGE 6"	GREEN			INSTALL 1" ABOVE ADJACENT GRADE WITH STAKES	



LANDSCAPE PLAN



DESIGN BY NUMBER	ARCHITECTURAL ELEMENT
1	CANOPY
2	DISPLAY WINDOWS
3	TRANSOM
4	RECESSED ENTRANCES
5	VARNISHED ROOF FLASHINGS
6	ORNAMENTAL FRAMING
7	DESTRUCTIVE/ENLIGHTENING FEATURE



DATE	REVISION
9/10/15	ISSUE FOR PERMIT
10/14/16	REVISED PER COMMENTS
10/14/16	REVISED PER COMMENTS



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3318 FOREST LANE
DALLAS, TEXAS 75234
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BURGER KING RESTAURANT
CASE # 168802-3
3161 BROADWAY BLVD.
GARLAND, TEXAS, 75042

REPORT & MINUTES

P.C. Meeting, November 14, 2016

Consideration of the application of Clinton Coultas, requesting approval of 1) a Specific Use Provision for a Restaurant, Drive-Through on property zoned Community Retail (CR) District and 2) a Variance to Section 4.34(B)(3)(d) of the Garland Development Code regarding landscape buffer plant materials. This property is located at 3161 Broadway Boulevard. (District 4) (File Z 16-37) (This item was postponed from the October 24, 2016 Plan Commission meeting.)

The applicant was available for questions. There were no questions of this applicant.

Motion was made by Commissioner O'Hara, seconded by Commissioner Welborn to approve the request per staff recommendation. **Motion carried: 9 Ayes, 0 Nays.**



O = IN FAVOR
X = AGAINST

0 200 400 Feet
1 inch = 400 feet

ZONING

Z 16-37



INDICATES AREA
OF REQUEST

**GARLAND**

CITY OF GARLAND
PLANNING DEPARTMENT
P O. BOX 469002
GARLAND, TX 75046-9002

September 29, 2016

HEARING DATE/TIME Plan Commission October 10, 2016 – 7:00 PM

APPLICANT: Clinton Coultias

File Z 16-37

Dear Property Owner

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, October 10, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of **Clinton Coultias**, requesting approval of 1) a Specific Use Provision for Restaurant, Drive-Through on a property zoned Community Retail (CR) District and 2) a variance to Section 4.34(B)(3) of the Garland Development Code regarding landscape buffer plant materials. The property is shown on the enclosed sketch and is described as follows:

BEING an approximate 0.827 acre tract of land and a portion of Lot 1, Block 1, of the replat of Lot 1-RR and Lot 3-R, Block 1, of the Broadway Crossing Addition, an Addition to the City of Garland, Dallas County, Texas according to the plat thereof recorded in Volume 93252, Page 2780, Map Records, Dallas County, Texas. This property is located on the south and west side of Broadway Boulevard, approximately 500 feet southeast from the intersection of Broadway Boulevard and East Centerville Road (District 4).

Note: The applicant proposes to create a pad site from the existing parking lot serving the shopping center located on the south corner of Broadway Boulevard and East Centerville Road and build a Burger King restaurant with a drive-through.

To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002 or by fax to 972-205-2474. Should you have any questions, please contact Josue De La Vega at 972-205-2445.

(Please Check One Below)

☒ I am in favor of the request.☐ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

(Please complete the following information)

Your Property Address

Vaquero Broadway Partners, LP

Printed Name

3161 Broadway Blvd

Address

Garland, TX

City, State

75043

Zip

The above statements reflect my (our) opinion regarding the proposed request(s)

[Signature]

Signature

Property Manager

Title

Date 10-5-16



GARLAND PLANNING REPORT

City Council Regular Session Agenda

Agenda Item 3. e.

Meeting Date: December 6, 2016

Item Title: Z 16-40 City of Garland (District 4)

Submitted By: Will Guerin, Planning Director

REQUEST

Approval of a Change in Zoning from Planned Development (PD) 77-88 District for Retail Uses to Single-Family-7 (SF-7) District.

OWNER

Multiple Owners

PLAN COMMISSION RECOMMENDATION

On November 14, 2016, the Plan Commission by a vote of nine (9) to zero (0) recommended approval of a Change in Zoning from Planned Development (PD) 77-88 District for Retail Uses to Single-Family-7 (SF-7) District.

STAFF RECOMMENDATION

Staff recommends approval of a Change in Zoning from Planned Development (PD) 77-88 District for Retail Uses to Single-Family-7 (SF-7) District.

BACKGROUND

The subject properties, located along Little Lane and west of Broadway Avenue, are currently zoned Planned Development (PD) 77-88 which is based in Community Retail (CR) zoning. PD 77-88 was approved by the City Council in 1978. It requires commercial uses and new construction and therefore does not allow for single-family uses or the rehabilitation of the existing single-family structures along Little Lane. There are four un-platted parcels within the subject area; three of the parcels are privately owned while one (the middle parcel as shown in the attached map) is owned by the City of Garland. A single-family zoning district will allow these parcels to redevelop as residential which is clearly what the market desires at these locations. The owners of the private-owned properties have expressed interest in a re-zoning to residential. Staff believes that a City-initiated re-zoning is appropriate given that one of the parcels is City-owned and the existing zoning district is inappropriate for all four parcels.

During the October 18, 2016 work session, the City Council directed staff to proceed with a City-initiated re-zoning of the subject properties to SF-7.

SITE DATA

The overall site has an approximate area of 2.9 acres. It has approximately 391 feet of frontage along Little Lane and 329 feet of frontage along Robin Road.

USE OF PROPERTY UNDER CURRENT ZONING

Planned Development (PD) 77-88 requires commercial uses and new construction for development rather than rehabilitation of the existing structures on several of the subject properties. A zoning change is required to redevelop the properties as single-family residential.

CONSIDERATIONS

1. Staff recommends a zoning emphasis on the four (4) parcels along Little Lane currently zoned PD 77-88 for Retail Uses, as outlined in the attached map. There are existing single-family structures on the privately-owned properties. The westernmost property's structure is currently inhabited, while the easternmost houses remain vacant.
2. As previously mentioned, PD 77-88 requires commercial development and does not allow for the rehabilitation of the existing residential structures. Staff believes that retail zoning is inappropriate for these parcels, as they have no frontage on a thoroughfare or arterial roadway and do not have the vehicular nor pedestrian traffic necessary for a retail area. These particular parcels should remain with a residential character. Establishing SF-7 zoning will allow these parcels to redevelop according to market demand and under an appropriate zoning district.
3. The proposal is for a traditional zoning change without the creation of a Planned Development (PD) District. Traditional zoning does not require Concept Plan or Detail Plan approval. A change in zoning is not intended to restrict uses or secure development performances beyond what is permitted within the proposed zoning district and the GDC.

COMPREHENSIVE PLAN

The Future Land Use Map of the Envision Garland Plan designates the subject property as Compact Neighborhoods. Compact Neighborhoods provide areas for moderate increase in residential density, including townhomes and single-family detached housing. It expands housing options through infill and redevelopment, while continuing walkable development patterns.

These areas provide transitions between traditional residential neighborhoods and higher density residential neighborhoods and non-residential developments. These areas accommodate uses such as convenience retail (goods and services), office space, and public services. The architectural character and scale of these areas are compatible with adjacent residential development.

COMPATIBILITY OF REQUEST WITH SURROUNDING ZONING AND LAND USES

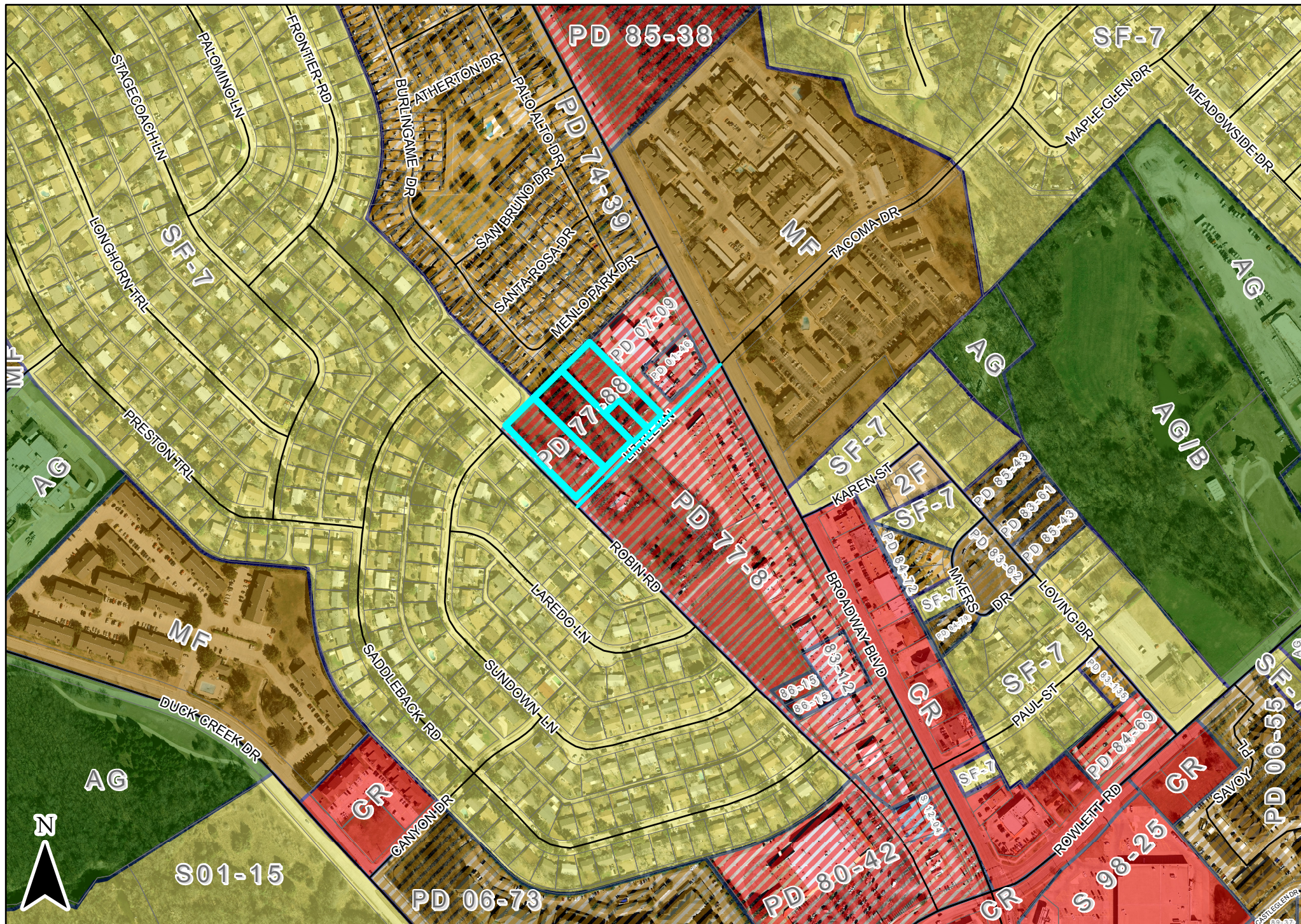
This proposal is to zone the subject properties to Single-Family-7 (SF-7) District. No new development is proposed at this time; however, there is interest in single-family residential development in this subject area. While there is Community Retail (CR) based zoning and subsequent retail development adjacent to the east along Broadway Boulevard, retail development is not appropriate on the subject properties with no frontage along an arterial roadway such as Broadway. The existing subject area consists of an occupied single-family residence, two unoccupied houses, and vacant land. Residential redevelopment is compatible with the surrounding area.

Attachments

Z 16-40 City of Garland Attachment

Z 16-40 R&M

Z 16-40 Notification Responses



0 200 400 Feet
1 inch = 400 feet

ZONING

Z 16-40



INDICATES AREA
OF REQUEST

REPORT & MINUTES

P.C. Meeting, November 14, 2016

Consideration of the application of City of Garland, requesting approval of a Change in Zoning from Planned Development (PD) District 77-88 for Community Retail (CR) Uses to Single-Family-7 (SF-7) District. The subject properties are located at the north corner of Little Lane and Robin Road. (District 4) (File Z 16-40)

The applicant was available for questions. There were no questions of this applicant.

Citizen Booker T. Lott, 4819 Hollow Ridge Rd, Dallas, TX 75227, questioned bringing additional properties into the request.

Motion was made by Commissioner O'Hara, seconded by Commissioner Dalton to approve the request per staff recommendation. **Motion carried: 9 Ayes, 0 Nays.**



O = IN FAVOR
X = AGAINST



0 150 300 Feet
1 inch = 300 feet

ZONING Z 16-40



INDICATES AREA
OF REQUEST



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

November 10, 2016

HEARING DATE/TIME: Plan Commission: November 14, 2016 – 7:00 PM

APPLICANT: City of Garland

File: Z 18-43

Dear Property Owner:

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, November 14, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of City of Garland, requesting approval of a Change in Zoning from Planned Development (PD) 77-88 District for Retail Uses to Single-Family-7 (SF-7) District. The property is shown on the enclosed sketch and is described as follows:

The subject properties are generally located north and northeast of the corner of Little Lane and Robin Road (District 4).

Note: The applicant requests approval of a Change in Zoning from Planned Development (PD) 77-88 District for Retail Uses to Single-Family-7 (SF-7) District to conform zoning to existing and nearby residential development.

To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002 or by fax to 972-266-2474. Should you have any questions, please contact Will Guerin at 972-205-2445.

(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

lessor Corp owner of Broadway Little Shopping Center (PD 77-88)
OPPOSES AS THIS IS A RETAIL SHOPPING CENTER W/
SEVERAL NATIONAL CREDIT TENANTS : benefits the area

Please complete the following information)

Your Property Address: 5555 Broadway Garland TX 75043

Allison Edwards Lessor Corporation

Printed Name

9319 135 Freeway #105 Dallas TX 75243

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Allison Edwards

Signature

Date: 11-10-16

Property Manager

Title

Mailed 11-10-16 2:07pm



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

November 2, 2016

HEARING DATE/TIME: Plan Commission: November 14, 2016 – 7:00 PM

APPLICANT: City of Garland

File: Z 16-43

Dear Property Owner:

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, November 14, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of City of Garland requesting approval of a Change in Zoning from Planned Development (PD) 77-88 District for Retail Uses to Single-Family-7 (SF-7) District. The property is shown on the enclosed sketch and is described as follows:

The subject properties are generally located north and northeast of the corner of Little Lane and Robin Road (District 4).

Note: The applicant requests approval of a Change in Zoning from Planned Development (PD) 77-88 District for Retail Uses to Single-Family-7 (SF-7) District to conform zoning to existing and nearby residential development.

To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002 or by fax to 972-205-2474. Should you have any questions, please contact Will Guerin at 972-205-2443.

(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

I am opposed because just God knows what type of
business these people are planning to have there. I wouldn't
like to see a liquor store or washakia, etc.

(Please complete the following information)

Your Property Address

5102 Polo Alto Dr. Garland, TX 75043

Printed Name

ESPERANZA OROOUEZ

Address

City, State

Zip

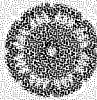
The above statements reflect my (our) opinion regarding the proposed request(s).

Signature

Date: NOV 11 2016

homeowner

Title



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

November 1, 2016

HEARING DATE/TIME: Plan Commission: November 14, 2016 - 7:00 PM

APPLICANT: City of Garland

File: Z 16-40

Dear Property Owner:

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, November 14, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of City of Garland, requesting approval of a Change in Zoning from Planned Development (PD) 77-88 District for Retail Uses to Single-Family-7 (SF-7) District. The property is shown on the enclosed sketch and is described as follows:

The subject properties are generally located north and northeast of the corner of Little Lane and Robin Road (District 4).

Note: The applicant requests approval of a Change in Zoning from Planned Development (PD) 77-88 District for Retail Uses to Single-Family-7 (SF-7) District to conform zoning to existing and nearby residential development.

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(Please Check One Below)

☒ I am in favor of the request.

☐ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

(Please complete the following information)

Your Property Address

ANNMARIE WILSON

Printed Name

420 SANTA ROSA DR

Address

GARLAND TX

City State

75043

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature
Date 11/9/16

OWNER
Title



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

November 1, 2016

HEARING DATE/TIME: Plan Commission: November 14, 2016 - 7:00 PM

APPLICANT: City of Garland

File: Z 16-40

Dear Property Owner:

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, November 14, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of **City of Garland**, requesting approval of a Change in Zoning from Planned Development (PD) 77-88 District for Retail Uses to Single-Family-7 (SF-7) District. The property is shown on the enclosed sketch and is described as follows:

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To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to **City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002** or by fax to 972-205-2474. Should you have any questions, please contact Will Guerin at 972-205-2445.

(Please Check One Below)

☒ I am in favor of the request.

☐ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

(Please complete the following information)

Your Property Address 5106 Palo Alto Dr Garland TX 75043

Printed Name Kathryn Thomas

Address Same as above

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature [Signature]

Date 11-9-2016

Title owner



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

972-205-2445

November 1, 2016

HEARING DATE/TIME: Plan Commission: November 14, 2016 - 7:00 PM

APPLICANT: City of Garland

File: Z 16-40

Dear Property Owner:

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To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002 or by fax to 972-205-2474. Should you have any questions, please contact Will Guerin at 972-205-2445.

(Please Check One Below)

☒ I am in favor of the request.

☐ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

Single family is better than commercial for this area. Traffic bad enough, no more stores needed.
(Please complete the following information)

Your Property Address

MICHAEL + DENISE KELLER

Printed Name

3317 SADDLEBACK Rd

Garland TX

75043

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Michael + Denise Keller

Signature

HOMEOWNERS

Title

Date

11/10/16



GARLAND POLICY REPORT

City Council Regular Session Agenda

Agenda Item 4.

Meeting Date: December 6, 2016

Item Title: Public Hearing and Impact Fee Ordinance Update

Submitted By: Will Guerin, Planning Director

Council Goal: Sustainable Quality Development and Redevelopment

ISSUE

Public hearing and consideration of the adoption of an amended Impact Fee Ordinance, including an amendment of the Land Use Assumptions and Capital Improvements Plan and the establishment of new Roadway and Water Impact Fees.

RECOMMENDATION

Staff recommends approval of the draft Impact Fee Ordinance, including setting the maximum water impact fee as a collection rate; and setting a citywide rate of 60% of the maximum (based on Service Area A) roadway impact fee for residential, 15% for industrial, and 45% for other non-residential as new collection rates.

BACKGROUND

The City of Garland interviewed and selected Kimley-Horn Associates for a study on the City of Garland's roadway and water impact fees. Section 395.052 of the Texas Local Government Code mandates periodic updates to the land use assumptions and capital improvements plan for a political subdivision imposing an impact fee.

During the October 3, 2016 City Council meeting, the Council set the public hearing for November 15, 2016 to review and consider the land use assumptions, roadway and water impact fee Capital Improvement Plan, and a maximum roadway and water impact fee. On November 15, 2016, the City Council gave direction towards establishing the maximum water impact fee, and setting 60% of the maximum roadway impact fee for residential, 15% for industrial, and 45% for other non-residential. The Council is requested to consider approval of the draft updated Impact Fee Ordinance.

CONSIDERATION

1. Impact fees are a one-time fee assessed to recover infrastructure costs required to serve new development. The City of Garland currently assesses impact fees for roadways and water. The purpose of this impact fee study is, per the Texas Local Government Code, to provide an analysis which formulates land use assumptions from which to base any needed impact fee changes, and to recommend a maximum water and roadway impact fee to the Capital Improvements Advisory Committee (CIAC) and the City Council.
2. Chapter 395 of the Texas Local Government Code requires a Capital Improvements Advisory Committee (CIAC) be appointed to provide comments on proposed amendments to the impact fees, land use assumptions and capital improvements plan upon which calculation of the impact fee is based. Per the current impact fee ordinance, the Plan Commission serves as the Capital Improvements Advisory Committee (CIAC). It is common for municipalities to appoint their Planning Commissions as the acting CIAC.
3. The CIAC has reviewed the impact fee study. Comments can be reviewed in by viewing the October 24, 2016 Plan Commission meeting video on the City of Garland website. To summarize, however, the Committee unanimously voted to pass along the study for Council consideration. One comment included concern about pursuing a blanket city-wide fee that may not be appropriate in certain areas needing redevelopment, and possibly to consider incentives for certain areas such as downtown. Another comment was that an appropriate balance is needed in the fee structure in order to stay competitive and avoid an overly high rate. Committee comments have also been recorded in the meeting minutes.
4. The maximum proposed water impact fee per the study equates to \$593 per service unit for a 5/8" meter equivalent and would generally remain on the lower end of water impact fee rates in comparison to other cities within the Dallas/Fort Worth region. The current water impact fee for a 5/8" meter size is \$25.
5. The draft ordinance reflects the collection option for 60% of the maximum roadway impact fee for Residential, 15% for Industrial, and 45% for other Non-residential, based on Service Area A. This rate reflects a moderate increase in roadway impact fees from the current rates. This proposed rates are generally in line with other cities in the Dallas/Fort Worth region charging roadway impact fees, in that they are neither on the extreme high end or extreme low end of roadway impact fees regionally. Included as an attachment are fee comparison charts.
6. Per Council request, the Director of Economic Development was consulted and has reviewed the proposed fee structure and has stated that he is comfortable with continuing the use of impact fees as a development tool, and defers to the analysis that substantiates the need for impact fees. That said, it is recommended that we revise our processing and analysis protocols to have all requests for non-residential impact fee reductions and/or waivers run through the established incentive review protocol currently facilitated by the City's Department of Economic Development. The draft ordinance reflects this change.
7. The Council is requested to adopt the collection rates as stated above; however, it should be noted that the Council has the ability in the future to modify the collection rates provided that they remain at or below the maximum rates identified in the study. This would not necessitate a further impact fee study provided it occurs within the next five years per Section 395.052 of the Texas Local Government Code.

Attachments

Ordinance

Comparison Charts

Roadway Impact Fee Study Final Draft

Water Impact Fee Study Final Draft

ORDINANCE NO.

AN ORDINANCE AMENDING CHAPTER 31, "ENGINEERING", OF THE CODE OF ORDINANCES OF THE CITY OF GARLAND, TEXAS; PROVIDING A SAVINGS CLAUSE AND A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GARLAND, TEXAS:

Section 1

That Chapter 31, "Engineering", of the Code of Ordinances of the City of Garland, Texas, is hereby amended by amending subsection 31.152 by adding a new definition to read as follows:

"Schedule or Schedules means the approved Roadway Impact Fee Rate Schedule 1 (Max Fee), the Roadway Impact Fee Rate Schedule 2 (Collection Rates), the Water Impact Fee Rate Schedule 1 (Max Fee), the Water Impact Fee Rate Schedule 2 (Collection Rate), and the official maps of service areas for Roadway Impact Fees and Water Impact fees, as applicable, then current and in effect as of the date of assessment of impact fees pursuant to this Chapter 31."

Section 2

That Chapter 31, "Engineering", of the Code of Ordinances of the City of Garland, Texas, is hereby amended by amending subsection 31.155(A) to read as follows:

"(A) Impact fees per service unit for each service area shall be calculated, determined, and assessed in accordance with the approved schedules."

Section 3

That Chapter 31, "Engineering", of the Code of Ordinances of the City of Garland, Texas, is hereby amended by amending subsection 31.155(B) to read as follows:

"(B) As an alternative to the calculation made pursuant to subsection (A)(3), the City may, but is not obligated to, incorporate within the capital improvements plan for any category of capital improvements a discount against the total cost of capital improvements, in the amount of the portion of ad valorem tax and utility service revenues, if any, including the payment of debt, to be generated by new service units during the period the capital improvements plan is in effect, including the payment of debt, associated with the capital improvements in the plan."

Section 4

That Chapter 31, "Engineering", of the Code of Ordinances of the City of Garland, Texas, is hereby amended by amending subsection 31.155(D) to read as follows:

"(D) The amount of the impact fees to be assessed by water meter type and size or by vehicle mile shall be as set forth in schedule 1. The amount of the impact fees to be paid by water meter type and size or by vehicle mile shall be as set forth in schedule 2. Impact fee schedules may be amended from time to time utilizing an amendment procedure set forth in this article.

Section 5

That Chapter 31, "Engineering", of the Code of Ordinances of the City of Garland, Texas, is hereby amended by amending subsection 31.160(B) to read as follows:

(B) The burden of proof is on the property owner/applicant to demonstrate the basis of the appeal. A notice of appeal must be submitted in writing and shall be filed with the Director of Planning within thirty days following the assessment of impact fees under section 31.156. If the appeal pertains to assessments on non-residential development, the Director of Planning shall forward a copy of the notice of appeal to the Director of Economic Development who shall promptly provide any recommendations on the merits of the appeal to the Director of Planning prior to submission of the appeal to the City Council."

Section 6

That the Roadway Impact Fee Rate Schedule 1 (Max Fee), the Roadway Impact Fee Rate Schedule 2 (Collection Rates), the Water Impact Fee Rate Schedule 1 (Max Fee), the Water Impact Fee Rate Schedule 2 (Collection Rates), and the official maps of service areas for Roadway Impact Fees and Water Impact fees attached to this Ordinance are hereby approved and adopted as the Schedules referenced in Article XI, Chapter 31 of the Code of Ordinances, and shall remain in effect until further amended, updated or repealed by the City Council.

Section 7

That Chapter 31, "Engineering", of the Code of Ordinances of the City of Garland, Texas, as amended, shall be and remain in full force and effect save and except as amended by this Ordinance.

Section 8

That the terms and provisions of this Ordinance are severable and are governed by Sec. 10.06 of the Code of Ordinances of the City of Garland, Texas.

Section 9

That this Ordinance shall be and become effective March 1, 2017.

PASSED AND APPROVED this the _____ day of _____, 2016.

CITY OF GARLAND, TEXAS

Mayor

ATTEST:

City Secretary

Published:

Roadway Impact Fee Rate Schedule 1 (Max Fee)

Land Use Category	IIE Land Use Code	Development Unit	Veh-Mi Per Dev- Unit
PORT AND TERMINAL			
Truck Terminal	030	Acre	39.30
INDUSTRIAL			
General Light Industrial	110	1,000 SF GFA	5.82
General Heavy Industrial	120	1,000 SF GFA	4.08
Industrial Park	130	1,000 SF GFA	5.10
Warehousing	150	1,000 SF GFA	1.92
Mini-Warehouse	151	1,000 SF GFA	1.56
RESIDENTIAL			
Single-Family Detached Housing	210	Dwelling Unit	4.90
Apartment/Multi-family	220	Dwelling Unit	3.03
Residential Condominium/Townhome	230	Dwelling Unit	2.55
Mobile Home Park / Manufactured Housing	240	Dwelling Unit	2.89
Senior Adult Housing-Detached	251	Dwelling Unit	1.32
Senior Adult Housing-Attached	252	Dwelling Unit	1.22
Assisted Living	254	Beds	1.08
LODGING			
Hotel	310	Room	1.93
Motel / Other Lodging Facilities	320	Room	1.51
RECREATIONAL			
Golf Driving Range	432	Tee	4.91
Golf Course	430	Acre	1.18
Recreational Community Center	495	1,000 SF GFA	10.77
Ice Skating Rink	465	1,000 SF GFA	9.27
Miniature Golf Course	431	Hole	1.30
Multiplex Movie Theater	445	Screens	53.61
Racquet / Tennis Club	491	Court	13.17
INSTITUTIONAL			
Church	560	1,000 SF GFA	2.29
Day Care Center	565	1,000 SF GFA	12.06
Primary/Middle School (1-8)	522	Students	0.28
High School	530	Students	0.23
Junior / Community College	540	Students	0.63
University / College	550	Students	0.89
MEDICAL			
Clinic	630	1,000 SF GFA	25.51
Hospital	610	1,000 SF GFA	4.58
Nursing Home	620	Beds	1.08
Animal Hospital/Veterinary Clinic	640	1,000 SF GFA	16.25
OFFICE			
Corporate Headquarters Building	714	1,000 SF GFA	8.46
General Office Building	710	1,000 SF GFA	8.94
Medical-Dental Office Building	720	1,000 SF GFA	17.58
Single Tenant Office Building	715	1,000 SF GFA	10.44
Office Park	750	1,000 SF GFA	8.88
COMMERCIAL			
Automobile Related			
Automobile Care Center	942	1,000 SF Occ. GLA	4.16
Automobile Parts Sales	843	1,000 SF GFA	7.59
Gasoline/Service Station	944	Vehicle Fueling Position	4.82
Gasoline/Service Station w/ Conv Market	945	Vehicle Fueling Position	3.56
Gasoline/Service Station w/ Conv Market and Car Wash	946	Vehicle Fueling Position	3.66
New Car Sales	841	1,000 SF GFA	4.67
Quick Lubrication Vehicle Shop	941	Servicing Positions	6.92
Self-Service Car Wash	947	Stall	1.99
Automated Car Wash	948	Stall	5.08
Tire Store	848	1,000 SF GFA	6.65
Dining			
Fast Food Restaurant with Drive-Thru Window	934	1,000 SF GFA	46.05
Fast Food Restaurant without Drive-Thru Window	933	1,000 SF GFA	36.89
High Turnover (Sit-Down) Restaurant	932	1,000 SF GFA	17.03
Quality Restaurant	931	1,000 SF GFA	12.72
Coffee/Donut Shop with Drive-Thru Window	937	1,000 SF GFA	29.08
Other Retail			
Free-Standing Discount Store	815	1,000 SF GFA	9.77
Nursery (Garden Center)	817	1,000 SF GFA	13.61
Home Improvement Superstore	862	1,000 SF GFA	3.39
Pharmacy/Drugstore w/o Drive-Thru Window	880	1,000 SF GFA	11.06
Pharmacy/Drugstore w/ Drive-Thru Window	881	1,000 SF GFA	14.14
Shopping Center	820	1,000 SF GLA	6.86
Supermarket	850	1,000 SF GFA	17.00
Toy/Children's Superstore	864	1,000 SF GFA	9.77
Department Store	875	1,000 SF GFA	3.67
SERVICES			
Walk-In Bank	911	1,000 SF GFA	16.20
Drive-In Bank	912	Drive-in Lanes	39.20
Hair Salon	918	1,000 SF GLA	2.27

2016 Maximum Fee SA A	2016 Maximum Fee SA B	2016 Maximum Fee SA C	2016 Maximum Fee SA D
\$ 40,558	\$ 81,783	\$ 104,577	\$ 58,400
\$ 6,006	\$ 12,111	\$ 15,487	\$ 8,649
\$ 4,211	\$ 8,490	\$ 10,857	\$ 6,063
\$ 5,263	\$ 10,613	\$ 13,571	\$ 7,579
\$ 1,981	\$ 3,996	\$ 5,109	\$ 2,853
\$ 1,610	\$ 3,246	\$ 4,151	\$ 2,318
\$ 5,057	\$ 10,197	\$ 13,039	\$ 7,281
\$ 3,127	\$ 6,305	\$ 8,063	\$ 4,503
\$ 2,632	\$ 5,307	\$ 6,786	\$ 3,789
\$ 2,982	\$ 6,014	\$ 7,690	\$ 4,295
\$ 1,362	\$ 2,747	\$ 3,513	\$ 1,962
\$ 1,259	\$ 2,539	\$ 3,246	\$ 1,813
\$ 1,115	\$ 2,247	\$ 2,874	\$ 1,605
\$ 1,992	\$ 4,016	\$ 5,136	\$ 2,868
\$ 1,558	\$ 3,142	\$ 4,018	\$ 2,244
\$ 5,067	\$ 10,218	\$ 13,066	\$ 7,296
\$ 1,218	\$ 2,456	\$ 3,140	\$ 1,753
\$ 11,115	\$ 22,412	\$ 28,659	\$ 16,004
\$ 9,567	\$ 19,291	\$ 24,667	\$ 13,775
\$ 1,342	\$ 2,705	\$ 3,459	\$ 1,932
\$ 55,326	\$ 111,562	\$ 142,656	\$ 79,664
\$ 13,591	\$ 27,407	\$ 35,045	\$ 19,571
\$ 2,363	\$ 4,765	\$ 6,094	\$ 3,403
\$ 12,446	\$ 25,097	\$ 32,092	\$ 17,921
\$ 289	\$ 583	\$ 745	\$ 416
\$ 237	\$ 479	\$ 612	\$ 342
\$ 650	\$ 1,311	\$ 1,676	\$ 936
\$ 918	\$ 1,852	\$ 2,368	\$ 1,323
\$ 26,326	\$ 53,086	\$ 67,882	\$ 37,908
\$ 4,727	\$ 9,531	\$ 12,187	\$ 6,806
\$ 1,115	\$ 2,247	\$ 2,874	\$ 1,605
\$ 16,770	\$ 33,816	\$ 43,241	\$ 24,148
\$ 8,731	\$ 17,605	\$ 22,512	\$ 12,572
\$ 9,226	\$ 18,604	\$ 23,789	\$ 13,285
\$ 18,143	\$ 36,584	\$ 46,780	\$ 26,124
\$ 10,774	\$ 21,726	\$ 27,781	\$ 15,514
\$ 9,164	\$ 18,479	\$ 23,630	\$ 13,196
\$ 4,293	\$ 8,657	\$ 11,070	\$ 6,182
\$ 7,833	\$ 15,795	\$ 20,197	\$ 11,279
\$ 4,974	\$ 10,030	\$ 12,826	\$ 7,163
\$ 3,674	\$ 7,408	\$ 9,473	\$ 5,290
\$ 3,777	\$ 7,616	\$ 9,739	\$ 5,439
\$ 4,819	\$ 9,718	\$ 12,427	\$ 6,940
\$ 7,141	\$ 14,401	\$ 18,414	\$ 10,283
\$ 2,054	\$ 4,141	\$ 5,295	\$ 2,957
\$ 5,243	\$ 10,571	\$ 13,518	\$ 7,549
\$ 6,863	\$ 13,839	\$ 17,696	\$ 9,882
\$ 47,524	\$ 95,830	\$ 122,539	\$ 68,430
\$ 38,070	\$ 76,768	\$ 98,164	\$ 54,819
\$ 17,575	\$ 35,439	\$ 45,317	\$ 25,307
\$ 13,127	\$ 26,470	\$ 33,848	\$ 18,902
\$ 30,011	\$ 60,515	\$ 77,382	\$ 43,213
\$ 10,083	\$ 20,331	\$ 25,998	\$ 14,518
\$ 14,046	\$ 28,322	\$ 36,216	\$ 20,224
\$ 3,498	\$ 7,055	\$ 9,021	\$ 5,038
\$ 11,414	\$ 23,016	\$ 29,431	\$ 16,435
\$ 14,592	\$ 29,425	\$ 37,627	\$ 21,012
\$ 7,080	\$ 14,276	\$ 18,254	\$ 10,194
\$ 17,544	\$ 35,377	\$ 45,237	\$ 25,262
\$ 10,083	\$ 20,331	\$ 25,998	\$ 14,518
\$ 3,787	\$ 7,637	\$ 9,766	\$ 5,454
\$ 16,718	\$ 33,712	\$ 43,108	\$ 24,073
\$ 40,454	\$ 81,575	\$ 104,311	\$ 58,251
\$ 2,343	\$ 4,724	\$ 6,040	\$ 3,373

Roadway Impact Fee Rate Schedule 2 (Collection Rates)

Land Use Category	IITE Land Use Code	Development Unit	Veh-Mi Per Dev-Unit
PORT AND TERMINAL			
Truck Terminal	030	Acre	39.30
INDUSTRIAL			
General Light Industrial	110	1,000 SF GFA	5.82
General Heavy Industrial	120	1,000 SF GFA	4.08
Industrial Park	130	1,000 SF GFA	5.10
Warehousing	150	1,000 SF GFA	1.92
Mini-Warehouse	151	1,000 SF GFA	1.56
RESIDENTIAL			
Single-Family Detached Housing	210	Dwelling Unit	4.90
Apartment/Multi-family	220	Dwelling Unit	3.03
Residential Condominium/Townhome	230	Dwelling Unit	2.55
Mobile Home Park / Manufactured Housing	240	Dwelling Unit	2.89
Senior Adult Housing-Detached	251	Dwelling Unit	1.32
Senior Adult Housing-Attached	252	Dwelling Unit	1.22
Assisted Living	254	Beds	1.08
LODGING			
Hotel	310	Room	1.93
Motel / Other Lodging Facilities	320	Room	1.51
RECREATIONAL			
Golf Driving Range	432	Tee	4.91
Golf Course	430	Acre	1.18
Recreational Community Center	495	1,000 SF GFA	10.77
Ice Skating Rink	465	1,000 SF GFA	9.27
Miniature Golf Course	431	Hole	1.30
Multiplex Movie Theater	445	Screens	53.61
Racquet / Tennis Club	491	Court	13.17
INSTITUTIONAL			
Church	560	1,000 SF GFA	2.29
Day Care Center	565	1,000 SF GFA	12.06
Primary/Middle School (1-8)	522	Students	0.28
High School	530	Students	0.23
Junior / Community College	540	Students	0.63
University / College	550	Students	0.89
MEDICAL			
Clinic	630	1,000 SF GFA	25.51
Hospital	610	1,000 SF GFA	4.58
Nursing Home	620	Beds	1.08
Animal Hospital/Veterinary Clinic	640	1,000 SF GFA	16.25
OFFICE			
Corporate Headquarters Building	714	1,000 SF GFA	8.46
General Office Building	710	1,000 SF GFA	8.94
Medical-Dental Office Building	720	1,000 SF GFA	17.58
Single Tenant Office Building	715	1,000 SF GFA	10.44
Office Park	750	1,000 SF GFA	8.88
COMMERCIAL			
Automobile Related			
Automobile Care Center	942	1,000 SF Occ. GLA	4.16
Automobile Parts Sales	843	1,000 SF GFA	7.59
Gasoline/Service Station	944	Vehicle Fueling Position	4.82
Gasoline/Service Station w/ Conv Market	945	Vehicle Fueling Position	3.56
Gasoline/Service Station w/ Conv Market and Car Wash	946	Vehicle Fueling Position	3.66
New Car Sales	841	1,000 SF GFA	4.67
Quick Lubrication Vehicle Shop	941	Servicing Positions	6.92
Self-Service Car Wash	947	Stall	1.99
Automated Car Wash	948	Stall	5.08
Tire Store	848	1,000 SF GFA	6.65
Dining			
Fast Food Restaurant with Drive-Thru Window	934	1,000 SF GFA	46.05
Fast Food Restaurant without Drive-Thru Window	933	1,000 SF GFA	36.89
High Turnover (Sit-Down) Restaurant	932	1,000 SF GFA	17.03
Quality Restaurant	931	1,000 SF GFA	12.72
Coffee/Donut Shop with Drive-Thru Window	937	1,000 SF GFA	29.08
Other Retail			
Free-Standing Discount Store	815	1,000 SF GFA	9.77
Nursery (Garden Center)	817	1,000 SF GFA	13.61
Home Improvement Superstore	862	1,000 SF GFA	3.39
Pharmacy/Drugstore w/o Drive-Thru Window	880	1,000 SF GFA	11.06
Pharmacy/Drugstore w/ Drive-Thru Window	881	1,000 SF GFA	14.14
Shopping Center	820	1,000 SF GLA	6.86
Supermarket	850	1,000 SF GFA	17.00
Toy/Children's Superstore	864	1,000 SF GFA	9.77
Department Store	875	1,000 SF GFA	3.67
SERVICES			
Walk-In Bank	911	1,000 SF GFA	16.20
Drive-In Bank	912	Drive-in Lanes	39.20
Hair Salon	918	1,000 SF GLA	2.27

Percent of Maximum Collected	2016 Collection Rate SA A	Percent of Maximum Collected	2016 Collection Rate SA B	Percent of Maximum Collected	2016 Collection Rate SA C	Percent of Maximum Collected	2016 Collection Rate SA D
45%	\$ 18,251	22%	\$ 18,251	17%	\$ 18,251	31%	\$ 18,251
15%	\$ 901	7%	\$ 901	6%	\$ 901	10%	\$ 901
15%	\$ 632	7%	\$ 632	6%	\$ 632	10%	\$ 632
15%	\$ 789	7%	\$ 789	6%	\$ 789	10%	\$ 789
15%	\$ 297	7%	\$ 297	6%	\$ 297	10%	\$ 297
15%	\$ 241	7%	\$ 241	6%	\$ 241	10%	\$ 241
60%	\$ 3,034	30%	\$ 3,034	23%	\$ 3,034	42%	\$ 3,034
60%	\$ 1,876	30%	\$ 1,876	23%	\$ 1,876	42%	\$ 1,876
60%	\$ 1,579	30%	\$ 1,579	23%	\$ 1,579	42%	\$ 1,579
60%	\$ 1,789	30%	\$ 1,789	23%	\$ 1,789	42%	\$ 1,789
60%	\$ 817	30%	\$ 817	23%	\$ 817	42%	\$ 817
60%	\$ 755	30%	\$ 755	23%	\$ 755	42%	\$ 755
60%	\$ 669	30%	\$ 669	23%	\$ 669	42%	\$ 669
45%	\$ 896	22%	\$ 896	17%	\$ 896	31%	\$ 896
45%	\$ 701	22%	\$ 701	17%	\$ 701	31%	\$ 701
45%	\$ 2,280	22%	\$ 2,280	17%	\$ 2,280	31%	\$ 2,280
45%	\$ 548	22%	\$ 548	17%	\$ 548	31%	\$ 548
45%	\$ 5,002	22%	\$ 5,002	17%	\$ 5,002	31%	\$ 5,002
45%	\$ 4,305	22%	\$ 4,305	17%	\$ 4,305	31%	\$ 4,305
45%	\$ 604	22%	\$ 604	17%	\$ 604	31%	\$ 604
45%	\$ 24,896	22%	\$ 24,896	17%	\$ 24,896	31%	\$ 24,896
45%	\$ 6,116	22%	\$ 6,116	17%	\$ 6,116	31%	\$ 6,116
45%	\$ 1,063	22%	\$ 1,063	17%	\$ 1,063	31%	\$ 1,063
45%	\$ 5,601	22%	\$ 5,601	17%	\$ 5,601	31%	\$ 5,601
45%	\$ 130	22%	\$ 130	17%	\$ 130	31%	\$ 130
45%	\$ 107	22%	\$ 107	17%	\$ 107	31%	\$ 107
45%	\$ 293	22%	\$ 293	17%	\$ 293	31%	\$ 293
45%	\$ 413	22%	\$ 413	17%	\$ 413	31%	\$ 413
45%	\$ 11,847	22%	\$ 11,847	17%	\$ 11,847	31%	\$ 11,847
45%	\$ 2,127	22%	\$ 2,127	17%	\$ 2,127	31%	\$ 2,127
45%	\$ 502	22%	\$ 502	17%	\$ 502	31%	\$ 502
45%	\$ 7,547	22%	\$ 7,547	17%	\$ 7,547	31%	\$ 7,547
45%	\$ 3,929	22%	\$ 3,929	17%	\$ 3,929	31%	\$ 3,929
45%	\$ 4,152	22%	\$ 4,152	17%	\$ 4,152	31%	\$ 4,152
45%	\$ 8,164	22%	\$ 8,164	17%	\$ 8,164	31%	\$ 8,164
45%	\$ 4,848	22%	\$ 4,848	17%	\$ 4,848	31%	\$ 4,848
45%	\$ 4,124	22%	\$ 4,124	17%	\$ 4,124	31%	\$ 4,124
45%	\$ 1,932	22%	\$ 1,932	17%	\$ 1,932	31%	\$ 1,932
45%	\$ 3,525	22%	\$ 3,525	17%	\$ 3,525	31%	\$ 3,525
45%	\$ 2,238	22%	\$ 2,238	17%	\$ 2,238	31%	\$ 2,238
45%	\$ 1,653	22%	\$ 1,653	17%	\$ 1,653	31%	\$ 1,653
45%	\$ 1,700	22%	\$ 1,700	17%	\$ 1,700	31%	\$ 1,700
45%	\$ 2,169	22%	\$ 2,169	17%	\$ 2,169	31%	\$ 2,169
45%	\$ 3,214	22%	\$ 3,214	17%	\$ 3,214	31%	\$ 3,214
45%	\$ 924	22%	\$ 924	17%	\$ 924	31%	\$ 924
45%	\$ 2,359	22%	\$ 2,359	17%	\$ 2,359	31%	\$ 2,359
45%	\$ 3,088	22%	\$ 3,088	17%	\$ 3,088	31%	\$ 3,088
45%	\$ 21,386	22%	\$ 21,386	17%	\$ 21,386	31%	\$ 21,386
45%	\$ 17,132	22%	\$ 17,132	17%	\$ 17,132	31%	\$ 17,132
45%	\$ 7,909	22%	\$ 7,909	17%	\$ 7,909	31%	\$ 7,909
45%	\$ 5,907	22%	\$ 5,907	17%	\$ 5,907	31%	\$ 5,907
45%	\$ 13,505	22%	\$ 13,505	17%	\$ 13,505	31%	\$ 13,505
45%	\$ 4,537	22%	\$ 4,537	17%	\$ 4,537	31%	\$ 4,537
45%	\$ 6,320	22%	\$ 6,320	17%	\$ 6,320	31%	\$ 6,320
45%	\$ 1,574	22%	\$ 1,574	17%	\$ 1,574	31%	\$ 1,574
45%	\$ 5,136	22%	\$ 5,136	17%	\$ 5,136	31%	\$ 5,136
45%	\$ 6,567	22%	\$ 6,567	17%	\$ 6,567	31%	\$ 6,567
45%	\$ 3,186	22%	\$ 3,186	17%	\$ 3,186	31%	\$ 3,186
45%	\$ 7,895	22%	\$ 7,895	17%	\$ 7,895	31%	\$ 7,895
45%	\$ 4,537	22%	\$ 4,537	17%	\$ 4,537	31%	\$ 4,537
45%	\$ 1,704	22%	\$ 1,704	17%	\$ 1,704	31%	\$ 1,704
45%	\$ 7,523	22%	\$ 7,523	17%	\$ 7,523	31%	\$ 7,523
45%	\$ 18,204	22%	\$ 18,204	17%	\$ 18,204	31%	\$ 18,204
45%	\$ 1,054	22%	\$ 1,054	17%	\$ 1,054	31%	\$ 1,054

Water Impact Fee Rate Schedule 1 (Max Fee)

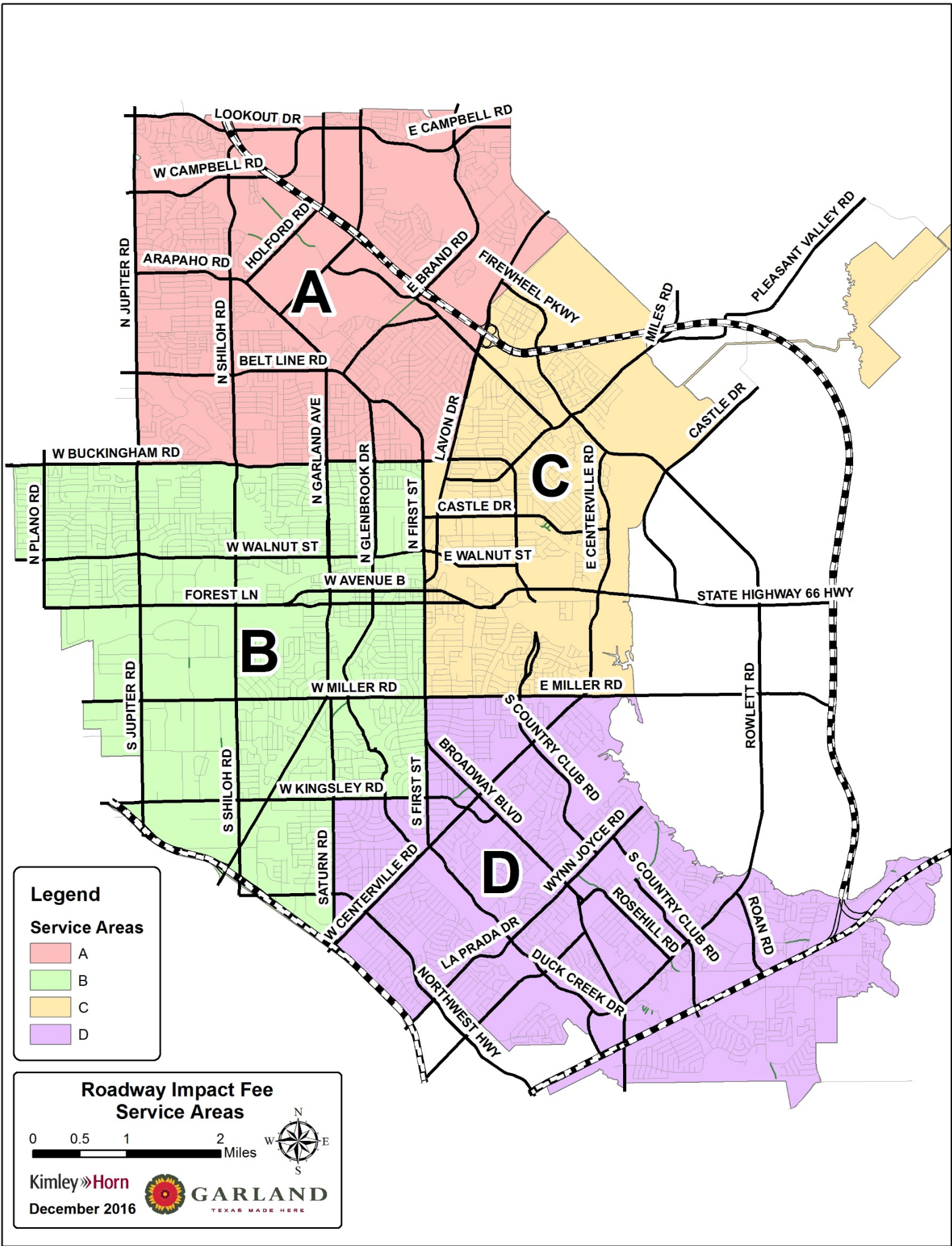
Meter Size*	Maximum Continuous Operating Capacity (GPM)**	Service Unit Equivalent	Maximum Assessable Fee
5/8"x 3/4" PD	10	1	\$ 593
3/4" PD	15	1.5	\$ 890
1" PD	25	2.5	\$ 1,483
1 1/2" PD	50	5	\$ 2,965
2" PD	80	8	\$ 4,744
2" Compound	80	8	\$ 4,744
2" Turbine	160	16	\$ 9,488
3" Compound	175	17.5	\$ 10,378
3" Turbine	350	35	\$ 20,755
4" Compound	300	30	\$ 17,790
4" Turbine	650	65	\$ 38,545
6" Compound	675	67.5	\$ 40,028
6" Turbine	1,400	140	\$ 83,020
8" Compound	900	90	\$ 53,370
8" Turbine	2,400	240	\$ 142,320
10" Turbine	3,500	350	\$ 207,550

*PD = Positive Displacement Meter (Typical Residential Water Meter)
** Operating capacities obtained from American Water Works (AWWA) C-700, C-701 & C-702

Water Impact Fee Rate Schedule 2 (Collection Rate)

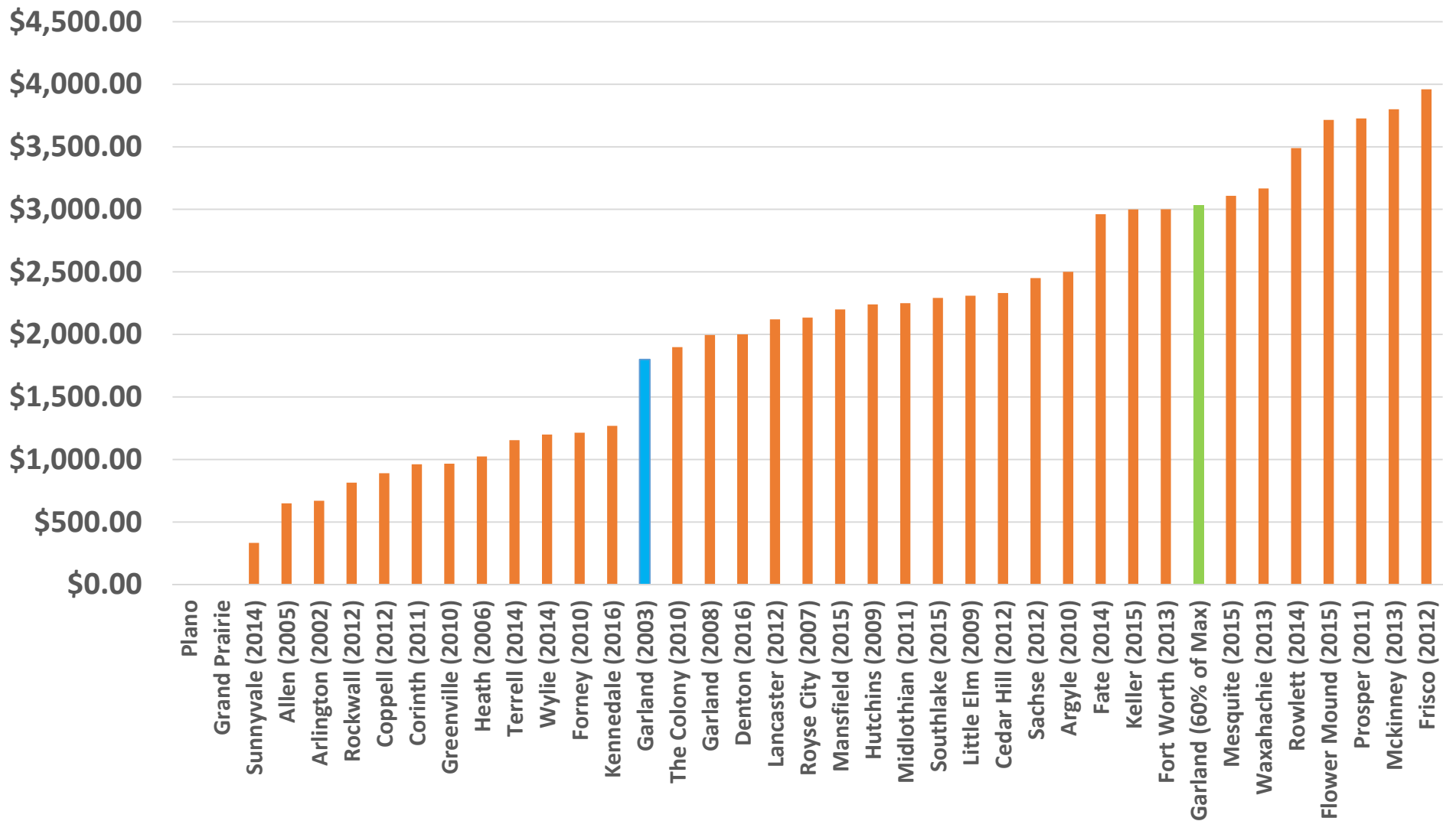
Meter Size*	Maximum Continuous Operating Capacity (GPM)**	Service Unit Equivalent	Maximum Assessable Fee
5/8"x 3/4" PD	10	1	\$ 593
3/4" PD	15	1.5	\$ 890
1" PD	25	2.5	\$ 1,483
1 1/2" PD	50	5	\$ 2,965
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*PD = Positive Displacement Meter (Typical Residential Water Meter)
** Operating capacities obtained from American Water Works (AWWA) C-700, C-701 & C-702





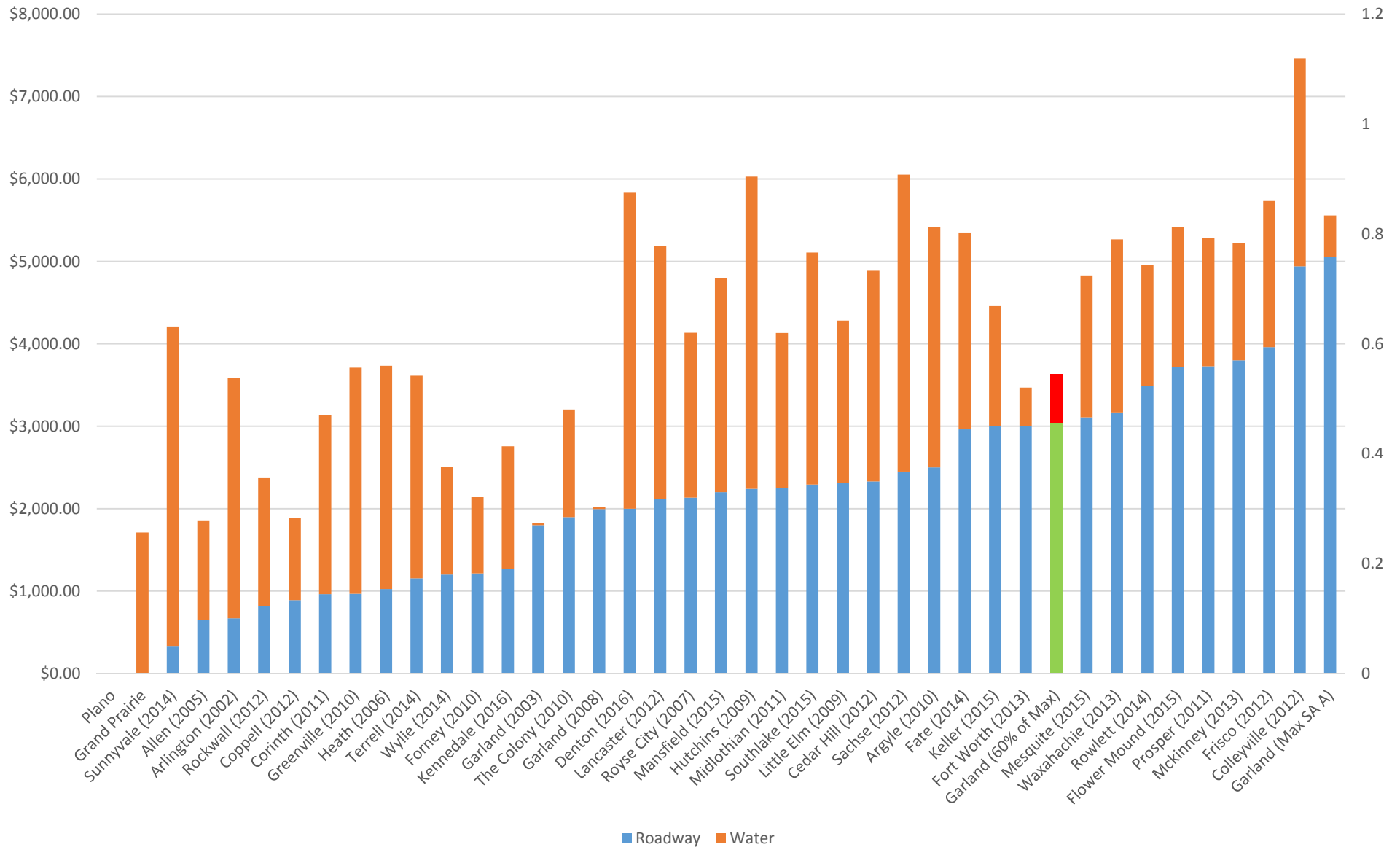
Roadway Impact Fees Comparison - Single Family



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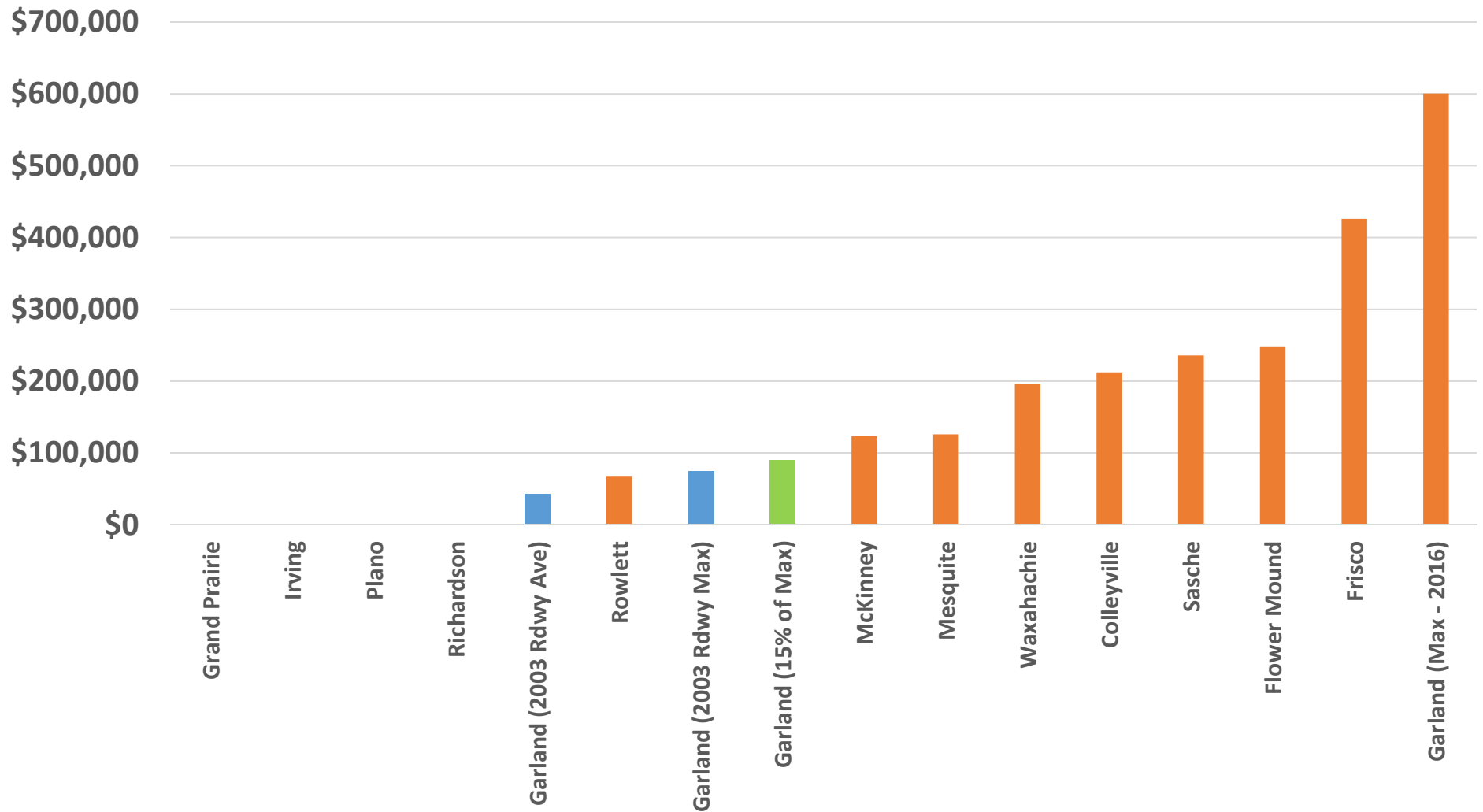
Roadway + Water Impact Fee Comparison - Single Family



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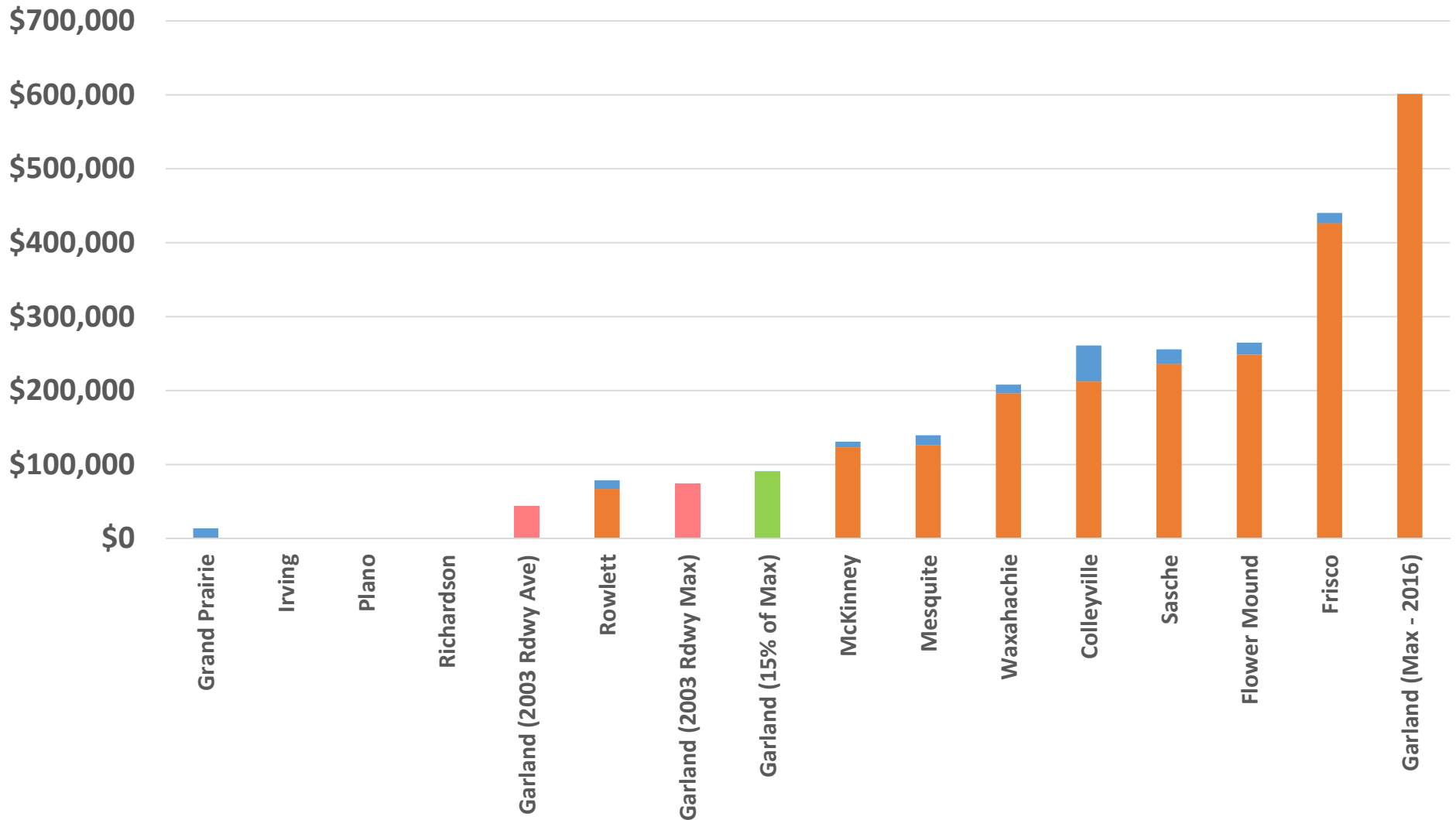
Roadway Impact Fees Comparison - 100,000 Sq. Ft. Industrial



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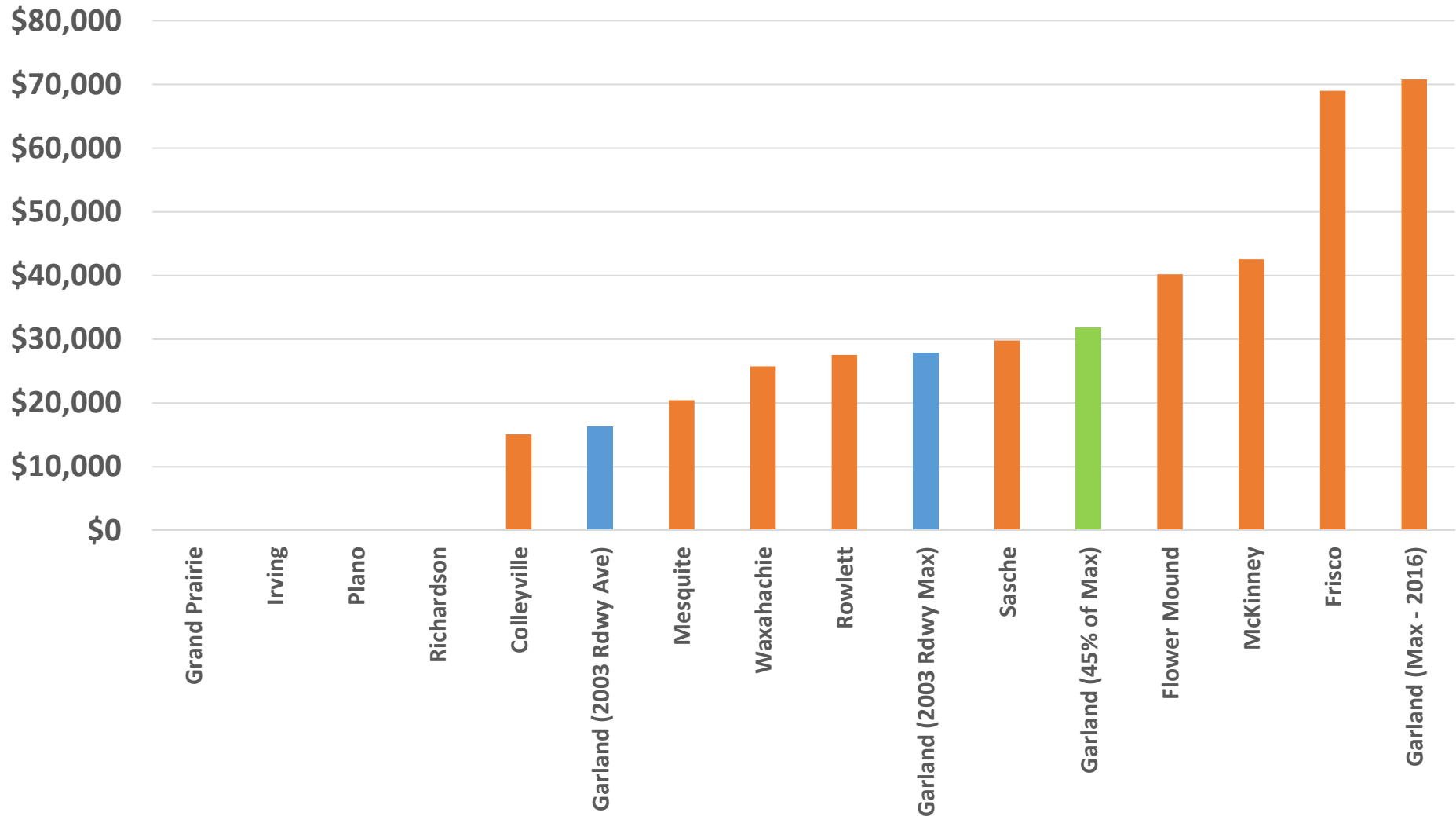
Roadway + Water Impact Fees Comparison - 100,000 Sq. Ft. Industrial



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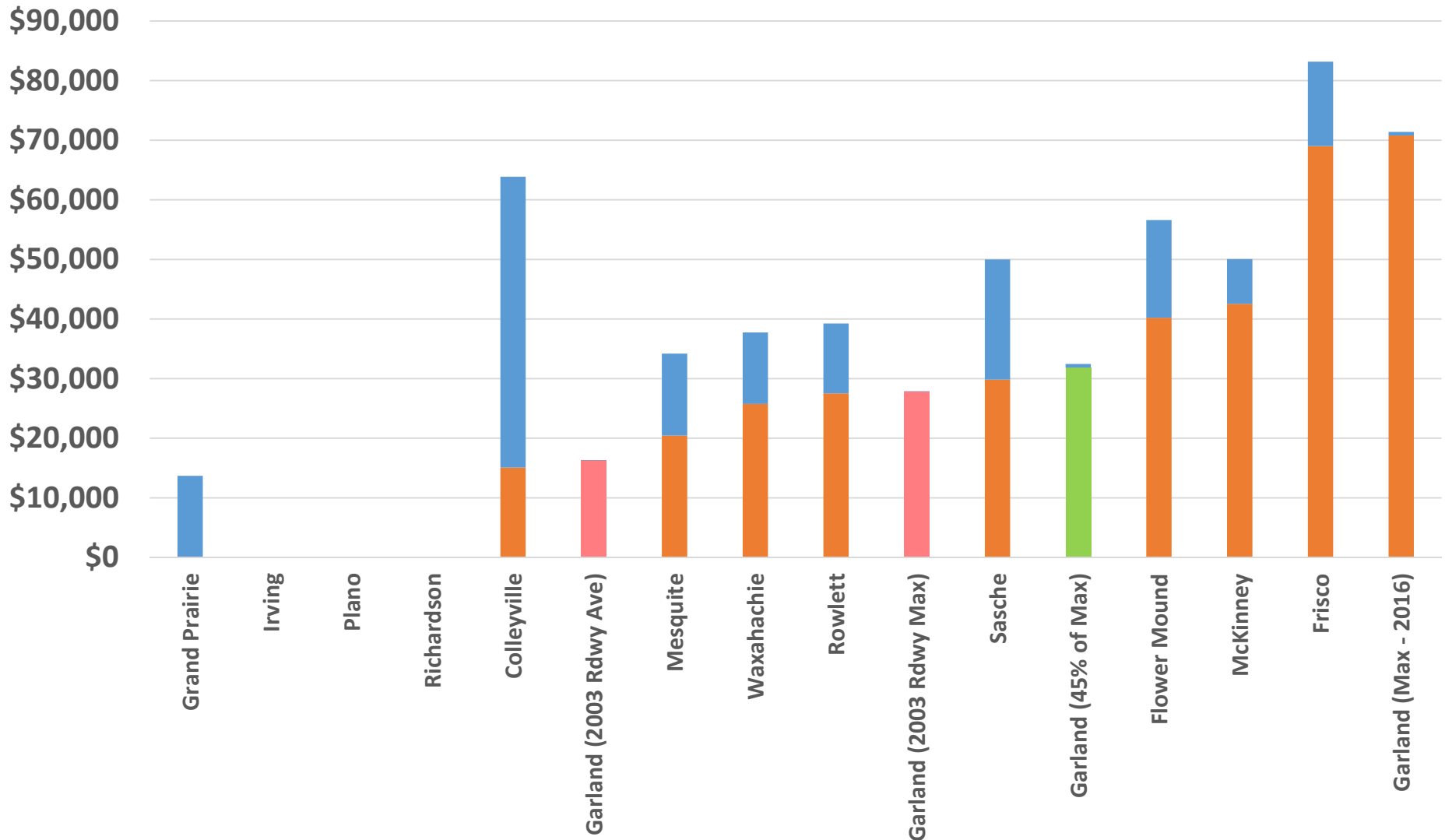
Roadway Impact Fees Comparison – 10,000 Sq. Ft. Retail



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Roadway + Water Impact Fees Comparison - 10,000 Sq. Ft. Retail



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CITY OF GARLAND, TEXAS ROADWAY IMPACT FEE STUDY FINAL DRAFT



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October
2016

Prepared for the City of Garland

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EXECUTIVE SUMMARY

Introduction

Impact Fees are a mechanism for funding the public infrastructure necessitated by new development. Across the country, they are used to fund police and fire facilities, parks, schools, roads and utilities. In Texas, the legislature has allowed their use for water, wastewater, roadway and drainage facilities. Historically, they have been used to fund public water, wastewater, and roadway improvements in the City of Garland. The focus of this study is on roadway impact fees.

In the most basic terms, impact fees are meant to recover the incremental cost of the impact of each new unit of development creating new infrastructure needs. In the case of roadway impact fees, the infrastructure need is the increased capacity on arterial and collector roadways that serve the overall transportation system. The purpose of the 2016 Roadway Impact Fee Study is to identify the fee per unit of new development necessary to fund these improvements in accordance with the enabling legislation, Chapter 395 of the Texas Local Government Code.

Impact Fee Basics

Roadway Impact Fees are determined by several key variables, each described below in greater detail.

Impact Fee Study

The primary purpose of the 2016 Roadway Impact Fee Study is to determine the maximum impact fee per unit of new development chargeable as allowed by the state law. This determination is not a recommendation; the actual fee amount ultimately assessed is at the discretion of the Garland City Council, so long as it does not exceed the maximum assessable allowed by law. The study looks at a period of 10 years to project new growth and corresponding capacity needs, as required by state law. The study (and corresponding maximum fees) must be restudied at least every five years. However, the study can be updated at any time to accommodate significant changes in any of the key variables of the impact fee equation.

Service Areas

A Service Area is a geographic area within which a unique maximum impact fee is determined. All fees collected within the Service Area must be spent on eligible improvements within the same Service Area. For Roadway Impact Fees, the Service Area may not exceed 6 miles. From 2003-2016, there were 18 existing service areas. As a result of this study, these 18 service areas were aggregated into 4 larger service areas following the 6-mile limit. A map of the Service Areas can be found on Page 6.

In defining the Service Area boundaries, the project team considered the corporate boundary, required size limit, adjacent land uses, and topography. Since each Service Area has a unique maximum impact fee, the per-unit maximum fee for an identical land use will vary from one Service Area to the next. For this reason, the team contained areas of uniform land use within the same Service Area boundary where possible.

Land Use Assumptions

The maximum Roadway Impact Fee determination is required to be based on the projected growth and corresponding capacity needs in a ten year window. This study considers the years 2016-2026.

To project future development in the ten year window, growth assumptions were made based on the demographic projections developed for the ongoing Garland Water and Wastewater Master Plan. Research of historical building permits was performed to compare the projected ten year growth against historical data.

Roadway Impact Fee Capital Improvement Plan (CIP)

The Roadway Impact Fee CIP is distinct and separate from the City's traditional Capital Improvements Plan. The Roadway Impact Fee CIP is simply the list of projects eligible for funding through impact fees. Only those capacity improvements included in the City's adopted Thoroughfare Plan are included in the Roadway Impact Fee CIP. Capacity improvements may include the addition of lanes, intersection improvements, or the extension of a new road. Resurfacing or other maintenance activities do not qualify as capacity improvements under impact fee law in Texas.

Only the projects listed in the Roadway Impact Fee CIP are eligible to utilize impact fee funds. In order to optimize future flexibility, all capacity improvement projects included in the Master Thoroughfare Plan are included in the Roadway Impact Fee CIP and will be eligible to utilize impact fee funds. Only the costs associated with providing the additional capacity necessitated by 10-years of growth can be used to calculate the maximum impact fee.

In order to calculate the maximum impact fee, the total cost of the Roadway Impact Fee CIP at build-out was reduced to account for:

- The portion of new capacity that will address existing needs, and
- The portion of new capacity that will not be necessitated until beyond the 10-year growth window.

A ratio that compares 10 years' demand for capacity to the net supply of capacity (total new capacity in the Roadway Impact Fee CIP minus existing needs) can be calculated. This ratio, which may not exceed 100%, is then applied to the cost of the net capacity supplied. The result is a determination of the costs attributable to the next 10 years' growth, which is then used to calculate the maximum impact fee in accordance with state law. The result is known as the cost of the Roadway Impact Fee CIP Attributable to Growth (i.e. recoverable portion of the Roadway Impact Fee CIP):

Service Areas	A	B	C	D
Cost of Roadway Impact Fee CIP Attributable to Growth and Financing	\$ 32,090,045	\$ 24,781,968	\$ 28,927,845	\$ 21,141,890

Service Units

The impact fee law defines a service unit as follows: "Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years."

The 2016 Roadway Impact Fee Study defines a *service unit* as the number of vehicle-miles. Based on the City's 10-year growth projections the associated demand (consumption) values for each service area are as follows in terms of vehicle-miles:



Service Areas	A	B	C	D
Total Growth (2016 - 2026) in Vehicle-Miles	30,833	11,872	10,840	14,170

Impact Fee Calculation

The maximum impact fee allowable in each of the five service areas is then calculated by dividing the Roadway Impact Fee CIP Attributable to Growth by the number of vehicle-miles in the corresponding Service Area in the above table. This calculation is performed for each service area individually; each service area has a stand-alone Roadway Impact Fee CIP and 10-year growth projection.

Below is the listing of the 2016 Roadway Impact Fee Study's Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile):

Service Areas	A	B	C	D
2016 Roadway Impact Fee Study Maximum Assessable Fee Per Vehicle-Mile	\$ 1,032	\$ 2,081	\$ 2,661	\$ 1,486

Chapter 395 Required Adoption Process

Chapter 395 of the Texas Local Government Code stipulates a specific process for the adoption of Roadway Impact Fees. A Capital Improvement Advisory Committee (CIAC) is required to review the Land Use Assumptions and Roadway Impact Fees CIP used in calculating the maximum fee, and to provide the Committee's findings for consideration by the City Council. This CIAC also reviews the Roadway Impact Fee ordinance and provides its findings to the City Council. The composition of the CIAC is required to adequately represent the building and development communities. For this study, the Plan Commission serves as the CIAC. The City Council then conducts a first public hearing on the Land Use Assumptions and Roadway Impact Fee CIP and a second public hearing on the Roadway Impact Fee Ordinance.

Following policy adoption, the CIAC is tasked with advising the City Council of the need to update the Land Use Assumptions or the Roadway Impact Fee CIP at any time within five years of adoption. Finally, the CIAC oversees the proper administration of the Impact Fee, once in place, and advises the Council as necessary.

Collection and Use of Transportation Impact Fees

Roadway Impact fees are assessed when a final plat is recorded. The assessment defines the impact of each unit at the time of platting, according to land use, and may not exceed the maximum impact fee allowed by law. Roadway Impact Fees are collected when a building permit is issued.

Therefore, funds are not collected until development-impacts are introduced to the transportation system. Funds collected within a service area can be used only within the same service area. Finally, fees must be utilized within 10 years of collection, or must be refunded with interest.

I. INTRODUCTION

Chapter 395 of the Texas Local Government Code describes the procedure political subdivisions must follow in order to create and implement impact fees. Senate Bill 243 (SB 243) amended Chapter 395 in 2001 to define 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.”

The City retained Kimley-Horn and Associates, Inc. to provide professional transportation engineering services for the 2016 Roadway Impact Fee Study. This report includes details of the Roadway Impact Fee calculation methodology in accordance with Chapter 395, the applicable Land Use Assumptions, development of the Roadway Impact Fee Capital Improvements Plan, and the Land Use Equivalency Table.

This report references two of the basic inputs to the Roadway Impact Fee:

- 1) **Land Use Assumptions** (Pg. 3)
- 2) **Roadway Impact Fee Capital Improvements Plan (CIP)** (Pg. 8)

Information from these Land Use Assumptions and Roadway Impact Fee CIP is used extensively throughout the remainder of the report.

There is a detailed discussion of the methodology for the computation of impact fees. This discussion is broken into two components:

- 1) **Computation Method for Roadway Impact Fees** (Pg. 17)
- 2) **Roadway Impact Fee Calculation** (Pg. 33)

The components of the **Computation Method for Roadway Impact Fee** include development of:

- Service Areas (Pg. 17)
- Service Units (Pg. 17)
- Cost Per Service Unit (Pg. 19)
- Roadway Impact Fee CIP Costing Methodology (Pg. 19)
- Summary of Roadway Impact Fee CIP Costs (Pg. 23)
- Service Unit Calculation (Pg. 28)

The Roadway Impact Fee is then calculated as:

- Maximum Assessable Impact Fee Per Service Unit (Pg. 33)
- Service Unit Demand Per Unit of Development (Pg. 37)

This report also includes a section concerning the **Plan for Financing and the Ad Valorem Tax Credit**. This plan details the maximum assessable impact fee per service unit the City of Garland may apply under Chapter 395 of the Texas Local Government Code.

The final section of the report is the **Conclusion**, which presents the findings of the update analysis and summarizes the report.

II. LAND USE ASSUMPTIONS

A. Purpose and Overview

In order to assess an impact fee, Land Use Assumptions must be developed to provide the basis for residential and employment growth projections within a political subdivision. As defined by Chapter 395 of the Texas Local Government Code, these assumptions include a description of changes in land uses, densities, and development in the service area. The land use assumptions are then used in determining the need and timing of transportation improvements to serve future development.

Information from the following sources was compiled to complete the land use assumptions:

- Dallas County Appraisal District (DCAD)
- Envision Garland Future Land Use Plan and Map
- Envision Garland 2030 Comprehensive Plan
- Ongoing Water and Wastewater Master Plan Update
- Centerville Marketplace Revitalization Strategy – Final Report
- Forest-Jupiter Transit-Oriented Redevelopment Plan
- City of Garland staff
- Historic Building Permit Data

The Land Use Assumptions include the following components:

- **Land Use Assumptions Methodology** – An overview of the general methodology used to generate the land use assumptions.
- **Roadway Impact Fee Service Areas** – Explanation of the division of Garland into service areas for transportation facilities.
- **Residential and Employment**– Data on residential and employment growth within the service area over the next ten years (2016 – 2026).
- **Land Use Assumptions Summary** – A synopsis of the land use assumptions.

The residential and employment estimates and projections were compiled in accordance with the following categories:

Units: Number of dwelling units, both single and multi-family.

Employment: Square feet of building area based on three (3) different classifications. Each classification has unique trip making characteristics.

Retail: Land use activities which provide for the retail sale of goods which primarily serve households and whose location choice is oriented toward the household sector, such as grocery stores and restaurants.

Service: Land use activities which provide personal and professional services, such as government and other professional offices.

Basic: Land use activities that produce goods and services such as those which are exported outside of the local economy, such as manufacturing, construction, transportation, wholesale, trade, warehousing, and other industrial uses.

These broader categories are used in the development of the assumptions for impact fees; however, expanded classifications used in the assessment of impact fees are found in the Land Use / Vehicle-Mile Equivalency Table (Pg. 39).

B. Land Use Assumptions Methodology

The residential and non-residential growth projections formulated in this report were performed using reasonable and generally accepted planning principles. The following factors were considered in developing these projections:

- Character, type, density, and quantity of existing development;
- Current zoning;
- Growth trends;
- Location of vacant land;
- Physical restrictions (i.e. flood plains, railroads); and
- Physical development capacity of Garland.

Existing residential and employment estimates were obtained using DCAD parcel data and an aerial survey of existing development.

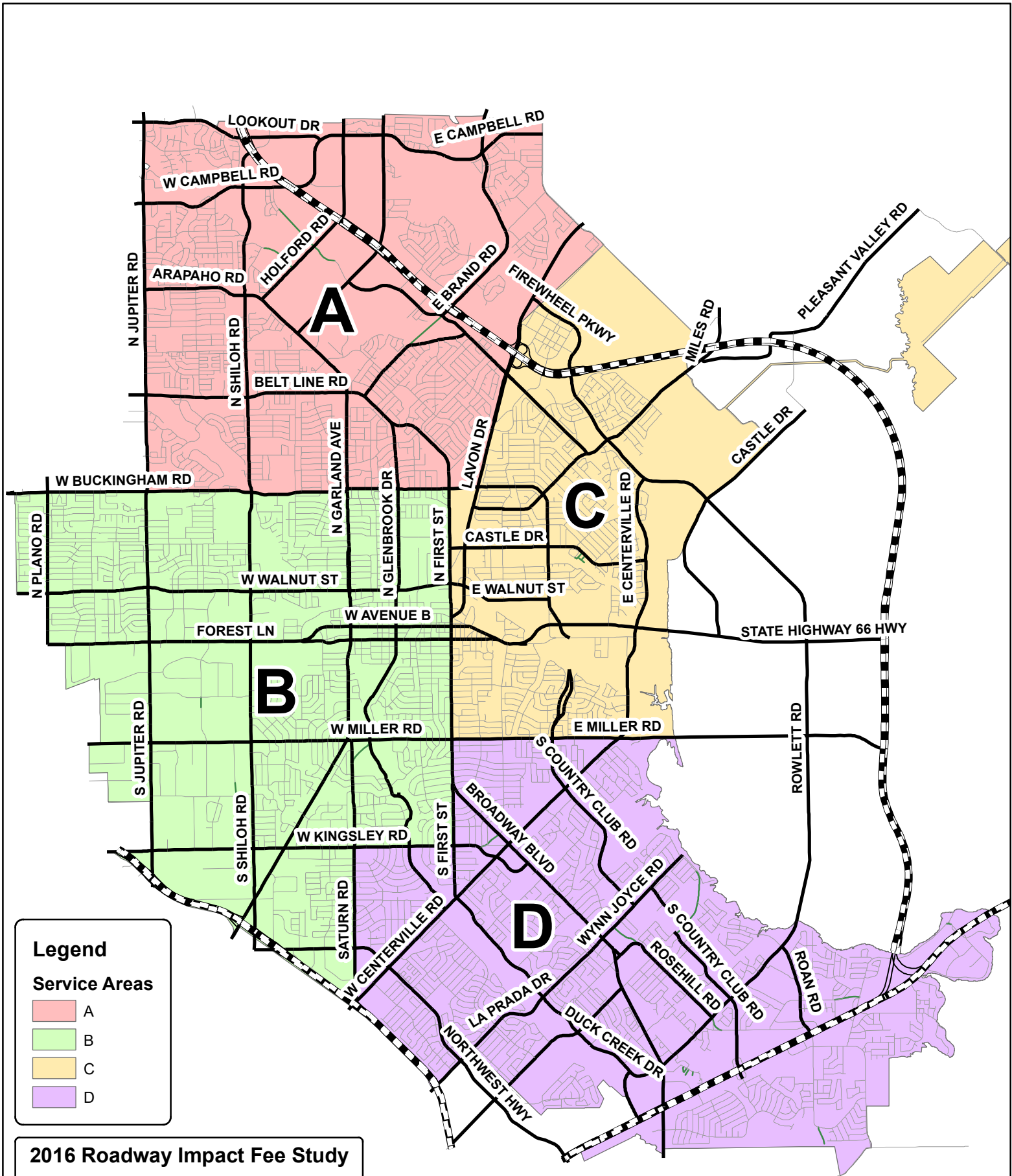
For the remaining undeveloped areas, assumptions based upon the City's Future Land Use Plan were used to estimate the ultimate buildout of residential and employment development. To project future development in the ten-year window, the known developing areas identified in the City's adopted planning documents and projections in the ongoing Water and Wastewater Master Plan were used as a basis to estimate the residential and employment development expected to occur by the year 2026.

Research of historical building permits was performed to compare the projected growth of these known developments with previous growth trends in the City of Garland over the last ten years. During the last ten years, approximately 3,107 residential units and 7 million square feet of employment were developed. It is projected that the next ten years of development will be reasonably close to these estimates.

C. Roadway Impact Fee Service Areas

The geographic boundary of the proposed impact fee service areas for transportation facilities is shown in **Exhibit 1**. The City of Garland is currently divided into 18 service areas. As part of this study, it is proposed to group the existing 18 service areas into four (4) larger service areas, each based upon the six (6) mile limit, as required in Chapter 395 (explained on Pg. 17). For roadway facilities, the service areas as required by state law are limited to areas within the current corporate limits. Therefore, areas within the extraterritorial jurisdiction (ETJ) are excluded from this study.

It should be noted that at locations where service area boundaries follow a City thoroughfare facility, the proposed boundary is intended to follow the centerline of the roadway, unless otherwise noted. In cases where a service area boundary follows the City Limits, only those portions of the transportation facility within the City Limits are included in the service area.





D. Residential and Employment

Residential and Employment estimates for the base year (2016) were performed based upon a survey of the existing land uses and aerial verification. Ten-year growth projections were prepared based upon the City's adopted planning documents, coordination with City staff, and the ongoing Water and Wastewater Master Plan.

E. Land Use Assumptions Summary

Table 1 summarizes the residential and employment 10-year growth projections. The growth is shown by service area and displays the groupings of the existing service areas into the proposed service areas. The projected growth over the next ten years is reasonable compared to the historical growth over the previous ten years, as described in the Land Use Assumptions Methodology (Pg. 4).

Table 1. Residential and Employment 10-Year Growth Projections

Proposed Service Area	Previous Service Areas	Single Family	Multi-Family	Basic	Service	Retail
		Dwelling Units	Dwelling Units	Sq. Ft.	Sq. Ft.	Sq. Ft.
A	1, 2, 4, 5	896	523	412,000	1,613,000	1,172,000
B	7, 8, 10, 11, 13	281	467	513,000	489,000	251,000
C	3, 6, 9	518	298	152,000	378,000	457,000
D	12, 14, 15, 16, 17, 18	689	310	185,000	437,000	710,000
Subtotal		2,384	1,598	1,262,000	2,917,000	2,590,000
Total		3,982		6,769,000		

III. ROADWAY IMPACT FEE CAPITAL IMPROVEMENTS PLAN

Development of a 10-year Roadway Impact Fee Capital Improvement Plan is required per Chapter 395 of the Texas local Government Code. The current Garland Master Thoroughfare Plan was used as the basis for this Roadway Impact Fee CIP, in addition to the ongoing Bottleneck Study. The Roadway Impact Fee CIP includes arterial and collector class roadway facilities that serve the overall transportation system, as well as major intersection improvements. All of the facilities identified are included in the current mobility plan map.

The proposed Roadway Impact Fee CIP is listed in **Tables 2.A – 2.D** and mapped in **Exhibits 2.A – 2.D**. The tables show the length of each project as well as the facility's Thoroughfare Plan classification. The Roadway Impact Fee CIP was developed in conjunction with input from City of Garland staff and represents those projects that will be needed to accommodate the growth projected in the Land Use Assumptions section of this report.

Table 2.A. 10-Year Roadway Impact Fee Capital Improvements Plan – Service Area A

Proj. #	IF Class	Roadway	Limits	Length (mi)	% In Service Area
A-1	B (1/3)	Arapaho Rd (1)	Elm Ridge Ln to Shiloh Rd	0.77	100%
A-2	B (1/3)	Arapaho Rd (2)	Shiloh Rd to N. Garland Ave	0.68	100%
A-3	C1	Brand Rd (1)	Bellaire Rd to Belt Line Rd	0.64	100%
A-4	C1	Brand Rd (2)	Naaman Forest Blvd to West Brand Rd	0.47	100%
A-5	C1	Brand Rd (3)	Murfield Rd to PGBT N Frontage Rd	0.56	100%
A-6	B (1/3)	Campbell Rd (1)	N. Jupiter Rd to Shiloh Rd	1.06	100%
A-7	B (1/3)	Campbell Rd (2)	Shiloh Rd to PGBT S Frontage Rd	0.41	100%
A-8	B (1/3)	Campbell Rd (3)	Lookout Dr to PGBT N Frontage Rd	0.59	100%
A-9	B (1/3)	Campbell Rd (4)	Lookout Dr to N. Garland Ave	0.64	100%
A-10	B (1/3)	Campbell Rd (5)	N. Garland Ave to Water Oak Dr	0.52	100%
A-11	B	Campbell Rd (6)	Water Oak Dr to Murphy Rd	1.24	100%
A-12	D1	Ferris Rd	Campbell Rd to Holford Rd	0.36	100%
A-13	A	Firewheel Parkway (1)	Lavon Dr to 530' E of Lavon Dr	0.10	100%
A-14	D1	Holford Rd (1)	Naaman Forest (Future) to Arapaho Rd	0.75	100%
A-15	C2	Holford Rd (2)	PGBT S Frontage Rd to Naaman Forest (Future)	0.33	100%
A-16	C2	Holford Rd (3)	N City Limits to PGBT N Frontage Rd	0.99	100%
A-17	B (1/3)	Lookout Dr (1)	Courtside Dr to Spring Dr	0.11	50%
A-18	B (1/3)	Lookout Dr (2)	Spring Dr to PGBT S Frontage Rd	0.80	50%
A-19	B (1/3)	Lookout Dr (3)	PGBT N Frontage Rd to Campbell Rd	0.72	100%
A-20	F	Mapleridge (1)	Shiloh Rd to Mapleridge Dr	0.09	100%
A-21	F	Mapleridge (2)	Mapleridge Dr (Existing) to Holford Rd	0.36	100%
A-22	B (1/3)	Garland Ave (1)	N City Limits to PGBT N Frontage Rd	1.29	100%
A-23	B (1/3)	Garland Ave (2)	Arapaho Rd to PGBT S Frontage Rd	1.14	100%
A-24	B-S (1/3)	Garland Ave (3)	Arapaho Rd to Belt Line Rd	0.79	100%
A-25	B (1/3)	Garland Ave (4)	Belt Line Rd to Buckingham Rd	0.97	100%
A-26	B (1/3)	Shiloh Rd (1)	PGBT S Frontage Rd to Campbell Rd	0.37	100%
A-27	B (1/3)	Shiloh Rd (2)	Campbell Rd to north bridge end	0.41	100%
A-28	B (1/3)	Shiloh Rd (3)	Collins Blvd to Arapaho Rd	0.59	100%
A-29	B (1/3)	Shiloh Rd (4)	Arapaho Rd to Belt Line Rd	1.03	100%
A-30	B (1/3)	Shiloh Rd (5)	Belt Line Rd to Buckingham Rd	0.96	100%
A-31	D1	Naaman Forest Blvd	W. Naaman Forest Blvd. to E. Naaman Forest Blvd.	0.33	100%
A-32	D1	Naaman School Rd	Brand Rd to Lavon Dr	0.88	100%
A-33	D1	Naaman Forest Blvd	Ranger to Brand Rd	0.26	100%
I-1		Shiloh Rd and Campbell Rd	Extend WB RT lane		100%
I-2		Arapaho Rd and Shiloh Rd	Add NB and SB RT lanes		100%
I-3		Apollo Rd and Garland Ave	Add EB RT Lane		100%
I-4		Wagon Wheel Rd and Garland Ave	WB RT Lane		100%
I-5		Belt Line Rd and Garland Ave	WB RT Lane		100%
I-6		Belt Line Rd and Shiloh Rd	EB RT Lane		100%
I-7		Buckingham Rd and Plano Rd	NB RT Lane, EB and WB Dual LT Lanes		100%
I-8		Shiloh Rd and Buckingham Rd	Add dual lefts WB, NB, and SB		50%

Note: The 10-Year Roadway Impact Fee CIP is not in a prioritized order.

Projects starting with "I-" are intersection improvements as identified by the ongoing Bottleneck Study

Table 2.B. 10-Year Roadway Impact Fee Capital Improvements Plan – Service Area B

Proj. #	IF Class	Roadway	Limits	Length (mi)	% In Service Area
B-1	E	Kings Rd	Marquis Dr to Kings Rd (Existing)	0.10	100%
B-2	E	Leon Rd (1)	Shiloh Rd to S. Garland Ave	0.18	100%
B-3	E	Leon Rd (2)	Leon Rd (Existing) to Millay Blvd (Future)	0.04	100%
B-4	E	Marketplace ext (1)	Towngate Blvd to Northwest Hwy	0.26	100%
B-5	E	Marketplace ext (2)	Pendleton Dr to Marketplace Dr	0.13	100%
B-6	E	Millay Blvd (Future)	Leon Rd to Millay Blvd (Existing)	0.22	100%
B-7	B (1/3)	Shiloh Rd (6)	Buckingham Rd to W Walnut St	1.00	100%
B-8	B	Shiloh Rd (7)	W Walnut St to Forest Ln	0.50	100%
B-9	B	Shiloh Rd (8)	Forest Ln to Miller Rd	1.01	100%
B-10	B	Shiloh Rd (9)	Miller Rd to Kingsley Rd	1.07	100%
B-11	B	Shiloh Rd (10)	Kingsley Rd to McCree Rd	0.50	100%
B-12	B	Shiloh Rd (11)	Garland Ave to IH-635 WBFR	0.29	100%
B-13	F	New road east of Industrial Ln	Kingsley Rd to McCree Rd	0.50	100%
B-14	D2	Saturn Rd	Saturn Rd (Existing) to Miller Rd	0.31	100%
B-15	E	Sherwin	Sherwin St (Existing) to Wood Dr	0.13	100%
I-9		Plano Rd and Walnut St	NB an SB RT Lane		100%
I-10		Forest Ln and Jupiter Rd	EB and NB RT Lane, NB Dual LT Lanes		100%
I-11		Forest Ln and Shiloh Rd	SB and NB RT Lanes, Dual NB LT Lanes		100%
I-12		Avenue B (SH 78) and First St	SB RT Lane		100%
I-13		Avenue D and First St	EB RT Lane, EB Dual LT Lanes		100%
I-15		Jupiter Rd and Miller Rd	SB RT Lane		100%
I-16		Miller Rd and Shiloh Rd	SB RT Lane		100%
I-17		Garland Ave and Miller Rd	SB, EB, and WB RT Lanes		100%
I-18		Glenbrook Dr and Miller Rd	EB and WB LT Lanes		100%
I-19		First St and Miller Rd	Add EB RT & NB, SB Dual Lefts		33%
I-20		Broadway Blvd and First St	Triple LT from NB First St		50%
I-21		Jupiter Rd and Kingsley Rd	WB RT Lane		100%
I-22		Garland Ave and Kingsley Rd	NB RT Lane		100%
I-24		Garland Ave and McCree Rd / Shiloh Rd	SWB Dual LT Lanes		100%

Note: The 10-Year Roadway Impact Fee CIP is not in a prioritized order.

Projects starting with "I-" are intersection improvements as identified by the ongoing Bottleneck Study

Table 2.C. 10-Year Roadway Impact Fee Capital Improvements Plan – Service Area C

Proj. #	IF Class	Roadway	Limits	Length (mi)	% In Service Area
C-1	D1	Castle Dr (1)	N. First St to Lavon Dr	0.15	100%
C-2	D1	Castle Dr (2)	Lavon Dr to Mars Dr	0.38	100%
C-3	E	Castle Dr (3)	Mars Dr to Country Club Rd	0.46	100%
C-4	E	Castle Dr (4)	Country Club Rd to Centerville Rd	1.05	100%
C-5	E	Castle Dr (5)	2660' south of Firewheel Pkwy to Firewheel Pkwy	0.50	50%
C-6	E	Castle Dr (6)	Firewheel Pkwy to Miles Rd	0.84	50%
C-7	D2	Crist Rd	Lavon Dr to Naaman School Rd	0.62	100%
C-8	A	Firewheel Parkway (2)	530' E of Lavon Dr to 310' S of Town Center Blvd	0.77	100%
C-9	C1	Pleasant Valley Rd (1)	Creek Meadow Ln to Miles Rd	0.50	100%
C-10,D-5	B (1/3)	E. Miller Rd	Centerville Rd to 2,815' E of Centerville Rd	0.53	50%
C-11	C1	Pleasant Valley Rd (2)	Firewheel Pkwy to Creek Meadow Ln	0.58	100%
C-12,D-21	B	Miller Rd Bridge	2,815' E of Centerville Rd to East City Limits	0.04	50%
I-14		Centerville Rd and SH 66	Add dual LT lanes NB and WB		100%
I-19		First St and Miller Rd	Add EB RT & NB, SB Dual Lefts		33%

Note: The 10-Year Roadway Impact Fee CIP is not in a prioritized order.

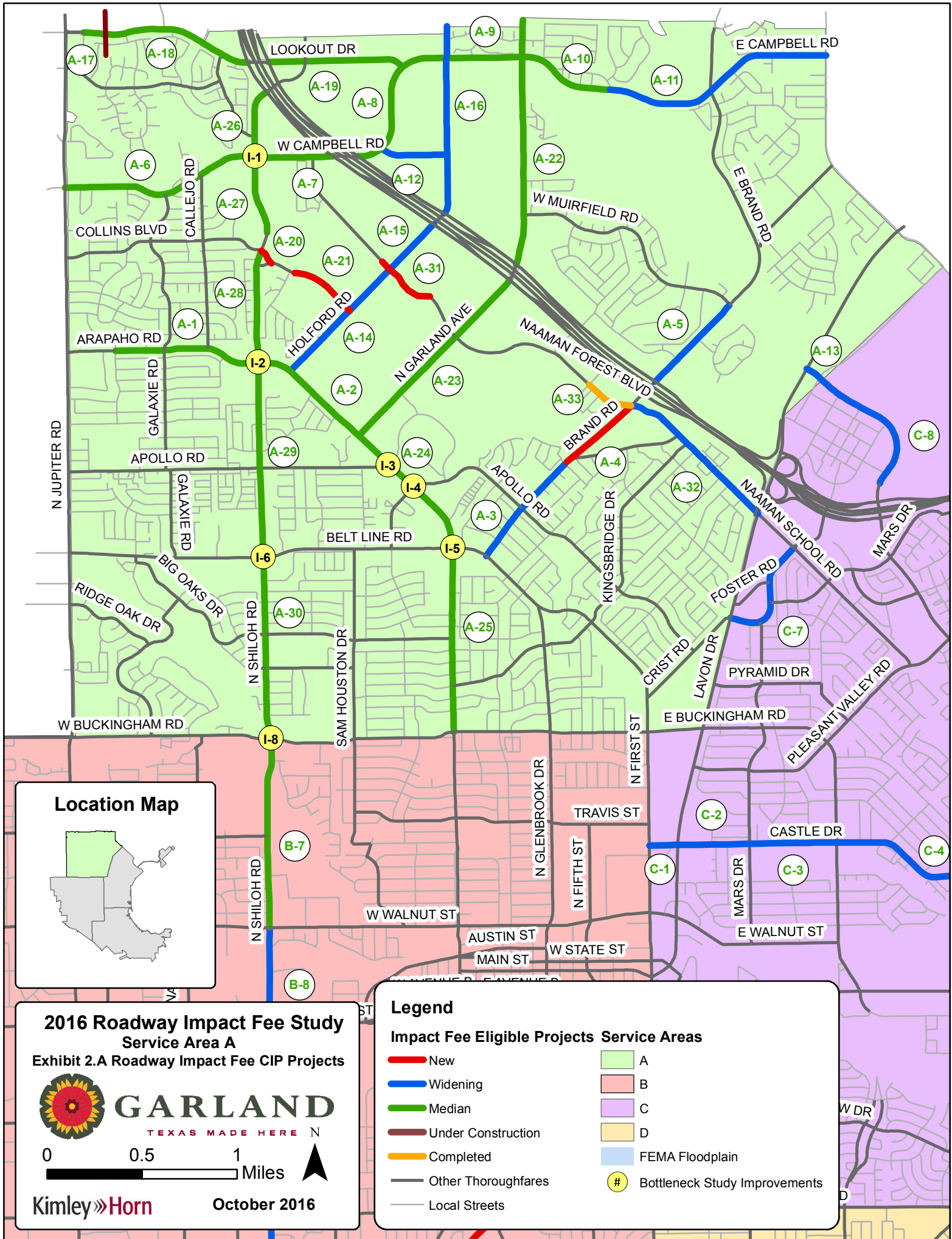
Projects starting with "I-" are intersection improvements as identified by the ongoing Bottleneck Study

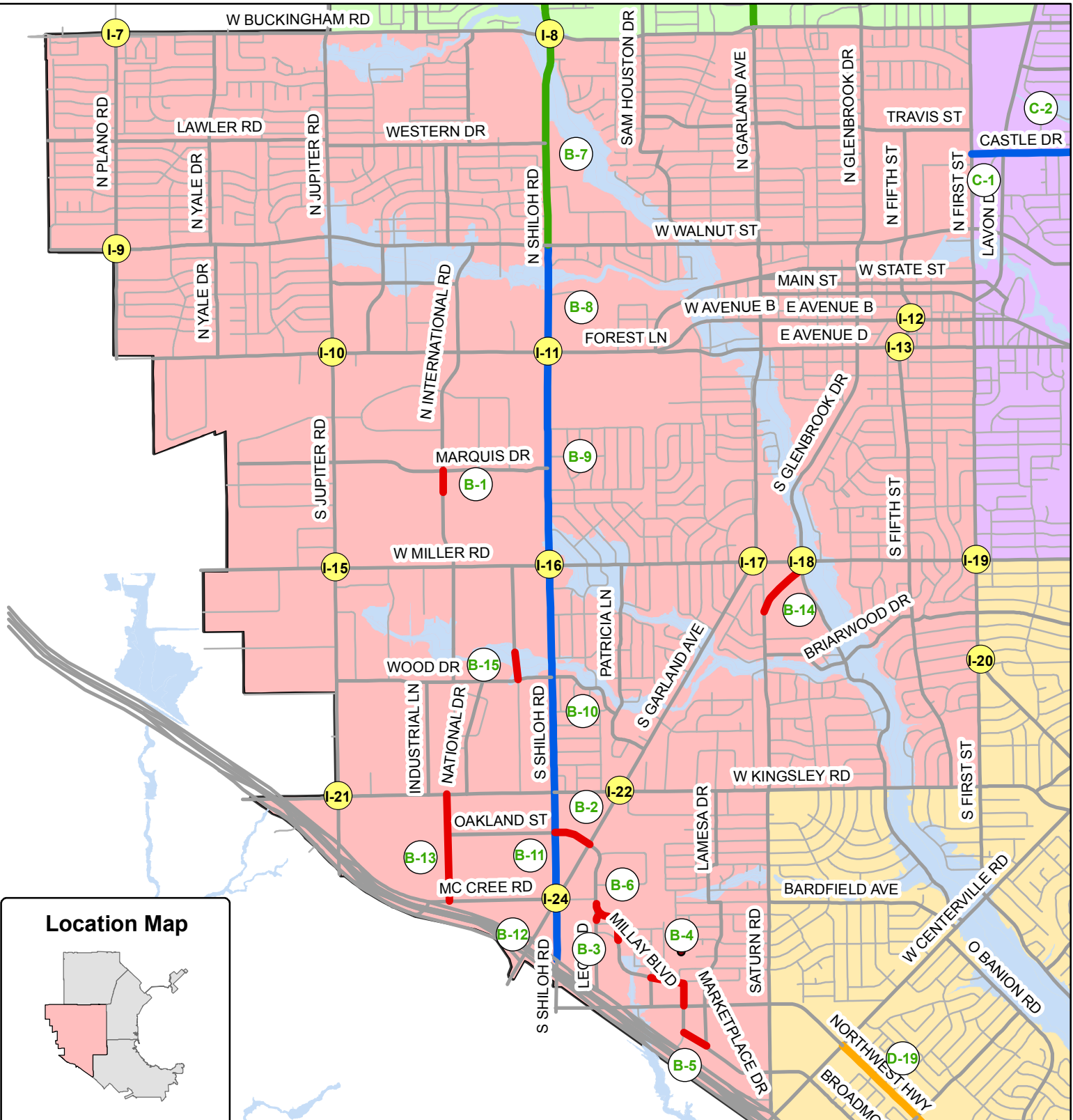
Table 2.D. 10-Year Roadway Impact Fee Capital Improvements Plan – Service Area D

Proj. #	IF Class	Roadway	Limits	Length (mi)	% In Service Area
D-1	S	Bobtown Rd (1)	Rowlett Rd to Bobtown Rd (Existing)	0.17	100%
D-2	E-S	Bobtown Rd (2)	Bobtown Rd (Future) to Waterhouse Blvd	0.34	100%
D-3	E	Bobtown Rd (3)	400' S of High Dr to Lyons Rd	0.38	100%
D-4	E	Bobtown Rd (4)	Lyons Rd to South City Limits	0.50	50%
C-10,D-5	B (1/3)	E. Miller Rd	Centerville Rd to 2,815' E of Centerville Rd	0.53	50%
D-6	F	E. Oates Rd (Future)	Country Club Rd to E. Oates Rd (Existing)	0.58	100%
D-7	B (1/3)	La Prada Dr	IH 635 E frontage road to Northwest Hwy	0.32	50%
D-8	E	Locust Grove Rd	290' E of Oceanport Dr to East City Limits	0.54	100%
D-9	B	Lyons Rd (1)	Bobtown Rd to Guthrie Rd	0.61	100%
D-10	B	Lyons Rd (2)	Guthrie Rd to Lyons Rd (Future)	0.17	100%
D-11	B	Lyons Rd (Future) (3)	Lyons Rd to South City Limits	0.23	100%
D-12	F	Rosehill Rd (1)	Rosehill Rd (Existing) to Wynn Joyce Rd	0.30	100%
D-13	B (1/3)	Rosehill Rd (2)	Bobtown Rd to IH 30 N loop	0.29	100%
D-14	A (1/3)	Rowlett Rd (1)	Broadway Blvd to Rosehill Rd	0.70	100%
D-15	A (1/3)	Rowlett Rd (2)	Rosehill Rd to Roan Rd	0.99	100%
D-16	A	Rowlett Rd (3)	Roan Rd to City Limits	0.30	100%
D-17	B (1/3)	S. Country Club Rd	Rowlett Rd to Bobtown Rd	0.33	100%
D-18	E	Zion Rd	Locust Grove Rd to Bobtown Rd	0.20	100%
D-19	B	Northwest Hwy	Centerville Rd to La Prada Dr	1.22	100%
D-20	E	Dairy Rd	Celeste Rd to Broadway Blvd	0.49	100%
C-12,D-21	B	Miller Rd Bridge	2,815' E of Centerville Rd to East City Limits	0.04	50%
I-19		First St and Miller Rd	Add EB RT & NB, SB Dual Lefts		33%
I-20		Broadway Blvd and First St	Triple LT from NB First St		50%
I-23		Broadway Blvd and Centerville Rd	Dual Lefts SWB, NEB and NWB		100%
I-25		Broadway Blvd and Rowlett Rd	Add EB RT Lane		100%
I-26		Broadway Blvd and IH-30 EBFR	Dual NB RT Lanes		100%

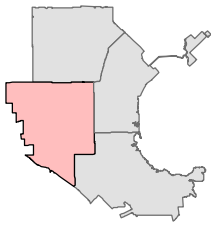
Note: The 10-Year Roadway Impact Fee CIP is not in a prioritized order.

Projects starting with "I-" are intersection improvements as identified by the ongoing Bottleneck Study





Location Map



2016 Roadway Impact Fee Study Service Area B Exhibit 2.B Impact Fee CIP Projects



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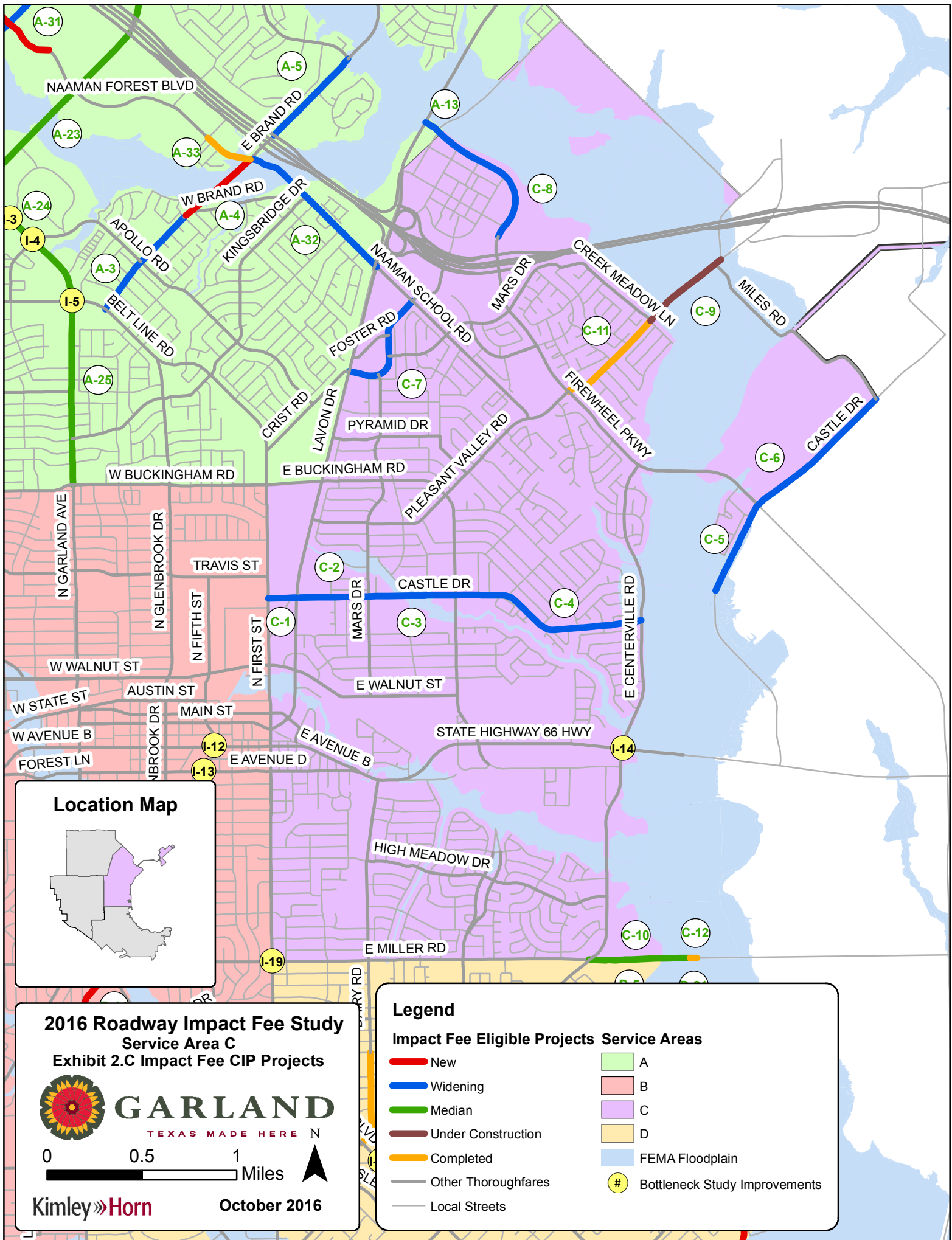
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October 2016

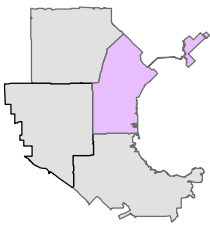
Legend

Impact Fee Eligible Projects Service Areas

- | | |
|---|---|
| — New | A |
| — Widening | B |
| — Median | C |
| — Under Construction | D |
| — Completed | FEMA Floodplain |
| — Other Thoroughfares | # Bottleneck Study Improvements |
| — Local Streets | |



Location Map



2016 Roadway Impact Fee Study

Service Area C

Exhibit 2.C Impact Fee CIP Projects



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0 0.5 1 Miles



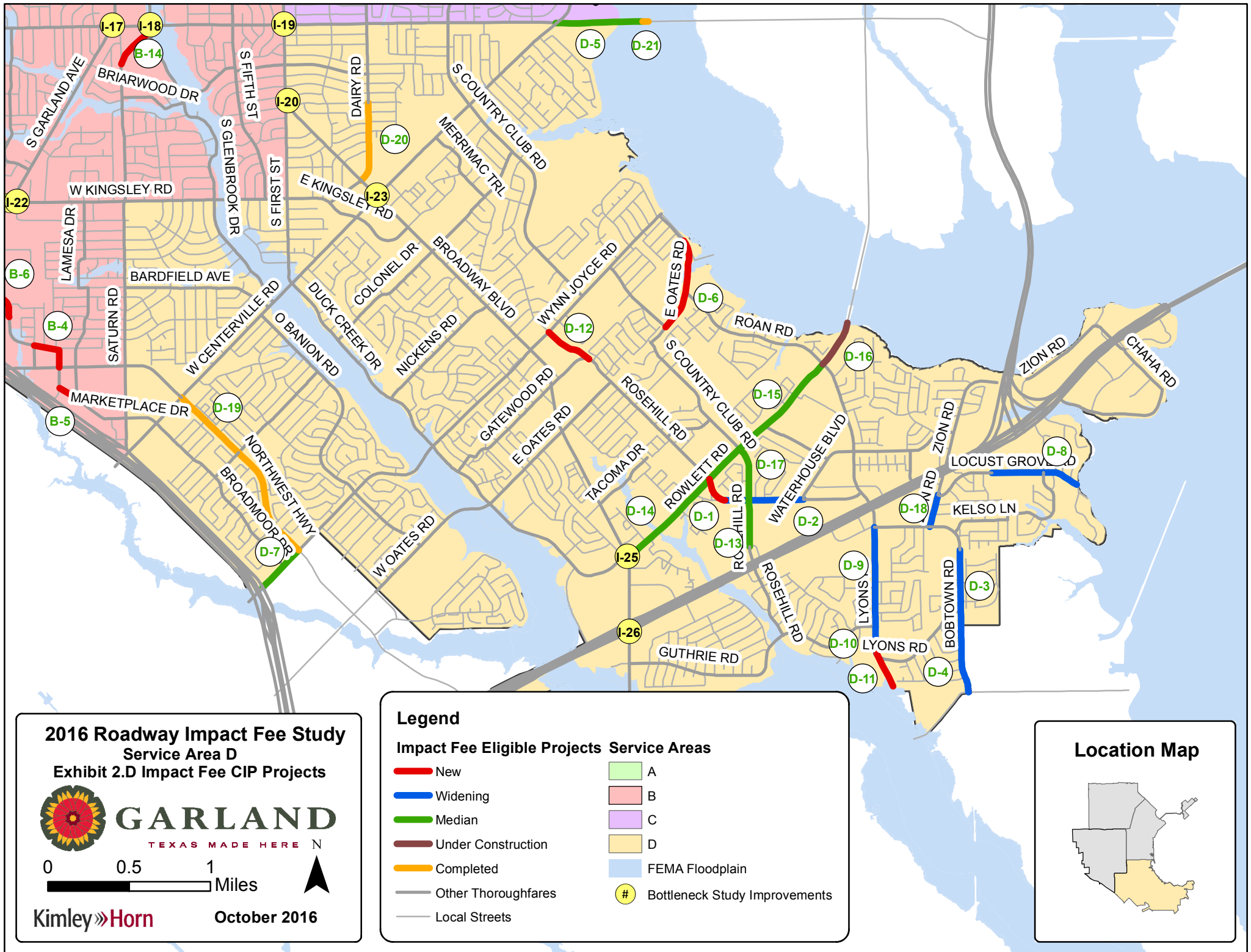
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Legend

Impact Fee Eligible Projects Service Areas

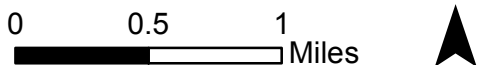
- | | |
|---------------------|-------------------------------|
| New | A |
| Widening | B |
| Median | C |
| Under Construction | D |
| Completed | FEMA Floodplain |
| Other Thoroughfares | Bottleneck Study Improvements |
| Local Streets | |



2016 Roadway Impact Fee Study
Service Area D
Exhibit 2.D Impact Fee CIP Projects



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Kimley»Horn **October 2016**

Legend

Impact Fee Eligible Projects		Service Areas	
— New	 A	 B	 C
— Widening	 D	 FEMA Floodplain	# Bottleneck Study Improvements
— Median			
— Under Construction			
— Completed			
— Other Thoroughfares			
— Local Streets			

Location Map



IV.COMPUTATION METHOD FOR ROADWAY IMPACT FEES

A. Service Areas

The four (4) service areas used in the 2016 Roadway Impact Fee Study are shown in **Exhibit 1**. These service areas cover the entire corporate area of the City of Garland. Chapter 395 of the Texas Local Government Code specifies that “the service area is limited to an area within the corporate boundaries of the political subdivision and shall not exceed six (6) miles.”

B. Service Units

The “service unit” is a measure of consumption or use of the capital facilities by new development. In other words, it is the unit of measure used in the 2016 Roadway Impact Fee Study to quantify the supply and demand for roads in the City. For transportation purposes, the service unit is defined as a vehicle-mile. Below is the definition for vehicle-mile.

Vehicle-Mile: The capacity consumed in a single lane in the PM peak hour by a vehicle making a trip one mile in length. The PM Peak is used as the basis for transportation planning and the estimation of trips caused by new development.

Total Vehicle-Miles of Supply: Based on the total length (miles), number of lanes, and capacity (vehicles per hour) provided by the Garland Thoroughfare Plan (see **Appendix B**).

Total Vehicle-Miles of Demand: Based on the 10-year growth projections (Pg. 32). The demand is equal to PM Trip Rate (trips) * Trip Length (miles).

The capacity values used in the 2016 Roadway Impact Fee Study are based upon Thoroughfare Capacity Criteria published by the North Central Texas Council of Governments (NCTCOG) and applied to City of Garland thoroughfare standards. **Tables 3A** and **3B** show the service volumes as a function of the facility classification and type.

Table 3A. Service Volumes for Proposed Facilities
 (used in Appendix B – Roadway Impact Fee CIP Service Units of Supply)

Facility Classification	Median Configuration	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
A (Regional Arterial)	Divided	750
A-C (Urban One-Way Couplet)	Divided	750
B (Regional Arterial)	Divided	750
C1, C2 (Minor Arterial)	Divided	650
D1 (Major Collector)	Divided	650
D2 (Major Collector)	Undivided	650
D3 (Major Collector)	Undivided	550
E (Minor Collector)	Undivided	550
F (Minor Collector)	Undivided	425

Table 3B. Service Volumes for Existing Facilities
 (used in Appendix C – Existing Roadway Facilities Inventory)

Roadway Type	Description	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
2U-R	Rural Cross-Section (i.e., gravel, dirt, etc.)	150
2U	Two lane undivided	425
2D	Two lane divided	550
3U	Three lane undivided (two-way, left-turn lane)	550
4U	Four lane undivided	550
4D	Four lane divided	650
5U	Five lane undivided (two-way, left-turn lane)	700
6U	Six Lane Undivided	725
6D	Six lane divided	750
7U	Seven lane undivided (two-way, left-turn lane)	725

C. Cost Per Service Unit

A fundamental step in the impact fee process is to establish the cost for each service unit. In the case of the Roadway Impact Fee, this is the cost for each vehicle-mile of travel. Thus, it is the cost to construct a roadway (lane-mile) needed to accommodate a vehicle-mile of travel. The cost per service unit is calculated for each service area based on the roadway projects within that service area.

The second component of the cost per service unit is the determination of the number of service units in each service area. This number is the measure of the growth in transportation demand that is projected to occur in the ten-year period.

D. Roadway Impact Fee CIP Costing Methodology

All of the project costs for an arterial or collector facility which serves the overall transportation system are eligible to be included in the Roadway Impact Fee Capital Improvements Plan. Chapter 395 of the Texas Local Government Code specifies that the allowable costs are "...including and limited to the:

1. Construction contract price;
2. Surveying and engineering fees;
3. Land acquisition costs, including land purchases, court awards and costs, attorney's fees, and expert witness fees; and
4. 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."

The engineer's opinion of the probable costs of the projects in the Roadway Impact Fee CIP is based, in part, on the calculation of a unit cost of construction. This means that a cost per linear foot of roadway is calculated based on an average price for the various components of roadway construction. This allows the probable cost to be determined by the type of facility being constructed, the number of lanes, and the length of the project. The cost for location specific items such as bridges, highway ramps, drainage structures, and any other

special components are added to each project, as appropriate. The following is a detailed description of the costing worksheet/methodology for the Roadway Impact Fee CIP.

1. Overview of Roadway Impact Fee CIP Costing Worksheets

For each project a specific costing worksheet was developed (see **Appendix A**). Each worksheet contained the following four (4) main components:

- Project Information,
- Construction Pay Items,
- Construction Component Allowances and
- Summary of Costs and Allowances

City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 8/31/2016

Project Information

Project Information:		Description:	Project No.	A-1
Name:	Arapaho Rd (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Elm Ridge Ln to Shiloh Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	4,075			
Service Area(s):	A			

Construction Pay Items

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	5,886	cy	\$ 8.00	\$ 47,089
210	6" Lime Stabilization Subgrade	11,319	sy	\$ 2.60	\$ 29,431
310	Street Cut Paving Concrete - Class C Construct	10,414	sy	\$ 70.00	\$ 728,972
410	Curb 6" Integral	8,150	lf	\$ 1.95	\$ 15,893
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	926	sy	\$ 70.00	\$ 64,830
Paving Construction Cost Subtotal:					\$ 886,214

Construction Component Allowances

Major Construction Component Allowances**:				
Item Description	Notes	Allowance		Item Cost
✓ Traffic Control	Construction Phase Traffic Control	5%	\$	44,311
✓ Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	26,586
Roadway Drainage	None Anticipated	0%	\$	-
Illumination	None Anticipated	0%	\$	-
Special Drainage Structures	None Anticipated	0%	\$	-
Water	None Anticipated	0%	\$	-
Sewer	None Anticipated	0%	\$	-
✓ Landscaping and Irrigation		4%	\$	35,449
Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$ 106,346
Paving and Allowance Subtotal:				\$ 992,559
Construction Contingency:				10% \$ 99,256
Mobilization				5% \$ 49,628
Prep ROW				5% \$ 49,628
Construction Cost TOTAL:				\$ 1,192,000

Summary of Costs and Allowances

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,192,000
Engineering/Survey/Testing:		16%	\$ 190,720
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,383,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Garland. The planning level cost projections shall not supersede the City's design standards contained or the determination of the City Engineer for a specific project.

2. Project Information

In order to correctly estimate the cost of a roadway project, several attributes are first identified:

- Project Number – Identifies which Service Area the project is in with a corresponding number. The corresponding number does not represent any prioritizations and is used only to identify projects. For example, Project A-26 is in Service Area A and is the 26th project on the list.
- Name – A unique identifier for each project.
- Limits – Represents the beginning and ending location for each project.
- Impact Fee Class – The costing class to be used in the analysis. The impact fee class provides the width for the various elements in the roadway. The construction costs are variable, based on the proposed Thoroughfare Plan classification of the roadway. For example, A represents regional arterial roads. An A Impact Fee Class means the entire roadway is to be constructed. Additional classifications are utilized in cases where a portion of the facility currently exists and the road is only to be widened. The following notations are used for these projects:
 - “(1/2)” for facilities where half the facility still needs to be constructed;
 - “(1/3)” for future six-lane regional arterial facilities where two additional median lanes are needed
- Ultimate Class – The functional classification on Garland’s Master Thoroughfare Plan.
- Length (ft) – The distance measured in feet that is used to cost out the project.
- Service Area(s) – Represents the service area(s) where the project is located. In some cases the project is partially located in the ETJ.
- Description – Used to describe the project type assumed in the costing such as a widening or reconstruction.

3. Construction Pay Items

A typical roadway project consists of a number of costs, including the following: planning, survey, design engineering, permitting, right-of way acquisition, and construction and inspection. While the construction cost component of a project may actually consist of approximately 100 various pay items, a simplified approach was used for developing the

conceptual level project costs. The construction pay items for impact fee CIP roads are shown below:

- Unclassified street excavation
- Concrete pavement
- Lime Stabilized Subgrade
- Curb
- Sidewalk
- Turn lanes and median openings

4. Construction Component Allowances

A percentage of the paving construction cost is allotted for various major construction component allowances, as appropriate. These allowances include traffic control, pavement markings and signage, roadway drainage, illumination, minor water and sewer adjustments, landscaping and irrigation. These allowance percentages are also based on historical data.

In addition, lump sum dollar allowances are provided for special drainage structures, railroad crossings, and intersection improvements where needs are anticipated. The paving and allowance subtotal is given a fifteen percent (15%) contingency, five percent (5%) mobilizations, and two percent (2%) preparation of right-of-way to determine the construction cost total.

5. Summary of Cost and Allowances

To determine the total Impact Fee Project Cost, sixteen percent (16%) of the construction cost total is added for engineering, surveying, and testing.

Percentages are also allotted ROW/easement acquisition. ROW/easement acquisition was based on whether the project was an existing alignment or future alignment. For an existing alignment, the ROW/easement acquisition cost was provided an allotment equal to 10% of the construction cost total. For a new alignment, the ROW/easement acquisition cost was equal to 20% of the construction cost total. The value for ROW/easement acquisition is an estimated contribution allocation and does not represent actual ROW/easement acquisition needs. For TxDOT facilities no ROW/easement acquisition was allotted.



The Impact Fee Project Cost Total is then the Construction Cost Total plus engineering, surveying, testing, and inspection; plus ROW/easement acquisition; and minus roadway escrow agreements.

E. Summary of Roadway Impact Fee CIP Costs

Tables 4.A – 4.D are the 10-Year Roadway Impact Fee CIP project lists for each service area with planning level project costs. Individual project cost worksheets can be seen in **Appendix A**, Conceptual Level Project Cost Projections. It should be noted that these tables reflect only conceptual-level opinions or assumptions regarding the portions of future project costs that are recoverable through impact fees. Actual project costs are likely to change with time and are dependent on market and economic conditions that cannot be predicted.

The Roadway Impact Fee CIP establishes the list of projects for which Impact Fees may be utilized. Projects not included in the Roadway Impact Fee CIP are not eligible to receive impact fee funding. The cost projections utilized in this study should not be utilized for the City's construction CIP.

**Table 4.A – 10-Year Roadway Impact Fee CIP
with Conceptual Level Cost Projections – Service Area A**

Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Cost in Service Area
A-1	B (1/3)	Arapaho Rd (1)	Elm Ridge Ln to Shiloh Rd	0.77	100%	\$ 1,383,000
A-2	B (1/3)	Arapaho Rd (2)	Shiloh Rd to N. Garland Ave	0.68	100%	\$ 1,210,000
A-3	C1	Brand Rd (1)	Bellaire Rd to Belt Line Rd	0.64	100%	\$ 4,092,000
A-4	C1	Brand Rd (2)	Naaman Forest Blvd to West Brand Rd	0.47	100%	\$ 8,172,000
A-5	C1	Brand Rd (3)	Murfield Rd to PGBT N Frontage Rd	0.56	100%	\$ 3,590,000
A-6	B (1/3)	Campbell Rd (1)	N. Jupiter Rd to Shiloh Rd	1.06	100%	\$ 1,901,000
A-7	B (1/3)	Campbell Rd (2)	Shiloh Rd to PGBT S Frontage Rd	0.41	100%	\$ 740,000
A-8	B (1/3)	Campbell Rd (3)	Lookout Dr to PGBT N Frontage Rd	0.59	100%	\$ 1,065,000
A-9	B (1/3)	Campbell Rd (4)	Lookout Dr to N. Garland Ave	0.64	100%	\$ 1,150,000
A-10	B (1/3)	Campbell Rd (5)	N. Garland Ave to Water Oak Dr	0.52	100%	\$ 929,000
A-11	B	Campbell Rd (6)	Water Oak Dr to Murphy Rd	1.24	100%	\$ 11,065,000
A-12	D1	Ferris Rd	Campbell Rd to Holford Rd	0.36	100%	\$ 2,258,000
A-13	A	Firewheel Parkway (1)	Lavon Dr to 530' E of Lavon Dr	0.10	100%	\$ 824,000
A-14	D1	Holford Rd (1)	Naaman Forest (Future) to Arapaho Rd	0.75	100%	\$ 5,347,000
A-15	C2	Holford Rd (2)	PGBT S Frontage Rd to Naaman Forest (Future)	0.33	100%	\$ 2,717,000
A-16	C2	Holford Rd (3)	N City Limits to PGBT N Frontage Rd	0.99	100%	\$ 8,118,000
A-17	B (1/3)	Lookout Dr (1)	Courtside Dr to Spring Dr	0.11	50%	\$ 100,500
A-18	B (1/3)	Lookout Dr (2)	Spring Dr to PGBT S Frontage Rd	0.80	50%	\$ 714,000
A-19	B (1/3)	Lookout Dr (3)	PGBT N Frontage Rd to Campbell Rd	0.72	100%	\$ 1,107,000
A-20	F	Mapleridge (1)	Shiloh Rd to Mapleridge Dr	0.09	100%	\$ 384,000
A-21	F	Mapleridge (2)	Mapleridge Dr (Existing) to Holford Rd	0.36	100%	\$ 3,513,000
A-22	B (1/3)	Garland Ave (1)	N City Limits to PGBT N Frontage Rd	1.29	100%	\$ 2,313,000
A-23	B (1/3)	Garland Ave (2)	Arapaho Rd to PGBT S Frontage Rd	1.14	100%	\$ 2,044,000
A-24	B-S (1/3)	Garland Ave (3)	Arapaho Rd to Belt Line Rd	0.79	100%	\$ 1,421,000
A-25	B (1/3)	Garland Ave (4)	Belt Line Rd to Buckingham Rd	0.97	100%	\$ 1,732,000
A-26	B (1/3)	Shiloh Rd (1)	PGBT S Frontage Rd to Campbell Rd	0.37	100%	\$ 657,000
A-27	B (1/3)	Shiloh Rd (2)	Campbell Rd to north bridge end	0.41	100%	\$ 733,000
A-28	B (1/3)	Shiloh Rd (3)	Collins Blvd to Arapaho Rd	0.59	100%	\$ 1,065,000
A-29	B (1/3)	Shiloh Rd (4)	Arapaho Rd to Belt Line Rd	1.03	100%	\$ 1,836,000
A-30	B (1/3)	Shiloh Rd (5)	Belt Line Rd to Buckingham Rd	0.96	100%	\$ 1,714,000
A-31	D1	Naaman Forest Blvd	W. Naaman Forest Blvd. to E. Naaman Forest Blvd.	0.33	100%	\$ 2,079,000
A-32	D1	Naaman School Rd	Brand Rd to Lavon Dr	0.88	100%	\$ 6,047,000
A-33	D1	Naaman Forest Blvd	Ranger to Brand Rd	0.26	100%	\$ 3,904,483
I-1		Shiloh Rd and Campbell Rd	Extend WB RT lane		100%	\$ 634,000
I-2		Arapaho Rd and Shiloh Rd	Add NB and SB RT lanes		100%	
I-3		Apollo Rd and Garland Ave	Add EB RT Lane		100%	
I-4		Wagon Wheel Rd and Garland Ave	WB RT Lane		100%	
I-5		Belt Line Rd and Garland Ave	WB RT Lane		100%	
I-6		Belt Line Rd and Shiloh Rd	EB RT Lane		100%	
I-7		Buckingham Rd and Plano Rd	NB RT Lane, EB and WB Dual LT Lanes		100%	
I-8		Shiloh Rd and Buckingham Rd	Add dual lefts WB, NB, and SB		50%	
Service Area Project Cost Subtotal						\$ 86,558,983
2016 Roadway Impact Fee Study Cost Per Service Area						\$ 15,840
Total Cost in SERVICE AREA A						\$ 86,574,823

- a. These planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Projects within the City of Garland.
- b. These planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

**Table 4.B – 10-Year Roadway Impact Fee CIP
with Conceptual Level Cost Projections – Service Area B**

Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Cost in Service Area
B-1	E	Kings Rd	Marquis Dr to Kings Rd (Existing)	0.10	100%	\$ 551,000
B-2	E	Leon Rd (1)	Shiloh Rd to S. Garland Ave	0.18	100%	\$ 959,000
B-3	E	Leon Rd (2)	Leon Rd (Existing) to Millay Blvd (Future)	0.04	100%	\$ 212,000
B-4	E	Marketplace ext (1)	Towngate Blvd to Northwest Hwy	0.26	100%	\$ 1,398,000
B-5	E	Marketplace ext (2)	Pendleton Dr to Marketplace Dr	0.13	100%	\$ 666,000
B-6	E	Millay Blvd (Future)	Leon Rd to Millay Blvd (Existing)	0.22	100%	\$ 1,180,000
B-7	B (1/3)	Shiloh Rd (6)	Buckingham Rd to W Walnut St	1.00	100%	\$ 1,784,000
B-8	B	Shiloh Rd (7)	W Walnut St to Forest Ln	0.50	100%	\$ 4,590,000
B-9	B	Shiloh Rd (8)	Forest Ln to Miller Rd	1.01	100%	\$ 8,552,000
B-10	B	Shiloh Rd (9)	Miller Rd to Kingsley Rd	1.07	100%	\$ 9,087,000
B-11	B	Shiloh Rd (10)	Kingsley Rd to McCree Rd	0.50	100%	\$ 4,129,000
B-12	B	Shiloh Rd (11)	Garland Ave to IH-635 WBFR	0.29	100%	\$ 2,368,000
B-13	F	New road east of Industrial Ln	Kingsley Rd to McCree Rd	0.50	100%	\$ 2,260,000
B-14	D2	Saturn Rd	Saturn Rd (Existing) to Miller Rd	0.31	100%	\$ 2,215,000
B-15	E	Sherwin	Sherwin St (Existing) to Wood Dr	0.13	100%	\$ 2,432,000
I-9		Plano Rd and Walnut St	NB and SB RT Lane		100%	\$ 379,000
I-10		Forest Ln and Jupiter Rd	EB and NB RT Lane, NB Dual LT Lanes		100%	
I-11		Forest Ln and Shiloh Rd	SB and NB RT Lanes, Dual NB LT Lanes		100%	
I-12		Avenue B (SH 78) and First St	SB RT Lane		100%	
I-13		Avenue D and First St	EB RT Lane, EB Dual LT Lanes		100%	
I-15		Jupiter Rd and Miller Rd	SB RT Lane		100%	
I-16		Miller Rd and Shiloh Rd	SB RT Lane		100%	
I-17		Garland Ave and Miller Rd	SB, EB, and WB RT Lanes		100%	
I-18		Glenbrook Dr and Miller Rd	EB and WB LT Lanes		100%	
I-19		First St and Miller Rd	Add EB RT & NB, SB Dual Lefts		33%	
I-20		Broadway Blvd and First St	Triple LT from NB First St		50%	
I-21		Jupiter Rd and Kingsley Rd	WB RT Lane		100%	
I-22		Garland Ave and Kingsley Rd	NB RT Lane		100%	
I-24		Garland Ave and McCree Rd / Shiloh Rd	SWB Dual LT Lanes		100%	
Service Area Project Cost Subtotal						\$ 42,762,000
2016 Roadway Impact Fee Study Cost Per Service Area						\$ 15,840
Total Cost in SERVICE AREA B						\$ 42,777,840

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- These planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.



**Table 4.C – 10-Year Roadway Impact Fee CIP
with Conceptual Level Cost Projections – Service Area C**

Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Cost in Service Area
C-1	D1	Castle Dr (1)	N. First St to Lavon Dr	0.15	100%	\$ 953,000
C-2	D1	Castle Dr (2)	Lavon Dr to Mars Dr	0.38	100%	\$ 2,390,000
C-3	E	Castle Dr (3)	Mars Dr to Country Club Rd	0.46	100%	\$ 2,424,000
C-4	E	Castle Dr (4)	Country Club Rd to Centerville Rd	1.05	100%	\$ 5,536,000
C-5	E	Castle Dr (5)	2660' south of Firewheel Pkwy to Firewheel Pkwy	0.50	50%	\$ 1,329,500
C-6	E	Castle Dr (6)	Firewheel Pkwy to Miles Rd	0.84	50%	\$ 2,216,500
C-7	D2	Crist Rd	Lavon Dr to Naaman School Rd	0.62	100%	\$ 4,436,000
C-8	A	Firewheel Parkway (2)	530' E of Lavon Dr to 310' S of Town Center Blvd	0.77	100%	\$ 6,292,000
C-9	C1	Pleasant Valley Rd (1)	Creek Meadow Ln to Miles Rd	0.50	100%	\$ 10,773,000
C-10,D-5	B (1/3)	E. Miller Rd	Centerville Rd to 2,815' E of Centerville Rd	0.53	50%	\$ 477,500
C-11	C1	Pleasant Valley Rd (2)	Firewheel Pkwy to Creek Meadow Ln	0.58	100%	\$ 3,603,239
C-12,D-21	B	Miller Rd Bridge	2,815' E of Centerville Rd to East City Limits	0.04	50%	\$ 1,371,942
I-14	Centerville Rd and SH 66		Add dual LT lanes NB and WB		100%	\$ 141,000
I-19	First St and Miller Rd		Add EB RT & NB, SB Dual Lefts		33%	
Service Area Project Cost Subtotal						\$ 41,943,681
2016 Roadway Impact Fee Study Cost Per Service Area						\$ 15,840
Total Cost in SERVICE AREA C						\$ 41,959,520

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- b. These planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.



**Table 4.D – 10-Year Roadway Impact Fee CIP
with Conceptual Level Cost Projections – Service Area D**

Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Cost in Service Area
D-1	S	Bobtown Rd (1)	Rowlett Rd to Bobtown Rd (Existing)	0.17	100%	\$ 929,000
D-2	E-S	Bobtown Rd (2)	Bobtown Rd (Future) to Waterhouse Blvd	0.34	100%	\$ 1,779,000
D-3	E	Bobtown Rd (3)	400' S of High Dr to Lyons Rd	0.38	100%	\$ 1,995,000
D-4	E	Bobtown Rd (4)	Lyons Rd to South City Limits	0.50	50%	\$ 1,327,000
C-10,D-5	B (1/3)	E. Miller Rd	Centerville Rd to 2,815' E of Centerville Rd	0.53	50%	\$ 477,500
D-6	F	E. Oates Rd (Future)	Country Club Rd to E. Oates Rd (Existing)	0.58	100%	\$ 3,219,000
D-7	B (1/3)	La Prada Dr	IH 635 E frontage road to Northwest Hwy	0.32	50%	\$ 283,500
D-8	E	Locust Grove Rd	290' E of Oceanport Dr to East City Limits	0.54	100%	\$ 2,859,000
D-9	B	Lyons Rd (1)	Bobtown Rd to Guthire Rd	0.61	100%	\$ 5,014,000
D-10	B	Lyons Rd (2)	Guthire Rd to Lyons Rd (Future)	0.17	100%	\$ 1,366,000
D-11	B	Lyons Rd (Future) (3)	Lyons Rd to South City Limits	0.23	100%	\$ 2,811,000
D-12	F	Rosehill Rd (1)	Rosehill Rd (Existing) to Wynn Joyce Rd	0.30	100%	\$ 1,364,000
D-13	B (1/3)	Rosehill Rd (2)	Bobtown Rd to IH 30 N loop	0.29	100%	\$ 513,000
D-14	A (1/3)	Rowlett Rd (1)	Broadway Blvd to Rosehill Rd	0.70	100%	\$ 1,254,000
D-15	A (1/3)	Rowlett Rd (2)	Rosehill Rd to Roan Rd	0.99	100%	\$ 1,781,000
D-16	A	Rowlett Rd (3)	Roan Rd to City Limits	0.30	100%	\$ 2,486,000
D-17	B (1/3)	S. Country Club Rd	Rowlett Rd to Bobtown Rd	0.33	100%	\$ 599,000
D-18	E	Zion Rd	Locust Grove Rd to Bobtown Rd	0.20	100%	\$ 1,075,000
D-19	B	Northwest Hwy	Centerville Rd to La Prada Dr	1.22	100%	\$ 2,904,782
D-20	E	Dairy Rd	Celeste Rd to Broadway Blvd	0.49	100%	\$ 3,597,758
C-12,D-21	B	Miller Rd Bridge	2,815' E of Centerville Rd to East City Limits	0.04	50%	\$ 1,371,942
I-19	First St and Miller Rd		Add EB RT & NB, SB Dual Lefts		33%	\$ 236,000
I-20	Broadway Blvd and First St		Triple LT from NB First St		50%	
I-23	Broadway Blvd and Centerville Rd		Dual Lefts SWB, NEB and NWB		100%	
I-25	Broadway Blvd and Rowlett Rd		Add EB RT Lane		100%	
I-26	Broadway Blvd and IH-30 EBFR		Dual NB RT Lanes		100%	
Service Area Project Cost Subtotal						\$ 39,242,482
2016 Roadway Impact Fee Study Cost Per Service Area						\$ 15,840
Total Cost in SERVICE AREA D						\$ 39,258,321

- a. These planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Projects within the City of Garland.
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F. Service Unit Calculation

The basic service unit for the computation of Garland's Roadway Impact Fees is the vehicle-mile of travel during the afternoon peak-hour (as explained on Pg. 17). To determine the cost per service unit, it is necessary to project the growth in vehicle-miles of travel for the service area for the ten-year period.

The growth in vehicle-miles from 2016 to 2026 is based upon projected changes in residential units and employment for the period. In order to determine this growth, estimates of residential units, basic employment, service employment, and retail employment for 2016 were made, along with growth projections for each of these demographic statistics through 2026. The Land Use Assumptions section of this report details the growth estimates used for impact fee determination.

For the purposes of impact fees, all developed and developable land is categorized as either residential or non-residential. For residential land uses, the existing and projected number of dwelling units are estimated. The number of dwelling units in each service area is multiplied by a *transportation demand factor* (discussed in more detail below) to compute the vehicle-miles of travel that occur during the afternoon peak hour. This factor indicates the average amount of demand created by the residential land uses in the service area.

For non-residential land uses, the process is similar. The Land Use Assumptions section of this report provides existing and projected number of building square footages for three (3) categories of employment – basic, service, and retail. These categories correspond to an aggregation of other specific land use categories based on the North American Industrial Classification System (NAICS).

Building square footage is the most common independent variable for the estimation of non-residential trips in the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition*. This characteristic is more appropriate than the number of employees, because building square footage is tied more closely to trip generation and is known at the time of application for any development that would require the assessment of an impact fee.



The existing and projected land use assumptions for the dwelling units and the square footage of basic, service, and retail land uses provide the basis for the projected increase in vehicle-miles of travel. As noted earlier, a *transportation demand factor* is applied to these values and then summed to calculate the total peak hour vehicle-miles of demand for each service area.

The *transportation demand factors* are aggregate rates derived from three sources – the *ITE Trip Generation Manual, 9th Edition*, the National Household Travel Survey performed by the FHWA, and NCTCOG. The *ITE Trip Generation Manual, 9th Edition* provides the number of trips that are produced or attracted to the land use for each dwelling unit, square foot of building, or other corresponding unit. For the retail category of land uses, the rate is adjusted to account for the fact that a percentage of retail trips are made by people who would otherwise be traveling past that particular establishment anyway, such as a trip between work and home. For example, a stop at a nearby supermarket on the way home from work does not create a new trip onto the roadway network. These trips are called pass-by trips, and since the travel demand is accounted for in the land use calculations relative to the primary trip, it is necessary to discount the retail trip generation rates to avoid double counting trips.

The next component of the *transportation demand factor* accounts for the length of each trip. The average trip length for each category is based on the National Household Travel Survey (NHTS) conducted by the Federal Highway Administration (FHWA). A dataset for the Dallas-Fort Worth (DFW) area was pulled from the NHTS to estimate trip lengths in Garland. Trip lengths for some land uses were adjusted based on trip length information obtained from NCTCOG.

The computation of the *transportation demand factor* is based on the following equation:

$$TDF = T * (1 - P_b) * L_{\max}$$

$$\text{where...} L_{\max} = \min(L * OD \text{ or } 6)$$

Variables:

- TDF = Transportation Demand Factor,
- T = Trip Rate (peak hour trips / unit),
- P_b = Pass-By Discount (% of trips),
- L_{max} = Maximum Trip Length (miles),
- L = Average Trip Length (miles), and
- OD = Origin-Destination Reduction (50%)

The maximum trip length was limited to six (6) miles based on the maximum trip length within each service area. Chapter 395 of the Texas Local Government Code allows for a service area of six (6) miles, and the service areas within Garland are closely approximated with a six (6) mile distance.

The adjustment made to the average trip length statistic in the computation of the maximum trip length is the origin-destination reduction. This adjustment is made because the Roadway Impact Fee is charged to both the origin and destination end of the trip. For example, impact fee methodology will account for a trip from home to work within Garland to both residential and non-residential land uses. To avoid counting these trips twice as both residential and non-residential trips, a 50% origin-destination (OD) reduction factor is applied. Therefore, only half of the trip length is assessed to each land use, and the total trip is only counted once.

Table 5 shows the derivation of the *Transportation Demand Factor* for the residential land uses and the three (3) non-residential land use categories. The values utilized for all variables shown in the *transportation demand factor* equation are also shown in the table.

Table 5. Transportation Demand Factor Calculations

Variable	Residential	Basic	Service	Retail
T	1.00	0.97	1.49	3.71
P_b	0%	0%	0%	34%
L	9.79	14.65	14.65	5.60
L_{max} *	4.90	6.00	6.00	2.80
TDF	4.90	5.82	8.94	6.86
* L _{max} is less than 6 miles for residential and retail land uses; therefore this lower trip length is used for calculating the TDF for these land uses.				

Variables:

- TDF = Transportation Demand Factor,
- T = Trip Rate (peak hour trips / unit),
- P_b = Pass-By Discount (% of trips),
- L_{max} = Maximum Trip Length (miles),
- L = Average Trip Length (miles), and
- OD = Origin-Destination Reduction (50%)

The application of the demographic projections and the *transportation demand factors* are presented in the 10-Year Growth Projections in **Table 7**. This table shows the total vehicle-miles by service area for the years 2016 and 2026. These estimates and projections lead to the Vehicle-Miles of Travel for both 2016 and 2026.

Table 6. 10-Year Growth Projections

2016- 2026 Growth Projections¹

SERVICE AREA	RESIDENTIAL VEHICLE-MILES				NON-RESIDENTIAL SQUARE FEET ⁵			TRANS. DEMAND FACTOR ⁶			NON-RESIDENTIAL VEHICLE-MILES ¹⁰			TOTAL VEHICLE MILES ¹¹		
	Single Family Units	Trip Rate TDF ²	Multi-Family Units	Trip Rate TDF ³	VEHICLE MILES ⁴	BASIC	SERVICE	RETAIL	BASIC ⁷	SERVICE ⁸	RETAIL ⁹	BASIC	SERVICE		RETAIL	TOTAL
A	896	1.00	523	0.62	5,975	412,000	1,613,000	1,172,000	0.97	1.49	3.71	2,398	14,420	8,040	24,858	30,833
B	281	4.90	467	3.03	2,792	513,000	489,000	251,000	5.82	8.94	6.86	2,986	4,372	1,722	9,080	11,872
C	518		298		3,441	152,000	378,000	457,000				885	3,379	3,135	7,399	10,840
D	689		310		4,315	185,000	437,000	710,000				1,077	3,907	4,871	9,855	14,170
Totals	2,384		1,598		16,524	1,262,000	2,917,000	2,590,000				7,346	26,078	17,768	51,192	67,716

VEHICLE-MILES OF INCREASE (2016 - 2026)

SERVICE AREA	VEH-MILES
A	30,833
B	11,872
C	10,840
D	14,170

Notes:

- ¹ From City of Garland 2016 Land Use Assumptions for Roadway Impact Fees
- ² Transportation Demand Factor for each Service Area (from LUVMET) using Single Family Detached Housing land use and trip generation rate
- ³ Transportation Demand Factor for each Service Area (from LUVMET) using Apartment/Multi-family land use and trip generation rate
- ⁴ Calculated by multiplying TDF by the number of dwelling units
- ⁵ From City of Garland 2016 Land Use Assumptions for Roadway Impact Fees
- ⁶ Trip generation rate and Transportation Demand Factors from LUVMET for each land use
- ⁷ 'Basic' corresponds to General Light Industrial land use and trip generation rate
- ⁸ 'Service' corresponds to General Office land use and trip generation rate
- ⁹ 'Retail' corresponds to Shopping Center land use and trip generation rate
- ¹⁰ Calculated by multiplying Transportation Demand Factor by the number of thousand square feet for each land use
- ¹¹ Residential plus non-residential vehicle-mile totals for each Service Area

V. ROADWAY IMPACT FEE CALCULATION

A. Maximum Assessable Impact Fee Per Service Unit

This section presents the maximum assessable impact fee rate calculated for each service area. The maximum assessable impact fee is the sum of the eligible Roadway Impact Fee CIP costs for the service area divided by the growth in travel attributable to new development projected to occur within the 10-year period. A majority of the components of this calculation have been described and presented in previous sections of this report. The purpose of this section is to document the computation for each service area and to demonstrate that the guidelines provided by Chapter 395 of the Texas Local Government Code have been addressed. **Table 7** illustrates the computation of the maximum assessable impact fee computed for each service area. Each row in the table is numbered to simplify explanation of the calculation. The calculation of the maximum assessable impact fee is shown in **Table 8**.

Table 7. Maximum Assessable Roadway Impact Fee Computation

Line	Title	Description
1	<i>Total Vehicle-Miles of Capacity Added by the Roadway Impact Fee CIP</i>	The total number of vehicle-miles added to the service area based on the capacity, length, and number of lanes in each project (from Appendix B – CIP Units of Supply)

Each project identified in the CIP will add a certain amount of capacity to the City's roadway network based on its length and classification. This line displays the total amount added within each service area.

2	<i>Total Vehicle-Miles of Existing Demand</i>	A measure of the amount of traffic currently using the roadway facilities upon which capacity is being added. (from Appendix B – CIP Units of Supply)
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A number of facilities identified in the CIP have traffic currently utilizing a portion of their existing capacity. This line displays the total amount of capacity along these facilities currently being used by existing traffic.

3	<i>Total Vehicle-Miles of Existing Deficiencies</i>	Number of vehicle-miles of travel that are not accommodated by the existing roadway system (from Appendix C – Existing Roadway Facilities Inventory)
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In order to ensure that existing deficiencies on the City's roadway network are not recoverable through impact fees, this line is based on the entire roadway network within the service area. Any roadway within the service area that is deficient – even those not identified on the Roadway Impact Fee CIP – will have these additional trips removed from the calculation.

4	<i>Net Amount of Vehicle-Miles of Capacity Added</i>	A measurement of the amount of vehicle-miles added by the Roadway Impact Fee CIP that will not be utilized by existing demand (Line 1 – Line 2 – Line 3)
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This calculation identifies the portion of the Roadway Impact Fee CIP (in vehicle-miles) that may be recoverable through the collection of impact fees.

5	<i>Total Cost of the Roadway Impact Fee CIP within the Service Area</i>	The total cost of the projects within each service area (from Table 5: 10-Year Roadway Impact Fee Capital Improvements Plan with Conceptual Level Cost Opinions)
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This line simply identifies the total cost of all of the projects identified in each service area.

6	<i>Cost of Net Capacity Supplied</i>	The total Roadway Impact Fee CIP cost (Line 5) prorated by the ratio of Net Capacity Added (Line 4) to Total Capacity Added (Line 1). $[(\text{Line 4} / \text{Line 1}) * (\text{Line 5})]$
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Using the ratio of vehicle-miles added by the Roadway Impact Fee CIP available to serve future growth to the total vehicle-miles added, the total cost of the CIP is reduced to the amount available for future growth (i.e. excluding existing usage and deficiencies).

7	<i>Cost to Meet Existing Needs and Usage</i>	The difference between the Total Cost of the Roadway Impact Fee CIP (Line 5) and the Cost of the Net Capacity supplied (Line 6). (Line 5 – Line 6)
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This line is provided for information purposes only – it is to present the portion of the total cost of the Roadway Impact Fee CIP that is required to meet existing demand.

8	<i>Total Vehicle-Miles of New Demand over Ten Years</i>	Based upon the growth projection provided in the Land Use Assumptions , an estimate of the number of new vehicle-miles within the service area over the next ten years. (from Table 7)
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This line presents the amount of growth (in vehicle-miles) projected to occur within each service area over the next ten years.

9	<i>Percent of Capacity Added Attributable to New Growth</i>	The result of dividing Total Vehicle-Miles of New Demand (Line 8) by the Net Amount of Capacity Added (Line 4), limited to 100% (Line 10). This calculation is required by Chapter 395 to ensure capacity added is attributable to new growth.
10	<i>Chapter 395 Check</i>	

In order to ensure that the vehicle-miles added by the Roadway Impact Fee CIP do not exceed the amount needed to accommodate growth beyond the ten-year window, a comparison of the two values is performed. If the amount of vehicle-miles added by the Roadway Impact Fee CIP exceeds the growth projected to occur in the next ten years, the Roadway Impact Fee CIP cost is reduced accordingly.

11	<i>Cost of Roadway Impact Fee CIP Attributable to New Growth</i>	The result of multiplying the Cost of Net Capacity Added (Line 6) by the Percent of Capacity Added Attributable to New Growth, limited to 100% (Line 9).
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This value is the total Roadway Impact Fee CIP project costs (excluding financial costs) that may be recovered through impact fees. This line is determined considering the limitations to impact fees required by the Texas legislature.

B. Plan for Financing and the Ad Valorem Tax Credit

Chapter 395 of the Texas Local Government Code requires the Roadway Impact Fee Capital Improvements Plan for Roadway Impact Fees to contain specific enumeration of a plan for awarding the impact fee credit. Section 395.014 of the Code requires:

- (A) a credit for the portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or
- (B) In the alternative, a credit equal to 50 percent of the total projected cost of implementing the capital improvements plan...”

The plan is summarized, as prepared by NewGen Strategies in **Appendix D** and **Appendix E**, Plan for Awarding the Transportation Impact Fee Credit. The following table summarizes the portions of **Table 8** that utilize this credit calculation.

Line	Title	Description
12	<i>Financing Costs</i>	(from Appendix D – Plan for Awarding the Transportation Impact Fee Credit)
13	<i>Interest Earnings + Principal Paid on Existing Debt</i>	(from Appendix D – Plan for Awarding the Transportation Impact Fee Credit)
14	<i>Existing Impact Fee Fund Balance</i>	(from Appendix D – Plan for Awarding the Transportation Impact Fee Credit)
15	<i>Cost of the Roadway Impact Fee CIP and Financing Attributable to New Growth</i>	The sum of the Cost of Capacity Added Attributable to New Growth, Financing Costs, and Interest Earnings. (Line 11 + Line 12 + Line 13 + Line 14)
16	<i>Pre-Credit Maximum Fee Per Service Unit</i>	Found by dividing the Cost of the TIP and Financing Attributable to New Growth (Line 15) by the Total Vehicle-Miles of New Demand Over Ten Years (Line 8). (Line 15 / Line 8)
17	<i>Credit for Ad Valorem Taxes</i>	A credit for the portion of ad valorem taxes projected to be generated by the new service units, as per Section 395.014 of the Local Government Code. (from Appendix D – Plan for Awarding the Transportation Impact Fee Credit)
18	<i>Recoverable Cost of the Roadway Impact Fee CIP and Financing</i>	The difference between the Cost of the TIP and Financing Attributable to New Growth (Line 15) and the Credit for Ad Valorem Taxes (Line 17). (Line 15 + Line 17)
19	<i>Maximum Assessable Fee Per Service Unit</i>	Found by dividing the Recoverable Cost of the TIP and Financing (Line 18) by the Total Vehicle-Miles of New Demand Over Ten Years (Line 8). (Line 18 / Line 8)

Table 8. Maximum Assessable Roadway Impact Fee

SERVICE AREA:		A	B	C	D
1	TOTAL VEH-MI OF CAPACITY ADDED BY THE ROADWAY IMPACT FEE CIP (FROM ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY, APPENDIX B)	110,133	27,381	21,086	33,845
2	TOTAL VEH-MI OF EXISTING DEMAND (FROM ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY, APPENDIX B)	27,386	9,268	3,783	6,736
3	TOTAL VEH-MI OF EXISTING DEFICIENCIES (FROM EXISTING ROADWAY FACILITIES INVENTORY, APPENDIX C)	305	4,758	1,591	28
4	NET AMOUNT OF VEH-MI OF CAPACITY ADDED (LINE 1 - LINE 2 - LINE 3)	82,442	13,355	15,712	27,081
5	TOTAL COST OF THE ROADWAY IMPACT FEE CIP WITHIN SERVICE AREA (FROM TABLES 4A TO 4E)	\$ 86,574,823	\$ 42,776,840	\$ 41,959,520	\$ 39,258,321
6	COST OF NET CAPACITY SUPPLIED (LINE 4 / LINE 1) * (LINE 5)	\$ 64,807,111	\$ 20,864,274	\$ 31,265,673	\$ 31,412,457
7	COST TO MEET EXISTING NEEDS AND USAGE (LINE 5 - LINE 6)	\$ 21,767,712	\$ 21,912,566	\$ 10,693,847	\$ 7,845,864
8	TOTAL VEH-MI OF NEW DEMAND OVER TEN YEARS (FROM TABLE 7 AND LAND USE ASSUMPTIONS)	30,833	11,872	10,840	14,170
9	PERCENT OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 8 / LINE 4)	37.3%	88.8%	68.9%	52.3%
10	IF LINE 8 > LINE 4, REDUCE LINE 9 TO 100%, OTHERWISE NO CHANGE	37.3%	88.8%	68.9%	52.3%
11	COST OF ROADWAY IMPACT FEE CIP ATTRIBUTABLE TO GROWTH (LINE 6 * LINE 10)	\$ 24,173,052	\$ 18,527,475	\$ 21,542,049	\$ 16,428,715
12	FINANCING COSTS (FROM APPENDIX D)	\$ 10,530,329	\$ 8,175,922	\$ 9,115,235	\$ 6,799,841
13	INTEREST EARNINGS + PRINCIPAL PAID ON EXISTING DEBT (FROM APPENDIX D)	\$ (1,354,039)	\$ (1,012,470)	\$ (1,227,386)	\$ (973,044)
14	EXISTING IMPACT FEE FUND BALANCE (FROM APPENDIX D)	\$ (1,259,298)	\$ (908,960)	\$ (502,053)	\$ (1,113,622)
15	COST OF THE ROADWAY IMPACT FEE CIP AND FINANCING ATTRIBUTABLE TO NEW GROWTH (LINE 11 + LINE 12 + LINE 13 + LINE 14)	\$ 32,090,045	\$ 24,781,968	\$ 28,927,845	\$ 21,141,890
16	PRE-CREDIT MAXIMUM FEE PER SERVICE UNIT (LINE 15 / LINE 8)	\$ 1,041	\$ 2,087	\$ 2,669	\$ 1,492
17	CREDIT FOR AD VALOREM TAXES (FROM APPENDIX D)	\$ (269,345)	\$ (77,232)	\$ (85,047)	\$ (88,284)
18	RECOVERABLE COST OF ROADWAY IMPACT FEE CIP AND FINANCING (LINE 15 + LINE 17)	\$ 31,820,700	\$ 24,704,735	\$ 28,842,799	\$ 21,053,606
19	MAXIMUM ASSESSABLE FEE PER SERVICE UNIT (LINE 18 / LINE 8)	\$ 1,032	\$ 2,081	\$ 2,661	\$ 1,486



C. Service Unit Demand Per Unit of Development

The Roadway Impact Fee is determined by multiplying the impact fee rate by the number of service units projected for the proposed development. For this purpose, the City will utilize the Land Use/Vehicle-Mile Equivalency Table (LUVMET), presented in **Table 9**. This table lists the predominant land uses that may occur within the City of Garland. For each land use, the development unit that defines the development's magnitude with respect to transportation demand is shown. Although every possible use cannot be anticipated, the majority of local uses are found in this table. The descriptions for each land use are presented in **Table 10**. If the exact use is not listed, one similar in trip-making characteristics can serve as a reasonable proxy. The individual land uses are grouped into categories, such as residential, office, commercial, industrial, and institutional.

The trip rates presented for each land use is a fundamental component of the LUVMET. The trip rate is the average number of trips generated during the afternoon peak hour by each land use per development unit. The next column in **Table 9**, if applicable to the land use, presents the number of trips to and from certain land uses reduced by pass-by trips, as previously discussed.

The definitive source of the trip generation and pass-by statistics is the *ITE Trip Generation Manual, 9th Edition*, the latest edition. This manual utilizes trip generation studies for a variety of land uses throughout the United States, and is the standard used by traffic engineers and transportation planners for traffic impact analysis, site design, and transportation planning. However, for land uses not contained within the 9th Edition of the *ITE Trip Generation Manual*, an alternative service unit demand could be calculated by completing a trip generation study based on the procedure identified in the *ITE Trip Generation Handbook*.

To convert vehicle trips to vehicle-miles, it is necessary to multiply trips by trip length. The trip length values are based on a DFW subset of the NHTS performed by the FHWA, and on trip length information from NCTCOG. The other adjustment to trip length is the 50% origin-destination reduction to avoid double counting of trips. At this stage, another important aspect of the state law is applied – the limit on transportation service unit demand. If the adjusted trip length is above six (6) miles, the maximum trip length used for calculation is

reduced to six (6) miles. This reduction, as discussed previously, limits the maximum trip length to the approximate size of the service areas.

The remaining column in the LUVMET shows the vehicle-miles per development unit. This number is the product of the trip rate and the maximum trip length. This number, previously referred to as the *Transportation Demand Factor*, is used in the impact fee to compute the number of service units attributed to each land use category. The number of service units is multiplied by the impact fee rate (established by City ordinance) in order to determine the impact fee for a development.

Table 9 - Land Use / Vehicle-Mile Equivalency Table (LUVMET)

Land Use Category	ITE Land Use Code	Development Unit	Trip Gen Rate (PM)	Pass-by Rate	Pass-by Source	Trip Rate	NHTS Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev-Unit
PORT AND TERMINAL											
Truck Terminal	030	Acre	6.55			6.55	14.65	50%	7.33	6.00	39.30
INDUSTRIAL											
General Light Industrial	110	1,000 SF GFA	0.97			0.97	14.65	50%	7.33	6.00	5.82
General Heavy Industrial	120	1,000 SF GFA	0.68			0.68	14.65	50%	7.33	6.00	4.08
Industrial Park	130	1,000 SF GFA	0.85			0.85	14.65	50%	7.33	6.00	5.10
Warehousing	150	1,000 SF GFA	0.32			0.32	14.65	50%	7.33	6.00	1.92
Mini-Warehouse	151	1,000 SF GFA	0.26			0.26	14.65	50%	7.33	6.00	1.56
RESIDENTIAL											
Single-Family Detached Housing	210	Dwelling Unit	1.00			1.00	9.79	50%	4.90	4.90	4.90
Apartment/Multi-family	220	Dwelling Unit	0.62			0.62	9.79	50%	4.90	4.90	3.03
Residential Condominium/Townhome	230	Dwelling Unit	0.52			0.52	9.79	50%	4.90	4.90	2.55
Mobile Home Park / Manufactured Housing	240	Dwelling Unit	0.59			0.59	9.79	50%	4.90	4.90	2.89
Senior Adult Housing-Detached	251	Dwelling Unit	0.27			0.27	9.79	50%	4.90	4.90	1.32
Senior Adult Housing-Attached	252	Dwelling Unit	0.25			0.25	9.79	50%	4.90	4.90	1.22
Assisted Living	254	Beds	0.22			0.22	9.79	50%	4.90	4.90	1.08
LODGING											
Hotel	310	Room	0.60			0.60	6.43	50%	3.22	3.22	1.93
Motel / Other Lodging Facilities	320	Room	0.47			0.47	6.43	50%	3.22	3.22	1.51
RECREATIONAL											
Golf Driving Range	432	Tee	1.25			1.25	7.86	50%	3.93	3.93	4.91
Golf Course	430	Acre	0.30			0.30	7.86	50%	3.93	3.93	1.18
Recreational Community Center	495	1,000 SF GFA	2.74			2.74	7.86	50%	3.93	3.93	10.77
Ice Skating Rink	465	1,000 SF GFA	2.36			2.36	7.86	50%	3.93	3.93	9.27
Miniature Golf Course	431	Hole	0.33			0.33	7.86	50%	3.93	3.93	1.30
Multiplex Movie Theater	445	Screens	13.64			13.64	7.86	50%	3.93	3.93	53.61
Racquet / Tennis Club	491	Court	3.35			3.35	7.86	50%	3.93	3.93	13.17
INSTITUTIONAL											
Church	560	1,000 SF GFA	0.55			0.55	8.31	50%	4.16	4.16	2.29
Day Care Center	565	1,000 SF GFA	12.34	44%	B	6.91	3.49	50%	1.75	1.75	12.06
Primary/Middle School (1-8)	522	Students	0.16			0.16	3.49	50%	1.75	1.75	0.28
High School	530	Students	0.13			0.13	3.49	50%	1.75	1.75	0.23
Junior / Community College	540	Students	0.12			0.12	10.44	50%	5.22	5.22	0.63
University / College	550	Students	0.17			0.17	10.44	50%	5.22	5.22	0.89
MEDICAL											
Clinic	630	1,000 SF GFA	5.18			5.18	9.85	50%	4.93	4.93	25.51
Hospital	610	1,000 SF GFA	0.93			0.93	9.85	50%	4.93	4.93	4.58
Nursing Home	620	Beds	0.22			0.22	9.85	50%	4.93	4.93	1.08
Animal Hospital/Veterinary Clinic	640	1,000 SF GFA	4.72	30%	B	3.30	9.85	50%	4.93	4.93	16.25
OFFICE											
Corporate Headquarters Building	714	1,000 SF GFA	1.41			1.41	14.65	50%	7.33	6.00	8.46
General Office Building	710	1,000 SF GFA	1.49			1.49	14.65	50%	7.33	6.00	8.94
Medical-Dental Office Building	720	1,000 SF GFA	3.57			3.57	9.85	50%	4.93	4.93	17.58
Single Tenant Office Building	715	1,000 SF GFA	1.74			1.74	14.65	50%	7.33	6.00	10.44
Office Park	750	1,000 SF GFA	1.48			1.48	14.65	50%	7.33	6.00	8.88

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 3rd Edition (August 2014)

B: Estimated by Kimley-Horn based on ITE rates for similar categories

C: ITE rate adjusted upward by KHA based on logical relationship to other categories

Table 9 (Cont'd). Land Use / Vehicle-Mile Equivalency Table (LUVMET)

Land Use Category	ITE Land Use Code	Development Unit	Trip Gen Rate (PM)	Pass-by Rate	Pass-by Source	Trip Rate	NHTS Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev-Unit
COMMERCIAL											
Automobile Related											
Automobile Care Center	942	1,000 SF Occ. GLA	3.11	40%	B	1.87	4.45	50%	2.23	2.23	4.16
Automobile Parts Sales	843	1,000 SF GFA	5.98	43%	A	3.41	4.45	50%	2.23	2.23	7.59
Gasoline/Service Station	944	Vehicle Fueling Position	13.87	42%	A	8.04	1.20	50%	0.60	0.60	4.82
Gasoline/Service Station w/ Conv Market	945	Vehicle Fueling Position	13.51	56%	B	5.94	1.20	50%	0.60	0.60	3.56
Gasoline/Service Station w/ Conv Market and Car Wash	946	Vehicle Fueling Position	13.86	56%	A	6.10	1.20	50%	0.60	0.60	3.66
New Car Sales	841	1,000 SF GFA	2.62	20%	B	2.10	4.45	50%	2.23	2.23	4.67
Quick Lubrication Vehicle Shop	941	Servicing Positions	5.19	40%	B	3.11	4.45	50%	2.23	2.23	6.92
Self-Service Car Wash	947	Stall	5.54	40%	B	3.32	1.20	50%	0.60	0.60	1.99
Automated Car Wash	948	Stall	14.12	40%	B	8.47		50%	0.00	0.00	0.00
Tire Store	848	1,000 SF GFA	4.15	28%	A	2.99	4.45	50%	2.23	2.23	6.65
Dining											
Fast Food Restaurant with Drive-Thru Window	934	1,000 SF GFA	32.65	50%	A	16.33	5.64	50%	2.82	2.82	46.05
Fast Food Restaurant without Drive-Thru Window	933	1,000 SF GFA	26.15	50%	B	13.08	5.64	50%	2.82	2.82	36.89
High Turnover (Sit-Down) Restaurant	932	1,000 SF GFA	9.85	43%	A	5.61	6.07	50%	3.04	3.04	17.03
Quality Restaurant	931	1,000 SF GFA	7.49	44%	A	4.19	6.07	50%	3.04	3.04	12.72
Coffee/Donut Shop with Drive-Thru Window	937	1,000 SF GFA	42.80	70%	A	12.84	4.53	50%	2.27	2.27	29.08
Other Retail											
Free-Standing Discount Store	815	1,000 SF GFA	4.98	30%	C	3.49	5.60	50%	2.80	2.80	9.77
Nursery (Garden Center)	817	1,000 SF GFA	6.94	30%	B	4.86	5.60	50%	2.80	2.80	13.61
Home Improvement Superstore	862	1,000 SF GFA	2.33	48%	A	1.21	5.60	50%	2.80	2.80	3.39
Pharmacy/Drugstore w/o Drive-Thru Window	880	1,000 SF GFA	8.40	53%	A	3.95	5.60	50%	2.80	2.80	11.06
Pharmacy/Drugstore w/ Drive-Thru Window	881	1,000 SF GFA	9.91	49%	A	5.05	5.60	50%	2.80	2.80	14.14
Shopping Center	820	1,000 SF GLA	3.71	34%	A	2.45	5.60	50%	2.80	2.80	6.86
Supermarket	850	1,000 SF GFA	9.48	36%	A	6.07	5.60	50%	2.80	2.80	17.00
Toy/Children's Superstore	864	1,000 SF GFA	4.99	30%	B	3.49	5.60	50%	2.80	2.80	9.77
Department Store	875	1,000 SF GFA	1.87	30%	B	1.31	5.60	50%	2.80	2.80	3.67
SERVICES											
Walk-In Bank	911	1,000 SF GFA	12.13	40%	B	7.28	4.45	50%	2.23	2.23	16.20
Drive-In Bank	912	Drive-in Lanes	33.24	47%	A	17.62	4.45	50%	2.23	2.23	39.20
Hair Salon	918	1,000 SF GLA	1.45	30%	B	1.02	4.45	50%	2.23	2.23	2.27

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 3rd Edition (August 2014)

B: Estimated by Kimley-Horn based on ITE rates for similar categories

C: ITE rate adjusted upward by KHA based on logical relationship to other categories

Table 10 - Land Use Descriptions

Land Use Category	ITE Land Use Code	Land Use Description
PORT AND TERMINAL		
Truck Terminal	030	Point of good transfer between trucks or between trucks and rail
INDUSTRIAL		
General Light Industrial	110	Emphasis on activities other than manufacturing; typically employing fewer than 500 workers
General Heavy Industrial	120	Primary activity is conversion of raw materials or parts into finished products
Industrial Park	130	Area containing a number of industries or related facilities
Warehousing	150	Devoted to storage of materials but may include office and maintenance areas
Mini-Warehouse	151	Facilities with a number of units rented to others for the storage of goods
RESIDENTIAL		
Single-Family Detached Housing	210	Single-family detached homes on individual lots
Apartment/Multi-family	220	At least 4 rental dwelling units per building
Residential Condominium/Townhome	230	Single-family ownership units that have at least one other single-family owned unit within the same building
Senior Adult Housing-Detached	251	Consists of detached independent living developments that include amenities such as golf courses and swimming pools
Senior Adult Housing-Attached	252	Consists of attached independent living developments that include limited social or recreation services
Assisted Living	254	Residential settings that provide either routine general protective oversight or assistance with activities.
LODGING		
Hotel	310	Lodging facilities that typically have on-site restaurants, lounges, meeting and/or banquet rooms, or other retail shops and services
Motel / Other Lodging Facilities	320	Lodging facilities that may have small on-site restaurant or buffet area but little or no meeting space
RECREATIONAL		
Golf Driving Range	432	Facilities with driving tees for practice; may provide individual or group lessons; may have prop shop and/or refreshment facilities
Golf Course	430	May include municipal courses and private country clubs; may have driving ranges, pro shops, and restaurant/banquet facilities
Recreational Community Center	495	Category includes racquet clubs, health/fitness clubs, can include facilities such as YMCA's
Ice Skating Rink	465	Rinks for ice skating and related sports; may contain spectator areas and refreshment facilities
Miniature Golf Course	431	One or more individual putting courses; category should not be used when part of a larger entertainment center(with batting cages, video game centers, etc)
Multiplex Movie Theater	445	Movie theater with audience seating, minimum of ten screens, lobby, and refreshment area.
Racquet / Tennis Club	491	Indoor or outdoor facilities specifically designed for playing tennis
INSTITUTIONAL		
Church	560	Churches and houses of worship
Day Care Center	565	Generally includes facilities for care of pre-school aged children, generally includes classrooms, offices, eating areas, and playgrounds
Primary/Middle School (1-8)	522	Serves students who have not yet entered high school
High School	530	Serves students who have completed middle or junior high school
Junior / Community College	540	Two-year junior, community, or technical colleges
University / College	550	Four-year universities or colleges that may or may not offer graduate programs
MEDICAL		
Clinic	630	Facilities with limited diagnostic and outpatient care
Hospital	610	Medical and surgical facilities with overnight accommodations
Nursing Home	620	Rest and convalescent homes with residents who do little or no driving
Animal Hospital/Veterinary Clinic	640	Rest and convalescent homes with residents who do little or no driving
OFFICE		
Corporate Headquarters Building	714	Office building housing corporate headquarters of a single company or organization
General Office Building	710	Office buildings which house multiple tenants
Medical-Dental Office Building	720	Multi-tenant building with offices for physicians and/or dentists
Single Tenant Office Building	715	Single tenant office buildings other than corporate headquarters
Office Park	750	Office buildings (typically low-rise) in a campus setting and served by a common roadway system



Table 1 (Cont'd). Land Use Descriptions

Land Use Category	ITE Land Use Code	Land Use Description
COMMERCIAL		
Automobile Related		
Automobile Care Center	942	Automobile repair and servicing including stereo installations and upholstery
Automobile Parts Sales	843	Retail sale of auto parts but no on-site vehicle repair
Gasoline/Service Station	944	Gasoline sales without convenience store or car wash; may include repair
Gasoline/Service Station w/ Conv Market	945	Gasoline sales with convenience store where the primary business is gasoline sales
Gasoline/Service Station w/ Conv Market and Car Wash	946	Gasoline sales with convenience store and car washes where the primary business is gasoline sales
New Car Sales	841	New car dealerships, typically with automobile servicing, part sales, and used car sales
Quick Lubrication Vehicle Shop	941	Primary business is to perform oil changes and fluid/filter changes with other repair services not provided
Self-Service Car Wash	947	Has stalls for driver to park and wash the vehicle
Tire Store	848	Primary business is sales and installation of tires; usually do not have large storage or warehouse area
Dining		
Fast Food Restaurant with Drive-Thru Window	934	High-turnover fast food restaurant for carry-out and eat-in customers with a drive-thru window
Fast Food Restaurant without Drive-Thru Window	933	High-turnover fast food restaurant for carry-out and eat-in customers, but without a drive-thru window
High Turnover (Sit-Down) Restaurant	932	Restaurants with turnover rates less than one hour; typically includes moderately-priced chain restaurants
Quality Restaurant	931	Restaurants with turnover rates of one hour or longer; typically require reservations
Coffee/Donut Shop with Drive-Thru Window	937	Coffee and Donut restaurants with drive-through windows, hold long store hours and have limited indoor seating
Other Retail		
Free-Standing Discount Store	815	Category includes free-standing stores with off-street parking; typically offer a variety of products and services with long store hours
Nursery (Garden Center)	817	Building with a yard of planting or landscape stock; may have office, storage, shipping or greenhouse facilities
Home Improvement Superstore	862	Warehouse-type facilities offering a large variety of products and services including lumber, tool, paint, lighting, and fixtures, among other items.
Pharmacy/Drugstore w/o Drive-Thru Window	880	Facilities that primarily sell prescription and non-prescription drugs without a drive-through window
Pharmacy/Drugstore w/ Drive-Thru Window	881	Facilities that primarily sell prescription and non-prescription drugs with a drive-through window
Shopping Center	820	Integrated group of commercial establishments; planning, owned, and managed as a unit
Supermarket	850	Primary business is sale of groceries, food, and household cleaning items; may include photo, pharmacy, video rental, and/or ATM
Toy/Children's Superstore	864	Businesses specializing in child-oriented merchandise
Department Store	875	Free-standing stores that specialize in the sale of apparel, footwear, bedding, home products, jewelry, etc.
SERVICES		
Walk-In Bank	911	Banks with their own parking lots, no drive-in lanes but contain non-drive-through ATMs
Drive-In Bank	912	Banking facilities to conduct financial transactions from the vehicle; also usually apart of walk-in bank
Hair Salon	918	Facilities that specialize in cosmetic and beauty services including hair cutting and styling

VI. SAMPLE CALCULATIONS

The following section details two (2) examples of maximum assessable Roadway Impact Fee calculations.

Example 1:

Development Type - One (1) Unit of Single-Family Housing in Service Area A

Roadway Impact Fee Calculation Steps – Example 1	
Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	<i>From Table 10 [Land Use – Vehicle-Mile Equivalency Table]</i> Development Type: 1 Dwelling Unit of Single-Family Detached Housing Number of Development Units: 1 Dwelling Unit Veh-Mi Per Development Unit: 4.90
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile)
	<i>From Table 9, Line 14 [Maximum Assessable Fee Per Service Unit]</i> Service Area A: \$1,032
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 1 * 4.90 * \$1,032 Maximum Assessable Impact Fee = \$5,057

Example 2:

Development Type – 125,000 square foot Home Improvement Superstore in Service Area D

Roadway Impact Fee Calculation Steps – Example 2	
Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	<i>From Table 10 [Land Use – Vehicle-Mile Equivalency Table]</i> Development Type: 125,000 square feet of Home Improvement Superstore Development Unit: 1,000 square feet of Gross Floor Area Veh-Mi Per Development Unit: 3.39
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile)
	<i>From Table 9, Line 14 [Maximum Assessable Fee Per Service Unit]</i> Service Area D: \$1,486
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 125 * 3.39 * \$1,486 Maximum Assessable Impact Fee = \$1,011,491

VII. ADOPTION AND ADMINISTRATION OF ROADWAY IMPACT FEES

A. Adoption Process

Chapter 395 of the Texas Local Government Code stipulates a specific process for the adoption of Roadway Impact Fees. A Capital Improvement Advisory Committee (CIAC) is required to review the Land Use Assumptions and Roadway Impact Fees CIP used in calculating the maximum fee, and to provide the Committee's findings for consideration by the City Council. This CIAC also reviews the Roadway Impact Fee ordinance and provides its findings to the City Council. The composition of the CIAC is required to adequately represent the building and development communities. The City Council then conducts a first public hearing on the Land Use Assumptions and Roadway Impact Fee CIP and a second public hearing on the Roadway Impact Fee Ordinance.

Following policy adoption, the CIAC is tasked with advising the City Council of the need to update the Land Use Assumptions or the Roadway Impact Fees CIP at any time within five years of adoption. Finally, the CIAC oversees the proper administration of the Impact Fee, once in place, and advises the Council as necessary.

B. Collection and Use of Transportation Impact Fees

Roadway Impact fees are assessed when a final plat is recorded. The assessment defines the impact of each unit at the time of platting, according to land use, and may not exceed the maximum impact fee allowed by law. Roadway Impact Fees are collected when a building permit is issued. Therefore, funds are not collected until development-impacts are introduced to the transportation system. Funds collected within a service area can be used only within the same service area. Finally, fees must be utilized within 10 years of collection, or must be refunded with interest.



VIII. CONCLUSIONS

The City of Garland has established a process to implement the assessment and collection of Roadway Impact Fees through the adoption of an impact fee ordinance that is consistent with Chapter 395 of the Texas Local Government Code.

This report establishes the maximum allowable Roadway Impact Fee that could be assessed by the City of Garland, as shown in the previously referenced **Table 8**.

This document serves as a guide to the assessment of Roadway Impact Fees pertaining to future development, and the City's need for transportation improvements to accommodate that growth. Following the public hearing process, the City Council may establish an impact fee amount to be collected, up to the calculated maximum and establish the Roadway Impact Fee Ordinance accordingly.

In conclusion, it is our opinion that the data and methodology used in this analysis are appropriate and consistent with Chapter 395 of the Texas Local Government Code. Furthermore, the Land Use Assumptions and the proposed Roadway Impact Fee Capital Improvements Plan are appropriately incorporated into the development of the maximum assessable Roadway Impact Fee.

Below is the listing of the 2016 Roadway Impact Fee Study's Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile):

Service Areas	A	B	C	D
2016 Roadway Impact Fee Study Maximum Assessable Fee Per Vehicle-Mile	\$ 1,032	\$ 2,081	\$ 2,661	\$ 1,486

APPENDICES

A. Conceptual Level Project Cost Projections

SERVICE AREA A
SERVICE AREA B
SERVICE AREA C
SERVICE AREA D

B. Roadway Impact Fee CIP Service Units of Supply

C. Existing Roadway Facilities Inventory

D. Plan for Awarding the Transportation Impact Fee Credit Summary

E. Plan for Awarding the Transportation Impact Fee Credit Supporting Exhibits

Appendix A – Conceptual Level Project Cost Projections

City of Garland - 2016 Roadway Impact Fee Study

Capital Improvement Plan for Roadway Impact Fees
Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area A

#	IF Class	Project	Limits		Status	Percent in Service Area	Project Cost	Total Cost in Service Area
			From	To				
A-1	B (1/3)	Arapaho Rd (1)	Elm Ridge Ln	Shiloh Rd	Median	100	\$ 1,383,000	\$ 1,383,000
A-2	B (1/3)	Arapaho Rd (2)	Shiloh Rd	N. Garland Ave	Median	100	\$ 1,210,000	\$ 1,210,000
A-3	C1	Brand Rd (1)	Bellaire Rd	Belt Line Rd	Widening	100	\$ 4,092,000	\$ 4,092,000
A-4	C1	Brand Rd (2)	Naaman Forest Blvd	West Brand Rd	New	100	\$ 8,172,000	\$ 8,172,000
A-5	C1	Brand Rd (3)	Murfield Rd	PGBT N Frontage Rd	Widening	100	\$ 3,590,000	\$ 3,590,000
A-6	B (1/3)	Campbell Rd (1)	N. Jupiter Rd	Shiloh Rd	Median	100	\$ 1,901,000	\$ 1,901,000
A-7	B (1/3)	Campbell Rd (2)	Shiloh Rd	PGBT S Frontage Rd	Median	100	\$ 740,000	\$ 740,000
A-8	B (1/3)	Campbell Rd (3)	Lookout Dr	PGBT N Frontage Rd	Median	100	\$ 1,065,000	\$ 1,065,000
A-9	B (1/3)	Campbell Rd (4)	Lookout Dr	N. Garland Ave	Median	100	\$ 1,150,000	\$ 1,150,000
A-10	B (1/3)	Campbell Rd (5)	N. Garland Ave	Water Oak Dr	Median	100	\$ 929,000	\$ 929,000
A-11	B	Campbell Rd (6)	Water Oak Dr	Murphy Rd	Widening	100	\$ 11,065,000	\$ 11,065,000
A-12	D1	Ferris Rd	Campbell Rd	Holford Rd	Widening	100	\$ 2,258,000	\$ 2,258,000
A-13	A	Firewheel Parkway (1)	Lavon Dr	530' E of Lavon Dr	Widening	100	\$ 824,000	\$ 824,000
A-14	D1	Holford Rd (1)	Naaman Forest (Future)	Arapaho Rd	Widening	100	\$ 5,347,000	\$ 5,347,000
A-15	C2	Holford Rd (2)	PGBT S Frontage Rd	Naaman Forest (Future)	Widening	100	\$ 2,717,000	\$ 2,717,000
A-16	C2	Holford Rd (3)	N City Limits	PGBT N Frontage Rd	Widening	100	\$ 8,118,000	\$ 8,118,000
A-17	B (1/3)	Lookout Dr (1)	Courtside Dr	Spring Dr	Median	50	\$ 201,000	\$ 100,500
A-18	B (1/3)	Lookout Dr (2)	Spring Dr	PGBT S Frontage Rd	Median	50	\$ 1,428,000	\$ 714,000
A-19	B (1/3)	Lookout Dr (3)	PGBT N Frontage Rd	Campbell Rd	Median	100	\$ 1,107,000	\$ 1,107,000
A-20	F	Mapleridge (1)	Shiloh Rd	Mapleridge Dr	New	100	\$ 384,000	\$ 384,000
A-21	F	Mapleridge (2)	Mapleridge Dr (Existing)	Holford Rd	New	100	\$ 3,513,000	\$ 3,513,000
A-22	B (1/3)	Garland Ave (1)	N City Limits	PGBT N Frontage Rd	Median	100	\$ 2,313,000	\$ 2,313,000
A-23	B (1/3)	Garland Ave (2)	Arapaho Rd	PGBT S Frontage Rd	Median	100	\$ 2,044,000	\$ 2,044,000
A-24	B-S (1/3)	Garland Ave (3)	Arapaho Rd	Belt Line Rd	Median	100	\$ 1,421,000	\$ 1,421,000
A-25	B (1/3)	Garland Ave (4)	Belt Line Rd	Buckingham Rd	Median	100	\$ 1,732,000	\$ 1,732,000
A-26	B (1/3)	Shiloh Rd (1)	PGBT S Frontage Rd	Campbell Rd	Median	100	\$ 657,000	\$ 657,000
A-27	B (1/3)	Shiloh Rd (2)	Campbell Rd	north bridge end	Median	100	\$ 733,000	\$ 733,000
A-28	B (1/3)	Shiloh Rd (3)	Collins Blvd	Arapaho Rd	Median	100	\$ 1,065,000	\$ 1,065,000
A-29	B (1/3)	Shiloh Rd (4)	Arapaho Rd	Belt Line Rd	Median	100	\$ 1,836,000	\$ 1,836,000
A-30	B (1/3)	Shiloh Rd (5)	Belt Line Rd	Buckingham Rd	Median	100	\$ 1,714,000	\$ 1,714,000
A-31	D1	Naaman Forest Blvd	W. Naaman Forest Blvd.	E. Naaman Forest Blvd.	New	100	\$ 2,079,000	\$ 2,079,000
A-32	D1	Naaman School Rd	Brand Rd	Lavon Dr	Widening	100	\$ 6,047,000	\$ 6,047,000
A-33	D1	Naaman Forest Blvd	Ranger	Brand Rd	Completed	100	\$ 3,904,483	\$ 3,904,483
TOTAL							\$ 86,739,483	\$ 85,924,983

Bottleneck Study Improvements - Service Area A

#	Intersection	Improvement(s)	Percent in Service Area	Total Project Cost in Service Area	10-Year Growth Cost in Service Area
I-1	Shiloh Rd and Campbell Rd	Extend WB RT lane	100%	\$ 2,625,000.00	\$ 634,000.00
I-2	Arapaho Rd and Shiloh Rd	Add NB and SB RT lanes	100%		
I-3	Apollo Rd and Garland Ave	Add EB RT Lane	100%		
I-4	Wagon Wheel Rd and Garland Ave	WB RT Lane	100%		
I-5	Belt Line Rd and Garland Ave	WB RT Lane	100%		
I-6	Belt Line Rd and Shiloh Rd	EB RT Lane	100%		
I-7	Buckingham Rd and Plano Rd	NB RT Lane, EB and WB Dual LT Lanes	100%		
I-8	Shiloh Rd and Buckingham Rd	Add dual lefts WB, NB, and SB	50%		

NOTE: These planning level cost projections listed in this Appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Garland. These planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-1
Name:	Arapaho Rd (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Elm Ridge Ln to Shiloh Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	4,075			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	5,886	cy	\$ 8.00	\$ 47,089
210	6" Lime Stabilization Subgrade	11,319	sy	\$ 2.60	\$ 29,431
310	Street Cut Paving Concrete - Class C Construct	10,414	sy	\$ 70.00	\$ 728,972
410	Curb 6" Integral	8,150	lf	\$ 1.95	\$ 15,893
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	926	sy	\$ 70.00	\$ 64,830
Paving Construction Cost Subtotal:					\$ 886,214
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 44,311
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 26,586
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 35,449
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 106,346
Paving and Allowance Subtotal:				\$	992,559
Construction Contingency:				10%	\$ 99,256
Mobilization				5%	\$ 49,628
Prep ROW				5%	\$ 49,628
Construction Cost TOTAL:				\$	1,192,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,192,000
Engineering/Survey/Testing:		16%	\$ 190,720
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,383,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Garland.

The planning level cost projections shall not supersede the City's design standards contained or the determination of the City Engineer for a specific project.

City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-2
Name:	Arapaho Rd (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Shiloh Rd to N. Garland Ave			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	3,565			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	5,149	cy	\$ 8.00	\$ 41,196
210	6" Lime Stabilization Subgrade	9,903	sy	\$ 2.60	\$ 25,747
310	Street Cut Paving Concrete - Class C Construct	9,111	sy	\$ 70.00	\$ 637,739
410	Curb 6" Integral	7,130	lf	\$ 1.95	\$ 13,904
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	810	sy	\$ 70.00	\$ 56,716
Paving Construction Cost Subtotal: \$					775,301
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 38,765
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 23,259
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 31,012
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	93,036
Paving and Allowance Subtotal:				\$	868,337
Construction Contingency:				10%	\$ 86,834
Mobilization				5%	\$ 43,417
Prep ROW				5%	\$ 43,417
Construction Cost TOTAL: \$					1,043,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,043,000
Engineering/Survey/Testing:		16%	\$ 166,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,210,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Garland.

The planning level cost projections shall not supersede the City's design standards contained or the determination of the City Engineer for a specific project.

City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-3
Name:	Brand Rd (1)	This project consists of the reconstruction of the existing facility as a four lane divided minor arterial		
Limits:	Bellaire Rd to Belt Line Rd			
Impact Fee Class:	C1			
Ultimate Class:	Minor Arterial			
Length (lf):	3,375			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	9,750	cy	\$ 8.00	\$ 78,000
207	6" Lime Stabilization Subgrade	19,125	sy	\$ 2.60	\$ 49,725
307	Street Cut Paving Concrete - Class C Construct	18,750	sy	\$ 70.00	\$ 1,312,500
407	Curb 6" Integral	13,500	lf	\$ 1.95	\$ 26,325
507	Sidwalk 4" Class A Construct	4,500	sy	\$ 43.00	\$ 193,500
607	Turn Lanes and Median Openings	1,552	sy	\$ 70.00	\$ 108,639
Paving Construction Cost Subtotal:					\$ 1,768,689
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 88,434
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 53,061
√	Roadway Drainage	Standard Internal System		30%	\$ 530,607
√	Illumination			6%	\$ 106,121
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 53,061
√	Sewer	Minor Adjustments		2%	\$ 35,374
√	Landscaping and Irrigation			4%	\$ 70,748
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 937,405
Paving and Allowance Subtotal:				\$	2,706,094
Construction Contingency:				10%	\$ 270,609
Mobilization				5%	\$ 135,305
Prep ROW				5%	\$ 135,305
Construction Cost TOTAL:				\$	3,248,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,248,000
Engineering/Survey/Testing:		16%	\$ 519,680
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 324,800
Impact Fee Project Cost TOTAL:			\$ 4,092,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-4
Name:	Brand Rd (2)	This project consists of the construction of a new four lane divided minor arterial		
Limits:	Naaman Forest Blvd to West Brand Rd			
Impact Fee Class:	C1			
Ultimate Class:	Minor Arterial			
Length (lf):	2,500			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	7,222	cy	\$ 8.00	\$ 57,778
207	6" Lime Stabilization Subgrade	14,167	sy	\$ 2.60	\$ 36,833
307	Street Cut Paving Concrete - Class C Construct	13,889	sy	\$ 70.00	\$ 972,222
407	Curb 6" Integral	10,000	lf	\$ 1.95	\$ 19,500
507	Sidwalk 4" Class A Construct	3,333	sy	\$ 43.00	\$ 143,333
607	Turn Lanes and Median Openings	1,150	sy	\$ 70.00	\$ 80,473
Paving Construction Cost Subtotal:					\$ 1,310,140
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	65,507
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	39,304
✓	Roadway Drainage	Standard Internal System	30%	\$	393,042
✓	Illumination		6%	\$	78,608
✓	Special Drainage Structures	Bridge Crossing	0%	\$	3,400,000
✓	Water	Minor Adjustments	3%	\$	39,304
✓	Sewer	Minor Adjustments	2%	\$	26,203
✓	Landscaping and Irrigation		4%	\$	52,406
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	4,094,374
Paving and Allowance Subtotal:				\$	5,404,514
Construction Contingency:				10%	\$ 540,451
Mobilization				5%	\$ 270,226
Prep ROW				5%	\$ 270,226
Construction Cost TOTAL:				\$	6,486,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 6,486,000
Engineering/Survey/Testing:		16%	\$ 1,037,760
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 648,600
Impact Fee Project Cost TOTAL:			\$ 8,172,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-5
Name:	Brand Rd (3)	This project consists of the reconstruction of the existing facility as a four lane divided minor arterial		
Limits:	Murfield Rd to PGBT N Frontage Rd			
Impact Fee Class:	C1			
Ultimate Class:	Minor Arterial			
Length (lf):	2,960			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	8,551	cy	\$ 8.00	\$ 68,409
207	6" Lime Stabilization Subgrade	16,773	sy	\$ 2.60	\$ 43,611
307	Street Cut Paving Concrete - Class C Construct	16,444	sy	\$ 70.00	\$ 1,151,111
407	Curb 6" Integral	11,840	lf	\$ 1.95	\$ 23,088
507	Sidwalk 4" Class A Construct	3,947	sy	\$ 43.00	\$ 169,707
607	Turn Lanes and Median Openings	1,361	sy	\$ 70.00	\$ 95,281
Paving Construction Cost Subtotal:					\$ 1,551,206
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 77,560
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 46,536
√	Roadway Drainage	Standard Internal System		30%	\$ 465,362
√	Illumination			6%	\$ 93,072
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 46,536
√	Sewer	Minor Adjustments		2%	\$ 31,024
√	Landscaping and Irrigation			4%	\$ 62,048
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 822,139
				Paving and Allowance Subtotal:	\$ 2,373,345
				Construction Contingency:	10% \$ 237,335
				Mobilization	5% \$ 118,667
				Prep ROW	5% \$ 118,667
				Construction Cost TOTAL:	\$ 2,849,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,849,000
Engineering/Survey/Testing:		16%	\$ 455,840
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 284,900
Impact Fee Project Cost TOTAL:			\$ 3,590,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-6
Name:	Campbell Rd (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	N. Jupiter Rd to Shiloh Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	5,605			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	8,096	cy	\$ 8.00	\$ 64,769
210	6" Lime Stabilization Subgrade	15,569	sy	\$ 2.60	\$ 40,481
310	Street Cut Paving Concrete - Class C Construct	14,324	sy	\$ 70.00	\$ 1,002,672
410	Curb 6" Integral	11,210	lf	\$ 1.95	\$ 21,860
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,274	sy	\$ 70.00	\$ 89,170
Paving Construction Cost Subtotal:					\$ 1,218,952
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	60,948
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	36,569
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	48,758
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	146,274
Paving and Allowance Subtotal:					\$ 1,365,226
Construction Contingency:				10%	\$ 136,523
Mobilization				5%	\$ 68,261
Prep ROW				5%	\$ 68,261
Construction Cost TOTAL:					\$ 1,639,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,639,000
Engineering/Survey/Testing:		16%	\$ 262,240
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,901,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-7
Name:	Campbell Rd (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Shiloh Rd to PGBT S Frontage Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	2,180			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	3,149	cy	\$ 8.00	\$ 25,191
210	6" Lime Stabilization Subgrade	6,056	sy	\$ 2.60	\$ 15,744
310	Street Cut Paving Concrete - Class C Construct	5,571	sy	\$ 70.00	\$ 389,978
410	Curb 6" Integral	4,360	lf	\$ 1.95	\$ 8,502
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	495	sy	\$ 70.00	\$ 34,682
Paving Construction Cost Subtotal:					\$ 474,097
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 23,705
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 14,223
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 18,964
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 56,892
Paving and Allowance Subtotal:				\$	530,989
Construction Contingency:				10%	\$ 53,099
Mobilization				5%	\$ 26,549
Prep ROW				5%	\$ 26,549
Construction Cost TOTAL:				\$	638,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 638,000
Engineering/Survey/Testing:		16%	\$ 102,080
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 740,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-8
Name:	Campbell Rd (3)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Lookout Dr to PGBT N Frontage Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	3,140			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	4,536	cy	\$ 8.00	\$ 36,284
210	6" Lime Stabilization Subgrade	8,722	sy	\$ 2.60	\$ 22,678
310	Street Cut Paving Concrete - Class C Construct	8,024	sy	\$ 70.00	\$ 561,711
410	Curb 6" Integral	6,280	lf	\$ 1.95	\$ 12,246
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	714	sy	\$ 70.00	\$ 49,955
Paving Construction Cost Subtotal:					\$ 682,874
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 34,144
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 20,486
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 27,315
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 81,945
				Paving and Allowance Subtotal:	\$ 764,819
				Construction Contingency:	10% \$ 76,482
				Mobilization	5% \$ 38,241
				Prep ROW	5% \$ 38,241
				Construction Cost TOTAL:	\$ 918,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 918,000
Engineering/Survey/Testing:		16%	\$ 146,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,065,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-9
Name:	Campbell Rd (4)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Lookout Dr to N. Garland Ave			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	3,390			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	4,897	cy	\$ 8.00	\$ 39,173
210	6" Lime Stabilization Subgrade	9,417	sy	\$ 2.60	\$ 24,483
310	Street Cut Paving Concrete - Class C Construct	8,663	sy	\$ 70.00	\$ 606,433
410	Curb 6" Integral	6,780	lf	\$ 1.95	\$ 13,221
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	770	sy	\$ 70.00	\$ 53,932
Paving Construction Cost Subtotal:					\$ 737,243
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	36,862
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	22,117
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	29,490
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	88,469
Paving and Allowance Subtotal:					\$ 825,712
Construction Contingency:			10%	\$	82,571
Mobilization			5%	\$	41,286
Prep ROW			5%	\$	41,286
Construction Cost TOTAL:					\$ 991,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 991,000
Engineering/Survey/Testing:		16%	\$ 158,560
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,150,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-10
Name:	Campbell Rd (5)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	N. Garland Ave to Water Oak Dr			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	2,740			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	3,958	cy	\$ 8.00	\$ 31,662
210	6" Lime Stabilization Subgrade	7,611	sy	\$ 2.60	\$ 19,789
310	Street Cut Paving Concrete - Class C Construct	7,002	sy	\$ 70.00	\$ 490,156
410	Curb 6" Integral	5,480	lf	\$ 1.95	\$ 10,686
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	623	sy	\$ 70.00	\$ 43,591
Paving Construction Cost Subtotal:					\$ 595,884
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 29,794
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 17,877
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 23,835
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 71,506
Paving and Allowance Subtotal:				\$	667,390
Construction Contingency:				10%	\$ 66,739
Mobilization				5%	\$ 33,369
Prep ROW				5%	\$ 33,369
Construction Cost TOTAL:				\$	801,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 801,000
Engineering/Survey/Testing:		16%	\$ 128,160
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 929,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-11
Name:	Campbell Rd (6)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Water Oak Dr to Murphy Rd			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	6,545			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	25,453	cy	\$ 8.00	\$ 203,622
209	6" Lime Stabilization Subgrade	50,178	sy	\$ 2.60	\$ 130,464
309	Street Cut Paving Concrete - Class C Construct	49,451	sy	\$ 70.00	\$ 3,461,578
409	Curb 6" Integral	26,180	lf	\$ 1.95	\$ 51,051
509	Sidwalk 4" Class A Construct	8,727	sy	\$ 43.00	\$ 375,247
609	Turn Lanes and Median Openings	2,415	sy	\$ 70.00	\$ 169,030
Paving Construction Cost Subtotal:					\$ 4,390,991
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 219,550
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 131,730
√	Roadway Drainage	Standard Internal System		30%	\$ 1,317,297
√	Illumination			6%	\$ 263,459
√	Special Drainage Structures	Bridge Crossing		0%	\$ 600,000
√	Water	Minor Adjustments		3%	\$ 131,730
√	Sewer	Minor Adjustments		2%	\$ 87,820
√	Landscaping and Irrigation			4%	\$ 175,640
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 2,927,225
				Paving and Allowance Subtotal:	\$ 7,318,216
				Construction Contingency:	10% \$ 731,822
				Mobilization	5% \$ 365,911
				Prep ROW	5% \$ 365,911
				Construction Cost TOTAL:	\$ 8,782,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 8,782,000
Engineering/Survey/Testing:		16%	\$ 1,405,120
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 878,200
Impact Fee Project Cost TOTAL:			\$ 11,065,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-12
Name:	Ferris Rd	This project consists of the reconstruction of the existing facility as a four lane divided major collector		
Limits:	Campbell Rd to Holford Rd			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	1,885			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	5,446	cy	\$ 8.00	\$ 43,564
203	6" Lime Stabilization Subgrade	10,682	sy	\$ 2.60	\$ 27,772
303	Street Cut Paving Concrete - Class C Construct	10,472	sy	\$ 70.00	\$ 733,056
403	Curb 6" Integral	7,540	lf	\$ 1.95	\$ 14,703
503	Sidewalk 4" Class A Construct	2,513	sy	\$ 43.00	\$ 108,073
603	Turn Lanes and Median Openings	695	sy	\$ 70.00	\$ 48,682
Paving Construction Cost Subtotal:					\$ 975,850
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	48,793
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	29,276
✓	Roadway Drainage	Standard Internal System	30%	\$	292,755
✓	Illumination		6%	\$	58,551
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	29,276
✓	Sewer	Minor Adjustments	2%	\$	19,517
✓	Landscaping and Irrigation		4%	\$	39,034
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	517,201
Paving and Allowance Subtotal:				\$	1,493,051
Construction Contingency:				10%	\$ 149,305
Mobilization				5%	\$ 74,653
Prep ROW				5%	\$ 74,653
Construction Cost TOTAL:				\$	1,792,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,792,000
Engineering/Survey/Testing:		16%	\$ 286,720
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 179,200
Impact Fee Project Cost TOTAL:			\$ 2,258,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-13
Name:	Firewheel Parkway (1)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Lavon Dr to 530' E of Lavon Dr			
Impact Fee Class:	A			
Ultimate Class:	Regional Arterial			
Length (lf):	530			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
111	Unclassified Street Excavation	2,061	cy	\$ 8.00	\$ 16,489
211	6" Lime Stabilization Subgrade	4,063	sy	\$ 2.60	\$ 10,565
311	Street Cut Paving Concrete - Class C Construct	4,004	sy	\$ 70.00	\$ 280,311
411	Curb 6" Integral	2,120	lf	\$ 1.95	\$ 4,134
511	Sidwalk 4" Class A Construct	707	sy	\$ 43.00	\$ 30,387
611	Turn Lanes and Median Openings	201	sy	\$ 70.00	\$ 14,060
Paving Construction Cost Subtotal:					\$ 355,945
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 17,797
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 10,678
√	Roadway Drainage	Standard Internal System		30%	\$ 106,784
√	Illumination			6%	\$ 21,357
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 10,678
√	Sewer	Minor Adjustments		2%	\$ 7,119
√	Landscaping and Irrigation			4%	\$ 14,238
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 188,651
				Paving and Allowance Subtotal:	\$ 544,596
				Construction Contingency:	10% \$ 54,460
				Mobilization	5% \$ 27,230
				Prep ROW	5% \$ 27,230
				Construction Cost TOTAL:	\$ 654,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 654,000
Engineering/Survey/Testing:		16%	\$ 104,640
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 65,400
Impact Fee Project Cost TOTAL:			\$ 824,000

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City of Garland
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Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-14
Name:	Holford Rd (1)	This project consists of the reconstruction of the existing facility as a four lane divided major collector		
Limits:	Naaman Forest (Future) to Arapaho Rd			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	3,960			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	11,440	cy	\$ 8.00	\$ 91,520
203	6" Lime Stabilization Subgrade	22,440	sy	\$ 2.60	\$ 58,344
303	Street Cut Paving Concrete - Class C Construct	22,000	sy	\$ 70.00	\$ 1,540,000
403	Curb 6" Integral	15,840	lf	\$ 1.95	\$ 30,888
503	Sidwalk 4" Class A Construct	5,280	sy	\$ 43.00	\$ 227,040
603	Turn Lanes and Median Openings	1,461	sy	\$ 70.00	\$ 102,270
Paving Construction Cost Subtotal:					\$ 2,050,062
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	102,503
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	61,502
✓	Roadway Drainage	Standard Internal System	30%	\$	615,019
✓	Illumination		6%	\$	123,004
✓	Special Drainage Structures	Bridge Crossing	0%	\$	400,000
✓	Water	Minor Adjustments	3%	\$	61,502
✓	Sewer	Minor Adjustments	2%	\$	41,001
✓	Landscaping and Irrigation		4%	\$	82,002
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	1,486,533
Paving and Allowance Subtotal:					\$ 3,536,595
Construction Contingency:				10%	\$ 353,659
Mobilization				5%	\$ 176,830
Prep ROW				5%	\$ 176,830
Construction Cost TOTAL:					\$ 4,244,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,244,000
Engineering/Survey/Testing:		16%	\$ 679,040
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 424,400
Impact Fee Project Cost TOTAL:			\$ 5,347,000

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City of Garland
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Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-15
Name:	Holford Rd (2)	This project consists of the reconstruction of the existing facility as a four lane divided minor arterial		
Limits:	PGBT S Frontage Rd to Naaman Forest (Futur			
Impact Fee Class:	C2			
Ultimate Class:	Minor Arterial			
Length (lf):	1,750			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
108	Unclassified Street Excavation	6,806	cy	\$ 8.00	\$ 54,444
208	6" Lime Stabilization Subgrade	13,417	sy	\$ 2.60	\$ 34,883
308	Street Cut Paving Concrete - Class C Construct	13,222	sy	\$ 70.00	\$ 925,556
408	Curb 6" Integral	7,000	lf	\$ 1.95	\$ 13,650
508	Sidwalk 4" Class A Construct	2,333	sy	\$ 43.00	\$ 100,333
608	Turn Lanes and Median Openings	646	sy	\$ 70.00	\$ 45,195
Paving Construction Cost Subtotal: \$					1,174,062
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 58,703
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 35,222
√	Roadway Drainage	Standard Internal System		30%	\$ 352,219
√	Illumination			6%	\$ 70,444
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 35,222
√	Sewer	Minor Adjustments		2%	\$ 23,481
√	Landscaping and Irrigation			4%	\$ 46,962
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	622,253
Paving and Allowance Subtotal:				\$	1,796,314
Construction Contingency:				10%	\$ 179,631
Mobilization				5%	\$ 89,816
Prep ROW				5%	\$ 89,816
Construction Cost TOTAL:				\$	2,156,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,156,000
Engineering/Survey/Testing:		16%	\$ 344,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 215,600
Impact Fee Project Cost TOTAL:			\$ 2,717,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-16
Name:	Holford Rd (3)	This project consists of the reconstruction of the existing facility as a four lane divided minor arterial		
Limits:	N City Limits to PG&T N Frontage Rd			
Impact Fee Class:	C2			
Ultimate Class:	Minor Arterial			
Length (lf):	5,230			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
108	Unclassified Street Excavation	20,339	cy	\$ 8.00	\$ 162,711
208	6" Lime Stabilization Subgrade	40,097	sy	\$ 2.60	\$ 104,251
308	Street Cut Paving Concrete - Class C Construct	39,516	sy	\$ 70.00	\$ 2,766,089
408	Curb 6" Integral	20,920	lf	\$ 1.95	\$ 40,794
508	Sidwalk 4" Class A Construct	6,973	sy	\$ 43.00	\$ 299,853
608	Turn Lanes and Median Openings	1,930	sy	\$ 70.00	\$ 135,069
Paving Construction Cost Subtotal:					\$ 3,508,767
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 175,438
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 105,263
√	Roadway Drainage	Standard Internal System		30%	\$ 1,052,630
√	Illumination			6%	\$ 210,526
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 105,263
√	Sewer	Minor Adjustments		2%	\$ 70,175
√	Landscaping and Irrigation			4%	\$ 140,351
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,859,647
				Paving and Allowance Subtotal:	\$ 5,368,414
				Construction Contingency:	10% \$ 536,841
				Mobilization	5% \$ 268,421
				Prep ROW	5% \$ 268,421
				Construction Cost TOTAL:	\$ 6,443,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 6,443,000
Engineering/Survey/Testing:		16%	\$ 1,030,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 644,300
Impact Fee Project Cost TOTAL:			\$ 8,118,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-17
Name:	Lookout Dr (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Courtside Dr to Spring Dr			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	590			
Service Area(s):	A,ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	852	cy	\$ 8.00	\$ 6,818
210	6" Lime Stabilization Subgrade	1,639	sy	\$ 2.60	\$ 4,261
310	Street Cut Paving Concrete - Class C Construct	1,508	sy	\$ 70.00	\$ 105,544
410	Curb 6" Integral	1,180	lf	\$ 1.95	\$ 2,301
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	134	sy	\$ 70.00	\$ 9,386
Paving Construction Cost Subtotal:					\$ 128,311
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 6,416
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 3,849
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 5,132
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 15,397
Paving and Allowance Subtotal:				\$	143,708
Construction Contingency:				10%	\$ 14,371
Mobilization				5%	\$ 7,185
Prep ROW				5%	\$ 7,185
Construction Cost TOTAL:				\$	173,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 173,000
Engineering/Survey/Testing:		16%	\$ 27,680
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 201,000

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City of Garland
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Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-18
Name:	Lookout Dr (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Spring Dr to PGBT S Frontage Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	4,210			
Service Area(s):	A,ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	6,081	cy	\$ 8.00	\$ 48,649
210	6" Lime Stabilization Subgrade	11,694	sy	\$ 2.60	\$ 30,406
310	Street Cut Paving Concrete - Class C Construct	10,759	sy	\$ 70.00	\$ 753,122
410	Curb 6" Integral	8,420	lf	\$ 1.95	\$ 16,419
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	957	sy	\$ 70.00	\$ 66,977
Paving Construction Cost Subtotal:					\$ 915,573
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	45,779
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	27,467
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	36,623
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	109,869
Paving and Allowance Subtotal:					\$ 1,025,442
Construction Contingency:			10%	\$	102,544
Mobilization			5%	\$	51,272
Prep ROW			5%	\$	51,272
Construction Cost TOTAL:					\$ 1,231,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,231,000
Engineering/Survey/Testing:		16%	\$ 196,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,428,000

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Kimley-Horn and Associates, Inc.
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Project Information:		Description:	Project No.	A-19
Name:	Lookout Dr (3)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	PGBT N Frontage Rd to Campbell Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	3,785			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	5,467	cy	\$ 8.00	\$ 43,738
210	6" Lime Stabilization Subgrade	10,514	sy	\$ 2.60	\$ 27,336
310	Street Cut Paving Concrete - Class C Construct	9,673	sy	\$ 70.00	\$ 677,094
410	Curb 6" Integral	7,570	lf	\$ 1.95	\$ 14,762
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	860	sy	\$ 70.00	\$ 60,216
Paving Construction Cost Subtotal:					\$ 823,146
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 41,157
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 24,694
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 32,926
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 98,777
Paving and Allowance Subtotal:				\$	921,923
Construction Contingency:				10%	\$ 92,192
Mobilization				5%	\$ 46,096
Prep ROW				5%	\$ 46,096
Construction Cost TOTAL:				\$	1,107,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,107,000
Engineering/Survey/Testing:		16%	\$ 177,120
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,284,000

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City of Garland
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Kimley-Horn and Associates, Inc.
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Project Information:		Description:	Project No.	A-20
Name:	Mapleridge (1)	This project consists of the construction of a new two lane undivided minor collector		
Limits:	Shiloh Rd to Mapleridge Dr			
Impact Fee Class:	F			
Ultimate Class:	Minor Collector			
Length (lf):	450			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	1,000	cy	\$ 8.00	\$ 8,000
201	6" Lime Stabilization Subgrade	1,950	sy	\$ 2.60	\$ 5,070
301	Street Cut Paving Concrete - Class C Construct	1,850	sy	\$ 70.00	\$ 129,500
401	Curb 6" Integral	900	lf	\$ 1.95	\$ 1,755
501	Sidwalk 4" Class A Construct	400	sy	\$ 43.00	\$ 17,200
601	Turn Lanes and Median Openings	32	sy	\$ 70.00	\$ 2,231
Paving Construction Cost Subtotal:					\$ 163,756
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 4,913
√	Roadway Drainage	Standard Internal System		30%	\$ 49,127
√	Illumination			6%	\$ 9,825
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 4,913
√	Sewer	Minor Adjustments		2%	\$ 3,275
√	Landscaping and Irrigation			4%	\$ 6,550
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 78,603
Paving and Allowance Subtotal:				\$	242,359
Construction Contingency:				10%	\$ 24,236
Mobilization				5%	\$ 12,118
Prep ROW				1%	\$ 2,424
Construction Cost TOTAL:				\$	282,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 282,000
Engineering/Survey/Testing:		16%	\$ 45,120
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 56,400
Impact Fee Project Cost TOTAL:			\$ 384,000

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Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-21
Name:	Mapleridge (2)	This project consists of the construction of a new two lane undivided minor collector		
Limits:	Mapleridge Dr (Existing) to Holford Rd			
Impact Fee Class:	F			
Ultimate Class:	Minor Collector			
Length (lf):	1,905			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	4,233	cy	\$ 8.00	\$ 33,867
201	6" Lime Stabilization Subgrade	8,255	sy	\$ 2.60	\$ 21,463
301	Street Cut Paving Concrete - Class C Construct	7,832	sy	\$ 70.00	\$ 548,217
401	Curb 6" Integral	3,810	lf	\$ 1.95	\$ 7,430
501	Sidwalk 4" Class A Construct	1,693	sy	\$ 43.00	\$ 72,813
601	Turn Lanes and Median Openings	135	sy	\$ 70.00	\$ 9,446
Paving Construction Cost Subtotal:					\$ 693,235
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	20,797
✓	Roadway Drainage	Standard Internal System	30%	\$	207,970
✓	Illumination		6%	\$	41,594
✓	Special Drainage Structures	Bridge Crossing	0%	\$	1,200,000
✓	Water	Minor Adjustments	3%	\$	20,797
✓	Sewer	Minor Adjustments	2%	\$	13,865
✓	Landscaping and Irrigation		4%	\$	27,729
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	1,532,753
Paving and Allowance Subtotal:				\$	2,225,987
Construction Contingency:				10%	\$ 222,599
Mobilization				5%	\$ 111,299
Prep ROW				1%	\$ 22,260
Construction Cost TOTAL:				\$	2,583,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,583,000
Engineering/Survey/Testing:		16%	\$ 413,280
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 516,600
Impact Fee Project Cost TOTAL:			\$ 3,513,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-22
Name:	Garland Ave (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	N City Limits to PG&T N Frontage Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	6,820			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	9,851	cy	\$ 8.00	\$ 78,809
210	6" Lime Stabilization Subgrade	18,944	sy	\$ 2.60	\$ 49,256
310	Street Cut Paving Concrete - Class C Construct	17,429	sy	\$ 70.00	\$ 1,220,022
410	Curb 6" Integral	13,640	lf	\$ 1.95	\$ 26,598
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,550	sy	\$ 70.00	\$ 108,500
Paving Construction Cost Subtotal:					\$ 1,483,185
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 74,159
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 44,496
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 59,327
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 177,982
				Paving and Allowance Subtotal:	\$ 1,661,167
				Construction Contingency:	10% \$ 166,117
				Mobilization	5% \$ 83,058
				Prep ROW	5% \$ 83,058
				Construction Cost TOTAL:	\$ 1,994,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,994,000
Engineering/Survey/Testing:		16%	\$ 319,040
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,313,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-23
Name:	Garland Ave (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Arapaho Rd to PGBT S Frontage Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	6,025			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	8,703	cy	\$ 8.00	\$ 69,622
210	6" Lime Stabilization Subgrade	16,736	sy	\$ 2.60	\$ 43,514
310	Street Cut Paving Concrete - Class C Construct	15,397	sy	\$ 70.00	\$ 1,077,806
410	Curb 6" Integral	12,050	lf	\$ 1.95	\$ 23,498
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,369	sy	\$ 70.00	\$ 95,852
Paving Construction Cost Subtotal:					\$ 1,310,291
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	65,515
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	39,309
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	52,412
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	157,235
Paving and Allowance Subtotal:					\$ 1,467,526
Construction Contingency:			10%	\$	146,753
Mobilization			5%	\$	73,376
Prep ROW			5%	\$	73,376
Construction Cost TOTAL:					\$ 1,762,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,762,000
Engineering/Survey/Testing:		16%	\$ 281,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,044,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-24
Name:	Garland Ave (3)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Arapaho Rd to Belt Line Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	4,190			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	6,052	cy	\$ 8.00	\$ 48,418
210	6" Lime Stabilization Subgrade	11,639	sy	\$ 2.60	\$ 30,261
310	Street Cut Paving Concrete - Class C Construct	10,708	sy	\$ 70.00	\$ 749,544
410	Curb 6" Integral	8,380	lf	\$ 1.95	\$ 16,341
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	952	sy	\$ 70.00	\$ 66,659
Paving Construction Cost Subtotal:					\$ 911,223
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	45,561
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	27,337
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	36,449
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	109,347
Paving and Allowance Subtotal:				\$	1,020,570
Construction Contingency:				10%	\$ 102,057
Mobilization				5%	\$ 51,029
Prep ROW				5%	\$ 51,029
Construction Cost TOTAL:				\$	1,225,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,225,000
Engineering/Survey/Testing:		16%	\$ 196,000
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,421,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-25
Name:	Garland Ave (4)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Belt Line Rd to Buckingham Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	5,105			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	7,374	cy	\$ 8.00	\$ 58,991
210	6" Lime Stabilization Subgrade	14,181	sy	\$ 2.60	\$ 36,869
310	Street Cut Paving Concrete - Class C Construct	13,046	sy	\$ 70.00	\$ 913,228
410	Curb 6" Integral	10,210	lf	\$ 1.95	\$ 19,910
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,160	sy	\$ 70.00	\$ 81,216
Paving Construction Cost Subtotal:					\$ 1,110,214
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	55,511
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	33,306
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	44,409
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	133,226
Paving and Allowance Subtotal:					\$ 1,243,439
Construction Contingency:				10%	\$ 124,344
Mobilization				5%	\$ 62,172
Prep ROW				5%	\$ 62,172
Construction Cost TOTAL:					\$ 1,493,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,493,000
Engineering/Survey/Testing:		16%	\$ 238,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,732,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-26
Name:	Shiloh Rd (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	PGBT S Frontage Rd to Campbell Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	1,935			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	2,795	cy	\$ 8.00	\$ 22,360
210	6" Lime Stabilization Subgrade	5,375	sy	\$ 2.60	\$ 13,975
310	Street Cut Paving Concrete - Class C Construct	4,945	sy	\$ 70.00	\$ 346,150
410	Curb 6" Integral	3,870	lf	\$ 1.95	\$ 7,547
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	440	sy	\$ 70.00	\$ 30,784
Paving Construction Cost Subtotal: \$					420,816
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 21,041
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 12,624
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 16,833
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	50,498
				Paving and Allowance Subtotal: \$	471,313
Construction Contingency:				10%	\$ 47,131
Mobilization				5%	\$ 23,566
Prep ROW				5%	\$ 23,566
Construction Cost TOTAL: \$					566,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 566,000
Engineering/Survey/Testing:		16%	\$ 90,560
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 657,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-27
Name:	Shiloh Rd (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Campbell Rd to north bridge end			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	2,160			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	3,120	cy	\$ 8.00	\$ 24,960
210	6" Lime Stabilization Subgrade	6,000	sy	\$ 2.60	\$ 15,600
310	Street Cut Paving Concrete - Class C Construct	5,520	sy	\$ 70.00	\$ 386,400
410	Curb 6" Integral	4,320	lf	\$ 1.95	\$ 8,424
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	491	sy	\$ 70.00	\$ 34,364
Paving Construction Cost Subtotal:					\$ 469,748
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 23,487
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 14,092
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 18,790
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 56,370
Paving and Allowance Subtotal:				\$	526,117
Construction Contingency:				10%	\$ 52,612
Mobilization				5%	\$ 26,306
Prep ROW				5%	\$ 26,306
Construction Cost TOTAL:				\$	632,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 632,000
Engineering/Survey/Testing:		16%	\$ 101,120
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 733,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-28
Name:	Shiloh Rd (3)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Collins Blvd to Arapaho Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	3,140			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	4,536	cy	\$ 8.00	\$ 36,284
210	6" Lime Stabilization Subgrade	8,722	sy	\$ 2.60	\$ 22,678
310	Street Cut Paving Concrete - Class C Construct	8,024	sy	\$ 70.00	\$ 561,711
410	Curb 6" Integral	6,280	lf	\$ 1.95	\$ 12,246
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	714	sy	\$ 70.00	\$ 49,955
Paving Construction Cost Subtotal:					\$ 682,874
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 34,144
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 20,486
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 27,315
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 81,945
Paving and Allowance Subtotal:				\$	764,819
Construction Contingency:				10%	\$ 76,482
Mobilization				5%	\$ 38,241
Prep ROW				5%	\$ 38,241
Construction Cost TOTAL:				\$	918,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 918,000
Engineering/Survey/Testing:		16%	\$ 146,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,065,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-29
Name:	Shiloh Rd (4)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Arapaho Rd to Belt Line Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	5,415			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	7,822	cy	\$ 8.00	\$ 62,573
210	6" Lime Stabilization Subgrade	15,042	sy	\$ 2.60	\$ 39,108
310	Street Cut Paving Concrete - Class C Construct	13,838	sy	\$ 70.00	\$ 968,683
410	Curb 6" Integral	10,830	lf	\$ 1.95	\$ 21,119
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,231	sy	\$ 70.00	\$ 86,148
Paving Construction Cost Subtotal: \$					1,177,631
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 58,882
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 35,329
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 47,105
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	141,316
Paving and Allowance Subtotal:				\$	1,318,947
Construction Contingency:				10%	\$ 131,895
Mobilization				5%	\$ 65,947
Prep ROW				5%	\$ 65,947
Construction Cost TOTAL: \$					1,583,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,583,000
Engineering/Survey/Testing:		16%	\$ 253,280
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,836,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-30
Name:	Shiloh Rd (5)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Belt Line Rd to Buckingham Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	5,055			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	7,302	cy	\$ 8.00	\$ 58,413
210	6" Lime Stabilization Subgrade	14,042	sy	\$ 2.60	\$ 36,508
310	Street Cut Paving Concrete - Class C Construct	12,918	sy	\$ 70.00	\$ 904,283
410	Curb 6" Integral	10,110	lf	\$ 1.95	\$ 19,715
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,149	sy	\$ 70.00	\$ 80,420
Paving Construction Cost Subtotal:					\$ 1,099,340
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	54,967
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	32,980
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	43,974
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	131,921
Paving and Allowance Subtotal:					\$ 1,231,261
Construction Contingency:				10%	\$ 123,126
Mobilization				5%	\$ 61,563
Prep ROW				5%	\$ 61,563
Construction Cost TOTAL:					\$ 1,478,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,478,000
Engineering/Survey/Testing:		16%	\$ 236,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,714,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-31
Name:	Naaman Forest Blvd	This project consists of the construction of a new four lane divided major collector		
Limits:	W. Naaman Forest Blvd. to E. Naaman Forest			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	1,720			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	4,969	cy	\$ 8.00	\$ 39,751
203	6" Lime Stabilization Subgrade	9,747	sy	\$ 2.60	\$ 25,341
303	Street Cut Paving Concrete - Class C Construct	9,556	sy	\$ 70.00	\$ 668,889
403	Curb 6" Integral	6,880	lf	\$ 1.95	\$ 13,416
503	Sidwalk 4" Class A Construct	2,293	sy	\$ 43.00	\$ 98,613
603	Turn Lanes and Median Openings	635	sy	\$ 70.00	\$ 44,420
Paving Construction Cost Subtotal:					\$ 890,431
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	26,713
✓	Roadway Drainage	Standard Internal System	30%	\$	267,129
✓	Illumination		6%	\$	53,426
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	26,713
✓	Sewer	Minor Adjustments	2%	\$	17,809
✓	Landscaping and Irrigation		4%	\$	35,617
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	427,407
Paving and Allowance Subtotal:					\$ 1,317,838
Construction Contingency:				10%	\$ 131,784
Mobilization				5%	\$ 65,892
Prep ROW				1%	\$ 13,178
Construction Cost TOTAL:					\$ 1,529,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,529,000
Engineering/Survey/Testing:		16%	\$ 244,640
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 305,800
Impact Fee Project Cost TOTAL:			\$ 2,079,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-32
Name:	Naaman School Rd	This project consists of the reconstruction of the existing facility as a four lane divided major collector		
Limits:	Brand Rd to Lavon Dr			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	4,670			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	13,491	cy	\$ 8.00	\$ 107,929
203	6" Lime Stabilization Subgrade	26,463	sy	\$ 2.60	\$ 68,805
303	Street Cut Paving Concrete - Class C Construct	25,944	sy	\$ 70.00	\$ 1,816,111
403	Curb 6" Integral	18,680	lf	\$ 1.95	\$ 36,426
503	Sidewalk 4" Class A Construct	6,227	sy	\$ 43.00	\$ 267,747
603	Turn Lanes and Median Openings	1,723	sy	\$ 70.00	\$ 120,606
Paving Construction Cost Subtotal:					\$ 2,417,624
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	120,881
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	72,529
✓	Roadway Drainage	Standard Internal System	30%	\$	725,287
✓	Illumination		6%	\$	145,057
✓	Special Drainage Structures	Minor Stream Crossing	0%	\$	300,000
✓	Water	Minor Adjustments	3%	\$	72,529
✓	Sewer	Minor Adjustments	2%	\$	48,352
✓	Landscaping and Irrigation		4%	\$	96,705
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	1,581,341
Paving and Allowance Subtotal:					\$ 3,998,964
Construction Contingency:				10%	\$ 399,896
Mobilization				5%	\$ 199,948
Prep ROW				5%	\$ 199,948
Construction Cost TOTAL:					\$ 4,799,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,799,000
Engineering/Survey/Testing:		16%	\$ 767,840
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 479,900
Impact Fee Project Cost TOTAL:			\$ 6,047,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-33
Name:	Naaman Forest Blvd	This completed project consists of the widening of Naaman Forest Boulevard to a four lane divided major collector. The total cost of this project is \$3,904,483.		
Limits:	Ranger to Brand Rd			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	1,363			
Service Area(s):	A			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 3,904,483	

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	I-1:I-8
Name:	Bottleneck Study Improvements	This project consists of intersection improvements identified in the ongoing Bottleneck study. The total cost of these improvements in Service Area A is estimated to be \$2,625,000. The cost attributable to projected growth in Service Area A (24%) is \$634,000.		
Limits:	N/A			
Impact Fee Class:	N/A			
Ultimate Class:	N/A			
Length (If):	N/A			
Service Area(s):	A			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 634,000	

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City of Garland - 2016 Roadway Impact Fee Study
Capital Improvement Plan for Roadway Impact Fees
Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area B

#	IF Class	Project	Limits		Status	Percent in Service Area	Project Cost	Total Cost in Service Area
			From	To				
B-1	E	Kings Rd	Marquis Dr	Kings Rd (Existing)	New	100	\$ 551,000	\$ 551,000
B-2	E	Leon Rd (1)	Shiloh Rd	S. Garland Ave	New	100	\$ 959,000	\$ 959,000
B-3	E	Leon Rd (2)	Leon Rd (Existing)	Millay Blvd (Future)	New	100	\$ 212,000	\$ 212,000
B-4	E	Marketplace ext (1)	Towngate Blvd	Northwest Hwy	New	100	\$ 1,398,000	\$ 1,398,000
B-5	E	Marketplace ext (2)	Pendleton Dr	Marketplace Dr	New	100	\$ 666,000	\$ 666,000
B-6	E	Millay Blvd (Future)	Leon Rd	Millay Blvd (Existing)	New	100	\$ 1,180,000	\$ 1,180,000
B-7	B (1/3)	Shiloh Rd (6)	Buckingham Rd	W Walnut St	Median	100	\$ 1,784,000	\$ 1,784,000
B-8	B	Shiloh Rd (7)	W Walnut St	Forest Ln	Widening	100	\$ 4,590,000	\$ 4,590,000
B-9	B	Shiloh Rd (8)	Forest Ln	Miller Rd	Widening	100	\$ 8,552,000	\$ 8,552,000
B-10	B	Shiloh Rd (9)	Miller Rd	Kingsley Rd	Widening	100	\$ 9,087,000	\$ 9,087,000
B-11	B	Shiloh Rd (10)	Kingsley Rd	McCree Rd	Widening	100	\$ 4,129,000	\$ 4,129,000
B-12	B	Shiloh Rd (11)	Garland Ave	IH-635 WBFR	Widening	100	\$ 2,368,000	\$ 2,368,000
B-13	F	New road east of Industrial Ln	Kingsley Rd	McCree Rd	New	100	\$ 2,260,000	\$ 2,260,000
B-14	D2	Saturn Rd	Saturn Rd (Existing)	Miller Rd	New	100	\$ 2,215,000	\$ 2,215,000
B-15	E	Sherwin	Sherwin St (Existing)	Wood Dr	New	100	\$ 2,432,000	\$ 2,432,000
TOTAL							\$ 13,404,000	\$ 42,383,000

Bottleneck Study Improvements - Service Area B

#	Intersection	Improvement(s)	Percent in Service Area	Total Project Cost in Service Area	10-Year Growth Cost in Service Area
I-9	Plano Rd and Walnut St	NB an SB RT Lane	100%	\$ 9,205,000.00	\$ 378,000.00
I-10	Forest Ln and Jupiter Rd	EB and NB RT Lane, NB Dual LT Lanes	100%		
I-11	Forest Ln and Shiloh Rd	SB and NB RT Lanes, Dual NB LT Lanes	100%		
I-12	Avenue B (SH 78) and First St	SB RT Lane	100%		
I-13	Avenue D and First St	EB RT Lane, EB Dual LT Lanes	100%		
I-15	Jupiter Rd and Miller Rd	SB RT Lane	100%		
I-16	Miller Rd and Shiloh Rd	SB RT Lane	100%		
I-17	Garland Ave and Miller Rd	SB, EB, and WB RT Lanes	100%		
I-18	Glenbrook Dr and Miller Rd	EB and WB LT Lanes	100%		
I-19	First St and Miller Rd	Add EB RT & NB, SB Dual Lefts	33%		
I-20	Broadway Blvd and First St	Triple LT from NB First St	50%		
I-21	Jupiter Rd and Kingsley Rd	WB RT Lane	100%		
I-22	Garland Ave and Kingsley Rd	NB RT Lane	100%		
I-24	Garland Ave and McCree Rd / Shiloh Rd	SWB Dual LT Lanes	100%		

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-1
Name:	Kings Rd	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Marquis Dr to Kings Rd (Existing)			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	545			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	1,453	cy	\$ 8.00	\$ 11,627
202	6" Lime Stabilization Subgrade	2,846	sy	\$ 2.60	\$ 7,400
302	Street Cut Paving Concrete - Class C Construct	2,725	sy	\$ 70.00	\$ 190,750
402	Curb 6" Integral	1,090	lf	\$ 1.95	\$ 2,126
502	Sidewalk 4" Class A Construct	484	sy	\$ 43.00	\$ 20,831
602	Turn Lanes and Median Openings	39	sy	\$ 70.00	\$ 2,702
Paving Construction Cost Subtotal:					\$ 235,435
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	7,063
✓	Roadway Drainage	Standard Internal System	30%	\$	70,631
✓	Illumination		6%	\$	14,126
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	7,063
✓	Sewer	Minor Adjustments	2%	\$	4,709
✓	Landscaping and Irrigation		4%	\$	9,417
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	113,009
Paving and Allowance Subtotal:					\$ 348,444
Construction Contingency:			10%	\$	34,844
Mobilization			5%	\$	17,422
Prep ROW			1%	\$	3,484
Construction Cost TOTAL:					\$ 405,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 405,000
Engineering/Survey/Testing:		16%	\$ 64,800
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 81,000
Impact Fee Project Cost TOTAL:			\$ 551,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-2
Name:	Leon Rd (1)	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Shiloh Rd to S. Garland Ave			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	950			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	2,533	cy	\$ 8.00	\$ 20,267
202	6" Lime Stabilization Subgrade	4,961	sy	\$ 2.60	\$ 12,899
302	Street Cut Paving Concrete - Class C Construct	4,750	sy	\$ 70.00	\$ 332,500
402	Curb 6" Integral	1,900	lf	\$ 1.95	\$ 3,705
502	Sidwalk 4" Class A Construct	844	sy	\$ 43.00	\$ 36,311
602	Turn Lanes and Median Openings	67	sy	\$ 70.00	\$ 4,710
Paving Construction Cost Subtotal: \$					410,392
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 12,312
√	Roadway Drainage	Standard Internal System		30%	\$ 123,118
√	Illumination			6%	\$ 24,624
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 12,312
√	Sewer	Minor Adjustments		2%	\$ 8,208
√	Landscaping and Irrigation			4%	\$ 16,416
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	196,988
				Paving and Allowance Subtotal: \$	607,380
				Construction Contingency: 10%	\$ 60,738
				Mobilization 5%	\$ 30,369
				Prep ROW 1%	\$ 6,074
				Construction Cost TOTAL: \$	705,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 705,000
Engineering/Survey/Testing:		16%	\$ 112,800
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 141,000
Impact Fee Project Cost TOTAL:			\$ 959,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-3
Name:	Leon Rd (2)	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Leon Rd (Existing) to Millay Blvd (Future)			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	210			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	560	cy	\$ 8.00	\$ 4,480
202	6" Lime Stabilization Subgrade	1,097	sy	\$ 2.60	\$ 2,851
302	Street Cut Paving Concrete - Class C Construct	1,050	sy	\$ 70.00	\$ 73,500
402	Curb 6" Integral	420	lf	\$ 1.95	\$ 819
502	Sidwalk 4" Class A Construct	187	sy	\$ 43.00	\$ 8,027
602	Turn Lanes and Median Openings	15	sy	\$ 70.00	\$ 1,041
Paving Construction Cost Subtotal:					\$ 90,718
Major Construction Component Allowances**:					
	Item Description	Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 2,722
√	Roadway Drainage	Standard Internal System		30%	\$ 27,215
√	Illumination			6%	\$ 5,443
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 2,722
√	Sewer	Minor Adjustments		2%	\$ 1,814
√	Landscaping and Irrigation			4%	\$ 3,629
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 43,545
Paving and Allowance Subtotal:				\$	134,263
Construction Contingency:				10%	\$ 13,426
Mobilization				5%	\$ 6,713
Prep ROW				1%	\$ 1,343
Construction Cost TOTAL:				\$	156,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 156,000
Engineering/Survey/Testing:		16%	\$ 24,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 31,200
Impact Fee Project Cost TOTAL:			\$ 212,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-4
Name:	Marketplace ext (1)	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Towngate Blvd to Northwest Hwy			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	1,385			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	3,693	cy	\$ 8.00	\$ 29,547
202	6" Lime Stabilization Subgrade	7,233	sy	\$ 2.60	\$ 18,805
302	Street Cut Paving Concrete - Class C Construct	6,925	sy	\$ 70.00	\$ 484,750
402	Curb 6" Integral	2,770	lf	\$ 1.95	\$ 5,402
502	Sidwalk 4" Class A Construct	1,231	sy	\$ 43.00	\$ 52,938
602	Turn Lanes and Median Openings	98	sy	\$ 70.00	\$ 6,867
Paving Construction Cost Subtotal:					\$ 598,308
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 17,949
√	Roadway Drainage	Standard Internal System		30%	\$ 179,493
√	Illumination			6%	\$ 35,899
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 17,949
√	Sewer	Minor Adjustments		2%	\$ 11,966
√	Landscaping and Irrigation			4%	\$ 23,932
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 287,188
Paving and Allowance Subtotal:				\$	885,497
Construction Contingency:				10%	\$ 88,550
Mobilization				5%	\$ 44,275
Prep ROW				1%	\$ 8,855
Construction Cost TOTAL:				\$	1,028,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,028,000
Engineering/Survey/Testing:		16%	\$ 164,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 205,600
Impact Fee Project Cost TOTAL:			\$ 1,398,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-5
Name:	Marketplace ext (2)	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Pendleton Dr to Marketplace Dr			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	660			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	1,760	cy	\$ 8.00	\$ 14,080
202	6" Lime Stabilization Subgrade	3,447	sy	\$ 2.60	\$ 8,961
302	Street Cut Paving Concrete - Class C Construct	3,300	sy	\$ 70.00	\$ 231,000
402	Curb 6" Integral	1,320	lf	\$ 1.95	\$ 2,574
502	Sidwalk 4" Class A Construct	587	sy	\$ 43.00	\$ 25,227
602	Turn Lanes and Median Openings	47	sy	\$ 70.00	\$ 3,273
Paving Construction Cost Subtotal:					\$ 285,115
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 8,553
√	Roadway Drainage	Standard Internal System		30%	\$ 85,534
√	Illumination			6%	\$ 17,107
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 8,553
√	Sewer	Minor Adjustments		2%	\$ 5,702
√	Landscaping and Irrigation			4%	\$ 11,405
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 136,855
				Paving and Allowance Subtotal:	\$ 421,969
				Construction Contingency:	10% \$ 42,197
				Mobilization	5% \$ 21,098
				Prep ROW	1% \$ 4,220
				Construction Cost TOTAL:	\$ 490,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 490,000
Engineering/Survey/Testing:		16%	\$ 78,400
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 98,000
Impact Fee Project Cost TOTAL:			\$ 666,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-6
Name:	Millay Blvd (Future)	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Leon Rd to Millay Blvd (Existing)			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	1,170			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	3,120	cy	\$ 8.00	\$ 24,960
202	6" Lime Stabilization Subgrade	6,110	sy	\$ 2.60	\$ 15,886
302	Street Cut Paving Concrete - Class C Construct	5,850	sy	\$ 70.00	\$ 409,500
402	Curb 6" Integral	2,340	lf	\$ 1.95	\$ 4,563
502	Sidwalk 4" Class A Construct	1,040	sy	\$ 43.00	\$ 44,720
602	Turn Lanes and Median Openings	83	sy	\$ 70.00	\$ 5,801
Paving Construction Cost Subtotal:					\$ 505,430
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 15,163
√	Roadway Drainage	Standard Internal System		30%	\$ 151,629
√	Illumination			6%	\$ 30,326
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 15,163
√	Sewer	Minor Adjustments		2%	\$ 10,109
√	Landscaping and Irrigation			4%	\$ 20,217
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 242,607
Paving and Allowance Subtotal:				\$	748,037
Construction Contingency:				10%	\$ 74,804
Mobilization				5%	\$ 37,402
Prep ROW				1%	\$ 7,480
Construction Cost TOTAL:				\$	868,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 868,000
Engineering/Survey/Testing:		16%	\$ 138,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 173,600
Impact Fee Project Cost TOTAL:			\$ 1,180,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-7
Name:	Shiloh Rd (6)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Buckingham Rd to W Walnut St			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	5,260			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	7,598	cy	\$ 8.00	\$ 60,782
210	6" Lime Stabilization Subgrade	14,611	sy	\$ 2.60	\$ 37,989
310	Street Cut Paving Concrete - Class C Construct	13,442	sy	\$ 70.00	\$ 940,956
410	Curb 6" Integral	10,520	lf	\$ 1.95	\$ 20,514
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,195	sy	\$ 70.00	\$ 83,682
Paving Construction Cost Subtotal: \$					1,143,922
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 57,196
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 34,318
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 45,757
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	137,271
				Paving and Allowance Subtotal: \$	1,281,193
				Construction Contingency: 10%	\$ 128,119
				Mobilization 5%	\$ 64,060
				Prep ROW 5%	\$ 64,060
				Construction Cost TOTAL: \$	1,538,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,538,000
Engineering/Survey/Testing:		16%	\$ 246,080
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,784,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-8
Name:	Shiloh Rd (7)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	W Walnut St to Forest Ln			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	2,665			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	10,364	cy	\$ 8.00	\$ 82,911
209	6" Lime Stabilization Subgrade	20,432	sy	\$ 2.60	\$ 53,122
309	Street Cut Paving Concrete - Class C Construct	20,136	sy	\$ 70.00	\$ 1,409,489
409	Curb 6" Integral	10,660	lf	\$ 1.95	\$ 20,787
509	Sidewalk 4" Class A Construct	3,553	sy	\$ 43.00	\$ 152,793
609	Turn Lanes and Median Openings	983	sy	\$ 70.00	\$ 68,826
Paving Construction Cost Subtotal:					\$ 1,787,928
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 89,396
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 53,638
√	Roadway Drainage	Standard Internal System		30%	\$ 536,378
√	Illumination			6%	\$ 107,276
√	Special Drainage Structures	Minor Stream Crossing		0%	\$ 300,000
√	Water	Minor Adjustments		3%	\$ 53,638
√	Sewer	Minor Adjustments		2%	\$ 35,759
√	Landscaping and Irrigation			4%	\$ 71,517
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,247,602
				Paving and Allowance Subtotal:	\$ 3,035,530
				Construction Contingency:	10% \$ 303,553
				Mobilization	5% \$ 151,777
				Prep ROW	5% \$ 151,777
				Construction Cost TOTAL:	\$ 3,643,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,643,000
Engineering/Survey/Testing:		16%	\$ 582,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 364,300
Impact Fee Project Cost TOTAL:			\$ 4,590,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-9
Name:	Shiloh Rd (8)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Forest Ln to Miller Rd			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	5,315			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	20,669	cy	\$ 8.00	\$ 165,356
209	6" Lime Stabilization Subgrade	40,748	sy	\$ 2.60	\$ 105,946
309	Street Cut Paving Concrete - Class C Construct	40,158	sy	\$ 70.00	\$ 2,811,044
409	Curb 6" Integral	21,260	lf	\$ 1.95	\$ 41,457
509	Sidewalk 4" Class A Construct	7,087	sy	\$ 43.00	\$ 304,727
609	Turn Lanes and Median Openings	1,961	sy	\$ 70.00	\$ 137,264
Paving Construction Cost Subtotal: \$					3,565,793
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 178,290
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 106,974
√	Roadway Drainage	Standard Internal System		30%	\$ 1,069,738
√	Illumination			6%	\$ 213,948
√	Special Drainage Structures	Minor Stream Crossing		0%	\$ 200,000
√	Water	Minor Adjustments		3%	\$ 106,974
√	Sewer	Minor Adjustments		2%	\$ 71,316
√	Landscaping and Irrigation			4%	\$ 142,632
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	2,089,870
				Paving and Allowance Subtotal: \$	5,655,664
				Construction Contingency: 10%	\$ 565,566
				Mobilization 5%	\$ 282,783
				Prep ROW 5%	\$ 282,783
				Construction Cost TOTAL: \$	6,787,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 6,787,000
Engineering/Survey/Testing:		16%	\$ 1,085,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 678,700
Impact Fee Project Cost TOTAL:			\$ 8,552,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-10
Name:	Shiloh Rd (9)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Miller Rd to Kingsley Rd			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	5,660			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	22,011	cy	\$ 8.00	\$ 176,089
209	6" Lime Stabilization Subgrade	43,393	sy	\$ 2.60	\$ 112,823
309	Street Cut Paving Concrete - Class C Construct	42,764	sy	\$ 70.00	\$ 2,993,511
409	Curb 6" Integral	22,640	lf	\$ 1.95	\$ 44,148
509	Sidewalk 4" Class A Construct	7,547	sy	\$ 43.00	\$ 324,507
609	Turn Lanes and Median Openings	2,088	sy	\$ 70.00	\$ 146,174
Paving Construction Cost Subtotal: \$					3,797,251
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 189,863
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 113,918
√	Roadway Drainage	Standard Internal System		30%	\$ 1,139,175
√	Illumination			6%	\$ 227,835
√	Special Drainage Structures	Minor Stream Crossing		0%	\$ 200,000
√	Water	Minor Adjustments		3%	\$ 113,918
√	Sewer	Minor Adjustments		2%	\$ 75,945
√	Landscaping and Irrigation			4%	\$ 151,890
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	2,212,543
Paving and Allowance Subtotal:				\$	6,009,794
Construction Contingency:				10%	\$ 600,979
Mobilization				5%	\$ 300,490
Prep ROW				5%	\$ 300,490
Construction Cost TOTAL: \$					7,212,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 7,212,000
Engineering/Survey/Testing:		16%	\$ 1,153,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 721,200
Impact Fee Project Cost TOTAL:			\$ 9,087,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-11
Name:	Shiloh Rd (10)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Kingsley Rd to McCree Rd			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	2,660			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	10,344	cy	\$ 8.00	\$ 82,756
209	6" Lime Stabilization Subgrade	20,393	sy	\$ 2.60	\$ 53,023
309	Street Cut Paving Concrete - Class C Construct	20,098	sy	\$ 70.00	\$ 1,406,844
409	Curb 6" Integral	10,640	lf	\$ 1.95	\$ 20,748
509	Sidwalk 4" Class A Construct	3,547	sy	\$ 43.00	\$ 152,507
609	Turn Lanes and Median Openings	981	sy	\$ 70.00	\$ 68,697
Paving Construction Cost Subtotal:					\$ 1,784,574
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 89,229
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 53,537
√	Roadway Drainage	Standard Internal System		30%	\$ 535,372
√	Illumination			6%	\$ 107,074
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 53,537
√	Sewer	Minor Adjustments		2%	\$ 35,691
√	Landscaping and Irrigation			4%	\$ 71,383
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 945,824
				Paving and Allowance Subtotal:	\$ 2,730,398
				Construction Contingency:	10% \$ 273,040
				Mobilization	5% \$ 136,520
				Prep ROW	5% \$ 136,520
				Construction Cost TOTAL:	\$ 3,277,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,277,000
Engineering/Survey/Testing:		16%	\$ 524,320
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 327,700
Impact Fee Project Cost TOTAL:			\$ 4,129,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-12
Name:	Shiloh Rd (11)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Garland Ave to IH-635 WBFR			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	1,525			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	5,931	cy	\$ 8.00	\$ 47,444
209	6" Lime Stabilization Subgrade	11,692	sy	\$ 2.60	\$ 30,398
309	Street Cut Paving Concrete - Class C Construct	11,522	sy	\$ 70.00	\$ 806,556
409	Curb 6" Integral	6,100	lf	\$ 1.95	\$ 11,895
509	Sidwalk 4" Class A Construct	2,033	sy	\$ 43.00	\$ 87,433
609	Turn Lanes and Median Openings	563	sy	\$ 70.00	\$ 39,384
Paving Construction Cost Subtotal:					\$ 1,023,111
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 51,156
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 30,693
√	Roadway Drainage	Standard Internal System		30%	\$ 306,933
√	Illumination			6%	\$ 61,387
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 30,693
√	Sewer	Minor Adjustments		2%	\$ 20,462
√	Landscaping and Irrigation			4%	\$ 40,924
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 542,249
				Paving and Allowance Subtotal:	\$ 1,565,360
				Construction Contingency:	10% \$ 156,536
				Mobilization	5% \$ 78,268
				Prep ROW	5% \$ 78,268
				Construction Cost TOTAL:	\$ 1,879,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,879,000
Engineering/Survey/Testing:		16%	\$ 300,640
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 187,900
Impact Fee Project Cost TOTAL:			\$ 2,368,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-13
Name:	New road east of Industrial Ln	This project consists of the construction of a new two lane undivided minor collector		
Limits:	Kingsley Rd to McCree Rd			
Impact Fee Class:	F			
Ultimate Class:	Minor Collector			
Length (lf):	2,660			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	5,911	cy	\$ 8.00	\$ 47,289
201	6" Lime Stabilization Subgrade	11,527	sy	\$ 2.60	\$ 29,969
301	Street Cut Paving Concrete - Class C Construct	10,936	sy	\$ 70.00	\$ 765,489
401	Curb 6" Integral	5,320	lf	\$ 1.95	\$ 10,374
501	Sidwalk 4" Class A Construct	2,364	sy	\$ 43.00	\$ 101,671
601	Turn Lanes and Median Openings	188	sy	\$ 70.00	\$ 13,189
Paving Construction Cost Subtotal: \$					967,981
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 29,039
√	Roadway Drainage	Standard Internal System		30%	\$ 290,394
√	Illumination			6%	\$ 58,079
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 29,039
√	Sewer	Minor Adjustments		2%	\$ 19,360
√	Landscaping and Irrigation			4%	\$ 38,719
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	464,631
				Paving and Allowance Subtotal: \$	1,432,612
				Construction Contingency: 10%	\$ 143,261
				Mobilization 5%	\$ 71,631
				Prep ROW 1%	\$ 14,326
				Construction Cost TOTAL: \$	1,662,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,662,000
Engineering/Survey/Testing:		16%	\$ 265,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 332,400
Impact Fee Project Cost TOTAL:			\$ 2,260,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-14
Name:	Saturn Rd	This project consists of the construction of a new four lane w/ center turn major collector		
Limits:	Saturn Rd (Existing) to Miller Rd			
Impact Fee Class:	D2			
Ultimate Class:	Major Collector			
Length (lf):	1,615			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	5,742	cy	\$ 8.00	\$ 45,938
205	6" Lime Stabilization Subgrade	11,305	sy	\$ 2.60	\$ 29,393
305	Street Cut Paving Concrete - Class C Construct	10,946	sy	\$ 70.00	\$ 766,228
405	Curb 6" Integral	3,230	lf	\$ 1.95	\$ 6,299
505	Sidwalk 4" Class A Construct	2,153	sy	\$ 43.00	\$ 92,593
605	Turn Lanes and Median Openings	114	sy	\$ 70.00	\$ 8,008
Paving Construction Cost Subtotal:					\$ 948,458
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 28,454
√	Roadway Drainage	Standard Internal System		30%	\$ 284,537
√	Illumination			6%	\$ 56,907
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 28,454
√	Sewer	Minor Adjustments		2%	\$ 18,969
√	Landscaping and Irrigation			4%	\$ 37,938
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 455,260
				Paving and Allowance Subtotal:	\$ 1,403,718
				Construction Contingency:	10% \$ 140,372
				Mobilization	5% \$ 70,186
				Prep ROW	1% \$ 14,037
				Construction Cost TOTAL:	\$ 1,629,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,629,000
Engineering/Survey/Testing:		16%	\$ 260,640
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 325,800
Impact Fee Project Cost TOTAL:			\$ 2,215,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-15
Name:	Sherwin	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Sherwin St (Existing) to Wood Dr			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	690			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	1,840	cy	\$ 8.00	\$ 14,720
202	6" Lime Stabilization Subgrade	3,603	sy	\$ 2.60	\$ 9,369
302	Street Cut Paving Concrete - Class C Construct	3,450	sy	\$ 70.00	\$ 241,500
402	Curb 6" Integral	1,380	lf	\$ 1.95	\$ 2,691
502	Sidwalk 4" Class A Construct	613	sy	\$ 43.00	\$ 26,373
602	Turn Lanes and Median Openings	49	sy	\$ 70.00	\$ 3,421
Paving Construction Cost Subtotal:					\$ 298,074
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 8,942
√	Roadway Drainage	Standard Internal System		30%	\$ 89,422
√	Illumination			6%	\$ 17,884
√	Special Drainage Structures	Bridge Crossing		0%	\$ 1,100,000
√	Water	Minor Adjustments		3%	\$ 8,942
√	Sewer	Minor Adjustments		2%	\$ 5,961
√	Landscaping and Irrigation			4%	\$ 11,923
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,243,076
Paving and Allowance Subtotal:				\$	1,541,150
Construction Contingency:				10%	\$ 154,115
Mobilization				5%	\$ 77,057
Prep ROW				1%	\$ 15,411
Construction Cost TOTAL:				\$	1,788,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,788,000
Engineering/Survey/Testing:		16%	\$ 286,080
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 357,600
Impact Fee Project Cost TOTAL:			\$ 2,432,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	I-9:I-24
Name:	Bottleneck Study Improvements	This project consists of intersection improvements identified in the ongoing Bottleneck study. The total cost of these improvements in Service Area B is estimated to be \$9,205,000. The cost attributable to projected growth in Service Area B (4%) is \$379,000.		
Limits:	N/A			
Impact Fee Class:	N/A			
Ultimate Class:	N/A			
Length (If):	N/A			
Service Area(s):	B			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 379,000	

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City of Garland - 2016 Roadway Impact Fee Study

Capital Improvement Plan for Roadway Impact Fees
Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area C

#	IF Class	Project	Limits		Status	Percent in Service Area	Project Cost	Total Cost in Service Area
			From	To				
C-1	D1	Castle Dr (1)	N. First St	Lavon Dr	Widening	100	\$ 953,000	\$ 953,000
C-2	D1	Castle Dr (2)	Lavon Dr	Mars Dr	Widening	100	\$ 2,390,000	\$ 2,390,000
C-3	E	Castle Dr (3)	Mars Dr	Country Club Rd	Widening	100	\$ 2,424,000	\$ 2,424,000
C-4	E	Castle Dr (4)	Country Club Rd	Centerville Rd	Widening	100	\$ 5,536,000	\$ 5,536,000
C-5	E	Castle Dr (5)	2660' south of Firewheel Pkwy	Firewheel Pkwy	Widening	50	\$ 2,659,000	\$ 1,329,500
C-6	E	Castle Dr (6)	Firewheel Pkwy	Miles Rd	Widening	50	\$ 4,433,000	\$ 2,216,500
C-7	D2	Crist Rd	Lavon Dr	Naaman School Rd	Widening	100	\$ 4,436,000	\$ 4,436,000
C-8	A	Firewheel Parkway (2)	530' E of Lavon Dr	310' S of Town Center Blvd	Widening	100	\$ 6,292,000	\$ 6,292,000
C-9	C1	Pleasant Valley Rd (1)	Creek Meadow Ln	Miles Rd	Under Construction	100	\$ 10,773,000	\$ 10,773,000
C-10,D-5	B (1/3)	E. Miller Rd	Centerville Rd	2,815' E of Centerville Rd	Median	50	\$ 955,000	\$ 477,500
C-11	C1	Pleasant Valley Rd (2)	Firewheel Pkwy	Creek Meadow Ln	Completed	100	\$ 3,603,239	\$ 3,603,239
C-12,D-21	B	Miller Rd Bridge	2,815' E of Centerville Rd	East City Limits	Completed	50	\$ 2,743,883	\$ 1,371,942
TOTAL							\$ 47,198,122	\$ 41,802,681

Bottleneck Study Improvements - Service Area C

#	Intersection	Improvement(s)	Percent in Service Area	Total Project Cost in Service Area	10-Year Growth Cost in Service Area
I-14	Centerville Rd and SH 66	Add dual LT lanes NB and WB	100%	\$ 1,030,000	\$ 141,000
I-19	First St and Miller Rd	Add EB RT & NB, SB Dual Lefts	33%		

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-1
Name:	Castle Dr (1)	This project consists of the reconstruction of the existing facility as a four lane divided major collector		
Limits:	N. First St to Lavon Dr			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	795			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	2,297	cy	\$ 8.00	\$ 18,373
203	6" Lime Stabilization Subgrade	4,505	sy	\$ 2.60	\$ 11,713
303	Street Cut Paving Concrete - Class C Construct	4,417	sy	\$ 70.00	\$ 309,167
403	Curb 6" Integral	3,180	lf	\$ 1.95	\$ 6,201
503	Sidwalk 4" Class A Construct	1,060	sy	\$ 43.00	\$ 45,580
603	Turn Lanes and Median Openings	293	sy	\$ 70.00	\$ 20,531
Paving Construction Cost Subtotal:					\$ 411,565
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	20,578
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	12,347
✓	Roadway Drainage	Standard Internal System	30%	\$	123,470
✓	Illumination		6%	\$	24,694
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	12,347
✓	Sewer	Minor Adjustments	2%	\$	8,231
✓	Landscaping and Irrigation		4%	\$	16,463
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	218,130
Paving and Allowance Subtotal:					\$ 629,695
Construction Contingency:				10%	\$ 62,970
Mobilization				5%	\$ 31,485
Prep ROW				5%	\$ 31,485
Construction Cost TOTAL:					\$ 756,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 756,000
Engineering/Survey/Testing:		16%	\$ 120,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 75,600
Impact Fee Project Cost TOTAL:			\$ 953,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-2
Name:	Castle Dr (2)	This project consists of the reconstruction of the existing facility as a four lane divided major collector		
Limits:	Lavon Dr to Mars Dr			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	1,995			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	5,763	cy	\$ 8.00	\$ 46,107
203	6" Lime Stabilization Subgrade	11,305	sy	\$ 2.60	\$ 29,393
303	Street Cut Paving Concrete - Class C Construct	11,083	sy	\$ 70.00	\$ 775,833
403	Curb 6" Integral	7,980	lf	\$ 1.95	\$ 15,561
503	Sidwalk 4" Class A Construct	2,660	sy	\$ 43.00	\$ 114,380
603	Turn Lanes and Median Openings	736	sy	\$ 70.00	\$ 51,522
Paving Construction Cost Subtotal:					\$ 1,032,796
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	51,640
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	30,984
✓	Roadway Drainage	Standard Internal System	30%	\$	309,839
✓	Illumination		6%	\$	61,968
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	30,984
✓	Sewer	Minor Adjustments	2%	\$	20,656
✓	Landscaping and Irrigation		4%	\$	41,312
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	547,382
Paving and Allowance Subtotal:					\$ 1,580,178
Construction Contingency:				10%	\$ 158,018
Mobilization				5%	\$ 79,009
Prep ROW				5%	\$ 79,009
Construction Cost TOTAL:					\$ 1,897,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,897,000
Engineering/Survey/Testing:		16%	\$ 303,520
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 189,700
Impact Fee Project Cost TOTAL:			\$ 2,390,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-3
Name:	Castle Dr (3)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	Mars Dr to Country Club Rd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	2,425			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	6,467	cy	\$ 8.00	\$ 51,733
202	6" Lime Stabilization Subgrade	12,664	sy	\$ 2.60	\$ 32,926
302	Street Cut Paving Concrete - Class C Construct	12,125	sy	\$ 70.00	\$ 848,750
402	Curb 6" Integral	4,850	lf	\$ 1.95	\$ 9,458
502	Sidwalk 4" Class A Construct	2,156	sy	\$ 43.00	\$ 92,689
602	Turn Lanes and Median Openings	172	sy	\$ 70.00	\$ 12,024
Paving Construction Cost Subtotal:					\$ 1,047,580
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	52,379
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	31,427
✓	Roadway Drainage	Standard Internal System	30%	\$	314,274
✓	Illumination		6%	\$	62,855
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	31,427
✓	Sewer	Minor Adjustments	2%	\$	20,952
✓	Landscaping and Irrigation		4%	\$	41,903
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	555,217
Paving and Allowance Subtotal:				\$	1,602,797
Construction Contingency:				10%	\$ 160,280
Mobilization				5%	\$ 80,140
Prep ROW				5%	\$ 80,140
Construction Cost TOTAL:				\$	1,924,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,924,000
Engineering/Survey/Testing:		16%	\$ 307,840
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 192,400
Impact Fee Project Cost TOTAL:			\$ 2,424,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-4
Name:	Castle Dr (4)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	Country Club Rd to Centerville Rd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	5,540			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	14,773	cy	\$ 8.00	\$ 118,187
202	6" Lime Stabilization Subgrade	28,931	sy	\$ 2.60	\$ 75,221
302	Street Cut Paving Concrete - Class C Construct	27,700	sy	\$ 70.00	\$ 1,939,000
402	Curb 6" Integral	11,080	lf	\$ 1.95	\$ 21,606
502	Sidwalk 4" Class A Construct	4,924	sy	\$ 43.00	\$ 211,751
602	Turn Lanes and Median Openings	392	sy	\$ 70.00	\$ 27,469
Paving Construction Cost Subtotal:					\$ 2,393,234
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 119,662
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 71,797
√	Roadway Drainage	Standard Internal System		30%	\$ 717,970
√	Illumination			6%	\$ 143,594
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 71,797
√	Sewer	Minor Adjustments		2%	\$ 47,865
√	Landscaping and Irrigation			4%	\$ 95,729
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,268,414
				Paving and Allowance Subtotal:	\$ 3,661,648
				Construction Contingency:	10% \$ 366,165
				Mobilization	5% \$ 183,082
				Prep ROW	5% \$ 183,082
				Construction Cost TOTAL:	\$ 4,394,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,394,000
Engineering/Survey/Testing:		16%	\$ 703,040
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 439,400
Impact Fee Project Cost TOTAL:			\$ 5,536,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-5
Name:	Castle Dr (5)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	2660' south of Firewheel Pkwy to Firewheel Pk			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	2,660			
Service Area(s):	C,ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	7,093	cy	\$ 8.00	\$ 56,747
202	6" Lime Stabilization Subgrade	13,891	sy	\$ 2.60	\$ 36,117
302	Street Cut Paving Concrete - Class C Construct	13,300	sy	\$ 70.00	\$ 931,000
402	Curb 6" Integral	5,320	lf	\$ 1.95	\$ 10,374
502	Sidwalk 4" Class A Construct	2,364	sy	\$ 43.00	\$ 101,671
602	Turn Lanes and Median Openings	188	sy	\$ 70.00	\$ 13,189
Paving Construction Cost Subtotal:					\$ 1,149,098
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 57,455
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 34,473
√	Roadway Drainage	Standard Internal System		30%	\$ 344,729
√	Illumination			6%	\$ 68,946
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 34,473
√	Sewer	Minor Adjustments		2%	\$ 22,982
√	Landscaping and Irrigation			4%	\$ 45,964
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 609,022
				Paving and Allowance Subtotal:	\$ 1,758,120
				Construction Contingency:	10% \$ 175,812
				Mobilization	5% \$ 87,906
				Prep ROW	5% \$ 87,906
				Construction Cost TOTAL:	\$ 2,110,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,110,000
Engineering/Survey/Testing:		16%	\$ 337,600
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 211,000
Impact Fee Project Cost TOTAL:			\$ 2,659,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-6
Name:	Castle Dr (6)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	Firewheel Pkwy to Miles Rd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	4,435			
Service Area(s):	C,ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	11,827	cy	\$ 8.00	\$ 94,613
202	6" Lime Stabilization Subgrade	23,161	sy	\$ 2.60	\$ 60,217
302	Street Cut Paving Concrete - Class C Construct	22,175	sy	\$ 70.00	\$ 1,552,250
402	Curb 6" Integral	8,870	lf	\$ 1.95	\$ 17,297
502	Sidwalk 4" Class A Construct	3,942	sy	\$ 43.00	\$ 169,516
602	Turn Lanes and Median Openings	314	sy	\$ 70.00	\$ 21,990
Paving Construction Cost Subtotal:					\$ 1,915,883
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	95,794
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	57,476
✓	Roadway Drainage	Standard Internal System	30%	\$	574,765
✓	Illumination		6%	\$	114,953
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	57,476
✓	Sewer	Minor Adjustments	2%	\$	38,318
✓	Landscaping and Irrigation		4%	\$	76,635
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	1,015,418
Paving and Allowance Subtotal:				\$	2,931,301
Construction Contingency:				10%	\$ 293,130
Mobilization				5%	\$ 146,565
Prep ROW				5%	\$ 146,565
Construction Cost TOTAL:				\$	3,518,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,518,000
Engineering/Survey/Testing:		16%	\$ 562,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 351,800
Impact Fee Project Cost TOTAL:			\$ 4,433,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-7
Name:	Crist Rd	This project consists of the reconstruction of the existing facility as a four lane w/ center turn major collector		
Limits:	Lavon Dr to Naaman School Rd			
Impact Fee Class:	D2			
Ultimate Class:	Major Collector			
Length (lf):	3,265			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	11,609	cy	\$ 8.00	\$ 92,871
205	6" Lime Stabilization Subgrade	22,855	sy	\$ 2.60	\$ 59,423
305	Street Cut Paving Concrete - Class C Construct	22,129	sy	\$ 70.00	\$ 1,549,061
405	Curb 6" Integral	6,530	lf	\$ 1.95	\$ 12,734
505	Sidwalk 4" Class A Construct	4,353	sy	\$ 43.00	\$ 187,193
605	Turn Lanes and Median Openings	231	sy	\$ 70.00	\$ 16,189
Paving Construction Cost Subtotal:					\$ 1,917,471
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	95,874
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	57,524
✓	Roadway Drainage	Standard Internal System	30%	\$	575,241
✓	Illumination		6%	\$	115,048
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	57,524
✓	Sewer	Minor Adjustments	2%	\$	38,349
✓	Landscaping and Irrigation		4%	\$	76,699
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	1,016,260
Paving and Allowance Subtotal:					\$ 2,933,731
Construction Contingency:				10%	\$ 293,373
Mobilization				5%	\$ 146,687
Prep ROW				5%	\$ 146,687
Construction Cost TOTAL:					\$ 3,521,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,521,000
Engineering/Survey/Testing:		16%	\$ 563,360
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 352,100
Impact Fee Project Cost TOTAL:			\$ 4,436,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-8
Name:	Firewheel Parkway (2)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	530' E of Lavon Dr to 310' S of Town Center Bl			
Impact Fee Class:	A			
Ultimate Class:	Regional Arterial			
Length (lf):	4,050			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
111	Unclassified Street Excavation	15,750	cy	\$ 8.00	\$ 126,000
211	6" Lime Stabilization Subgrade	31,050	sy	\$ 2.60	\$ 80,730
311	Street Cut Paving Concrete - Class C Construct	30,600	sy	\$ 70.00	\$ 2,142,000
411	Curb 6" Integral	16,200	lf	\$ 1.95	\$ 31,590
511	Sidwalk 4" Class A Construct	5,400	sy	\$ 43.00	\$ 232,200
611	Turn Lanes and Median Openings	1,535	sy	\$ 70.00	\$ 107,440
Paving Construction Cost Subtotal:					\$ 2,719,960
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 135,998
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 81,599
√	Roadway Drainage	Standard Internal System		30%	\$ 815,988
√	Illumination			6%	\$ 163,198
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 81,599
√	Sewer	Minor Adjustments		2%	\$ 54,399
√	Landscaping and Irrigation			4%	\$ 108,798
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,441,579
				Paving and Allowance Subtotal:	\$ 4,161,539
				Construction Contingency:	10% \$ 416,154
				Mobilization	5% \$ 208,077
				Prep ROW	5% \$ 208,077
				Construction Cost TOTAL:	\$ 4,994,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,994,000
Engineering/Survey/Testing:		16%	\$ 799,040
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 499,400
Impact Fee Project Cost TOTAL:			\$ 6,292,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-9
Name:	Pleasant Valley Rd (1)	This project consists of the construction of a new four lane divided minor arterial		
Limits:	Creek Meadow Ln to Miles Rd			
Impact Fee Class:	C1			
Ultimate Class:	Minor Arterial			
Length (lf):	2,615			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	7,554	cy	\$ 8.00	\$ 60,436
207	6" Lime Stabilization Subgrade	14,818	sy	\$ 2.60	\$ 38,528
307	Street Cut Paving Concrete - Class C Construct	14,528	sy	\$ 70.00	\$ 1,016,944
407	Curb 6" Integral	10,460	lf	\$ 1.95	\$ 20,397
507	Sidewalk 4" Class A Construct	3,487	sy	\$ 43.00	\$ 149,927
607	Turn Lanes and Median Openings	1,203	sy	\$ 70.00	\$ 84,175
Paving Construction Cost Subtotal:					\$ 1,370,407
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	41,112
✓	Roadway Drainage	Standard Internal System	30%	\$	411,122
✓	Illumination		6%	\$	82,224
✓	Special Drainage Structures	Bridge Crossing	0%	\$	4,800,000
✓	Water	Minor Adjustments	3%	\$	41,112
✓	Sewer	Minor Adjustments	2%	\$	27,408
✓	Landscaping and Irrigation		4%	\$	54,816
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	5,457,795
Paving and Allowance Subtotal:				\$	6,828,202
Construction Contingency:				10%	\$ 682,820
Mobilization				5%	\$ 341,410
Prep ROW				1%	\$ 68,282
Construction Cost TOTAL:				\$	7,921,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 7,921,000
Engineering/Survey/Testing:		16%	\$ 1,267,360
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 1,584,200
Impact Fee Project Cost TOTAL:			\$ 10,773,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-10,D-5
Name:	E. Miller Rd	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Centerville Rd to 2,815' E of Centerville Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	2,815			
Service Area(s):	C,D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	4,066	cy	\$ 8.00	\$ 32,529
210	6" Lime Stabilization Subgrade	7,819	sy	\$ 2.60	\$ 20,331
310	Street Cut Paving Concrete - Class C Construct	7,194	sy	\$ 70.00	\$ 503,572
410	Curb 6" Integral	5,630	lf	\$ 1.95	\$ 10,979
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	640	sy	\$ 70.00	\$ 44,784
Paving Construction Cost Subtotal:					\$ 612,194
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
✓	Traffic Control	Construction Phase Traffic Control		5%	\$ 30,610
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 18,366
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
✓	Landscaping and Irrigation			4%	\$ 24,488
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 73,463
Paving and Allowance Subtotal:				\$	685,658
Construction Contingency:				10%	\$ 68,566
Mobilization				5%	\$ 34,283
Prep ROW				5%	\$ 34,283
Construction Cost TOTAL:				\$	823,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 823,000
Engineering/Survey/Testing:		16%	\$ 131,680
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 955,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-11
Name:	Pleasant Valley Rd (2)	This completed project consisted of widening the previously existing facility to a 4 lane divided minor arterial. The total cost of the project was \$5,372,133, of which the City contributed \$3,603,239		
Limits:	Firewheel Pkwy to Creek Meadow Ln			
Impact Fee Class:	C1			
Ultimate Class:	Minor Arterial			
Length (lf):	3,075			
Service Area(s):	C			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 3,603,239	

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 9/13/2016

Project Information:		Description:	Project No.	C-12,D-21
Name:	Miller Rd Bridge	This completed project consisted of widening the existing bridge to a 6 lane divided regional arterial. The total cost of the project was \$24,710,481, of which the City contributed \$2,743,883		
Limits:	2,815' E of Centerville Rd to East City Limits			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	194			
Service Area(s):	C,D			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 2,743,883	

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	I-14,I-19
Name:	Bottleneck Study Improvements	This project consists of intersection improvements identified in the ongoing Bottleneck study. The total cost of these improvements in Service Area C is estimated to be \$1,030,000. The cost attributable to projected growth in Service Area C (14%) is \$141,000.		
Limits:	N/A			
Impact Fee Class:	N/A			
Ultimate Class:	N/A			
Length (lf):	N/A			
Service Area(s):	C			

Impact Fee Project Cost Summary			
Impact Fee Project Cost TOTAL:			\$ 141,000

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City of Garland - 2016 Roadway Impact Fee Study

Capital Improvement Plan for Roadway Impact Fees
Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area D

#	IF Class	Project	Limits		Status	Percent in Service Area	Project Cost	Total Cost in Service Area
			From	To				
D-1	S	Bobtown Rd (1)	Rowlett Rd	Bobtown Rd (Existing)	New	100	\$ 929,000	\$ 929,000
D-2	E-S	Bobtown Rd (2)	Bobtown Rd (Future)	Waterhouse Blvd	Widening	100	\$ 1,779,000	\$ 1,779,000
D-3	E	Bobtown Rd (3)	400' S of High Dr	Lyons Rd	Widening	100	\$ 1,995,000	\$ 1,995,000
D-4	E	Bobtown Rd (4)	Lyons Rd	South City Limits	Widening	50	\$ 2,654,000	\$ 1,327,000
C-10,D-5	B (1/3)	E. Miller Rd	Centerville Rd	2,815' E of Centerville Rd	Median	50	\$ 955,000	\$ 477,500
D-6	F	E. Oates Rd (Future)	Country Club Rd	E. Oates Rd (Existing)	New	100	\$ 3,219,000	\$ 3,219,000
D-7	B (1/3)	La Prada Dr	IH 635 E frontage road	Northwest Hwy	Median	50	\$ 567,000	\$ 283,500
D-8	E	Locust Grove Rd	290' E of Oceanport Dr	East City Limits	Widening	100	\$ 2,859,000	\$ 2,859,000
D-9	B	Lyons Rd (1)	Bobtown Rd	Guthrie Rd	Widening	100	\$ 5,014,000	\$ 5,014,000
D-10	B	Lyons Rd (2)	Guthrie Rd	Lyons Rd (Future)	Widening	100	\$ 1,366,000	\$ 1,366,000
D-11	B	Lyons Rd (Future) (3)	Lyons Rd	South City Limits	New	100	\$ 2,811,000	\$ 2,811,000
D-12	F	Rosehill Rd (1)	Rosehill Rd (Existing)	Wynn Joyce Rd	New	100	\$ 1,364,000	\$ 1,364,000
D-13	B (1/3)	Rosehill Rd (2)	Bobtown Rd	IH 30 N loop	Median	100	\$ 513,000	\$ 513,000
D-14	A (1/3)	Rowlett Rd (1)	Broadway Blvd	Rosehill Rd	Median	100	\$ 1,254,000	\$ 1,254,000
D-15	A (1/3)	Rowlett Rd (2)	Rosehill Rd	Roan Rd	Median	100	\$ 1,781,000	\$ 1,781,000
D-16	A	Rowlett Rd (3)	Roan Rd	City Limits	Under Construction	100	\$ 2,486,000	\$ 2,486,000
D-17	B (1/3)	S. Country Club Rd	Rowlett Rd	Bobtown Rd	Median	100	\$ 599,000	\$ 599,000
D-18	E	Zion Rd	Locust Grove Rd	Bobtown Rd	Widening	100	\$ 1,075,000	\$ 1,075,000
D-19	B	Northwest Hwy	Centerville Rd	La Prada Dr	Completed	100	\$ 2,904,782	\$ 2,904,782
D-20	E	Dairy Rd	Celeste Rd	Broadway Blvd	Completed	100	\$ 3,597,758	\$ 3,597,758
C-12,D-21	B	Miller Rd Bridge	2,815' E of Centerville Rd	East City Limits	Completed	50	\$ 2,743,883	\$ 1,371,942
TOTAL							\$ 42,466,423	\$ 39,006,482

Bottleneck Study Improvements - Service Area D

#	Intersection	Improvement(s)	Percent in Service Area	Total Project Cost in Service Area	10-Year Growth Cost in Service Area
I-19	First St and Miller Rd	Add EB RT & NB, SB Dual Lefts	33%	\$ 2,630,000	\$ 236,000
I-20	Broadway Blvd and First St	Triple LT from NB First St	50%		
I-23	Broadway Blvd and Centerville Rd	Dual Lefts SWB, NEB and NWB	100%		
I-25	Broadway Blvd and Rowlett Rd	Add EB RT Lane	100%		
I-26	Broadway Blvd and IH-30 EBFR	Dual NB RT Lanes	100%		

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-1
Name:	Bobtown Rd (1)	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Rowlett Rd to Bobtown Rd (Existing)			
Impact Fee Class:	E			
Ultimate Class:	Special Functional Classification			
Length (lf):	920			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	2,453	cy	\$ 8.00	\$ 19,627
202	6" Lime Stabilization Subgrade	4,804	sy	\$ 2.60	\$ 12,492
302	Street Cut Paving Concrete - Class C Construct	4,600	sy	\$ 70.00	\$ 322,000
402	Curb 6" Integral	1,840	lf	\$ 1.95	\$ 3,588
502	Sidwalk 4" Class A Construct	818	sy	\$ 43.00	\$ 35,164
602	Turn Lanes and Median Openings	65	sy	\$ 70.00	\$ 4,562
Paving Construction Cost Subtotal:					\$ 397,432
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	11,923
✓	Roadway Drainage	Standard Internal System	30%	\$	119,230
✓	Illumination		6%	\$	23,846
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	11,923
✓	Sewer	Minor Adjustments	2%	\$	7,949
✓	Landscaping and Irrigation		4%	\$	15,897
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	190,768
Paving and Allowance Subtotal:				\$	588,200
Construction Contingency:				10%	\$ 58,820
Mobilization				5%	\$ 29,410
Prep ROW				1%	\$ 5,882
Construction Cost TOTAL:				\$	683,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 683,000
Engineering/Survey/Testing:		16%	\$ 109,280
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 136,600
Impact Fee Project Cost TOTAL:			\$ 929,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-2
Name:	Bobtown Rd (2)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	Bobtown Rd (Future) to Waterhouse Blvd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	1,780			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	4,747	cy	\$ 8.00	\$ 37,973
202	6" Lime Stabilization Subgrade	9,296	sy	\$ 2.60	\$ 24,168
302	Street Cut Paving Concrete - Class C Construct	8,900	sy	\$ 70.00	\$ 623,000
402	Curb 6" Integral	3,560	lf	\$ 1.95	\$ 6,942
502	Sidwalk 4" Class A Construct	1,582	sy	\$ 43.00	\$ 68,036
602	Turn Lanes and Median Openings	126	sy	\$ 70.00	\$ 8,826
Paving Construction Cost Subtotal:					\$ 768,945
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	38,447
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	23,068
✓	Roadway Drainage	Standard Internal System	30%	\$	230,684
✓	Illumination		6%	\$	46,137
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	23,068
✓	Sewer	Minor Adjustments	2%	\$	15,379
✓	Landscaping and Irrigation		4%	\$	30,758
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	407,541
Paving and Allowance Subtotal:					\$ 1,176,486
Construction Contingency:				10%	\$ 117,649
Mobilization				5%	\$ 58,824
Prep ROW				5%	\$ 58,824
Construction Cost TOTAL:					\$ 1,412,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,412,000
Engineering/Survey/Testing:		16%	\$ 225,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 141,200
Impact Fee Project Cost TOTAL:			\$ 1,779,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-3
Name:	Bobtown Rd (3)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	400' S of High Dr to Lyons Rd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	1,995			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	5,320	cy	\$ 8.00	\$ 42,560
202	6" Lime Stabilization Subgrade	10,418	sy	\$ 2.60	\$ 27,088
302	Street Cut Paving Concrete - Class C Construct	9,975	sy	\$ 70.00	\$ 698,250
402	Curb 6" Integral	3,990	lf	\$ 1.95	\$ 7,781
502	Sidwalk 4" Class A Construct	1,773	sy	\$ 43.00	\$ 76,253
602	Turn Lanes and Median Openings	141	sy	\$ 70.00	\$ 9,892
Paving Construction Cost Subtotal:					\$ 861,823
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	43,091
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	25,855
✓	Roadway Drainage	Standard Internal System	30%	\$	258,547
✓	Illumination		6%	\$	51,709
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	25,855
✓	Sewer	Minor Adjustments	2%	\$	17,236
✓	Landscaping and Irrigation		4%	\$	34,473
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	456,766
Paving and Allowance Subtotal:				\$	1,318,590
Construction Contingency:				10%	\$ 131,859
Mobilization				5%	\$ 65,929
Prep ROW				5%	\$ 65,929
Construction Cost TOTAL:				\$	1,583,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,583,000
Engineering/Survey/Testing:		16%	\$ 253,280
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 158,300
Impact Fee Project Cost TOTAL:			\$ 1,995,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-4
Name:	Bobtown Rd (4)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	Lyons Rd to South City Limits			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	2,655			
Service Area(s):	D, ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	7,080	cy	\$ 8.00	\$ 56,640
202	6" Lime Stabilization Subgrade	13,865	sy	\$ 2.60	\$ 36,049
302	Street Cut Paving Concrete - Class C Construct	13,275	sy	\$ 70.00	\$ 929,250
402	Curb 6" Integral	5,310	lf	\$ 1.95	\$ 10,355
502	Sidwalk 4" Class A Construct	2,360	sy	\$ 43.00	\$ 101,480
602	Turn Lanes and Median Openings	188	sy	\$ 70.00	\$ 13,164
Paving Construction Cost Subtotal:					\$ 1,146,938
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	57,347
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	34,408
✓	Roadway Drainage	Standard Internal System	30%	\$	344,081
✓	Illumination		6%	\$	68,816
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	34,408
✓	Sewer	Minor Adjustments	2%	\$	22,939
✓	Landscaping and Irrigation		4%	\$	45,878
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	607,877
Paving and Allowance Subtotal:					\$ 1,754,815
Construction Contingency:				10%	\$ 175,481
Mobilization				5%	\$ 87,741
Prep ROW				5%	\$ 87,741
Construction Cost TOTAL:					\$ 2,106,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,106,000
Engineering/Survey/Testing:		16%	\$ 336,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 210,600
Impact Fee Project Cost TOTAL:			\$ 2,654,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-10,D-5
Name:	E. Miller Rd	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Centerville Rd to 2,815' E of Centerville Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	2,815			
Service Area(s):	C,D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	4,066	cy	\$ 8.00	\$ 32,529
210	6" Lime Stabilization Subgrade	7,819	sy	\$ 2.60	\$ 20,331
310	Street Cut Paving Concrete - Class C Construct	7,194	sy	\$ 70.00	\$ 503,572
410	Curb 6" Integral	5,630	lf	\$ 1.95	\$ 10,979
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	640	sy	\$ 70.00	\$ 44,784
Paving Construction Cost Subtotal: \$					612,194
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 30,610
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 18,366
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 24,488
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	73,463
Paving and Allowance Subtotal:				\$	685,658
Construction Contingency:				10%	\$ 68,566
Mobilization				5%	\$ 34,283
Prep ROW				5%	\$ 34,283
Construction Cost TOTAL:				\$	823,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 823,000
Engineering/Survey/Testing:		16%	\$ 131,680
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 955,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-6
Name:	E. Oates Rd (Future)	This project consists of the construction of a new two lane undivided minor collector		
Limits:	Country Club Rd to E. Oates Rd (Existing)			
Impact Fee Class:	F			
Ultimate Class:	Minor Collector			
Length (lf):	3,045			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	6,767	cy	\$ 8.00	\$ 54,133
201	6" Lime Stabilization Subgrade	13,195	sy	\$ 2.60	\$ 34,307
301	Street Cut Paving Concrete - Class C Construct	12,518	sy	\$ 70.00	\$ 876,283
401	Curb 6" Integral	6,090	lf	\$ 1.95	\$ 11,876
501	Sidwalk 4" Class A Construct	2,707	sy	\$ 43.00	\$ 116,387
601	Turn Lanes and Median Openings	216	sy	\$ 70.00	\$ 15,098
Paving Construction Cost Subtotal:					\$ 1,108,084
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	33,243
✓	Roadway Drainage	Standard Internal System	30%	\$	332,425
✓	Illumination		6%	\$	66,485
✓	Special Drainage Structures	Bridge Crossing	0%	\$	400,000
✓	Water	Minor Adjustments	3%	\$	33,243
✓	Sewer	Minor Adjustments	2%	\$	22,162
✓	Landscaping and Irrigation		4%	\$	44,323
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	931,880
Paving and Allowance Subtotal:					\$ 2,039,964
Construction Contingency:				10%	\$ 203,996
Mobilization				5%	\$ 101,998
Prep ROW				1%	\$ 20,400
Construction Cost TOTAL:					\$ 2,367,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,367,000
Engineering/Survey/Testing:		16%	\$ 378,720
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 473,400
Impact Fee Project Cost TOTAL:			\$ 3,219,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-7
Name:	La Prada Dr	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	IH 635 E frontage road to Northwest Hwy			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	1,670			
Service Area(s):	D, ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	2,412	cy	\$ 8.00	\$ 19,298
210	6" Lime Stabilization Subgrade	4,639	sy	\$ 2.60	\$ 12,061
310	Street Cut Paving Concrete - Class C Construct	4,268	sy	\$ 70.00	\$ 298,744
410	Curb 6" Integral	3,340	lf	\$ 1.95	\$ 6,513
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	380	sy	\$ 70.00	\$ 26,568
Paving Construction Cost Subtotal: \$					363,185
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 18,159
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 10,896
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 14,527
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	43,582
Paving and Allowance Subtotal:				\$	406,767
Construction Contingency:				10%	\$ 40,677
Mobilization				5%	\$ 20,338
Prep ROW				5%	\$ 20,338
Construction Cost TOTAL:				\$	489,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 489,000
Engineering/Survey/Testing:		16%	\$ 78,240
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 567,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-8
Name:	Locust Grove Rd	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	290' E of Oceanport Dr to East City Limits			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	2,860			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	7,627	cy	\$ 8.00	\$ 61,013
202	6" Lime Stabilization Subgrade	14,936	sy	\$ 2.60	\$ 38,832
302	Street Cut Paving Concrete - Class C Construct	14,300	sy	\$ 70.00	\$ 1,001,000
402	Curb 6" Integral	5,720	lf	\$ 1.95	\$ 11,154
502	Sidewalk 4" Class A Construct	2,542	sy	\$ 43.00	\$ 109,316
602	Turn Lanes and Median Openings	203	sy	\$ 70.00	\$ 14,181
Paving Construction Cost Subtotal: \$					1,235,496
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 61,775
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 37,065
√	Roadway Drainage	Standard Internal System		30%	\$ 370,649
√	Illumination			6%	\$ 74,130
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 37,065
√	Sewer	Minor Adjustments		2%	\$ 24,710
√	Landscaping and Irrigation			4%	\$ 49,420
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	654,813
				Paving and Allowance Subtotal: \$	1,890,309
				Construction Contingency: 10%	\$ 189,031
				Mobilization 5%	\$ 94,515
				Prep ROW 5%	\$ 94,515
				Construction Cost TOTAL: \$	2,269,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,269,000
Engineering/Survey/Testing:		16%	\$ 363,040
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 226,900
Impact Fee Project Cost TOTAL:			\$ 2,859,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-9
Name:	Lyons Rd (1)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Bobtown Rd to Guthrie Rd			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	3,230			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	12,561	cy	\$ 8.00	\$ 100,489
209	6" Lime Stabilization Subgrade	24,763	sy	\$ 2.60	\$ 64,385
309	Street Cut Paving Concrete - Class C Construct	24,404	sy	\$ 70.00	\$ 1,708,311
409	Curb 6" Integral	12,920	lf	\$ 1.95	\$ 25,194
509	Sidwalk 4" Class A Construct	4,307	sy	\$ 43.00	\$ 185,187
609	Turn Lanes and Median Openings	1,192	sy	\$ 70.00	\$ 83,417
Paving Construction Cost Subtotal:					\$ 2,166,983
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 108,349
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 65,009
√	Roadway Drainage	Standard Internal System		30%	\$ 650,095
√	Illumination			6%	\$ 130,019
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 65,009
√	Sewer	Minor Adjustments		2%	\$ 43,340
√	Landscaping and Irrigation			4%	\$ 86,679
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,148,501
				Paving and Allowance Subtotal:	\$ 3,315,483
				Construction Contingency:	10% \$ 331,548
				Mobilization	5% \$ 165,774
				Prep ROW	5% \$ 165,774
				Construction Cost TOTAL:	\$ 3,979,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,979,000
Engineering/Survey/Testing:		16%	\$ 636,640
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 397,900
Impact Fee Project Cost TOTAL:			\$ 5,014,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-10
Name:	Lyons Rd (2)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Guthrie Rd to Lyons Rd (Future)			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	880			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	3,422	cy	\$ 8.00	\$ 27,378
209	6" Lime Stabilization Subgrade	6,747	sy	\$ 2.60	\$ 17,541
309	Street Cut Paving Concrete - Class C Construct	6,649	sy	\$ 70.00	\$ 465,422
409	Curb 6" Integral	3,520	lf	\$ 1.95	\$ 6,864
509	Sidwalk 4" Class A Construct	1,173	sy	\$ 43.00	\$ 50,453
609	Turn Lanes and Median Openings	325	sy	\$ 70.00	\$ 22,727
Paving Construction Cost Subtotal:					\$ 590,385
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	29,519
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	17,712
✓	Roadway Drainage	Standard Internal System	30%	\$	177,116
✓	Illumination		6%	\$	35,423
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	17,712
✓	Sewer	Minor Adjustments	2%	\$	11,808
✓	Landscaping and Irrigation		4%	\$	23,615
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	312,904
Paving and Allowance Subtotal:					\$ 903,290
Construction Contingency:				10%	\$ 90,329
Mobilization				5%	\$ 45,164
Prep ROW				5%	\$ 45,164
Construction Cost TOTAL:					\$ 1,084,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,084,000
Engineering/Survey/Testing:		16%	\$ 173,440
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 108,400
Impact Fee Project Cost TOTAL:			\$ 1,366,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-11
Name:	Lyons Rd (Future) (3)	This project consists of the construction of a new six lane divided regional arterial		
Limits:	Lyons Rd to South City Limits			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	1,190			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	4,628	cy	\$ 8.00	\$ 37,022
209	6" Lime Stabilization Subgrade	9,123	sy	\$ 2.60	\$ 23,721
309	Street Cut Paving Concrete - Class C Construct	8,991	sy	\$ 70.00	\$ 629,378
409	Curb 6" Integral	4,760	lf	\$ 1.95	\$ 9,282
509	Sidwalk 4" Class A Construct	1,587	sy	\$ 43.00	\$ 68,227
609	Turn Lanes and Median Openings	439	sy	\$ 70.00	\$ 30,733
Paving Construction Cost Subtotal:					\$ 798,362
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 23,951
√	Roadway Drainage	Standard Internal System		30%	\$ 239,509
√	Illumination			6%	\$ 47,902
√	Special Drainage Structures	Bridge Crossing		0%	\$ 600,000
√	Water	Minor Adjustments		3%	\$ 23,951
√	Sewer	Minor Adjustments		2%	\$ 15,967
√	Landscaping and Irrigation			4%	\$ 31,934
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 983,214
Paving and Allowance Subtotal:				\$	1,781,576
Construction Contingency:				10%	\$ 178,158
Mobilization				5%	\$ 89,079
Prep ROW				1%	\$ 17,816
Construction Cost TOTAL:				\$	2,067,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,067,000
Engineering/Survey/Testing:		16%	\$ 330,720
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 413,400
Impact Fee Project Cost TOTAL:			\$ 2,811,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-12
Name:	Rosehill Rd (1)	This project consists of the construction of a new two lane undivided minor collector		
Limits:	Rosehill Rd (Existing) to Wynn Joyce Rd			
Impact Fee Class:	F			
Ultimate Class:	Minor Collector			
Length (lf):	1,605			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	3,567	cy	\$ 8.00	\$ 28,533
201	6" Lime Stabilization Subgrade	6,955	sy	\$ 2.60	\$ 18,083
301	Street Cut Paving Concrete - Class C Construct	6,598	sy	\$ 70.00	\$ 461,883
401	Curb 6" Integral	3,210	lf	\$ 1.95	\$ 6,260
501	Sidewalk 4" Class A Construct	1,427	sy	\$ 43.00	\$ 61,347
601	Turn Lanes and Median Openings	114	sy	\$ 70.00	\$ 7,958
Paving Construction Cost Subtotal:					\$ 584,064
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	17,522
✓	Roadway Drainage	Standard Internal System	30%	\$	175,219
✓	Illumination		6%	\$	35,044
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	17,522
✓	Sewer	Minor Adjustments	2%	\$	11,681
✓	Landscaping and Irrigation		4%	\$	23,363
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	280,351
Paving and Allowance Subtotal:				\$	864,415
Construction Contingency:				10%	\$ 86,441
Mobilization				5%	\$ 43,221
Prep ROW				1%	\$ 8,644
Construction Cost TOTAL:				\$	1,003,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,003,000
Engineering/Survey/Testing:		16%	\$ 160,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 200,600
Impact Fee Project Cost TOTAL:			\$ 1,364,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-13
Name:	Rosehill Rd (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Bobtown Rd to IH 30 N loop			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	1,510			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	2,181	cy	\$ 8.00	\$ 17,449
210	6" Lime Stabilization Subgrade	4,194	sy	\$ 2.60	\$ 10,906
310	Street Cut Paving Concrete - Class C Construct	3,859	sy	\$ 70.00	\$ 270,122
410	Curb 6" Integral	3,020	lf	\$ 1.95	\$ 5,889
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	343	sy	\$ 70.00	\$ 24,023
Paving Construction Cost Subtotal:					\$ 328,388
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 16,419
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 9,852
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 13,136
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 39,407
				Paving and Allowance Subtotal:	\$ 367,795
				Construction Contingency:	10% \$ 36,780
				Mobilization	5% \$ 18,390
				Prep ROW	5% \$ 18,390
				Construction Cost TOTAL:	\$ 442,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 442,000
Engineering/Survey/Testing:		16%	\$ 70,720
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 513,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-14
Name:	Rowlett Rd (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Broadway Blvd to Rosehill Rd			
Impact Fee Class:	A (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	3,695			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
112	Unclassified Street Excavation	5,337	cy	\$ 8.00	\$ 42,698
212	6" Lime Stabilization Subgrade	10,264	sy	\$ 2.60	\$ 26,686
312	Street Cut Paving Concrete - Class C Construct	9,443	sy	\$ 70.00	\$ 660,994
412	Curb 6" Integral	7,390	lf	\$ 1.95	\$ 14,411
512	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
0	Turn Lanes and Median Openings	840	sy	\$ 70.00	\$ 58,784
Paving Construction Cost Subtotal: \$					803,573
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 40,179
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 24,107
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 32,143
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	96,429
Paving and Allowance Subtotal:				\$	900,002
Construction Contingency:				10%	\$ 90,000
Mobilization				5%	\$ 45,000
Prep ROW				5%	\$ 45,000
Construction Cost TOTAL: \$					1,081,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,081,000
Engineering/Survey/Testing:		16%	\$ 172,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,254,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-15
Name:	Rowlett Rd (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Rosehill Rd to Roan Rd			
Impact Fee Class:	A (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	5,250			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
112	Unclassified Street Excavation	7,583	cy	\$ 8.00	\$ 60,667
212	6" Lime Stabilization Subgrade	14,583	sy	\$ 2.60	\$ 37,917
312	Street Cut Paving Concrete - Class C Construct	13,417	sy	\$ 70.00	\$ 939,167
412	Curb 6" Integral	10,500	lf	\$ 1.95	\$ 20,475
512	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
0	Turn Lanes and Median Openings	1,193	sy	\$ 70.00	\$ 83,523
Paving Construction Cost Subtotal:					\$ 1,141,748
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	57,087
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	34,252
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	45,670
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	137,010
Paving and Allowance Subtotal:					\$ 1,278,757
Construction Contingency:			10%	\$	127,876
Mobilization			5%	\$	63,938
Prep ROW			5%	\$	63,938
Construction Cost TOTAL:					\$ 1,535,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,535,000
Engineering/Survey/Testing:		16%	\$ 245,600
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,781,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-16
Name:	Rowlett Rd (3)	This project consists of the construction of a new six lane divided regional arterial		
Limits:	Roan Rd to City Limits			
Impact Fee Class:	A			
Ultimate Class:	Regional Arterial			
Length (lf):	1,585			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
111	Unclassified Street Excavation	6,164	cy	\$ 8.00	\$ 49,311
211	6" Lime Stabilization Subgrade	12,152	sy	\$ 2.60	\$ 31,594
311	Street Cut Paving Concrete - Class C Construct	11,976	sy	\$ 70.00	\$ 838,289
411	Curb 6" Integral	6,340	lf	\$ 1.95	\$ 12,363
511	Sidwalk 4" Class A Construct	2,113	sy	\$ 43.00	\$ 90,873
611	Turn Lanes and Median Openings	601	sy	\$ 70.00	\$ 42,048
Paving Construction Cost Subtotal:					\$ 1,064,478
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 31,934
√	Roadway Drainage	Standard Internal System		30%	\$ 319,343
√	Illumination			6%	\$ 63,869
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 31,934
√	Sewer	Minor Adjustments		2%	\$ 21,290
√	Landscaping and Irrigation			4%	\$ 42,579
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 510,950
				Paving and Allowance Subtotal:	\$ 1,575,428
				Construction Contingency:	10% \$ 157,543
				Mobilization	5% \$ 78,771
				Prep ROW	1% \$ 15,754
				Construction Cost TOTAL:	\$ 1,828,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,828,000
Engineering/Survey/Testing:		16%	\$ 292,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 365,600
Impact Fee Project Cost TOTAL:			\$ 2,486,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Garland.

The planning level cost projections shall not supersede the City's design standards contained or the determination of the City Engineer for a specific project.

City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-17
Name:	S. Country Club Rd	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Rowlett Rd to Bobtown Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	1,765			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	2,549	cy	\$ 8.00	\$ 20,396
210	6" Lime Stabilization Subgrade	4,903	sy	\$ 2.60	\$ 12,747
310	Street Cut Paving Concrete - Class C Construct	4,511	sy	\$ 70.00	\$ 315,739
410	Curb 6" Integral	3,530	lf	\$ 1.95	\$ 6,884
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	401	sy	\$ 70.00	\$ 28,080
Paving Construction Cost Subtotal: \$					383,845
Major Construction Component Allowances**:					
	Item Description	Notes		Allowance	Item Cost
✓	Traffic Control	Construction Phase Traffic Control		5%	\$ 19,192
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 11,515
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
✓	Landscaping and Irrigation			4%	\$ 15,354
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	46,061
Paving and Allowance Subtotal:				\$	429,906
Construction Contingency:				10%	\$ 42,991
Mobilization				5%	\$ 21,495
Prep ROW				5%	\$ 21,495
Construction Cost TOTAL:				\$	516,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 516,000
Engineering/Survey/Testing:		16%	\$ 82,560
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 599,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-18
Name:	Zion Rd	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	Locust Grove Rd to Bobtown Rd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	1,075			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	2,867	cy	\$ 8.00	\$ 22,933
202	6" Lime Stabilization Subgrade	5,614	sy	\$ 2.60	\$ 14,596
302	Street Cut Paving Concrete - Class C Construct	5,375	sy	\$ 70.00	\$ 376,250
402	Curb 6" Integral	2,150	lf	\$ 1.95	\$ 4,193
502	Sidewalk 4" Class A Construct	956	sy	\$ 43.00	\$ 41,089
602	Turn Lanes and Median Openings	76	sy	\$ 70.00	\$ 5,330
Paving Construction Cost Subtotal: \$					464,391
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 23,220
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 13,932
√	Roadway Drainage	Standard Internal System		30%	\$ 139,317
√	Illumination			6%	\$ 27,863
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 13,932
√	Sewer	Minor Adjustments		2%	\$ 9,288
√	Landscaping and Irrigation			4%	\$ 18,576
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	246,127
Paving and Allowance Subtotal: \$				710,518	
Construction Contingency:				10%	\$ 71,052
Mobilization				5%	\$ 35,526
Prep ROW				5%	\$ 35,526
Construction Cost TOTAL: \$				853,000	

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 853,000
Engineering/Survey/Testing:		16%	\$ 136,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 85,300
Impact Fee Project Cost TOTAL:			\$ 1,075,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-19
Name:	Northwest Hwy	This completed project consisted of widening the existing facility to a six lane divided regional arterial. The total cost of this project was \$5,654,782, of which the City contributed \$2,904,782.		
Limits:	Centerville Rd to La Prada Dr			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	6,437			
Service Area(s):	D			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 2,904,782	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Garland.

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-20
Name:	Dairy Rd	This completed project consists of widening the facility to a three lane undivided minor collector. The City cost of this project is \$3,597,758.		
Limits:	Celeste Rd to Broadway Blvd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	2,611			
Service Area(s):	D			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 3,597,758	

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 9/13/2016

Project Information:		Description:	Project No.	C-12,D-21
Name:	Miller Rd Bridge	This completed project consisted of widening the existing bridge to a 6 lane divided regional arterial. The total cost of the project was \$24,710,481, of which the City contributed \$2,743,883		
Limits:	2,815' E of Centerville Rd to East City Limits			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	194			
Service Area(s):	C,D			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 2,743,883	

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	I-19:I-26
Name:	Bottleneck Study Improvements	This project consists of intersection improvements identified in the ongoing Bottleneck study. The total cost of these improvements in Service Area D is estimated to be \$2,630,000. The cost attributable to projected growth in Service Area D (8%) is \$236,000.		
Limits:	N/A			
Impact Fee Class:	N/A			
Ultimate Class:	N/A			
Length (If):	N/A			
Service Area(s):	D			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 236,000	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Garland.

The planning level cost projections shall not supersede the City's design standards contained or the determination of the City Engineer for a specific project.

Appendix B – Roadway Impact Fee CIP Service Units of Supply

City of Garland - 2016 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area A

9/14/2016

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL ¹	VEH-MI TOTAL DEMAND PK-HR ²	EXCESS CAPACITY PK-HR VEH-MI ³	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
A-1	Arapaho Rd (1)	Elm Ridge Ln to Shiloh Rd	0.77	6	B (1/3)	2,365	100%	900	4168	1825	2,343	\$ 1,383,000	\$ 1,383,000
A-2	Arapaho Rd (2)	Shiloh Rd to N. Garland Ave	0.68	6	B (1/3)	2,143	100%	900	3646	1447	2199	\$ 1,210,000	\$ 1,210,000.00
A-3	Brand Rd (1)	Bellaire Rd to Belt Line Rd	0.64	6	C1	737	100%	900	3452	471	2981	\$ 4,092,000	\$ 4,092,000.00
A-4	Brand Rd (2)	Naaman Forest Blvd to West Brand Rd	0.47	6	C1	New	100%	900	2557	0	2,557	\$ 8,172,000	\$ 8,172,000
A-5	Brand Rd (3)	Murfield Rd to PGBT N Frontage Rd	0.56	6	C1	911	100%	900	3027	511	2,516	\$ 3,590,000	\$ 3,590,000
A-6	Campbell Rd (1)	N. Jupiter Rd to Shiloh Rd	1.06	6	B (1/3)	1,645	100%	900	5732	1746	3,986	\$ 1,901,000	\$ 1,901,000
A-7	Campbell Rd (2)	Shiloh Rd to PGBT S Frontage Rd	0.41	6	B (1/3)	1,489	100%	900	2230	615	1,615	\$ 740,000	\$ 740,000
A-8	Campbell Rd (3)	Lookout Dr to PGBT N Frontage Rd	0.59	6	B (1/3)	789	100%	900	3211	469	2,742	\$ 1,065,000	\$ 1,065,000
A-9	Campbell Rd (4)	Lookout Dr to N. Garland Ave	0.64	6	B (1/3)	1,550	100%	900	3467	995	2,472	\$ 1,150,000	\$ 1,150,000
A-10	Campbell Rd (5)	N. Garland Ave to Water Oak Dr	0.52	6	B (1/3)	1,071	100%	900	2802	556	2,246	\$ 929,000	\$ 929,000
A-11	Campbell Rd (6)	Water Oak Dr to Murphy Rd	1.24	6	B	1,071	100%	900	6694	1328	5,366	\$ 11,065,000	\$ 11,065,000
A-12	Ferris Rd	Campbell Rd to Holford Rd	0.36	6	D1	New	100%	900	1928	0	1,928	\$ 2,258,000	\$ 2,258,000
A-13	Firewheel Parkway (1)	Lavon Dr to 530' E of Lavon Dr	0.10	6	A	1,129	100%	925	557	113	444	\$ 824,000	\$ 824,000
A-14	Holford Rd (1)	Naaman Forest (Future) to Arapaho Rd	0.75	6	D1	327	100%	900	4050	245	3805	\$ 5,347,000	\$ 5,347,000.00
A-15	Holford Rd (2)	PGBT S Frontage Rd to Naaman Forest (Future)	0.33	6	C2	327	100%	900	1790	108	1682	\$ 2,717,000	\$ 2,717,000.00
A-16	Holford Rd (3)	N City Limits to PGBT N Frontage Rd	0.99	6	C2	102	100%	900	5349	101	5,248	\$ 8,118,000	\$ 8,118,000
A-17	Lookout Dr (1)	Courtside Dr to Spring Dr	0.11	6	B (1/3)	324	50%	900	302	18	284	\$ 201,000	\$ 100,500
A-18	Lookout Dr (2)	Spring Dr to PGBT S Frontage Rd	0.80	6	B (1/3)	324	50%	900	2153	129	2,024	\$ 1,428,000	\$ 714,000
A-19	Lookout Dr (3)	PGBT N Frontage Rd to Campbell Rd	0.72	6	B (1/3)	1,550	100%	900	3871	1111	2,760	\$ 1,107,000	\$ 1,107,000
A-20	Mapleridge (1)	Shiloh Rd to Mapleridge Dr	0.09	2	F	New	100%	525	89	0	89	\$ 384,000	\$ 384,000
A-21	Mapleridge (2)	Mapleridge Dr (Existing) to Holford Rd	0.36	2	F	New	100%	525	379	0	379	\$ 3,513,000	\$ 3,513,000
A-22	Garland Ave (1)	N City Limits to PGBT N Frontage Rd	1.29	6	B (1/3)	1,103	100%	900	6975	1425	5,550	\$ 2,313,000	\$ 2,313,000
A-23	Garland Ave (2)	Arapaho Rd to PGBT S Frontage Rd	1.14	6	B (1/3)	2,322	100%	900	6162	2650	3,512	\$ 2,044,000	\$ 2,044,000
A-24	Garland Ave (3)	Arapaho Rd to Belt Line Rd	0.79	6	B-S (1/3)	2,353	100%	900	4285	1867	2,418	\$ 1,421,000	\$ 1,421,000
A-25	Garland Ave (4)	Belt Line Rd to Buckingham Rd	0.97	6	B (1/3)	1,852	100%	900	5221	1791	3,430	\$ 1,732,000	\$ 1,732,000
A-26	Shiloh Rd (1)	PGBT S Frontage Rd to Campbell Rd	0.37	6	B (1/3)	1,500	100%	900	1979	550	1,429	\$ 657,000	\$ 657,000
A-27	Shiloh Rd (2)	Campbell Rd to north bridge end	0.41	6	B (1/3)	1,698	100%	900	2209	695	1,514	\$ 733,000	\$ 733,000
A-28	Shiloh Rd (3)	Collins Blvd to Arapaho Rd	0.59	6	B (1/3)	1,949	100%	900	3211	1159	2,052	\$ 1,065,000	\$ 1,065,000
A-29	Shiloh Rd (4)	Arapaho Rd to Belt Line Rd	1.03	6	B (1/3)	2,059	100%	900	5538	2112	3,426	\$ 1,836,000	\$ 1,836,000
A-30	Shiloh Rd (5)	Belt Line Rd to Buckingham Rd	0.96	6	B (1/3)	2,299	100%	900	5170	2201	2,969	\$ 1,714,000	\$ 1,714,000
A-31	Naaman Forest Blvd	W. Naaman Forest Blvd. to E. Naaman Forest Blvd.	0.33	6	D1	New	100%	900	1759	0	1,759	\$ 2,079,000	\$ 2,079,000
A-32	Naaman School Rd	Brand Rd to Lavon Dr	0.88	6	D1	1,080	100%	900	4776	955	3,821	\$ 6,047,000	\$ 6,047,000
A-33	Naaman Forest Blvd	Ranger to Brand Rd	0.26	6	D1	749	100%	900	1394	193	1,201	\$ 3,904,483	\$ 3,904,483
I-1	Shiloh Rd and Campbell Rd	Extend WB RT lane										\$ 634,000	\$ 634,000
I-2	Arapaho Rd and Shiloh Rd	Add NB and SB RT lanes											
I-3	Apollo Rd and Garland Ave	Add EB RT Lane											
I-4	Wagon Wheel Rd and Garland Ave	WB RT Lane											
I-5	Belt Line Rd and Garland Ave	WB RT Lane											
I-6	Belt Line Rd and Shiloh Rd	EB RT Lane											
I-7	Buckingham Rd and Plano Rd	NB RT Lane, EB and WB Dual LT Lanes											
I-8	Shiloh Rd and Buckingham Rd	Add dual lefts WB, NB, and SB											
SUBTOTAL									110,133	27,386	82,747	\$ 87,373,483	\$ 86,558,983

2016 Roadway Impact Fee Study Cost Per Service Area \$ 15,840

TOTAL COST IN SERVICE AREA A \$ 86,574,823

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% in Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280]. If minimal traffic is anticipated on an existing roadway, an average volume based on roadways of similar class was used.

City of Garland - 2016 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area B

9/14/2016

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL ¹	VEH-MI TOTAL DEMAND PK-HR ²	EXCESS CAPACITY PK-HR VEH-MI ³	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
B-1	Kings Rd	Marquis Dr to Kings Rd (Existing)	0.10	4	E	New	100%	525	217	0	217	\$ 551,000	\$ 551,000
B-2	Leon Rd (1)	Shiloh Rd to S. Garland Ave	0.18	4	E	New	100%	525	378	0	378	\$ 959,000	\$ 959,000.00
B-3	Leon Rd (2)	Leon Rd (Existing) to Millay Blvd (Future)	0.04	4	E	New	100%	525	84	0	84	\$ 212,000	\$ 212,000
B-4	Marketplace ext (1)	Towngate Blvd to Northwest Hwy	0.26	4	E	New	100%	525	551	0	551	\$ 1,398,000	\$ 1,398,000
B-5	Marketplace ext (2)	Pendleton Dr to Marketplace Dr	0.13	4	E	New	100%	525	263	0	263	\$ 666,000	\$ 666,000
B-6	Millay Blvd (Future)	Leon Rd to Millay Blvd (Existing)	0.22	4	E	New	100%	525	465	0	465	\$ 1,180,000	\$ 1,180,000
B-7	Shiloh Rd (6)	Buckingham Rd to W Walnut St	1.00	6	B (1/3)	2,448	100%	900	5380	2,439	2,941	\$ 1,784,000	\$ 1,784,000
B-8	Shiloh Rd (7)	W Walnut St to Forest Ln	0.50	6	B	2,133	100%	900	2726	1,077	1,649	\$ 4,590,000	\$ 4,590,000
B-9	Shiloh Rd (8)	Forest Ln to Miller Rd	1.01	6	B	2,240	100%	900	5436	2,255	3,181	\$ 8,552,000	\$ 8,552,000
B-10	Shiloh Rd (9)	Miller Rd to Kingsley Rd	1.07	6	B	1,969	100%	900	5789	2,111	3,678	\$ 9,087,000	\$ 9,087,000
B-11	Shiloh Rd (10)	Kingsley Rd to McCree Rd	0.50	6	B	1,681	100%	900	2720	847	1,873	\$ 4,129,000	\$ 4,129,000
B-12	Shiloh Rd (11)	Garland Ave to IH-635 WBFR	0.29	6	B	1,867	100%	900	1560	539	1,021	\$ 2,368,000	\$ 2,368,000
B-13	New road east of Industrial Ln	Kingsley Rd to McCree Rd	0.50	2	F	New	100%	525	529	0	529	\$ 2,260,000	\$ 2,260,000
B-14	Saturn Rd	Saturn Rd (Existing) to Miller Rd	0.31	4	D2	New	100%	825	1009	0	1,009	\$ 2,215,000	\$ 2,215,000
B-15	Sherwin	Sherwin St (Existing) to Wood Dr	0.13	4	E	New	100%	525	274	0	274	\$ 2,432,000	\$ 2,432,000
I-9	Plano Rd and Walnut St	NB an SB RT Lane										\$ 378,000	\$ 378,000
I-10	Forest Ln and Jupiter Rd	EB and NB RT Lane, NB Dual LT Lanes											
I-11	Forest Ln and Shiloh Rd	SB and NB RT Lanes, Dual NB LT Lanes											
I-12	Avenue B (SH 78) and First St	SB RT Lane											
I-13	Avenue D and First St	EB RT Lane, EB Dual LT Lanes											
I-15	Jupiter Rd and Miller Rd	SB RT Lane											
I-16	Miller Rd and Shiloh Rd	SB RT Lane											
I-17	Garland Ave and Miller Rd	SB, EB, and WB RT Lanes											
I-18	Glenbrook Dr and Miller Rd	EB and WB LT Lanes											
I-19	First St and Miller Rd	Add EB RT & NB, SB Dual Lefts											
I-20	Broadway Blvd and First St	Triple LT from NB First St											
I-21	Jupiter Rd and Kingsley Rd	WB RT Lane											
I-22	Garland Ave and Kingsley Rd	NB RT Lane											
I-24	Garland Ave and McCree Rd / Shiloh Rd	SWB Dual LT Lanes											
SUBTOTAL									27,381	9,268	18,113	\$ 42,761,000	\$ 42,761,000

2016 Roadway Impact Fee Study Cost Per Service Area \$ 15,840

TOTAL COST IN SERVICE AREA B \$ 42,776,840

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280]. If minimal traffic is anticipated on an existing roadway, an average volume based on roadways of similar class was used.

City of Garland - 2016 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area C

9/14/2016

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL ¹	VEH-MI TOTAL DEMAND PK-HR ²	EXCESS CAPACITY PK-HR VEH-MI ³	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
C-1	Castle Dr (1)	N. First St to Lavon Dr	0.15	6	D1	237	100%	900	813	36	777	\$ 953,000	\$ 953,000
C-2	Castle Dr (2)	Lavon Dr to Mars Dr	0.38	6	D1	561	100%	900	2040	212	1828	\$ 2,390,000	\$ 2,390,000.00
C-3	Castle Dr (3)	Mars Dr to Country Club Rd	0.46	4	E	378	100%	525	964	174	790	\$ 2,424,000	\$ 2,424,000.00
C-4	Castle Dr (4)	Country Club Rd to Centerville Rd	1.05	4	E	510	100%	525	2203	535	1,668	\$ 5,536,000	\$ 5,536,000
C-5	Castle Dr (5)	2660' south of Firewheel Pkwy to Firewheel Pkwy	0.50	4	E	206	50%	525	529	52	477	\$ 2,659,000	\$ 1,329,500
C-6	Castle Dr (6)	Firewheel Pkwy to Miles Rd	0.84	4	E	418	50%	525	882	176	706	\$ 4,433,000	\$ 2,216,500
C-7	Crist Rd	Lavon Dr to Naaman School Rd	0.62	4	D2	500	100%	825	2041	309	1,732	\$ 4,436,000	\$ 4,436,000
C-8	Firewheel Parkway (2)	530' E of Lavon Dr to 310' S of Town Center Blvd	0.77	6	A	1,450	100%	925	4257	1,112	3,145	\$ 6,292,000	\$ 6,292,000
C-9	Pleasant Valley Rd (1)	Creek Meadow Ln to Miles Rd	0.50	6	C1	796	100%	900	2674	394	2,280	\$ 10,773,000	\$ 10,773,000
C-10,D-5	E. Miller Rd	Centerville Rd to 2,815' E of Centerville Rd	0.53	6	B (1/3)	1,122	50%	900	1439	299	1,140	\$ 955,000	\$ 477,500
C-11	Pleasant Valley Rd (2)	Firewheel Pkwy to Creek Meadow Ln	0.58	6	C1	796	100%	900	3145	464	2,681	\$ 3,603,239	\$ 3,603,239
C-12,D-21	Miller Rd Bridge	2,815' E of Centerville Rd to East City Limits	0.04	6	B	1,063	50%	900	99	20	79	\$ 2,743,883	\$ 1,371,942
I-14	Centerville Rd and SH 66	Add dual LT lanes NB and WB										\$ 141,000	\$ 141,000
I-19	First St and Miller Rd	Add EB RT & NB, SB Dual Lefts											
SUBTOTAL									21,086	3,783	17,303	\$ 47,339,122	\$ 41,943,681

2016 Roadway Impact Fee Study Cost Per Service Area \$ 15,840

TOTAL COST IN SERVICE AREA C \$ 41,959,521

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280]. If minimal traffic is anticipated on an existing roadway, an average volume based on roadways of similar class was used.

City of Garland - 2016 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area D

9/14/2016

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL ¹	VEH-MI TOTAL DEMAND PK-HR ²	EXCESS CAPACITY PK-HR VEH-MI ³	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
D-1	Bobtown Rd (1)	Rowlett Rd to Bobtown Rd (Existing)	0.17	2	S	New	100%	525	183	0	183	\$ 929,000	\$ 929,000.00
D-2	Bobtown Rd (2)	Bobtown Rd (Future) to Waterhouse Blvd	0.34	0	E-S	367	100%	0	0	124	-124	\$ 1,779,000	\$ 1,779,000.00
D-3	Bobtown Rd (3)	400' S of High Dr to Lyons Rd	0.38	4	E	541	100%	525	793	204	589	\$ 1,995,000	\$ 1,995,000.00
D-4	Bobtown Rd (4)	Lyons Rd to South City Limits	0.50	4	E	541	50%	525	528	136	392	\$ 2,654,000	\$ 1,327,000.00
C-10,D-5	E. Miller Rd	Centerville Rd to 2,815' E of Centerville Rd	0.53	6	B (1/3)	1,122	50%	900	1439	299	1,140	\$ 955,000	\$ 477,500
D-6	E. Oates Rd (Future)	Country Club Rd to E. Oates Rd (Existing)	0.58	2	F	New	100%	525	606	0	606	\$ 3,219,000	\$ 3,219,000
D-7	La Prada Dr	IH 635 E frontage road to Northwest Hwy	0.32	6	B (1/3)	1,145	50%	900	854	181	673	\$ 567,000	\$ 283,500
D-8	Locust Grove Rd	290' E of Oceanport Dr to East City Limits	0.54	4	E	284	100%	525	1138	154	984	\$ 2,859,000	\$ 2,859,000
D-9	Lyons Rd (1)	Bobtown Rd to Guthrie Rd	0.61	6	B	509	100%	900	3303	311	2,992	\$ 5,014,000	\$ 5,014,000
D-10	Lyons Rd (2)	Guthrie Rd to Lyons Rd (Future)	0.17	6	B	161	100%	900	900	27	873	\$ 1,366,000	\$ 1,366,000
D-11	Lyons Rd (Future) (3)	Lyons Rd to South City Limits	0.23	6	B	New	100%	900	1217	0	1,217	\$ 2,811,000	\$ 2,811,000
D-12	Rosehill Rd (1)	Rosehill Rd (Existing) to Wynn Joyce Rd	0.30	2	F	667	100%	525	319	203	116	\$ 1,364,000	\$ 1,364,000
D-13	Rosehill Rd (2)	Bobtown Rd to IH 30 N loop	0.29	6	B (1/3)	667	100%	900	1544	191	1,353	\$ 513,000	\$ 513,000
D-14	Rowlett Rd (1)	Broadway Blvd to Rosehill Rd	0.70	6	A (1/3)	1,492	100%	925	3884	1044	2,840	\$ 1,254,000	\$ 1,254,000
D-15	Rowlett Rd (2)	Rosehill Rd to Roan Rd	0.99	6	A (1/3)	1,111	100%	925	5518	1105	4,413	\$ 1,781,000	\$ 1,781,000
D-16	Rowlett Rd (3)	Roan Rd to City Limits	0.30	6	A	1,999	100%	925	1666	600	1,066	\$ 2,486,000	\$ 2,486,000
D-17	S. Country Club Rd	Rowlett Rd to Bobtown Rd	0.33	6	B (1/3)	324	100%	900	1805	108	1,697	\$ 599,000	\$ 599,000
D-18	Zion Rd	Locust Grove Rd to Bobtown Rd	0.20	4	E	423	100%	525	428	86	342	\$ 1,075,000	\$ 1,075,000
D-19	Northwest Hwy	Centerville Rd to La Prada Dr	1.22	6	B	1,362	100%	900	6583	1660	4,923	\$ 2,904,782	\$ 2,904,782
D-20	Dairy Rd	Celeste Rd to Broadway Blvd	0.49	4	E	570	100%	525	1038	282	756	\$ 3,597,758	\$ 3,597,758
C-12,D-21	Miller Rd Bridge	2,815' E of Centerville Rd to East City Limits	0.04	6	B	1,122	50%	900	99	21	78	\$ 2,743,883	\$ 1,371,942
I-19	First St and Miller Rd	Add EB RT & NB, SB Dual Lefts										\$ 236,000	\$ 236,000
I-20	Broadway Blvd and First St	Triple LT from NB First St											
I-23	Broadway Blvd and Centerville Rd	Dual Lefts SWB, NEB and NWB											
I-25	Broadway Blvd and Rowlett Rd	Add EB RT Lane											
I-26	Broadway Blvd and IH-30 EBFR	Dual NB RT Lanes											
SUBTOTAL									33,845	6,736	27,109	\$ 42,702,423	\$ 39,242,482

2016 Roadway Impact Fee Study Cost Per Service Area \$ 15,840

TOTAL COST IN SERVICE AREA D \$ 39,258,322

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280]. If minimal traffic is anticipated on an existing roadway, an average volume based on roadways of similar class was used.

Appendix C – Existing Roadway Facilities Inventory

City of Garland - 2016 Roadway Impact Fee Update
Existing Roadway Facilities Inventory

Service Area A

9/14/2016

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴	
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Apollo Rd	Brand	Kingsbridge Dr	3533	0.67	1	1	2U	Minor Collector	F	151	151	100%	525	525	351	351	101	101	250	250		
Apollo Rd	Arapaho Rd	W Brand Rd	3585	0.68	1	1	2U	Minor Collector	F	265	240	100%	525	525	356	356	180	163	176	193		
Apollo Rd	Kingsbridge Dr	Crist	2872	0.54	1	1	2U	Minor Collector	F	151	151	100%	525	525	286	286	82	82	204	204		
Apollo Rd	N. Jupiter	Galaxie Rd	2705	0.51	1	1	3U	Minor Collector	F	243	223	100%	575	575	295	295	124	114	171	181		
Apollo Rd	Shiloh Rd	Arapaho Rd	3651	0.69	1	1	3U	Minor Collector	F	301	283	100%	575	575	398	398	208	196	190	202		
Apollo Rd	Galaxie Road	Shiloh Rd	2616	0.50	1	1	3U	Minor Collector	F	283	246	100%	575	575	285	285	140	122	145	163		
Arapaho Rd	Callejo Rd	Shiloh Rd	1495	0.28	2	2	4D	Regional Arterial	B	1,144	1,221	100%	900	900	510	510	324	346	186	164		
Arapaho Rd	Holford Rd	N. Garland	2618	0.50	2	2	4D	Regional Arterial	B	1,050	1,093	100%	900	900	893	893	521	542	372	351		
Arapaho Rd	Elm Ridge Ln	Galaxie Rd	1355	0.26	2	2	4D	Regional Arterial	B	1,125	1,195	100%	900	900	462	462	289	307	173	155		
Arapaho Rd	Galaxie Rd	Callejo Rd	1226	0.23	2	2	4D	Regional Arterial	B	1,144	1,221	100%	900	900	418	418	266	284	152	134		
Arapaho Rd	Shiloh Rd	Holford Rd	947	0.18	2	2	4D	Regional Arterial	B	1,050	1,093	100%	900	900	323	323	188	196	135	127		
Arapaho Rd	N. Jupiter	Elm Ridge Ln	1340	0.25	3	3	6D	Regional Arterial	B	1,125	1,195	100%	925	925	704	704	286	303	418	401		
Bettline Rd	Kingsbridge Dr	Crist	2722	0.52	3	3	6D	Regional Arterial	B	888	858	100%	925	925	1,431	1,431	458	442	973	989		
Bettline Rd	Galaxie Rd	N. Shiloh Rd	2448	0.46	3	3	6D	Regional Arterial	B	1,291	1,277	100%	925	925	1,287	1,287	599	592	688	695		
Bettline Rd	Apollo Rd	N. Garland Ave	1706	0.32	3	3	6D	Regional Arterial	B	1,033	1,035	100%	925	925	897	897	334	332	563	563		
Bettline Rd	W Brand Rd	N. Glenbrook	1999	0.38	3	3	6D	Regional Arterial	B	1,144	1,097	100%	925	925	1,051	1,051	433	415	618	636		
Bettline Rd	N. Jupiter	Galaxie Rd	1852	0.35	3	3	6D	Regional Arterial	B	1,358	1,374	100%	925	925	973	973	476	482	497	491		
Bettline Rd	Big Oaks Dr	Galaxie Rd	1097	0.21	3	3	6D	Regional Arterial	B	1,358	1,374	100%	925	925	577	577	282	285	295	292		
Bettline Rd	N. Shiloh	Sam Houston Dr	2562	0.49	3	3	6D	Regional Arterial	B	1,121	1,101	100%	925	925	1,347	1,347	544	534	803	813		
Bettline Rd	Sam Houston Dr	Apollo Rd	1035	0.20	3	3	6D	Regional Arterial	B	1,033	1,035	100%	925	925	544	544	202	203	342	341		
Bettline Rd	N. Garland Ave	W Brand Rd	971	0.18	3	3	6D	Regional Arterial	B	1,144	1,097	100%	925	925	510	510	210	202	300	308		
Bettline Rd	N. Glenbrook	Kingsbridge Dr	1636	0.31	3	3	6D	Regional Arterial	B	888	858	100%	925	925	860	860	275	266	585	594		
Big Oaks	Diamond Oaks Dr	Shiloh Rd	3121	0.59	1	1	2U	Minor Collector	F	42	45	100%	525	525	310	310	25	27	285	283		
Big Oaks	Laurel Oaks Dr	Diamond Oaks Dr	1647	0.31	1	1	2U	Minor Collector	F	265	240	100%	525	525	164	164	83	75	81	89		
Clear Springs	Lookout	Shiloh	2721	0.52	1	1	2U	Minor Collector	F	265	240	100%	525	525	271	271	137	124	134	147		
Collins	Callejo Rd	Shiloh Rd	1720	0.33	1	1	2U	Minor Collector	F	265	240	100%	525	525	171	171	86	78	85	93		
Collins	N. Jupiter	Galaxie Rd	2463	0.47	1	1	2U	Minor Collector	F	265	240	100%	525	525	245	245	124	112	121	133		
Collins	Galaxie Rd	Callejo Rd	1463	0.28	1	1	2U	Minor Collector	F	265	240	100%	525	525	145	145	73	67	72	79		
Crist Rd	Bettline	SH 78	3242	0.61	2	2	4U	Minor Collector	E	523	552	100%	525	525	645	645	321	339	324	306		
Diamond Oaks Dr	Ridge Oak Dr	Buckingham Rd	3434	0.65	1	1	2U	Minor Collector	F	71	79	100%	525	525	341	341	46	51	295	290		
Diamond Oaks Dr	Big Oaks Dr	Ridge Oak Dr	1953	0.37	1	1	2U	Minor Collector	F	265	240	100%	525	525	194	194	98	89	96	105		
Brand Rd	Campbell Rd	Provence Blvd	4533	0.86	1	1	2U	Special Functional Classification	S	247	228	100%	525	525	451	451	212	196	239	255		
Brand Rd	Muirfield Rd	PGBT	2960	0.56	1	1	2U	Special Functional Classification	S	481	430	100%	525	525	294	294	270	241	24	53		
Brand Rd	North City Limits	Campbell Rd	1763	0.33	1	1	2U	Special Functional Classification	S	132	139	100%	525	525	175	175	44	46	131	129		
Brand Rd	Talley Rd	Muirfield Dr	2106	0.40	1	1	2U	Special Functional Classification	S	265	240	100%	525	525	209	209	106	96	103	113		
Brand Rd	PGBT Frontage Road	PGBT Frontage Road	456	0.09	3	3	6D	Minor Arterial	C1	1,460	1,485	100%	925	925	240	240	126	128	114	112		
Brand Rd	PGBT	Naaman Forest Blvd	336	0.06	3	3	6D	Minor Arterial	C1	1,460	1,485	100%	925	925	177	177	93	95	84	83		
E. Buckingham Rd	First St	375 E of First St	477	0.09	3	3	6D	Regional Arterial	B	1,418	1,336	50%	925	925	125	125	64	60	61	65		
E. Buckingham Rd	375 E of First St	Lavon Dr	1065	0.20	3	3	7U	Regional Arterial	B	1,418	1,336	50%	925	925	280	280	143	135	137	145		
Campbell Rd	Brand Rd	City Limits	3574	0.68	1	1	2U	Regional Arterial	B	426	411	100%	525	525	355	355	288	278	67	77		
Campbell Rd	Water Oak	Murphy	2970	0.56	1	1	2U	Regional Arterial	B	532	539	100%	525	525	295	295	299	303	-4	-8	4	8
Ferris Rd	Campbell	Holford	1883	0.36	1	1	2U	Major Collector	D1	265	240	100%	525	525	187	187	95	86	92	101		
Galaxie	Apollo Rd	Sweet Gum St	2056	0.39	1	1	2D	Minor Collector	F	265	240	100%	575	575	224	224	103	93	121	131		
Galaxie	Campbell Rd	Collins Blvd	1514	0.29	1	1	2U	Minor Collector	F	265	240	100%	525	525	151	151	76	69	75	82		
Galaxie	Collins Blvd	Arapaho Rd	3242	0.61	1	1	2U	Minor Collector	F	265	240	100%	525	525	322	322	163	147	159	175		
Galaxie	Sweet Gum St	Belt Line Rd	422	0.08	1	1	2U	Minor Collector	F	265	240	100%	525	525	42	42	21	19	21	23		
Galaxie	Arapaho Rd	Apollo Rd	3328	0.63	1	1	3U	Minor Collector	F	202	124	100%	575	575	362	362	127	78	235	284		
Holford Rd	Campbell Rd	310' S of Campbell Rd	240	0.05	1	1	2D	Minor Arterial	C2	55	47	100%	575	575	26	26	3	2	24	24		
Holford Rd	275' N of PGBT N frontage road	PGBT N frontage road	230	0.04	1	1	2D	Minor Arterial	C2	55	47	100%	575	575	25	25	2	2	23	23		
Holford Rd	200' N of Arapaho Rd	Arapaho Rd	243	0.05	1	1	2D	Major Collector	D1	183	144	100%	575	575	26	26	8	7	18	19		
Holford Rd	Naaman Forest (Future)	200' N of Arapaho Rd	3718	0.70	1	1	2U	Major Collector	D1	183	144	100%	525	525	370	370	129	101	241	269		
Holford Rd	310' S of Campbell Rd	Ferris Rd	2456	0.47	1	1	2U	Minor Arterial	C2	55	47	100%	525	525	244	244	26	22	218	222		
Holford Rd	North City Limits	Campbell	877	0.17	1	1	2U	Minor Arterial	C2	265	240	100%	525	525	87	87	44	40	43	47		
Holford Rd	Ferris	275' N of PGBT N frontage road	1426	0.27	1	1	2U	Minor Arterial	C2	55	47	100%	525	525	142	142	15	13	127	129		
Holford Rd	PGBT S frontage road	Naaman Forest (Future)	1748	0.33	1	1	2U	Minor Arterial	C2	183	144	100%	525	525	174	174	61	48	113	126		
Holford Rd	PGBT N frontage road	PGBT S frontage road	427	0.08	3	3	6D	Minor Arterial	C2	1,460	1,485	100%	925	925	224	224	118	120	106	104		
Homestead	Sam Houston Dr	N. Garland Ave	2717	0.51	1	1	2U	Minor Collector	F	265	240	100%	525	525	270	270	136	124	134	147		
Homestead	Shiloh	Sam Houston Dr	2498	0.47	1	1	2U	Minor Collector	F	265	240	100%	525	525	248	248	125	114	123	134		
Kingsbridge	Apollo Rd	Naaman School Rd	4837	0.92	1	1	2U	Minor Collector	F	103	50	100%	525	525	481	481	94</					

Service Area A Continued

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴	
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB		
Lookout Dr	Spring Dr	Clear Springs Pkwy	3441	0.65	2	2	4D	Regional Arterial	B	151	173	100%	900	900	1,173	1,173	98	113	1,075	1,060		
Lookout Dr	PGBT N frontage road	Telecom	1021	0.19	2	2	4D	Regional Arterial	B	780	770	100%	900	900	348	348	151	149	197	199		
Lookout Dr	Clear Springs Pkwy	PGBT S frontage road	769	0.15	2	2	4D	Regional Arterial	B	151	173	100%	900	900	262	262	22	25	240	237		
Lookout Dr	Courtside Dr	Spring Dr	591	0.11	3	3	6D	Regional Arterial	B	151	173	100%	925	925	311	311	17	19	294	292		
Lookout Dr	PGBT S frontage road	PGBT N frontage rd	583	0.11	3	3	6D	Regional Arterial	B	1,460	1,485	100%	925	925	306	306	161	164	145	142		
Lookout Dr	N. Jupiter	Courtside Dr	513	0.10	3	3	6D	Regional Arterial	B	151	173	100%	925	925	270	270	15	17	255	253		
Mapleridge Dr	E of Shiloh Rd	End of Mapleridge Dr	729	0.14	1	1	2U	Minor Collector	F	265	240	100%	525	525	72	72	37	33	35	39		
N. First Street	Crist	Buckingham Rd	940	0.18	3	3	6D	Regional Arterial	B	1,080	1,179	100%	925	925	494	494	192	210	302	284		
N. Garland Ave	E. Naaman Forest	Arapaho	3843	0.73	2	2	4D	Regional Arterial	B	1,010	1,312	100%	900	900	1,310	1,310	735	955	575	355		
N. Garland Ave	Homestead Pl	Buckingham Rd	2604	0.49	2	2	4D	Regional Arterial	B	965	887	100%	900	900	888	888	476	437	412	451		
N. Garland Ave	Wagon Wheel Rd	Belt Line Rd	2105	0.40	2	2	4D	Regional Arterial	B-S	1,242	1,111	100%	900	900	718	718	495	443	223	275		
N. Garland Ave	North City Limits	Campbell Rd	1027	0.19	2	2	4D	Regional Arterial	B	489	488	100%	900	900	350	350	95	95	255	255		
N. Garland Ave	Campbell Rd	Muirfield Dr	4394	0.83	2	2	4D	Regional Arterial	B	555	548	100%	900	900	1,498	1,498	462	456	1,036	1,042		
N. Garland Ave	Muirfield Dr	PGBT Frontage Road	1400	0.27	2	2	4D	Regional Arterial	B	548	548	100%	900	900	477	477	147	145	330	332		
N. Garland Ave	South PGBT Frontage Road	E. Naaman Forest	2183	0.41	2	2	4D	Regional Arterial	B	1,010	1,312	100%	900	900	744	744	418	542	326	202		
N. Garland Ave	Garland Ave	Apollo Rd	1211	0.23	2	2	4D	Regional Arterial	B-S	1,242	1,111	100%	900	900	413	413	285	255	128	158		
N. Garland Ave	Apollo Rd	Wagon Wheel Rd	876	0.17	2	2	4D	Regional Arterial	B-S	1,242	1,111	100%	900	900	299	299	206	184	93	115		
N. Garland Ave	Belt Line Rd	Homestead Pl	2503	0.47	2	2	4D	Regional Arterial	B	965	887	100%	900	900	853	853	457	420	396	433		
N. Garland Ave	North PGBT Frontage Road	South PGBT Frontage Road	475	0.09	3	3	6D	Regional Arterial	B	1,460	1,485	100%	925	925	250	250	131	134	119	116		
N. Glenbrook Dr	Beltline	Kingsbridge Dr	1118	0.21	2	2	4D	Major Collector	D1	275	256	100%	900	900	381	381	58	54	323	327		
N. Glenbrook Dr	Kingsbridge Dr	Buckingham Rd	2415	0.46	2	2	4D	Major Collector	D1	275	256	100%	900	900	823	823	126	117	697	706		
Jupiter Rd	North City Limits	Springpark Wy	1513	0.29	3	3	6D	Regional Arterial	B	1,374	1,732	50%	925	925	398	398	197	248	201	150		
Jupiter Rd	Springpark Wy	W. Campbell Rd	3329	0.63	3	3	6D	Regional Arterial	B	1,374	1,732	50%	925	925	875	875	433	546	442	329		
Jupiter Rd	W. Campbell Rd	Collins Blvd	1945	0.37	3	3	6D	Regional Arterial	B	1,848	1,546	50%	925	925	511	511	340	285	171	226		
Jupiter Rd	Collins Blvd	Arapaho Rd	2632	0.50	3	3	6D	Regional Arterial	B	1,848	1,546	50%	925	925	692	692	461	385	231	307		
Jupiter Rd	Arapaho Rd	Apollo Rd	3321	0.63	3	3	6D	Regional Arterial	B	1,713	1,582	50%	925	925	873	873	539	498	334	375		
Jupiter Rd	Apollo Rd	Belt Line Rd	2260	0.43	3	3	6D	Regional Arterial	B	1,713	1,582	50%	925	925	594	594	367	339	227	255		
Jupiter Rd	Belt Line Rd	Ridge Oak Dr	1432	0.27	3	3	6D	Regional Arterial	B	1,713	1,582	50%	925	925	376	376	232	215	144	161		
Jupiter Rd	Ridge Oak Dr	W. Buckingham Rd	3697	0.70	3	3	6D	Regional Arterial	B	1,713	1,582	50%	925	925	972	972	600	554	372	418		
N. Shiloh Rd	Campbell Rd	bridge end	2160	0.41	2	2	4D	Regional Arterial	B	868	830	100%	900	900	736	736	355	340	381	396		
N. Shiloh Rd	Rich Oak Dr	Buckingham Rd	1985	0.38	1	1	4D	Regional Arterial	B	1,175	1,124	100%	900	900	338	338	442	423	-104	-85	104	85
N. Shiloh Rd	Homestead Pl	Richoak Dr	947	0.18	2	2	4D	Regional Arterial	B	1,175	1,124	100%	900	900	323	323	211	202	112	121		
N. Shiloh Rd	Belt Line Rd	Homestead Pl	2125	0.40	2	2	4D	Regional Arterial	B	1,175	1,124	100%	900	900	724	724	473	452	251	272		
N. Shiloh Rd	Apollo Rd	Belt Line Rd	2498	0.47	2	2	4D	Regional Arterial	B	1,041	1,018	100%	900	900	852	852	493	482	359	370		
N. Shiloh Rd	Arapaho Rd	Apollo Rd	2917	0.55	2	2	4D	Regional Arterial	B	943	936	100%	900	900	994	994	521	517	473	477		
N. Shiloh Rd	Mapleridge Dr	Arapaho Rd	2726	0.52	2	2	4D	Regional Arterial	B	1,021	928	100%	900	900	929	929	527	479	402	450		
N. Shiloh Rd	Collins Blvd	Mapleridge Dr	415	0.08	2	2	4D	Regional Arterial	B	1,021	928	100%	900	900	141	141	80	73	61	68		
N. Shiloh Rd	Clear Springs Pkwy	Campbell Rd	579	0.11	2	2	4D	Regional Arterial	B	752	748	100%	900	900	197	197	82	82	115	115		
N. Shiloh Rd	PGBT S frontage rd	Clear Springs Pkwy	1359	0.26	2	2	4D	Regional Arterial	B	752	748	100%	900	900	463	463	194	193	269	270		
N. Shiloh Rd	bridge end	Collins Blvd	537	0.10	2	2	4D	Regional Arterial	B	868	830	100%	900	900	183	183	88	84	95	99		
N. Shiloh Rd	PGBT N frontage road	PGBT S frontage road	409	0.08	3	3	6D	Regional Arterial	B	1,460	1,485	100%	925	925	215	215	113	115	102	100		
E. Naaman Forest	N. Garland Ave	E. Brand Rd	5700	1.08	2	2	4D	Major Collector	D1	409	340	100%	900	900	1,943	1,943	442	367	1,501	1,576		
W. Naaman Forest	Campbell Rd	Naaman Forest (Future)	1225	0.23	2	2	4D	Major Collector	D1	780	770	100%	900	900	418	418	181	179	237	239		
E. Naaman Forest	Naaman Forest (Future)	N. Garland Ave	1344	0.25	2	2	4D	Major Collector	D1	780	770	100%	900	900	458	458	199	196	259	262		
Naaman School Rd	Kingsbridge Dr	Lavon Dr	2780	0.53	1	1	2U	Major Collector	D1	642	438	100%	525	525	276	276	338	231	-62	45	62	
Naaman School Rd	E. Brand Rd	W. Brand Rd	1566	0.30	1	1	2U	Major Collector	D1	642	438	100%	525	525	156	156	190	130	-34	26	34	
Naaman School Rd	W. Brand Rd	Kingsbridge Dr	326	0.06	1	1	2U	Major Collector	D1	642	438	100%	525	525	32	32	40	27	-8	5	8	
Richoak	Shiloh Rd	Sam Houston Dr	2440	0.46	1	1	2U	Minor Collector	F	265	240	100%	525	525	243	243	122	111	121	132		
Richoak	Fulton	Shiloh Rd	492	0.09	1	1	2U	Minor Collector	F	265	240	100%	525	525	49	49	25	22	24	27		
Ridge Oak	N. Jupiter	160' of Jupiter Rd	581	0.11	1	1	2D	Minor Collector	F	60	52	100%	575	575	63	63	7	6	56	57		
Ridge Oak	160' E of Jupiter Rd	Diamond Oaks Dr	2009	0.38	1	1	2U	Minor Collector	F	60	52	100%	525	525	200	200	23	20	177	180		
Sam Houston/Meadowcrest	Beltline	Homestead Pl	2542	0.48	1	1	2U	Minor Collector	F	201	242	100%	525	525	253	253	97	117	156	136		
Sam Houston/Meadowcrest	Homestead Pl	Richoak Dr	763	0.14	1	1	2U	Minor Collector	F	201	242	100%	525	525	76	76	29	35	47	41		
Sam Houston/Meadowcrest	Richoak Dr	Buckingham Rd	1989	0.38	1	1	4D	Minor Collector	F	201	242	100%	900	900	339	339	76	91	263	248		
Springpark Way	N. Jupiter	Clear Springs Pkwy	4535	0.86	2	2	4D	Major Collector	D1	69	75	100%	900	900	1,546	1,546	59	64	1,487	1,482		
Talley Rd	Providence Blvd	City Limits	3095	0.59	1	1	2U	Minor Collector	F	82	74	100%	525	525	308	308	48	43	260	265		
Telecom Pkwy	Lookout Dr	PGBT N frontage road																				

City of Garland - 2016 Roadway Impact Fee Update
Existing Roadway Facilities Inventory

Service Area B

9/14/2016

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB		
Austin	Garland	Glenbrook Dr	2,434	0.46	1	1	2U	Minor Collector	E	135	120	100%	525	525	242	242	62	55	180	187		
Austin	Glenbrook Dr	N. Fifth	1,109	0.21	1	1	2U	Minor Collector	E	135	120	100%	525	525	110	110	28	25	82	85		
Lamesa/Bardfield	Barfield Avenue	Northwest Fwy	2,974	0.56	1	1	2U	Minor Collector	F	64	64	100%	525	525	296	296	36	36	260	260		
Brookside	Meadowcrest	W. Walnut	2,800	0.53	1	1	2U	Minor Collector	F	45	45	100%	525	525	278	278	24	24	255	255		
E. Avenue B	S Garland Ave	S Glenbrook Dr	2,406	0.46	4	0	4D	Urban One-way Couplet	A-C	0	1,614	100%	900	900	1,640	0	0	735	1,640	-735		735
E. Avenue B	S Glenbrook Dr	S Fifth St	1,338	0.25	4	0	4D	Urban One-way Couplet	A-C	0	1,593	100%	900	900	912	0	0	404	912	-404		404
E. Avenue B	S Fifth St	S First St	1,578	0.30	4	0	4D	Urban One-way Couplet	A-C	0	1,594	100%	900	900	1,076	0	0	476	1,076	-476		476
E. Avenue D	S Garland Ave	S Glenbrook Dr	2,402	0.45	0	4	4D	Urban One-way Couplet	A-C	1,784	0	100%	900	900	0	1,638	812	0	-812	1,638	812	
E. Avenue D	S Glenbrook Dr	S Fifth St	1,049	0.20	0	4	4D	Urban One-way Couplet	A-C	1,625	0	100%	900	900	0	715	323	0	-323	715	323	
E. Avenue D	S Fifth St	S First St	1,867	0.35	0	4	4D	Urban One-way Couplet	A-C	1,704	0	100%	900	900	0	1,273	603	0	-603	1,273	603	
Edgewood	N Barnes Dr	N International Rd	1,832	0.35	1	1	2U	Minor Collector	F	135	120	100%	525	525	182	182	47	42	135	141		
Edgewood	S Jupiter	N Barnes Dr	1,316	0.25	1	1	2U	Minor Collector	F	135	120	100%	525	525	131	131	34	30	97	101		
Forest Ln	Forest Ln	Marion Dr	1,134	0.21	0	3	6D	Urban One-way Couplet	A-C	1,360	0	100%	925	925	0	596	292	0	-292	596	292	
Forest Ln	Marion Dr	S Garland Ave	1,546	0.29	0	4	4D	Urban One-way Couplet	A-C	1,360	0	100%	900	900	0	1,054	398	0	-398	1,054	398	
Forest Ln	Shiloh Rd	W Avenue B/D	2,690	0.51	3	3	6D	Regional Arterial	A	1,421	1,430	100%	925	925	1,414	1,414	724	729	690	685		
Forest Ln	Shepherd	Jupiter Rd	4,467	0.85	3	3	6D	Regional Arterial	A	1,929	1,921	100%	925	925	2,348	2,348	1,632	1,625	716	723		
Forest Ln	Jupiter Rd	International Rd	3,139	0.59	3	3	6D	Regional Arterial	A	1,550	1,526	100%	925	925	1,650	1,650	921	907	728	743		
Forest Ln	International Rd	Shiloh Rd	2,228	0.42	3	3	6D	Regional Arterial	A	1,523	1,511	100%	925	925	1,171	1,171	643	638	528	533		
Goodwin/Potomac	Buckingham	Western	2,930	0.55	1	1	2U	Minor Collector	F	127	127	100%	525	525	291	291	70	70	221	221		
Industrial Ln	Wood	W. Kingsley	2,810	0.53	1	1	2U	Minor Collector	E	88	90	100%	525	525	279	279	47	48	233	232		
Kings	Kings (Future)	Miller	1,897	0.36	1	1	2U	Minor Collector	E	135	120	100%	525	525	189	189	49	43	140	146		
Lamesa/Bardfield	Kingsley	Barfield Avenue	2,915	0.55	1	1	2U	Minor Collector	F	64	64	100%	525	525	290	290	35	35	255	255		
Lawler Rd	N Yale Dr	N. Jupiter Rd	2,935	0.56	1	1	2U	Minor Collector	F	195	173	100%	525	525	292	292	108	96	183	196		
Lawler Rd	West City Limits	N Plano Rd	1,703	0.32	1	1	2U	Minor Collector	F	135	120	100%	525	525	169	169	44	39	126	131		
Lawler Rd	N. Plano Rd	N. Yale Dr	2,320	0.44	1	1	2U	Minor Collector	F	195	173	100%	525	525	231	231	86	76	145	155		
Leon Rd	S. Garland Ave	S of McCree Rd	1,699	0.30	1	1	2U	Major Collector	D2	417	243	100%	525	525	160	160	127	74	33	86		
Leon Rd	S of McCree Rd	IH 635	2,124	0.40	1	1	3U	Minor Collector	E	417	243	100%	575	575	231	231	168	98	64	104		
Lonecker Dr	W. Miller	1000' N of Wood Dr	2,036	0.39	1	1	2U	Minor Collector	E	26	29	100%	525	525	202	202	10	11	192	191		
Lonecker Dr	1000' N of Wood Dr	Wood Dr	832	0.16	1	1	2U	Minor Collector	E	26	29	100%	525	525	83	83	4	5	79	78		
Main St	Glenbrook Dr	Fifth St	1,136	0.22	1	1	2U	Minor Collector	E	248	285	100%	525	525	113	113	53	61	60	52		
Main St	Fifth St	Fifth St	1,821	0.18	1	1	3U	Minor Collector	E	273	343	100%	575	575	104	104	49	62	55	42		
Main St	Garland	Glenbrook Dr	2,414	0.45	1	1	3U	Minor Collector	E	279	275	100%	575	575	1,571	1,571	762	751	809	819		
Marketplace	Northwest Hwy	Saturn Rd	2,834	0.68	1	1	3U	Major Collector	D2	182	176	100%	575	575	394	394	125	121	269	273		
Marquis Dr	Miller Park Dr	Jupiter Rd	2,383	0.27	1	1	2U	Minor Collector	E	135	120	100%	525	525	144	144	37	33	107	111		
Marquis Dr	S. Jupiter	N International Rd	2,767	0.52	1	1	4U	Minor Collector	E	118	133	100%	525	525	275	275	62	70	213	205		
Marquis Dr	N International Rd	Shiloh Rd	2,624	0.50	1	1	4U	Minor Collector	E	103	111	100%	525	525	261	261	51	55	210	206		
Maydelle	Western	W Walnut St	2,490	0.47	1	1	2U	Minor Collector	F	135	120	100%	525	525	248	248	64	57	184	191		
McCree Rd	IH 635	S. Garland	3,179	0.60	1	1	2U	Minor Collector	F	135	114	100%	525	525	316	316	81	69	235	247		
Sam Houston/Meadowcrest	Sam Houston Dr	Nash St	525	0.10	1	1	2U	Minor Collector	F	135	120	100%	525	525	52	52	13	12	39	40		
Millay	Leon	Towngate	1,437	0.27	1	1	2U	Major Collector	D2	135	120	100%	525	525	143	143	37	33	106	110		
Barnes	Edgewood Dr	Forest Ln	1,854	0.35	1	1	2U	Minor Collector	F	135	120	100%	525	525	184	184	47	42	137	142		
Barnes	W Walnut St	Edgewood Dr	935	0.18	1	1	2U	Minor Collector	F	135	120	100%	525	525	93	93	24	21	69	72		
N. Fifth Street	Austin St	W State St	367	0.07	2	1	2U	Minor Collector	E	120	135	100%	525	525	73	36	8	9	65	27		
N. Fifth Street	W. Walnut	Austin St	783	0.15	1	2	3U	Minor Collector	E	120	135	100%	575	575	85	171	18	20	67	151		
N. Fifth Street	Travis	W. Walnut	2,660	0.50	2	2	4U	Minor Collector	E	37	40	100%	525	525	529	529	19	20	510	509		
N. Fifth Street	W State St	Main	248	0.05	2	2	4U	Minor Collector	E	120	135	100%	525	525	49	49	6	6	44	43		
N. First Street	Buckingham Rd	Travis St	2,562	0.49	3	3	6D	Regional Arterial	B	940	901	50%	925	925	673	673	228	219	445	455		
N. First Street	W. Walnut	W State St	1,339	0.25	3	3	6D	Regional Arterial	B	1,254	1,211	50%	925	925	352	352	159	154	193	198		
N. First Street	Travis St	Castle Dr	598	0.11	3	3	6D	Regional Arterial	B	940	901	100%	925	925	314	314	106	102	208	212		
N. First Street	Castle Dr	Walnut St	1,864	0.35	3	3	6D	Regional Arterial	B	1,108	957	50%	925	925	490	490	196	169	294	321		
N. First Street	W State St	Main St	462	0.09	3	3	6D	Regional Arterial	B	1,254	1,211	50%	925	925	121	121	55	53	67	68		
N. Garland Ave	Travis St	Walnut St	3,005	0.57	3	3	6D	Regional Arterial	B	927	1,019	100%	925	925	1,579	1,579	528	580	1,052	999		
N. Garland Ave	Buckingham Rd	Travis St	2,396	0.45	3	3	6D	Regional Arterial	B	927	1,019	100%	925	925	1,259	1,259	421	462	839	797		
N. Garland Ave	Walnut St	Austin St	844	0.16	3	3	6D	Regional Arterial	B	1,257	1,297	100%	925	925	444	444	201	207	243	236		
N. Garland Ave	Austin St	Main St	419	0.08	3	3	6D	Regional Arterial	B	1,257	1,297	100%	925	925	220	220	100	103	120	117		
N. Glenbrook Dr	W Walnut St	Austin St	649	0.12	1	1	3U	Major Collector	D3	298	267	100%	575	575	71	71	37	33	34	38		
N. Glenbrook Dr	Austin St	Main St	618	0.12	1	1	3U	Major Collector	D3	298	267	100%	575	575	67	67	35	31	32	36		
N. Glenbrook Dr	Travis St	W Walnut St	2,883	0.55	2	2	4D	Major Collector	D1	514	488	100%	900	900	983	983	281	266	702	716		
N. Glenbrook Dr	Buckingham Rd	Travis St	2,519	0.48	2	2	4D	Major Collector	D1	514	488	100%	900	900	859	859	245	233	614	626		
International Rd	Forest Ln	Marquis	3,074	0.58	1	1	4U	Minor Collector	E	85	77	100%	525	525	306	306	49	45	256	261		
International Rd	W. Walnut	Edgewood Dr	1,095	0.21	1	1	4U	Minor Collector	E	112	110	100%	525	525	109	109	23	23	86			

Service Area B Continued

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴		
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB			
National	Wood	Kingsley	2,864	0.54	1	1	2U	Minor Collector	E	135	120	100%	525	525	285	285	73	65	212	220			
Northwest Highway	Marketplace Dr	Saturn Rd	1,606	0.30	3	3	6D	Regional Arterial	B	1,341	1,031	100%	925	925	844	844	408	314	436	530			
Northwest Highway	Pendleton Dr	Marketplace Dr	540	0.10	3	3	6D	Regional Arterial	B	1,471	1,644	100%	925	925	284	284	150	168	133	116			
Northwest Highway	Towngate Blvd	Pendleton Dr	808	0.15	3	3	6D	Minor Collector	E	1,471	1,644	100%	925	925	425	425	225	250	200	173			
Northwest Highway	LBJ E road	Towngate Blvd	728	0.14	3	3	6D	Minor Collector	E	1,471	1,644	100%	925	925	383	383	203	227	180	156			
Northwest Highway	City Limits	LBJ E Road	1,646	0.31	3	3	6D	Minor Collector	E	1,415	1,415	100%	925	925	865	865	441	441	424	424			
Patricia	W end of Oakland St	S Shiloh Rd	2,671	0.51	1	1	2U	Minor Collector	F	135	120	100%	525	525	266	266	68	61	197	205			
	Miller	Garland	5,201	0.99	1	1	2U	Minor Collector	F	135	120	100%	525	525	517	517	133	118	384	399			
	Pendleton Drive	Northwest Fwy	Center	671	0.13	1	1	2U	Major Collector	D2	135	120	100%	525	525	67	67	17	15	50	51		
	N. Fifth Street	Avenue D	W. Miller	5,312	1.01	1	1	2U	Minor Collector	E	199	189	100%	525	525	528	528	200	190	328	338		
	S. Fifth Street	W Daugherty Dr	W Kingsley Rd	4,343	0.82	1	1	2U	Minor Collector	F	135	120	100%	525	525	432	432	111	99	321	333		
	S. Fifth Street	W. Miller	Daugherty Dr	1,505	0.29	1	1	2U	Minor Collector	F	135	120	100%	525	525	150	150	38	34	111	115		
	N. Fifth Street	Main	Avenue B	722	0.14	2	2	4U	Minor Collector	E	120	135	100%	525	525	144	144	16	18	127	125		
	N. Fifth Street	Avenue B	Avenue D	758	0.14	2	2	4U	Minor Collector	E	120	135	100%	525	525	151	151	17	19	134	131		
	S. First Street	Broadway	Kingsley Rd	3,154	0.60	2	2	4D	Major Collector	D1	980	1,080	50%	900	900	538	538	293	323	245	215		
	S. First Street	E Avenue D	E Miller Rd	5,311	1.01	3	3	6D	Regional Arterial	B	2,182	2,058	50%	925	925	1,396	1,396	1,097	1,035	298	361		
S. First Street	Main St	W Avenue B	465	0.09	3	3	6D	Regional Arterial	B	2,111	2,128	50%	925	925	122	122	93	94	29	28			
S. First Street	W Avenue B	E Avenue D	694	0.13	3	3	6D	Regional Arterial	B	1,415	1,415	50%	925	925	182	182	93	93	89	89			
N. Garland Ave	W Avenue B	W Avenue D	721	0.14	2	2	5U	Regional Arterial	B	904	1,432	100%	850	850	232	232	123	196	109	37			
N. Garland Ave	Main	W Avenue B	654	0.12	2	2	5U	Regional Arterial	B	945	1,030	100%	850	850	211	211	117	128	94	83			
S. Garland Ave	Shiloh Rd	IH 635	2,453	0.46	3	3	6D	Regional Arterial	B	1,104	790	100%	925	925	1,289	1,289	513	367	776	922			
S. Garland Ave	W Avenue F	W Miller Rd	4,558	0.86	3	3	6D	Regional Arterial	B	1,257	1,344	100%	925	925	2,396	2,396	1,085	1,160	1,310	1,235			
S. Garland Ave	W Miller Rd	Patricia Ln	5,388	1.02	3	3	6D	Regional Arterial	B	1,315	1,370	100%	925	925	2,832	2,832	1,342	1,398	1,490	1,434			
S. Garland Ave	Patricia Ln	W Kingsley Rd	1,222	0.23	3	3	6D	Regional Arterial	B	1,315	1,370	100%	925	925	642	642	304	317	338	325			
S. Garland Ave	W Kingsley Rd	Leon Rd	1,531	0.29	3	3	6D	Regional Arterial	B	1,177	1,439	100%	925	925	805	805	341	417	463	387			
S. Garland Ave	Leon Rd	Shiloh Rd	1,586	0.30	3	3	6D	Regional Arterial	B	1,177	1,439	100%	925	925	834	834	354	432	480	401			
S. Garland Ave	Pt on S Glenbrook Dr	Avenue D	787	0.15	3	3	6D	Regional Arterial	B	1,257	1,344	100%	925	925	414	414	187	200	226	213			
S. Glenbrook Dr	Pt on S Glenbrook Dr	Pt on S Glenbrook Dr	1,218	0.23	1	1	2D	Major Collector	D3	212	217	100%	575	575	133	133	49	50	84	83			
S. Glenbrook Dr	W. Miller	Briarwood Dr	2,766	0.52	1	1	2U	Minor Collector	F	154	90	100%	525	525	275	275	81	47	194	228			
S. Glenbrook Dr	Briarwood Dr	W Kingsley Rd	3,816	0.72	1	1	2U	Minor Collector	F	154	90	100%	525	525	379	379	111	65	268	314			
S. Glenbrook Dr	Avenue B	Avenue D	687	0.13	1	1	3U	Major Collector	D3	301	303	100%	575	575	75	75	39	39	36	35			
S. Glenbrook Dr	Avenue D	Pt on S Glenbrook Dr	3,529	0.67	1	1	3U	Major Collector	D3	212	217	100%	575	575	384	384	142	145	243	239			
S. Glenbrook Dr	Main	Avenue B	675	0.13	1	1	3U	Major Collector	D3	301	303	100%	575	575	74	74	38	39	35	35			
S. Glenbrook Dr	Pt on S Glenbrook Dr	W. Miller	1,066	0.20	1	1	3U	Major Collector	D3	212	217	100%	575	575	116	116	43	44	73	72			
Jupiter Rd	Wood Dr	W Kingsley Rd	2,887	0.55	3	3	6D	Regional Arterial	B	1,609	1,527	50%	925	925	759	759	440	417	319	341			
Jupiter Rd	Edgewood Dr	Forest Ln	1,765	0.33	3	3	6D	Regional Arterial	B	1,491	1,502	100%	925	925	928	928	498	502	429	426			
Jupiter Rd	Forest Ln	Marquis Dr	2,724	0.52	3	3	6D	Regional Arterial	B	1,411	1,326	100%	925	925	1,432	1,432	728	684	704	748			
Jupiter Rd	Marquis Dr	W Miller Rd	2,633	0.50	3	3	6D	Regional Arterial	B	1,556	1,607	100%	925	925	1,384	1,384	776	801	608	582			
Jupiter Rd	W Miller Rd	Wood Dr	2,814	0.53	3	3	6D	Regional Arterial	B	1,515	1,412	100%	925	925	1,479	1,479	807	753	675	726			
Jupiter Rd	W Kingsley Rd	IH 635	1,941	0.37	3	3	6D	Regional Arterial	B	1,740	1,657	100%	925	925	1,020	1,020	640	609	380	411			
S. Shiloh Rd	McCree Rd	IH 635	2,811	0.53	2	2	4D	Regional Arterial	B	986	881	100%	900	900	958	958	525	469	433	489			
S. Shiloh Rd	Forest Ln	Marquis Dr	2,893	0.55	2	2	4D	Regional Arterial	B	1,184	1,056	100%	900	900	986	986	649	579	338	408			
S. Shiloh Rd	Marquis Dr	W Miller Rd	2,423	0.46	2	2	4D	Regional Arterial	B	1,138	1,062	100%	900	900	826	826	522	487	304	339			
S. Shiloh Rd	W Miller Rd	Wood Dr	2,782	0.53	2	2	4D	Regional Arterial	B	1,033	936	100%	900	900	948	948	544	493	404	455			
S. Shiloh Rd	Wood Dr	W Kingsley Rd	2,875	0.54	2	2	4D	Regional Arterial	B	971	898	100%	900	900	980	980	529	489	451	491			
S. Shiloh Rd	W Kingsley Rd	Oakland St	1,021	0.19	2	2	4D	Regional Arterial	B	865	816	100%	900	900	348	348	167	158	181	190			
S. Shiloh Rd	Oakland St	McCree Rd	1,638	0.31	2	2	4D	Regional Arterial	B	865	816	100%	900	900	558	558	268	253	290	305			
Sam Houston/Meadowcrest	Buckingham Rd	Travis St	2,030	0.38	1	1	2U	Minor Collector	F	110	116	100%	525	525	202	202	42	45	160	157			
Sam Houston/Meadowcrest	Travis St	Meadowcrest Dr	873	0.17	1	1	2U	Minor Collector	F	135	120	100%	525	525	87	87	22	20	64	67			
Saturn Rd	S of Miller Rd	W. Kingsley	4,444	0.84	1	1	3U	Major Collector	D2	467	423	100%	575	575	484	484	393	356	91	128			
Sherwin	Miller	Sherwin (Future)	2,163	0.41	1	1	2U	Minor Collector	E	135	120	100%	525	525	215	215	55	49	160	166			
Towngate	Northwest Hwy	Millay	739	0.14	2	2	4D	Minor Collector	E	995	935	100%	900	900	252	252	139	131	113	121			
Travis	Sam Houston	Garland Ave	2,892	0.55	1	1	2U	Minor Collector	F	135	120	100%	525	525	288	288	74	66	214	222			
Travis	Garland Ave	Sylvan Dr	1,500	0.28	1	1	2U	Minor Collector	F	135	120	100%	525	525	149	149	38	34	111	115			
Travis	Sylvan Dr	N Glenbrook Dr	1,181	0.22	1	1	2U	Minor Collector	F	135	120	100%	525	525	117	117	30	27	87	91			
Travis	N Glenbrook Dr	Fifth St	1,049	0.20	1	1	2U	Minor Collector	F	135	120	100%	525	525	104	104	27	24	77	80			
Travis	Fifth St	First St	1,664	0.32	1	1	2U	Minor Collector	F	135	120	100%	525	525	165	165	43	38	123	128			
W. Avenue B	Forest	S. Garland	2,875	0.54	3	0	6D	Urban One-way Couplet	A-C	0	1,275	100%	925	925									

Service Area B Continued

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴	
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB		
W. Miller Rd	West City Limits	S. Jupiter	3,358	0.64	3	3	6D	Regional Arterial	B	1,075	1,158	100%	925	925	1,765	1,765	684	736	1,081	1,028		
W. Miller Rd	S. Jupiter	430' E of S Jupiter Rd	624	0.12	3	3	6D	Regional Arterial	B	906	900	100%	925	925	328	328	107	106	221	222		
State	Forest	Garland	3,618	0.69	1	1	2U	Minor Collector	E	190	190	100%	525	525	360	360	130	130	230	230		
State	Fifth St	First St	1,801	0.34	1	1	2U	Minor Collector	F	135	135	120%	525	525	215	215	55	55	160	160		
State	Garland	Glenbrook Dr	2,588	0.49	1	1	2U	Minor Collector	F	135	120	100%	525	525	257	257	66	59	191	199		
State	Glenbrook Dr	Fifth St	1,113	0.21	1	1	2U	Minor Collector	F	135	120	120%	525	525	133	133	34	30	99	102		
W. Walnut St	West City Limits	Plano Rd	1,641	0.31	2	2	4D	Regional Arterial	B	1,104	902	100%	900	900	559	559	343	280	216	279		
W. Walnut St	Fifth St	First St	1,677	0.32	2	2	4D	Major Collector	D1	707	712	100%	900	900	572	572	225	226	347	346		
W. Walnut St	Plano Rd	Purdue Dr	1,362	0.26	2	2	4D	Major Collector	D2	961	994	100%	900	900	464	464	248	256	216	208		
W. Walnut St	Forest Crest Dr	Jupiter Rd	1,505	0.29	2	2	4D	Major Collector	D2	1,056	1,022	100%	900	900	513	513	301	291	212	222		
W. Walnut St	Jupiter Rd	Barnes Dr	1,339	0.25	2	2	4D	Major Collector	D2	844	878	100%	900	900	456	456	214	223	242	234		
W. Walnut St	435' west of Shiloh Rd	Shiloh Rd	529	0.10	2	2	4D	Major Collector	D2	844	878	100%	900	900	180	180	85	88	96	92		
W. Walnut St	Shiloh Rd	Muriel Dr	1,662	0.31	2	2	4D	Major Collector	D2	1,003	999	100%	900	900	567	567	316	314	251	252		
W. Walnut St	Rita Dr	Brookside Dr	819	0.16	2	2	4D	Major Collector	D2	1,003	999	100%	900	900	279	279	156	155	124	124		
W. Walnut St	550' west of Garland Ave	N. Garland Ave	687	0.13	2	2	4D	Major Collector	D2	1,003	999	100%	900	900	234	234	131	130	104	104		
W. Walnut St	N. Garland Ave	Glenbrook Dr	2,508	0.48	2	2	4D	Major Collector	D1	790	775	100%	900	900	855	855	375	368	480	487		
W. Walnut St	Glenbrook Dr	Fifth St	1,167	0.22	2	2	4D	Major Collector	D1	995	935	100%	900	900	398	398	220	207	178	191		
W. Walnut St	Brookside Dr	550' west of Garland Ave	835	0.16	2	2	5U	Major Collector	D2	1,003	999	100%	850	850	269	269	159	158	110	111		
W. Walnut St	Purdue Dr	Yale Dr	993	0.19	2	2	5U	Major Collector	D2	961	994	100%	850	850	320	320	181	187	139	133		
W. Walnut St	Yale Dr	Forest Crest Dr	1,474	0.28	2	2	5U	Major Collector	D2	1,056	1,022	100%	850	850	475	475	295	285	180	189		
W. Walnut St	Barnes Dr	International Rd	2,244	0.43	2	2	5U	Major Collector	D2	844	878	100%	850	850	723	723	359	373	364	349		
W. Walnut St	International Rd	435' west of Shiloh Rd	1,350	0.26	2	2	5U	Major Collector	D2	844	878	100%	850	850	435	435	216	224	219	210		
W. Walnut St	Muriel Dr	Rita Dr	1,263	0.24	2	2	5U	Major Collector	D2	1,003	999	100%	850	850	407	407	240	239	167	168		
Western	Jupiter	Maydelle Ln	2,958	0.56	1	1	2U	Minor Collector	F	135	120	100%	525	525	294	294	76	67	218	227		
Western	Maydelle Ln	Goodwin Dr	593	0.11	1	1	2U	Minor Collector	F	135	120	100%	525	525	59	59	15	13	44	45		
Western	Goodwin Dr	Shiloh	1,894	0.36	1	1	2U	Minor Collector	F	135	120	100%	525	525	188	188	48	43	140	145		
Wood	Jupiter	Lonnecker Dr	2,924	0.55	1	1	2U	Minor Collector	F	135	120	100%	525	525	291	291	75	66	216	224		
Wood	Lonnecker Dr	160' W of Market St	1,413	0.27	1	1	2U	Minor Collector	F	135	120	100%	525	525	140	140	36	32	104	108		
Wood	160' W of Market St	Shiloh	1,043	0.20	1	1	2U	Minor Collector	F	135	120	100%	525	525	104	104	27	24	77	80		
SUBTOTAL			355,531	69.42											94,743	94,928	45,329	44,104	49,415	50,824	2,449	2,309
															189,672	89,433		100,239		4,758		

City of Garland - 2016 Roadway Impact Fee Update
Existing Roadway Facilities Inventory

Service Area C

9/14/2016

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴	
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB		
Castle Dr	Lavon Dr	Mars	1,994	0.38	1	1	2U	Major Collector	D1	275	286	100%	525	525	198	198	104	108	94	90		
Castle Dr	Toyah Creek Ln	Centerville	2,871	0.54	1	1	2U	Minor Collector	E	255	252	100%	525	525	285	285	139	137	147	148		
Castle Dr	Firewheel Pkwy	Miles	4,434	0.84	1	1	2U	Minor Collector	E	220	198	50%	525	525	220	220	92	83	128	137		
Castle Dr	Dexham Rd	Firewheel Pkwy	2,658	0.50	1	1	2U	Minor Collector	E	100	106	50%	525	525	132	132	25	27	107	105		
Castle Dr	N. First	Lavon Dr	793	0.15	1	1	2U	Major Collector	D1	114	123	100%	525	525	79	79	17	18	62	60		
Castle Dr	Mars	Country Club Rd	2,424	0.46	1	1	2U	Minor Collector	E	197	181	100%	525	525	241	241	90	83	151	158		
Castle Dr	Country Club Rd	Toyah Creek Ln	2,669	0.51	1	1	2U	Minor Collector	E	252	258	100%	525	525	265	265	127	130	138	135		
Commerce St	SH 66	Hebron	667	0.13	1	2	3U	Minor Arterial	C1	255	252	100%	575	575	73	145	32	32	40	113		
Crist Rd	Mars Dr	Naaman School Rd	1,770	0.34	1	1	2U	Major Collector	D2	239	261	100%	525	525	176	176	80	87	96	89		
Crist Rd	Lavon Dr	Mars Dr	1,493	0.28	1	1	2U	Major Collector	D2	239	261	100%	525	525	148	148	68	74	81	75		
Crist Rd	PGBT S frontage road	PGBT N frontage road	269	0.05	2	2	4D	Major Collector	D2	710	740	100%	900	900	92	92	36	38	56	54		
Crist Rd	Naaman School	PGBT S frontage rd	1,425	0.27	2	2	5U	Major Collector	D2	257	336	100%	850	850	459	459	69	91	389	368		
Crosslands	Mars	Firewheel	2,427	0.46	1	1	2U	Minor Collector	F	190	195	100%	525	525	241	241	87	90	154	152		
Dairy Rd	SH 66	E. Miller	5,043	0.96	2	2	4U	Minor Collector	E	544	468	100%	525	525	1,003	1,003	520	447	483	556		
E. Avenue B	S. First St	Merge with Ave D	2,645	0.50	4	0	4D	Urban One-way Couplet	A-C	0	1,416	100%	900	900	1,803	0	0	709	1,803	-709		709
E. Avenue D	S. First St	Merge with Ave B	2,483	0.47	0	4	4D	Urban One-way Couplet	A-C	1,352	0	100%	900	900	0	1,693	636	0	-636	1,693	636	
E. Buckingham Rd	Mars Dr	Pleasant Valley	1,926	0.36	2	2	4D	Regional Arterial	B	932	1,006	100%	900	900	657	657	340	367	317	290		
E. Buckingham Rd	Lavon Dr	Mars Dr	1,659	0.31	2	2	4D	Regional Arterial	B	932	1,006	100%	900	900	566	566	293	316	273	249		
E. Centerville Rd	Hwy 66	High Meadow Dr	4,205	0.80	3	3	6D	Regional Arterial	B	1,225	1,202	100%	925	925	2,210	2,210	976	957	1,234	1,253		
E. Centerville Rd	Firewheel Pkwy	Castle Dr	4,529	0.86	3	3	6D	Regional Arterial	B	723	666	100%	925	925	2,380	2,380	620	571	1,760	1,809		
E. Centerville Rd	Castle Dr	Hwy 66	3,687	0.70	3	3	6D	Regional Arterial	B	892	838	100%	925	925	1,938	1,938	623	585	1,315	1,353		
E. Centerville Rd	High Meadow Dr	E Miller Rd	1,933	0.37	3	3	6D	Regional Arterial	B	1,225	1,202	100%	925	925	1,016	1,016	448	440	567	576		
E. Walnut St	N. First	Walnut Cir E	408	0.08	2	2	4D	Minor Collector	E	710	740	100%	900	900	139	139	55	57	84	82		
E. Walnut St	Mars Dr	N. Country Club	2,419	0.46	2	2	4U	Minor Collector	E	512	486	100%	525	525	481	481	235	223	246	258		
E. Walnut St	Lavon Dr	Walnut Cir E	340	0.06	2	2	4U	Minor Collector	E	510	500	100%	525	525	68	68	33	32	35	35		
E. Walnut St	Lavon Dr	Mars Dr	2,292	0.43	2	2	4U	Minor Collector	E	467	547	100%	525	525	456	456	203	237	253	218		
Firewheel Parkway	Lavon Dr	S of Town Center Blvd	4,583	0.87	2	2	4D	Regional Arterial	A	710	740	100%	900	900	1,562	1,562	616	642	946	920		
Firewheel Parkway	E Centerville Rd	Castle Dr	3,697	0.70	3	3	6D	Regional Arterial	A	1,108	1,073	100%	925	925	1,943	1,943	776	751	1,167	1,192		
Firewheel Parkway	PGBT N frontage road	PGBT S frontage road	451	0.09	3	3	6D	Regional Arterial	A	1,250	1,295	100%	925	925	237	237	107	111	130	126		
Firewheel Parkway	PGBT S frontage road	Mars Dr	1,136	0.22	3	3	6D	Regional Arterial	A	1,167	1,133	100%	925	925	597	597	251	244	346	353		
Firewheel Parkway	Mars Dr	Crosslands Dr	1,264	0.24	3	3	6D	Regional Arterial	A	1,028	1,286	100%	925	925	664	664	246	308	418	356		
Firewheel Parkway	Crosslands Dr	Pleasant Valley Rd	1,553	0.29	3	3	6D	Regional Arterial	A	1,028	1,286	100%	925	925	816	816	302	378	514	438		
Firewheel Parkway	Pleasant Valley Rd	E Centerville Rd	2,834	0.54	3	3	6D	Regional Arterial	A	1,450	1,423	100%	925	925	1,489	1,489	778	764	711	726		
Firewheel Parkway	S of Town Center Blvd	PGBT N frontage road	527	0.10	3	3	6D	Regional Arterial	A	513	616	100%	925	925	277	277	51	61	226	215		
Foster	SH 78	Crist	1,231	0.23	1	1	2U	Minor Collector	F	190	195	100%	525	525	122	122	44	45	78	77		
Garvon St	State St	Avenue A	419	0.08	1	1	2U	Minor Collector	E	190	195	100%	525	525	42	42	15	15	27	26		
State Highway 78 (Lavon)	Castle Dr	E Walnut St	2,016	0.38	3	3	6D	Regional Arterial	A	1,347	1,584	100%	925	925	1,060	1,060	514	605	545	455		
State Highway 78 (Lavon)	E Buckingham Rd	Pleasant Valley Rd	1,100	0.21	3	3	6D	Regional Arterial	A	1,563	1,609	100%	925	925	578	578	326	335	253	243		
State Highway 78 (Lavon)	Pleasant Valley Rd	Castle Dr	2,225	0.42	3	3	6D	Regional Arterial	A	1,563	1,609	100%	925	925	1,169	1,169	659	678	511	491		
State Highway 78 (Lavon)	E Walnut St	W State St	1,388	0.26	3	3	6D	Regional Arterial	A	1,473	1,463	100%	925	925	729	729	387	385	342	345		
State Highway 78 (Lavon)	W State St	First St	588	0.11	3	3	6D	Regional Arterial	A	1,473	1,463	100%	925	925	309	309	164	163	145	146		
Mars Dr	Crist	Naaman School	1,801	0.34	1	1	2U	Minor Collector	F	190	195	100%	525	525	179	179	65	67	114	113		
Mars Dr	Firewheel Pkwy	Valley Creek	1,349	0.26	1	1	2U	Minor Collector	E	190	195	100%	525	525	134	134	49	50	86	84		
Mars Dr	Naaman School	Firewheel Pkwy	1,958	0.37	1	1	4U	Minor Collector	E	510	500	100%	525	525	195	195	189	185	6	9		
Meandering	Pyramid	Pleasant Valley	1,344	0.25	1	1	2U	Minor Collector	F	190	195	100%	525	525	134	134	48	50	85	84		
Miles Rd	Pleasant Valley	Castle	6,406	1.21	1	1	2U	Minor Collector	F	24	24	50%	525	525	318	318	15	15	304	304		
N. Country Club Rd	Castle Dr	E Walnut St	2,788	0.53	2	2	4D	Minor Arterial	C1	659	669	100%	900	900	950	950	348	353	602	597		
N. Country Club Rd	Pleasant Valley Rd	Castle Dr	2,854	0.54	2	2	4D	Minor Arterial	C1	655	655	100%	900	900	973	973	354	354	619	619		
N. Country Club Rd	Walnut	S.H. 66	1,501	0.28	2	2	4D	Minor Arterial	C1	836	911	100%	900	900	512	512	238	259	274	253		
Naaman School Rd	Mars Dr	Pleasant Valley Rd	3,283	0.62	2	2	4D	Major Collector	D1	367	374	100%	900	900	1,119	1,119	228	233	891	887		
Naaman School Rd	Crist Rd	Mars Dr	1,333	0.25	2	2	4D	Major Collector	D1	710	740	100%	900	900	454	454	179	187	275	268		
Naaman School Rd	Lavon Dr	Crist Rd	1,376	0.26	2	2	5U	Major Collector	D2	255	335	100%	850	850	443	443	66	87	377	356		
Pleasant Valley Rd	Mars Dr	Country Club Rd	2,493	0.47	1	1	2U	Minor Collector	F	190	195	100%	525	525	248	248	90	92	158	156		
Pleasant Valley Rd	Lavon Dr	Mars Dr	1,550	0.29	1	1	2U	Minor Collector	F	190	195	100%	525	525	154	154	56	57	98	97		
Pleasant Valley Rd	City Limits	Creek Meadow Ln	2,614	0.50	1	1	2U-R	Minor Arterial	C1	384	412	100%	150	150	74	74	190	204	-116	130	116	130
Pleasant Valley Rd	Creek Meadow Ln	Firewheel Pkwy	3,076	0.58	2	2	4D	Minor Arterial	C1	384	412	100%	900	900	1,049	1,049	224	240	825	809		
Pleasant Valley Rd	Naaman School Rd	Pyramid Dr	2,338	0.44	2	2	4D	Minor Arterial	C1	710	740	100%	900	900	797	797	314	328	483	469		
Pleasant Valley Rd	Firewheel Pkwy	Naaman School Rd	1,374	0.26	2	2	4D	Minor Arterial	C1	760	764	100%	900	900	468	468	198	199	271	270		
Pleasant Valley Rd	Pyramid Dr	Buckingham Rd	843	0.16	2	2	4D	Minor Arterial	C1													

City of Garland - 2016 Roadway Impact Fee Update
Existing Roadway Facilities Inventory

9/14/2016

Service Area D

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴			
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Bartfield	Saturn	Centerville	4,840	0.92	1	1	2U	Minor Collector	F	66	66	100%	525	525	481	61	61	421	421					
Bass Pro	Zion	Chaha	698	0.13	1	1	2U	Minor Collector	F	26	30	100%	525	525	69	3	4	66	65					
Bass Pro	Zion	Chaha	363	0.07	1	1	2U	Minor Collector	F	465	188	100%	525	525	36	32	13	4	23					
Birchwood	Northwest Fwy	O'Banion	3,679	0.70	1	1	2U	Minor Collector	F	195	165	100%	525	525	366	366	136	115	230	251				
Birchwood	Broadmoor Dr	Northwest Fwy	1,102	0.21	1	1	2U-R	Minor Collector	F	50	50	100%	150	150	31	31	10	10	21	21				
Bobtown Rd	Rosehill Rd	Waterhouse Blvd	1,778	0.34	1	1	2U	Minor Collector	E-S	199	168	100%	525	525	177	177	67	57	110	120				
Bobtown Rd	Lyons	South City Limits	2,657	0.50	1	1	2U	Minor Collector	E	274	267	100%	525	525	264	264	138	134	126	130				
Bobtown Rd	E of Rosehill Rd	Rosehill Rd	780	0.15	1	1	2U	Minor Collector	E-S	165	130	100%	525	525	78	78	24	19	53	58				
Bobtown Rd	400' S of High Dr	Lyons Rd	1,996	0.38	1	1	3U	Minor Collector	E	274	267	100%	575	575	217	217	104	101	114	116				
Bobtown Rd	Lyons Rd	Zion Rd	1,792	0.34	1	1	3U	Minor Collector	E	274	267	100%	575	575	195	195	93	91	102	105				
Bobtown Rd	Zion Rd	400' S of High Dr	1,460	0.28	1	1	3U	Minor Collector	E	274	267	100%	575	575	159	159	76	74	83	85				
Bobtown Rd	Waterhouse Blvd	Roan	1,915	0.36	2	2	4U	Minor Collector	E-S	199	168	100%	525	525	381	381	72	61	309	320				
Bobtown Rd	Roan	Lyons	600	0.11	2	2	6D	Regional Arterial	B	330	309	100%	925	925	210	210	38	35	173	175				
Bobtown Rd	Roan	Lyons	431	0.08	2	2	6D	Regional Arterial	B	741	766	100%	925	925	151	151	60	63	91	88				
Bobtown Rd	IH 30 N frontage road	IH 30 S frontage rd	218	0.04	3	3	6D	Regional Arterial	B	330	309	100%	925	925	115	115	14	13	101	102				
Broadmoor Dr	La Prada	La Prada	3,693	0.70	1	1	2U	Minor Collector	F	156	128	100%	525	525	367	367	109	90	258	278				
Broadmoor Dr	Delray Dr	Birchwood Dr	1,261	0.24	1	1	2U	Minor Collector	F	156	128	100%	525	525	125	125	37	31	88	95				
Broadmoor Dr	W. Centerville	N of Chevy Chase Dr	575	0.11	1	1	3U	Minor Collector	E	156	128	100%	575	575	63	63	17	14	46	49				
Broadmoor Dr	N of Chevy Chase Dr	Delray Dr	742	0.14	1	1	3U	Minor Collector	F	156	128	100%	575	575	81	81	22	18	59	63				
Broadway Blvd	Gateway Rd	E Oates Rd	1,532	0.29	3	3	6D	Regional Arterial	B	1,441	1,539	100%	925	925	805	805	418	447	387	359				
Broadway Blvd	Duck Creek/Rowlett Rd	IH 30 N frontage Rd	2,075	0.39	3	3	6D	Regional Arterial	B	2,033	1,979	100%	925	925	1,091	1,091	799	778	292	313				
Broadway Blvd	Guthrie Rd	South City Limits	1,489	0.28	3	3	6D	Regional Arterial	B	1,156	1,163	100%	925	925	783	783	326	328	457	455				
Broadway Blvd	S. First	Dairy Rd	3,510	0.66	3	3	6D	Regional Arterial	B	1,125	1,092	100%	925	925	1,845	1,845	748	726	1,097	1,119				
Broadway Blvd	E Oates Rd	Tacoma Dr	2,661	0.50	3	3	6D	Regional Arterial	B	1,500	1,606	100%	925	925	1,399	1,399	756	809	643	589				
Broadway Blvd	Dairy Rd	Centerville Rd	722	0.14	3	3	6D	Regional Arterial	B	1,125	1,092	100%	925	925	379	379	154	149	226	230				
Broadway Blvd	Centerville Rd	Kingsley Rd	1,430	0.27	3	3	6D	Regional Arterial	B	1,694	1,720	100%	925	925	746	746	456	463	291	284				
Broadway Blvd	Colonel Dr	Kingsley Rd	1,114	0.21	3	3	6D	Regional Arterial	B	1,694	1,720	100%	925	925	585	585	357	363	228	223				
Broadway Blvd	Colonel Dr	Nickens Rd	2,506	0.47	3	3	6D	Regional Arterial	B	1,624	1,658	100%	925	925	1,317	1,317	771	787	546	530				
Broadway Blvd	Nickens Rd	Wynn Joyce Rd	2,005	0.38	3	3	6D	Regional Arterial	B	1,535	1,579	100%	925	925	1,054	1,054	583	600	471	454				
Broadway Blvd	Wynn Joyce Rd	Gateway Rd	1,405	0.27	3	3	6D	Regional Arterial	B	1,441	1,539	100%	925	925	738	738	383	410	355	329				
Broadway Blvd	Tacoma Dr	Rowlett Rd	1,942	0.37	3	3	6D	Regional Arterial	B	1,500	1,606	100%	925	925	1,021	1,021	552	591	469	430				
Broadway Blvd	IH 30 N frontage road	IH 30 S frontage rd	363	0.07	3	3	6D	Regional Arterial	B	1,430	1,445	100%	925	925	191	191	98	99	92	91				
Broadway Blvd	IH 30 S frontage road	Guthrie Rd	1,007	0.19	3	3	6D	Regional Arterial	B	1,562	1,496	100%	925	925	529	529	298	285	231	244				
Chaha Rd	Bass Pro	Lake Hubbard Pkwy	1,794	0.34	1	1	2U	Minor Collector	F	160	138	100%	525	525	178	178	54	47	124	131				
Colonel Dr	Broadway	S. Country Club	4,204	0.80	1	1	2U	Minor Collector	F	116	128	100%	525	525	418	418	92	102	326	316				
Colonel Dr	Duck Creek	Broadway	4,250	0.80	2	2	4D	Major Collector	D1	182	183	100%	900	900	1,449	1,449	146	147	1,302	1,302				
Dairy Rd	Celeste Dr	Broadway	2,611	0.49	1	1	3U	Minor Collector	E	284	286	100%	575	575	284	284	140	141	144	143				
Dairy Rd	E. Miller	Daugherty Dr	1,636	0.31	1	1	4U	Minor Collector	E	284	286	100%	525	525	163	163	88	89	75	74				
Dairy Rd	Daugherty Dr	Celeste Dr	933	0.18	1	1	4U	Minor Collector	E	284	286	100%	525	525	93	93	50	51	43	42				
Duck Creek Rd	E Oates Rd	Broadway Blvd	5,492	1.04	2	2	4D	Minor Arterial	C1	670	617	100%	900	900	1,872	1,872	697	642	1,175	1,230				
Duck Creek Rd	Red Wood Dr	E Oates Rd	1,481	0.28	2	2	4D	Minor Arterial	C1	638	639	100%	900	900	505	505	179	179	326	326				
Duck Creek Rd	Colonel Dr	Nickens Rd	2,620	0.50	2	2	4D	Minor Arterial	C1	635	624	100%	900	900	893	893	315	310	578	584				
Duck Creek Rd	E. Centerville	Colonel Dr	2,389	0.45	2	2	4D	Minor Arterial	C1	658	695	100%	900	900	814	814	298	314	517	500				
Duck Creek Rd	La Prada Dr	Red Wood Dr	1,207	0.23	2	2	4D	Minor Arterial	C1	638	639	100%	900	900	411	411	146	146	266	265				
Duck Creek Rd	Nickens Rd	La Prada Dr	2,082	0.39	2	2	4D	Minor Arterial	C1	610	551	100%	900	900	710	710	241	217	469	493				
E. Kingsley Rd	W Centerville Rd	Broadway Blvd	2,119	0.40	2	2	4D	Major Collector	D1	585	560	100%	900	900	722	722	235	225	488	498				
E. Kingsley Rd	S. First	350' E of S First St	482	0.09	2	2	4D	Major Collector	D1	476	469	100%	900	900	164	164	43	43	121	122				
E. Kingsley Rd	Honeysuckle Dr	W Centerville Rd	1,290	0.24	2	2	4D	Major Collector	D1	476	469	100%	900	900	440	440	116	115	323	325				
E. Kingsley Rd	350' E of S First St	Honeysuckle Dr	672	0.13	2	2	5U	Major Collector	D1	476	469	100%	850	850	216	216	61	60	156	157				
E. Miller Rd	S Country Club Rd	Centerville Rd	3,506	0.66	2	2	4D	Minor Arterial	C1	435	415	50%	900	900	598	598	144	138	453	460				
E. Miller Rd	S. First	Dairy	2,680	0.51	2	2	4D	Major Collector	D1	588	559	50%	900	900	457	457	149	142	308	315				
E. Miller Rd	Centerville Rd	East City Limits	3,008	0.57	2	2	4D	Regional Arterial	B	571	551	50%	900	900	513	513	163	157	350	356				
E. Miller Rd	Dairy	S Country Club Rd	2,634	0.50	2	2	4D	Minor Arterial	C1	535	528	50%	900	900	449	449	133	132	316	317				
E. Oates Rd	Broadway	Rosehill	2,260	0.43	1	1	2U	Major Collector	D1-S	123	127	100%	525	525	225	225	53	54	172	170				
E. Oates Rd	Wynn Joyce	E Oates (Future)	1,138	0.22	1	1	3U	Minor Collector	F	230	225	100%	575	575	124	124	48	46	74	75				
E. Oates Rd	Duck Creek	Broadway	3,321	0.63	2	2	4D	Minor Arterial	C1	468	362	100%	900	900	1,132	1,132	294	228	838	904				
Oak Tree/Redwood/Gateway	Duck Creek	Broadway	4,253	0.81	1	1	2U	Minor Collector	F	195	165	100%	525	525	423	423	157	133	266	290				
Gateway Dr	Broadway	Rosehill	358	0.07	1	1	3U	Minor Collector	F	230	225	100%	575	575	39	39	16	15	23	24				
Guthrie Rd	Broadway Blvd	Rosehill Rd	5,862	1.11	1	1	4U	Minor Collector	E	111	116	100%	525	525	583	583	123	129	460	454				
Guthrie Rd	Rosehill Rd	Lyons Rd																						

Service Area D

9/14/2016

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴	
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB		
Kelso	Kelso Ln	Kelso Ln	197	0.04	1	1	2U	Minor Collector	F	195	165	100%	525	525	20	20	7	6	12	13		
Merrimac	Centerville	Colonel	2,637	0.50	1	1	2U	Minor Collector	F	195	165	100%	525	525	262	262	97	82	165	180		
Nickens Rd	Duck Creek	Broadway	4,334	0.82	1	1	2U	Minor Collector	F	170	154	100%	525	525	431	431	140	126	291	305		
Northwest Highway	Birchwood Dr	La Prada Dr	3,859	0.73	3	3	6D	Regional Arterial	B	697	665	100%	925	925	2,028	2,028	509	486	1,519	1,542		
Northwest Highway	W. Centerville	Birchwood Dr	2,579	0.49	3	3	6D	Regional Arterial	B	653	689	100%	925	925	1,355	1,355	319	337	1,036	1,019		
Northwest Highway	Saturn Rd	Centerville Rd	2,209	0.42	3	3	6D	Regional Arterial	B	1,203	1,179	100%	925	925	1,161	1,161	503	493	658	668		
O'Banion Rd	W. Centerville	Birchwood Dr	2,594	0.49	1	1	2U	Minor Collector	F	269	287	100%	525	525	258	258	132	141	126	117		
O'Banion Rd	Birchwood Dr	La Prada Dr	4,918	0.93	1	1	2U	Minor Collector	F	137	136	100%	525	525	489	489	128	127	361	362		
O'Banion Rd	La Prada Dr	W. Oates	2,773	0.53	1	1	2U	Minor Collector	F	127	121	100%	525	525	276	276	67	64	209	212		
Peninsula Way	Locust Grove	Hollow Bend	1,880	0.36	1	1	2U	Minor Collector	F	195	165	100%	525	525	187	187	69	59	118	128		
Roan Rd	E. Oates (Future)	Rowlett Rd	5,282	1.00	2	2	4D	Major Collector	D1	84	115	100%	900	900	1,801	1,801	84	115	1,717	1,686		
Roan Rd	Rowlett Rd	Waterhouse Blvd	3,058	0.58	2	2	4D	Arterial	C2-S	741	766	100%	900	900	1,043	1,043	429	444	613	599		
Roan Rd	Waterhouse Blvd	Bobtown Rd	1,388	0.26	2	2	4D	Arterial	C2-S	741	766	100%	900	900	473	473	195	201	278	272		
Rosehill Rd	Columbine Dr	Rowlett Rd	2,516	0.48	1	1	2U	Minor Collector	F	381	327	100%	525	525	250	250	182	156	69	94		
Rosehill Rd	E Oates Rd	Hopewell Dr	618	0.12	1	1	2U	Minor Collector	F	381	327	100%	525	525	61	61	45	38	17	23		
Rosehill Rd	Gateway	E Oates Rd	2,253	0.43	1	1	3U	Minor Collector	F	230	225	100%	575	575	245	245	98	96	147	149		
Rosehill Rd	Hopewell	Columbine Dr	1,359	0.26	1	1	3U	Minor Collector	F	381	327	100%	575	575	148	148	98	84	50	64		
Rosehill Rd	Bobtown	IH 30 N loop	1,510	0.29	2	2	4D	Regional Arterial	B	333	334	100%	900	900	515	515	95	96	420	419		
National	IH 30 S loop	Guthrie Rd	2,018	0.38	1	1	4U	Minor Collector	E	270	285	100%	525	525	201	201	103	109	97	92		
Rosehill Rd	IH 30 N loop	IH 30 S frontage road	711	0.13	2	2	4U	Regional Arterial	B	307	307	100%	525	525	141	141	41	41	100	100		
National	IH 30 S frontage road	IH 30 S loop	398	0.08	2	2	4U	Minor Collector	E	255	265	100%	525	525	79	79	19	20	60	59		
Rowlett Rd	S Country Club Rd	Roan Rd	3,866	0.73	2	2	4D	Regional Arterial	A	567	544	100%	900	900	1,318	1,318	415	398	903	920		
Rowlett Rd	Broadway	Rosehill Rd	3,696	0.70	2	2	4D	Regional Arterial	A	820	672	100%	900	900	1,260	1,260	574	470	686	790		
Rowlett Rd	Rosehill Rd	S Country Club Rd	1,384	0.26	2	2	4D	Regional Arterial	A	567	544	100%	900	900	472	472	149	143	323	329		
Rowlett Rd	Roan Rd	City Limits	1,583	0.30	2	2	4D	Regional Arterial	A	952	1,047	100%	900	900	540	540	285	314	254	226		
S. Country Club Rd	Wynn Joyce	Rowlett Rd	1,430	0.27	1	1	2U	Minor Collector	F	195	165	100%	525	525	142	142	53	45	89	98		
S. Country Club Rd	E Oates Rd	Rowlett Rd	4,570	0.87	1	1	2U	Minor Collector	F	104	110	100%	525	525	454	454	90	95	364	359		
S. Country Club Rd	Wynn Joyce	Rowlett Rd	1,254	0.24	1	1	2U	Minor Collector	F	195	165	100%	525	525	125	125	46	39	78	86		
S. Country Club Rd	E Oates Rd	E of E Oates Rd	701	0.13	1	1	2U	Minor Collector	F	195	165	100%	525	525	70	70	26	22	44	48		
S. Country Club Rd	Rowlett Rd	Bobtown	1,763	0.33	2	2	4D	Regional Arterial	B	169	155	100%	900	900	601	601	56	52	545	549		
S. Country Club Rd	E. Miller	E. Centerville	2,881	0.55	2	2	4D	Minor Arterial	C1	231	225	100%	900	900	982	982	126	123	856	859		
S. First Street	Kingsley Rd	Centerville Rd	2,780	0.53	2	2	4D	Major Collector	D1	1,009	1,062	100%	900	900	948	948	531	559	416	389		
S. First Street	W. Miller Rd	W. Daugherty Dr	1,299	0.25	3	3	6D	Regional Arterial	B	2,037	2,059	50%	925	925	341	341	251	253	91	88		
S. First Street	Daugherty Dr	S First St	1,208	0.23	3	3	6D	Regional Arterial	B	2,037	2,059	50%	925	925	317	317	233	236	84	82		
S. Glenbrook Dr	W. Kingsley Rd	W. Centerville Rd	4,027	0.76	1	1	2U	Minor Collector	F	195	165	100%	525	525	400	400	149	126	252	275		
Saturn Rd	Northwest Hwy	Marketplace Dr	1,699	0.32	2	2	4D	Minor Arterial	C1	439	336	50%	900	900	290	290	71	54	219	236		
Saturn Rd	Marketplace Dr	IH 635	1,006	0.19	2	2	4D	Minor Arterial	C1	439	336	50%	900	900	171	171	42	32	130	139		
Saturn Rd	Mayfield Ave	Northwest Hwy	855	0.16	2	2	4D	Major Collector	D2	838	801	50%	900	900	146	146	68	65	78	81		
Saturn Rd	Susannah Dr	Mayfield Ave	954	0.18	2	2	4U	Major Collector	D2	838	801	50%	525	525	95	95	76	72	19	22		
Saturn Rd	W. Kingsley	Susannah Dr	3,529	0.67	2	2	5U	Major Collector	D2	838	801	50%	850	850	568	568	280	268	288	300		
Centerville Rd	O'Banion Rd	Northwest Pkwy	3,722	0.70	3	3	6D	Regional Arterial	B	1,976	2,060	100%	925	925	1,956	1,956	1,393	1,452	563	504		
Centerville Rd	E Miller Rd	S Country Club Rd	3,890	0.74	3	3	6D	Regional Arterial	B	1,197	1,152	100%	925	925	2,044	2,044	882	849	1,163	1,196		
Centerville Rd	S Country Club Rd	Merrimac Trl	1,516	0.29	3	3	6D	Regional Arterial	B	1,395	1,326	100%	925	925	797	797	401	381	396	416		
Centerville Rd	Merrimac Trl	Broadway Blvd	2,697	0.51	3	3	6D	Regional Arterial	B	1,395	1,326	100%	925	925	1,417	1,417	713	677	705	740		
Centerville Rd	Broadway Blvd	E Kingsley Rd	947	0.18	3	3	6D	Regional Arterial	B	1,402	1,308	100%	925	925	498	498	251	235	246	263		
Centerville Rd	E Kingsley Rd	Duck Creek Dr	3,001	0.57	3	3	6D	Regional Arterial	B	1,402	1,308	100%	925	925	1,577	1,577	797	743	780	834		
Centerville Rd	Duck Creek Dr	S Glenbrook Dr	837	0.16	3	3	6D	Regional Arterial	B	2,277	2,285	100%	925	925	440	440	361	362	79	78		
Centerville Rd	S Glenbrook Dr	Bardfield Ave	245	0.05	3	3	6D	Regional Arterial	B	2,277	2,285	100%	925	925	129	129	106	106	23	23		
Centerville Rd	Bardfield Ave	O'Banion Rd	353	0.07	3	3	6D	Regional Arterial	B	2,277	2,285	100%	925	925	186	186	152	153	33	33		
Centerville Rd	Northwest Pkwy	Broadmoor Dr	1,162	0.22	3	3	6D	Regional Arterial	B	1,679	1,752	100%	925	925	611	611	370	386	241	225		
Centerville Rd	Broadmoor Dr	LBJ Fwy	1,291	0.24	3	3	6D	Regional Arterial	B	2,016	2,289	100%	925	925	679	679	493	560	186	119		
Centerville Rd	LBJ Fwy	IH 635 S frontage road	657	0.12	3	3	6D	Regional Arterial	B	1,430	1,445	100%	925	925	345	345	178	180	167	165		
W. Kingsley Rd	Saturn Rd	S Glenbrook Dr	2,905	0.55	2	2	4D	Major Collector	D1	888	876	50%	900	900	495	495	244	241	251	254		
W. Kingsley Rd	S Glenbrook Dr	S Fifth St	1,651	0.31	2	2	4D	Major Collector	D1	888	876	50%	900	900	281	281	139	137	143	144		
W. Kingsley Rd	S Fifth St	S First St	720	0.14	2	2	4D	Major Collector	D1	888	876	50%	900	900	123	123	61	60	62	63		
W. Oates Rd	O'Banion	Duck Creek	2,744	0.52	2	2	4D	Minor Arterial	C1	752	653	100%	900	900	935	935	391	339	545	596		
W. Oates Rd	City Limits	O'Banion	2,083	0.39	2	2	4D	Minor Arterial	C1	796	715	100%	900	900	710	710	314	282	396	428		
Waterhouse	Bobtown	Hayman	1,553	0.29	1	1	2U	Minor Collector	F	1												

**Appendix D – Plan for Awarding the
Transportation Impact Fee Credit Summary**
(as prepared by NewGen Strategies.)

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area A

Recoverable Impact Fee CIP Costs	\$ 24,173,052	Line 11, Max Fee Calculation Table
Principal Paid on Existing Debt Funded Project Costs	(80,054)	Page 4 of Appendix E - Service Area A
Financing Costs	10,530,329	See Detail Below
Existing Fund Balance	(1,259,298)	Page 1 of Appendix E - Service Area A
Interest Earnings	(1,273,984)	Page 5 of Appendix E - Service Area A
Pre Credit Recoverable Cost for Impact Fee	\$ 32,090,045	Sum of Above
Credit for Ad Valorem Revenues	(269,345)	Page 8 of Appendix E - Service Area A
Maximum Recoverable Cost for Impact Fee	\$ 31,820,700	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.
Reference is Service Area A column, line 11 on the Max Fee Calculation Table.

Principal Paid on Existing Debt Funded Project Costs:

Represents the portion of principal already paid for existing debt funded projects from a detailed project funding list and debt service schedules provided by the City. (Page 4 of Appendix E - Service Area A)

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. It is assumed 80% of the new impact fee project costs will be funded through new debt issues (Page 7 of Appendix E - Service Area A). Interest costs are derived from forecasted debt issues.

New Annual Debt Service	\$ 28,384,994	(Page 3 of Appendix E - Service Area A)
Existing Annual Debt Service	1,650,403	(Page 3 of Appendix E - Service Area A)
Principal Component	(19,505,068)	(Page 4 of Appendix E - Service Area A)
Financing Costs	<u>\$ 10,530,329</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended.
To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Appendix E - Service Area A.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.451% annual interest rate based on the City's GO Interest and Sinking Fund yield as of June 30, 2016. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues.
Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs. Reference is the sum of Accumulated Interest on page 5 of Appendix E - Service Area A.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Ad Valorem Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources. Reference is page 8 of Appendix E - Service Area A.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.
This is the maximum cost that can be recovered through impact fees.

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area B

Recoverable Impact Fee CIP Costs	\$ 18,527,475	Line 11, Max Fee Calculation Table
Principal Paid on Existing Debt Funded Project Costs	-	Page 4 of Appendix E - Service Area B
Financing Costs	8,175,922	See Detail Below
Existing Fund Balance	(908,960)	Page 1 of Appendix E - Service Area B
Interest Earnings	(1,012,470)	Page 5 of Appendix E - Service Area B
Pre Credit Recoverable Cost for Impact Fee	\$ 24,781,968	Sum of Above
Credit for Ad Valorem Revenues	(77,232)	Page 8 of Appendix E - Service Area B
Maximum Recoverable Cost for Impact Fee	\$ 24,704,735	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.
Reference is Service Area B column, line 11 on the Max Fee Calculation Table.

Principal Paid on Existing Debt Funded Project Costs:

After review of a detailed project funding list provided by City Staff, there have been no prior debt payments for projects included in the impact fee CIP for this area. (Page 4 of Appendix E - Service Area B)

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. It is assumed 80% of the new impact fee project costs will be funded through new debt issues (Page 7 of Appendix E - Service Area B). Interest costs are derived from forecasted debt issues.

New Annual Debt Service	\$ 22,985,230	(Page 3 of Appendix E - Service Area B)
Principal Component	(14,809,308)	(Page 4 of Appendix E - Service Area B)
Financing Costs	<u>\$ 8,175,922</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended.
To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Appendix E - Service Area B.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.451% annual interest rate based on the City's GO Interest and Sinking Fund yield as of June 30, 2016. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues.
Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs. Reference is the sum of Accumulated Interest on page 5 of Appendix E - Service Area B.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Ad Valorem Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources. Reference is page 8 of Appendix E - Service Area B.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.
This is the maximum cost that can be recovered through impact fees.

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area C

Recoverable Impact Fee CIP Costs	\$ 21,542,049	Line 11, Max Fee Calculation Table
Principal Paid on Existing Debt Funded Project Costs	(157,544)	Page 4 of Appendix E - Service Area C
Financing Costs	9,115,235	See Detail Below
Existing Fund Balance	(502,053)	Page 1 of Appendix E - Service Area C
Interest Earnings	(1,069,842)	Page 5 of Appendix E - Service Area C
Pre Credit Recoverable Cost for Impact Fee	\$ 28,927,845	Sum of Above
Credit for Ad Valorem Revenues	(85,047)	Page 8 of Appendix E - Service Area C
Maximum Recoverable Cost for Impact Fee	\$ 28,842,799	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.
Reference is Service Area C column, line 11 on the Max Fee Calculation Table.

Principal Paid on Existing Debt Funded Project Costs:

Represents the portion of principal already paid for existing debt funded projects from a detailed project funding list and debt service schedules provided by the City. (Page 4 of Appendix E - Service Area C)

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. It is assumed 80% of the new impact fee project costs will be funded through new debt issues (Page 7 of Appendix E - Service Area C). Interest costs are derived from forecasted debt issues.

New Annual Debt Service	\$ 23,557,919	(Page 3 of Appendix E - Service Area C)
Existing Annual Debt Service	2,473,171	(Page 3 of Appendix E - Service Area C)
Principal Component	(16,915,855)	(Page 4 of Appendix E - Service Area C)
Financing Costs	<u>\$ 9,115,235</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended.
To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Appendix E - Service Area C.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.451% annual interest rate based on the City's GO Interest and Sinking Fund yield as of June 30, 2016. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues.
Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs. Reference is the sum of Accumulated Interest on page 5 of Appendix E - Service Area C.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Ad Valorem Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources. Reference is page 8 of Appendix E - Service Area C.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.
This is the maximum cost that can be recovered through impact fees.

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area D

Recoverable Impact Fee CIP Costs	\$ 16,428,715	Line 11, Max Fee Calculation Table
Principal Paid on Existing Debt Funded Project Costs	(184,293)	Page 4 of Appendix E - Service Area D
Financing Costs	6,799,841	See Detail Below
Existing Fund Balance	(1,113,622)	Page 1 of Appendix E - Service Area D
Interest Earnings	(788,751)	Page 5 of Appendix E - Service Area D
Pre Credit Recoverable Cost for Impact Fee	\$ 21,141,890	Sum of Above
Credit for Ad Valorem Revenues	(88,284)	Page 8 of Appendix E - Service Area D
Maximum Recoverable Cost for Impact Fee	\$ 21,053,606	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.
Reference is Service Area D column, line 11 on the Max Fee Calculation Table.

Principal Paid on Existing Debt Funded Project Costs:

Represents the portion of principal already paid for existing debt funded projects from a detailed project funding list and debt service schedules provided by the City. (Page 4 of Appendix E - Service Area D)

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. It is assumed 80% of the new impact fee project costs will be funded through new debt issues (Page 7 of Appendix E - Service Area D). Interest costs are derived from forecasted debt issues.

New Annual Debt Service	\$ 16,289,926	(Page 3 of Appendix E - Service Area D)
Existing Annual Debt Service	3,508,652	(Page 3 of Appendix E - Service Area D)
Principal Component	(12,998,737)	(Page 4 of Appendix E - Service Area D)
Financing Costs	<u>\$ 6,799,841</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended.
To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Appendix E - Service Area D.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.451% annual interest rate based on the City's GO Interest and Sinking Fund yield as of June 30, 2016. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues.
Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs. Reference is the sum of Accumulated Interest on page 5 of Appendix E - Service Area D.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Ad Valorem Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources. Reference is page 8 of Appendix E - Service Area D.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.
This is the maximum cost that can be recovered through impact fees.

**Appendix E – Plan for Awarding the
Transportation Impact Fee Credit Supporting Exhibits**
(as prepared by NewGen Strategies.)

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area A

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	0.451%
Annual Service Unit Growth ⁽²⁾	3,083
Existing Fund Balance ⁽³⁾	1,259,298
Portion of Projects Funded by Existing Debt ⁽³⁾	\$ 1,296,765
Non-debt Funded New Project Cost ⁽⁴⁾	4,587,929
New Project Cost Funded Through New Debt ⁽⁵⁾	18,288,358
Total Recoverable Project Cost⁽⁶⁾	\$ 24,173,052

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁷⁾</u>	<u>Interest⁽⁸⁾</u>	<u>Term</u>
1	\$ 1,828,836	3.02%	20
2	1,828,836	3.77%	20
3	1,828,836	4.02%	20
4	1,828,836	4.27%	20
5	1,828,836	4.52%	20
6	1,828,836	4.77%	20
7	1,828,836	5.02%	20
8	1,828,836	5.27%	20
9	1,828,836	5.52%	20
10	1,828,836	5.77%	20
Total	\$ 18,288,358		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽⁹⁾</u>
1	\$ 1,715,722
2	2,287,629
3	2,287,629
4	2,287,629
5	2,287,629
6	2,287,629
7	2,287,629
8	2,287,629
9	2,287,629
10	2,859,536
Total	\$ 22,876,287

(1) Current Yield for GO Interest and Sinking Fund as of June 30, 2016

(2) Derived from the 10-year Growth Projections Report, Table 7

(3) Totals provided by City Staff on September 23, 2016

(4) Assumes 20% of new project costs funded through sources other than debt unless otherwise specified

(5) Assumes 80% of new project costs funded through new debt issues unless otherwise specified

(6) Line 11 of the Max Fee Table Report

(7) Assumes new debt issued in equal annual amounts

(8) Estimated interest cost provided by City's Financial Advisor on September 28, 2016

(9) Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent fully in tenth year; Non-debt funded capital expenditures made in equal annual amounts

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area A

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 123,154	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 123,154
2	123,154	131,843	-	-	-	-	-	-	-	-	254,996
3	123,154	131,843	134,807	-	-	-	-	-	-	-	389,804
4	123,154	131,843	134,807	137,806	-	-	-	-	-	-	527,610
5	123,154	131,843	134,807	137,806	140,838	-	-	-	-	-	668,447
6	123,154	131,843	134,807	137,806	140,838	143,902	-	-	-	-	812,350
7	123,154	131,843	134,807	137,806	140,838	143,902	146,999	-	-	-	959,349
8	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	-	-	1,109,478
9	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	-	1,262,768
10	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
11	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
12	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
13	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
14	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
15	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
16	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
17	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
18	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
19	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
20	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
21	-	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,296,096
22	-	-	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,164,253
23	-	-	-	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,029,446
24	-	-	-	-	140,838	143,902	146,999	150,129	153,290	156,482	891,640
25	-	-	-	-	-	143,902	146,999	150,129	153,290	156,482	750,802
26	-	-	-	-	-	-	146,999	150,129	153,290	156,482	606,900
27	-	-	-	-	-	-	-	150,129	153,290	156,482	459,901
28	-	-	-	-	-	-	-	-	153,290	156,482	309,772
29	-	-	-	-	-	-	-	-	-	156,482	156,482
	\$ 2,463,078	\$ 2,636,852	\$ 2,696,147	\$ 2,756,117	\$ 2,816,752	\$ 2,878,046	\$ 2,939,990	\$ 3,002,576	\$ 3,065,796	\$ 3,129,642	\$ 28,384,994

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

II. Summary of Annual Expenses

Year	New Annual Debt Service⁽¹⁾	Annual Capital Expenditures⁽²⁾	Annual Bond Proceeds⁽²⁾	Existing Annual Debt Service⁽³⁾	Annual Credit⁽⁴⁾	Total Expense
1	\$ 123,154	\$ 1,715,722	\$ (1,828,836)	\$ 91,112	\$ (1,006)	\$ 100,146
2	254,996	2,287,629	(1,828,836)	108,941	(3,401)	819,330
3	389,804	2,287,629	(1,828,836)	108,830	(6,956)	950,471
4	527,610	2,287,629	(1,828,836)	108,814	(11,783)	1,083,433
5	668,447	2,287,629	(1,828,836)	108,889	(17,907)	1,218,222
6	812,350	2,287,629	(1,828,836)	108,925	(25,351)	1,354,716
7	959,349	2,287,629	(1,828,836)	108,807	(34,135)	1,492,814
8	1,109,478	2,287,629	(1,828,836)	108,834	(44,293)	1,632,812
9	1,262,768	2,287,629	(1,828,836)	108,839	(55,846)	1,774,554
10	1,419,250	2,859,536	(1,828,836)	105,432	(68,666)	2,486,716
11	1,419,250	-	-	105,443	-	1,524,693
12	1,419,250	-	-	105,504	-	1,524,754
13	1,419,250	-	-	61,925	-	1,481,175
14	1,419,250	-	-	62,072	-	1,481,322
15	1,419,250	-	-	61,929	-	1,481,179
16	1,419,250	-	-	62,112	-	1,481,361
17	1,419,250	-	-	62,052	-	1,481,302
18	1,419,250	-	-	61,942	-	1,481,192
19	1,419,250	-	-	-	-	1,419,250
20	1,419,250	-	-	-	-	1,419,250
21	1,296,096	-	-	-	-	1,296,096
22	1,164,253	-	-	-	-	1,164,253
23	1,029,446	-	-	-	-	1,029,446
24	891,640	-	-	-	-	891,640
25	750,802	-	-	-	-	750,802
26	606,900	-	-	-	-	606,900
27	459,901	-	-	-	-	459,901
28	309,772	-	-	-	-	309,772
29	156,482	-	-	-	-	156,482
	\$ 28,384,994	\$ 22,876,287	\$ (18,288,358)	\$ 1,650,403	\$ (269,345)	\$ 34,353,982

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

III. Summary of Principal Paid to Date for Existing Debt⁽³⁾

	Principal Paid on Issuance <u>2005</u>	Principal Paid on Debt <u>2008</u>	Principal Paid on Debt <u>2011</u>	Principal Paid on Debt <u>2015</u>	Total Principal Paid to Date
2005	-	-	-	-	-
2006	-	-	-	-	-
2007	-	-	-	-	-
2008	-	-	-	-	-
2009	-	874	-	-	874
2010	-	1,243	-	-	1,243
2011	-	1,313	-	-	1,313
2012	-	1,888	-	-	1,888
2013	-	1,975	-	-	1,975
2014	-	2,068	8,096	-	10,164
2015	-	2,148	8,096	12,620	22,863
2016	-	2,254	8,096	29,383	39,733
	\$ -	\$ 13,764	\$ 24,287	\$ 42,003	\$ 80,054

IV. Summary of Debt Financing

Existing Debt Funded Project Costs ⁽⁵⁾	\$ 1,296,765
-Less Principal Paid to Date	80,054
Outstanding Debt Principal	1,216,710
New Project Costs Debt Principal ⁽⁵⁾	18,288,358
Principal Component	\$ 19,505,068

(1) Appendix E - Service Area A, Page 2

(2) Appendix E - Service Area A, Page 1

(3) Prior Debt Funding Provided by City Staff

(4) Appendix E - Service Area A, Page 8

(5) Appendix E - Service Area A, Page 1

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area A

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 1,259,298
1	\$ 1,032	3,083	\$ 3,182,070	\$ 100,146	\$ 3,081,924	\$ 12,629	4,353,851
2	1,032	3,083	3,182,070	819,330	2,362,740	24,964	6,741,555
3	1,032	3,083	3,182,070	950,471	2,231,599	35,437	9,008,591
4	1,032	3,083	3,182,070	1,083,433	2,098,637	45,361	11,152,589
5	1,032	3,083	3,182,070	1,218,222	1,963,848	54,727	13,171,164
6	1,032	3,083	3,182,070	1,354,716	1,827,354	63,523	15,062,041
7	1,032	3,083	3,182,070	1,492,814	1,689,256	71,739	16,823,036
8	1,032	3,083	3,182,070	1,632,812	1,549,258	79,365	18,451,660
9	1,032	3,083	3,182,070	1,774,554	1,407,516	86,391	19,945,567
10	1,032	3,083	3,182,070	2,486,716	695,354	91,523	20,732,443
11	-	-	-	1,524,693	(1,524,693)	90,065	19,297,815
12	-	-	-	1,524,754	(1,524,754)	83,595	17,856,656
13	-	-	-	1,481,175	(1,481,175)	77,193	16,452,674
14	-	-	-	1,481,322	(1,481,322)	70,861	15,042,214
15	-	-	-	1,481,179	(1,481,179)	64,500	13,625,535
16	-	-	-	1,481,361	(1,481,361)	58,111	12,202,285
17	-	-	-	1,481,302	(1,481,302)	51,692	10,772,675
18	-	-	-	1,481,192	(1,481,192)	45,245	9,336,728
19	-	-	-	1,419,250	(1,419,250)	38,908	7,956,386
20	-	-	-	1,419,250	(1,419,250)	32,683	6,569,819
21	-	-	-	1,296,096	(1,296,096)	26,707	5,300,431
22	-	-	-	1,164,253	(1,164,253)	21,280	4,157,457
23	-	-	-	1,029,446	(1,029,446)	16,429	3,144,440
24	-	-	-	891,640	(891,640)	12,171	2,264,971
25	-	-	-	750,802	(750,802)	8,522	1,522,690
26	-	-	-	606,900	(606,900)	5,499	921,289
27	-	-	-	459,901	(459,901)	3,118	464,506
28	-	-	-	309,772	(309,772)	1,396	156,131
29	-	-	-	156,482	(156,482)	351	(0)
			\$ 31,820,700	\$ 34,353,982		\$ 1,273,984	

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area A

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.1368	1.0000	3,083	3,505	\$ 100,146	\$ 113,849
2	28	1.1317	1.0000	3,083	3,489	819,330	927,261
3	27	1.1267	1.0000	3,083	3,474	950,471	1,070,848
4	26	1.1216	1.0000	3,083	3,458	1,083,433	1,215,170
5	25	1.1166	1.0000	3,083	3,443	1,218,222	1,360,213
6	24	1.1115	1.0000	3,083	3,427	1,354,716	1,505,825
7	23	1.1066	1.0000	3,083	3,412	1,492,814	1,651,877
8	22	1.1016	1.0000	3,083	3,397	1,632,812	1,798,680
9	21	1.0966	1.0000	3,083	3,381	1,774,554	1,946,044
10	20	1.0917	1.0000	3,083	3,366	2,486,716	2,714,785
11	19	1.0868	1.0000	-	-	1,524,693	1,657,057
12	18	1.0819	1.0000	-	-	1,524,754	1,649,683
13	17	1.0771	1.0000	-	-	1,481,175	1,595,338
14	16	1.0722	1.0000	-	-	1,481,322	1,588,333
15	15	1.0674	1.0000	-	-	1,481,179	1,581,049
16	14	1.0626	1.0000	-	-	1,481,361	1,574,145
17	13	1.0579	1.0000	-	-	1,481,302	1,567,014
18	12	1.0531	1.0000	-	-	1,481,192	1,559,863
19	11	1.0484	1.0000	-	-	1,419,250	1,487,920
20	10	1.0437	1.0000	-	-	1,419,250	1,481,240
21	9	1.0390	1.0000	-	-	1,296,096	1,346,634
22	8	1.0343	1.0000	-	-	1,164,253	1,204,219
23	7	1.0297	1.0000	-	-	1,029,446	1,060,004
24	6	1.0251	1.0000	-	-	891,640	913,985
25	5	1.0205	1.0000	-	-	750,802	766,163
26	4	1.0159	1.0000	-	-	606,900	616,536
27	3	1.0113	1.0000	-	-	459,901	465,105
28	2	1.0068	1.0000	-	-	309,772	311,871
29	1	1.0023	1.0000	-	-	156,482	156,835
				34,352		\$ 34,353,982	\$ 36,887,546

Total Escalated Expense for Entire Period	\$ 36,887,546
Total Escalated Service Units	34,352
Impact Fee for Service Area A	\$ 1,032

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area A

<u>Impact Fee Project Name⁽¹⁾</u>	<u>Impact Fee Project No.⁽¹⁾</u>	<u>Total Project Cost⁽¹⁾</u>	<u>Percent in Service Area⁽¹⁾</u>	<u>Cost in Service Area⁽¹⁾</u>	<u>Impact Fee Recoverable Cost⁽²⁾</u>	<u>Debt Funded⁽³⁾</u>	<u>Existing</u>	<u>Proposed</u>	<u>Non-Debt Funded⁽³⁾</u>	<u>Impact Fee Recoverable Cost</u>
Arapaho Rd (1)	A-1	\$ 1,383,000	100%	\$ 1,383,000	\$ 385,973	\$ -	\$ 308,778	\$ 77,195	\$ 385,973	
Arapaho Rd (2)	A-2	1,210,000	100%	1,210,000	337,691	-	270,153	67,538	337,691	
Brand Rd (1)	A-3	4,092,000	100%	4,092,000	1,142,011	-	913,609	228,402	1,142,011	
Brand Rd (2)	A-4	8,172,000	100%	8,172,000	2,280,673	-	1,824,538	456,135	2,280,673	
Brand Rd (3)	A-5	3,590,000	100%	3,590,000	1,001,911	-	801,529	200,382	1,001,911	
Campbell Rd (1)	A-6	1,901,000	100%	1,901,000	530,538	-	424,431	106,108	530,538	
Campbell Rd (2)	A-7	740,000	100%	740,000	206,522	-	165,218	41,304	206,522	
Campbell Rd (3)	A-8	1,065,000	100%	1,065,000	297,224	-	237,779	59,445	297,224	
Campbell Rd (4)	A-9	1,150,000	100%	1,150,000	320,946	-	256,757	64,189	320,946	
Campbell Rd (5)	A-10	929,000	100%	929,000	259,269	-	207,415	51,854	259,269	
Campbell Rd (6)	A-11	11,065,000	100%	11,065,000	3,088,063	-	2,470,450	617,613	3,088,063	
Ferris Rd	A-12	2,258,000	100%	2,258,000	630,171	-	504,137	126,034	630,171	
Firewheel Parkway (1)	A-13	824,000	100%	824,000	229,965	-	183,972	45,993	229,965	
Holford Rd (1)	A-14	5,347,000	100%	5,347,000	1,492,261	-	1,193,809	298,452	1,492,261	
Holford Rd (2)	A-15	2,717,000	100%	2,717,000	758,271	-	606,617	151,654	758,271	
Holford Rd (3)	A-16	8,118,000	100%	8,118,000	2,265,602	-	1,812,482	453,120	2,265,602	
Lookout Dr (1)	A-17	201,000	50%	100,500	28,048	-	22,438	5,610	28,048	
Lookout Dr (2)	A-18	1,428,000	50%	714,000	199,266	-	159,413	39,853	199,266	
Lookout Dr (3)	A-19	1,107,000	100%	1,107,000	308,946	-	247,157	61,789	308,946	
Mapleridge (Future) (1)	A-20	384,000	100%	384,000	107,168	-	85,735	21,434	107,168	
Mapleridge (Future) (2)	A-21	3,513,000	100%	3,513,000	980,421	-	784,337	196,084	980,421	
Garland Ave (1)	A-22	2,313,000	100%	2,313,000	645,521	-	516,417	129,104	645,521	
Garland Ave (2)	A-23	2,044,000	100%	2,044,000	570,447	-	456,358	114,089	570,447	
Garland Ave (3)	A-24	1,421,000	100%	1,421,000	396,578	-	317,262	79,316	396,578	
Garland Ave (4)	A-25	1,732,000	100%	1,732,000	483,373	-	386,699	96,675	483,373	
Shiloh Rd (1)	A-26	657,000	100%	657,000	183,358	-	146,686	36,672	183,358	
Shiloh Rd (2)	A-27	733,000	100%	733,000	204,568	-	163,655	40,914	204,568	
Shiloh Rd (3)	A-28	1,065,000	100%	1,065,000	297,224	-	237,779	59,445	297,224	
Shiloh Rd (4)	A-29	1,836,000	100%	1,836,000	512,398	-	409,918	102,480	512,398	
Shiloh Rd (5)	A-30	1,714,000	100%	1,714,000	478,350	-	382,680	95,670	478,350	
Naaman Forest Blvd	A-31	2,079,000	100%	2,079,000	580,215	207,086	298,503	74,626	580,215	
Naaman School Rd	A-32	6,047,000	100%	6,047,000	1,687,620	-	1,350,096	337,524	1,687,620	
Naaman Forest Blvd	A-33	3,904,483	100%	3,904,483	1,089,678	1,089,678	-	-	1,089,678	
Bottleneck Study Improvements - Service Area A	Various	634,000	100%	634,000	176,939	-	141,551	35,388	176,939	
Study Costs		15,840	100%	15,840	15,840	-	-	15,840	15,840	
Total		\$ 87,389,323		\$ 86,574,823	\$ 24,173,052	\$ 1,296,765	\$ 18,288,358	\$ 4,587,929	\$ 24,173,052	

(1) 2016 Roadway Impact Fee Study As Assigned to Service Area, Appendix A

(2) Line 11 of the Max Fee Table Report

(3) Based on Contributions by Project and Planned Future Debt Financing

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area A

2016 Vehicle Miles (All Service Areas) ⁽¹⁾	653,797
Ten Year Growth in Vehicle Miles (Service Area A) ⁽²⁾	30,833
	<u>10 years</u>
Annual Growth in Vehicle Miles	3,083

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	\$ 214,266	\$ 363,937	\$ 498,634	\$ 636,423	\$ 777,336	\$ 921,274	\$ 1,068,156	\$ 1,218,312	\$ 1,371,607	\$ 1,524,682	\$ 8,594,628
2016 Vehicle Miles plus Service Area A Growth	656,881	659,964	663,047	666,131	669,214	672,297	675,380	678,464	681,547	684,630	
Total Debt Service Eligible for Impact Fees per Vehicle Mile	\$ 0.33	\$ 0.55	\$ 0.75	\$ 0.96	\$ 1.16	\$ 1.37	\$ 1.58	\$ 1.80	\$ 2.01	\$ 2.23	
Annual Growth in Service Area A Vehicle Miles (Cumulative)	3,083	6,167	9,250	12,333	15,417	18,500	21,583	24,666	27,750	30,833	
Annual Ad Valorem Revenue Generated by Vehicle Miles for Debt Service Eligible for Impact Fees	\$ 1,006	\$ 3,401	\$ 6,956	\$ 11,783	\$ 17,907	\$ 25,351	\$ 34,135	\$ 44,293	\$ 55,846	\$ 68,666	\$ 269,345
Credit Amount	\$ 269,345										

(1) Engineer's calculation

(2) Line 8 of the Max Fee Table Report

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area B

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	0.451%
Annual Service Unit Growth ⁽²⁾	1,187
Existing Fund Balance ⁽³⁾	908,960
Non-debt Funded New Project Cost ⁽⁴⁾	3,718,167
New Project Cost Funded Through New Debt ⁽⁵⁾	14,809,308
Total Recoverable Project Cost⁽⁶⁾	\$ 18,527,475

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁷⁾</u>	<u>Interest⁽⁸⁾</u>	<u>Term</u>
1	\$ 1,480,931	3.02%	20
2	1,480,931	3.77%	20
3	1,480,931	4.02%	20
4	1,480,931	4.27%	20
5	1,480,931	4.52%	20
6	1,480,931	4.77%	20
7	1,480,931	5.02%	20
8	1,480,931	5.27%	20
9	1,480,931	5.52%	20
10	1,480,931	5.77%	20
Total	\$ 14,809,308		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽⁹⁾</u>
1	\$ 1,389,561
2	1,852,748
3	1,852,748
4	1,852,748
5	1,852,748
6	1,852,748
7	1,852,748
8	1,852,748
9	1,852,748
10	2,315,934
Total	\$ 18,527,475

(1) Current Yield for GO Interest and Sinking Fund as of June 30, 2016

(2) Derived from the 10-year Growth Projections Report, Table 7

(3) Totals provided by City Staff on September 23, 2016

(4) Assumes 20% of new project costs funded through sources other than debt unless otherwise specified

(5) Assumes 80% of new project costs funded through new debt issues unless otherwise specified

(6) Line 11 of the Max Fee Table Report

(7) Assumes new debt issued in equal annual amounts

(8) Estimated interest cost provided by City's Financial Advisor on September 28, 2016

(9) Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent fully in tenth year; Non-debt funded capital expenditures made in equal annual amounts

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area B

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 99,726	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 99,726
2	99,726	106,762	-	-	-	-	-	-	-	-	206,488
3	99,726	106,762	109,163	-	-	-	-	-	-	-	315,650
4	99,726	106,762	109,163	111,591	-	-	-	-	-	-	427,241
5	99,726	106,762	109,163	111,591	114,046	-	-	-	-	-	541,287
6	99,726	106,762	109,163	111,591	114,046	116,527	-	-	-	-	657,814
7	99,726	106,762	109,163	111,591	114,046	116,527	119,035	-	-	-	776,849
8	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	-	-	898,418
9	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	-	1,022,547
10	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
11	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
12	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
13	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
14	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
15	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
16	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
17	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
18	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
19	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
20	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
21	-	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,049,536
22	-	-	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	942,774
23	-	-	-	111,591	114,046	116,527	119,035	121,569	124,129	126,714	833,611
24	-	-	-	-	114,046	116,527	119,035	121,569	124,129	126,714	722,021
25	-	-	-	-	-	116,527	119,035	121,569	124,129	126,714	607,975
26	-	-	-	-	-	-	119,035	121,569	124,129	126,714	491,448
27	-	-	-	-	-	-	-	121,569	124,129	126,714	372,412
28	-	-	-	-	-	-	-	-	124,129	126,714	250,843
29	-	-	-	-	-	-	-	-	-	126,714	126,714
	\$ 1,994,519	\$ 2,135,235	\$ 2,183,251	\$ 2,231,812	\$ 2,280,913	\$ 2,330,546	\$ 2,380,706	\$ 2,431,387	\$ 2,482,580	\$ 2,534,280	\$ 22,985,230

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

II. Summary of Annual Expenses

Year	New Annual Debt Service⁽¹⁾	Annual Capital Expenditures⁽²⁾	Annual Bond Proceeds⁽²⁾	Existing Annual Debt Service⁽³⁾	Annual Credit⁽⁴⁾	Total Expense
1	\$ 99,726	\$ 1,389,561	\$ (1,480,931)	\$ -	\$ (181)	\$ 8,175
2	206,488	1,852,748	(1,480,931)	-	(747)	577,557
3	315,650	1,852,748	(1,480,931)	-	(1,710)	685,757
4	427,241	1,852,748	(1,480,931)	-	(3,081)	795,977
5	541,287	1,852,748	(1,480,931)	-	(4,870)	908,233
6	657,814	1,852,748	(1,480,931)	-	(7,090)	1,022,541
7	776,849	1,852,748	(1,480,931)	-	(9,750)	1,138,915
8	898,418	1,852,748	(1,480,931)	-	(12,864)	1,257,371
9	1,022,547	1,852,748	(1,480,931)	-	(16,442)	1,377,922
10	1,149,262	2,315,934	(1,480,931)	-	(20,497)	1,963,769
11	1,149,262	-	-	-	-	1,149,262
12	1,149,262	-	-	-	-	1,149,262
13	1,149,262	-	-	-	-	1,149,262
14	1,149,262	-	-	-	-	1,149,262
15	1,149,262	-	-	-	-	1,149,262
16	1,149,262	-	-	-	-	1,149,262
17	1,149,262	-	-	-	-	1,149,262
18	1,149,262	-	-	-	-	1,149,262
19	1,149,262	-	-	-	-	1,149,262
20	1,149,262	-	-	-	-	1,149,262
21	1,049,536	-	-	-	-	1,049,536
22	942,774	-	-	-	-	942,774
23	833,611	-	-	-	-	833,611
24	722,021	-	-	-	-	722,021
25	607,975	-	-	-	-	607,975
26	491,448	-	-	-	-	491,448
27	372,412	-	-	-	-	372,412
28	250,843	-	-	-	-	250,843
29	126,714	-	-	-	-	126,714
	\$ 22,985,230	\$ 18,527,475	\$ (14,809,308)	\$ -	\$ (77,232)	\$ 26,626,165

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

III. Summary of Principal Paid to Date for Existing Debt⁽³⁾

The projects related to this area have not been previously funded with debt.

IV. Summary of Debt Financing

Existing Debt Funded Project Costs ⁽⁵⁾	\$	-
-Less Principal Paid to Date		-
Outstanding Debt Principal		-
New Project Costs Debt Principal ⁽⁵⁾		14,809,308
Principal Component	\$	14,809,308

(1) Appendix E - Service Area B, Page 2

(2) Appendix E - Service Area B, Page 1

(3) Not applicable for this service area

(4) Appendix E - Service Area B, Page 8

(5) Appendix E - Service Area B, Page 1

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area B

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 908,960
1	\$ 2,081	1,187	\$ 2,470,474	\$ 8,175	\$ 2,462,298	\$ 9,652	3,380,910
2	2,081	1,187	2,470,474	577,557	1,892,916	19,516	5,293,343
3	2,081	1,187	2,470,474	685,757	1,784,717	27,898	7,105,957
4	2,081	1,187	2,470,474	795,977	1,674,497	35,824	8,816,278
5	2,081	1,187	2,470,474	908,233	1,562,241	43,284	10,421,803
6	2,081	1,187	2,470,474	1,022,541	1,447,933	50,267	11,920,003
7	2,081	1,187	2,470,474	1,138,915	1,331,558	56,762	13,308,323
8	2,081	1,187	2,470,474	1,257,371	1,213,103	62,756	14,584,182
9	2,081	1,187	2,470,474	1,377,922	1,092,552	68,238	15,744,972
10	2,081	1,187	2,470,474	1,963,769	506,705	72,152	16,323,829
11	-	-	-	1,149,262	(1,149,262)	71,029	15,245,596
12	-	-	-	1,149,262	(1,149,262)	66,166	14,162,501
13	-	-	-	1,149,262	(1,149,262)	61,281	13,074,521
14	-	-	-	1,149,262	(1,149,262)	56,375	11,981,634
15	-	-	-	1,149,262	(1,149,262)	51,446	10,883,818
16	-	-	-	1,149,262	(1,149,262)	46,494	9,781,051
17	-	-	-	1,149,262	(1,149,262)	41,521	8,673,310
18	-	-	-	1,149,262	(1,149,262)	36,525	7,560,574
19	-	-	-	1,149,262	(1,149,262)	31,507	6,442,819
20	-	-	-	1,149,262	(1,149,262)	26,466	5,320,023
21	-	-	-	1,049,536	(1,049,536)	21,627	4,292,114
22	-	-	-	942,774	(942,774)	17,231	3,366,571
23	-	-	-	833,611	(833,611)	13,303	2,546,264
24	-	-	-	722,021	(722,021)	9,855	1,834,099
25	-	-	-	607,975	(607,975)	6,901	1,233,024
26	-	-	-	491,448	(491,448)	4,453	746,029
27	-	-	-	372,412	(372,412)	2,525	376,142
28	-	-	-	250,843	(250,843)	1,131	126,430
29	-	-	-	126,714	(126,714)	284	(0)
			\$ 24,704,735	\$ 26,626,165		\$ 1,012,470	

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area B

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.1368	1.0000	1,187	1,350	\$ 8,175	\$ 9,294
2	28	1.1317	1.0000	1,187	1,344	577,557	653,640
3	27	1.1267	1.0000	1,187	1,338	685,757	772,608
4	26	1.1216	1.0000	1,187	1,332	795,977	892,761
5	25	1.1166	1.0000	1,187	1,326	908,233	1,014,093
6	24	1.1115	1.0000	1,187	1,320	1,022,541	1,136,598
7	23	1.1066	1.0000	1,187	1,314	1,138,915	1,260,270
8	22	1.1016	1.0000	1,187	1,308	1,257,371	1,385,100
9	21	1.0966	1.0000	1,187	1,302	1,377,922	1,511,082
10	20	1.0917	1.0000	1,187	1,296	1,963,769	2,143,875
11	19	1.0868	1.0000	-	-	1,149,262	1,249,033
12	18	1.0819	1.0000	-	-	1,149,262	1,243,425
13	17	1.0771	1.0000	-	-	1,149,262	1,237,842
14	16	1.0722	1.0000	-	-	1,149,262	1,232,285
15	15	1.0674	1.0000	-	-	1,149,262	1,226,752
16	14	1.0626	1.0000	-	-	1,149,262	1,221,244
17	13	1.0579	1.0000	-	-	1,149,262	1,215,761
18	12	1.0531	1.0000	-	-	1,149,262	1,210,303
19	11	1.0484	1.0000	-	-	1,149,262	1,204,869
20	10	1.0437	1.0000	-	-	1,149,262	1,199,459
21	9	1.0390	1.0000	-	-	1,049,536	1,090,459
22	8	1.0343	1.0000	-	-	942,774	975,137
23	7	1.0297	1.0000	-	-	833,611	858,356
24	6	1.0251	1.0000	-	-	722,021	740,115
25	5	1.0205	1.0000	-	-	607,975	620,413
26	4	1.0159	1.0000	-	-	491,448	499,250
27	3	1.0113	1.0000	-	-	372,412	376,626
28	2	1.0068	1.0000	-	-	250,843	252,543
29	1	1.0023	1.0000	-	-	126,714	127,000
				13,227	\$ 26,626,165	\$ 28,560,194	

Total Escalated Expense for Entire Period	\$ 28,560,194
Total Escalated Service Units	13,227
Impact Fee for Service Area B	\$ 2,081

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area B

<u>Impact Fee Project Name⁽¹⁾</u>	<u>Impact Fee Project No.⁽¹⁾</u>	<u>Total Project Cost⁽¹⁾</u>	<u>Percent in Service Area⁽¹⁾</u>	<u>Cost in Service Area⁽¹⁾</u>	<u>Impact Fee Recoverable Cost⁽²⁾</u>	<u>Debt Funded⁽³⁾</u>		<u>Non-Debt Funded⁽³⁾</u>	<u>Impact Fee Recoverable Cost</u>
						<u>Existing</u>	<u>Proposed</u>		
Kings Rd (Future)	B-1	\$ 551,000	100%	\$ 551,000	\$ 238,533	\$ -	\$ 190,826	\$ 47,707	\$ 238,533
Leon Rd (1)	B-2	959,000	100%	959,000	415,160	-	332,128	83,032	415,160
Leon Rd (2)	B-3	212,000	100%	212,000	91,777	-	73,421	18,355	91,777
Marketplace ext (1)	B-4	1,398,000	100%	1,398,000	605,207	-	484,166	121,041	605,207
Marketplace ext (2)	B-5	666,000	100%	666,000	288,318	-	230,654	57,664	288,318
Millay Blvd (Future)	B-6	1,180,000	100%	1,180,000	510,833	-	408,666	102,167	510,833
Shiloh Rd (6)	B-7	1,784,000	100%	1,784,000	772,310	-	617,848	154,462	772,310
Shiloh Rd (7)	B-8	4,590,000	100%	4,590,000	1,987,054	-	1,589,643	397,411	1,987,054
Shiloh Rd (8)	B-9	8,552,000	100%	8,552,000	3,702,240	-	2,961,792	740,448	3,702,240
Shiloh Rd (9)	B-10	9,087,000	100%	9,087,000	3,933,847	-	3,147,078	786,769	3,933,847
Shiloh Rd (10)	B-11	4,129,000	100%	4,129,000	1,787,483	-	1,429,986	357,497	1,787,483
Shiloh Rd (11)	B-12	2,368,000	100%	2,368,000	1,025,129	-	820,103	205,026	1,025,129
New road east of Industrial Ln	B-13	2,260,000	100%	2,260,000	978,375	-	782,700	195,675	978,375
Saturn Rd (Future)	B-14	2,215,000	100%	2,215,000	958,894	-	767,115	191,779	958,894
Sherwin (Future)	B-15	2,432,000	100%	2,432,000	1,052,835	-	842,268	210,567	1,052,835
Bottleneck Study Improvements - Service Area B	Various	378,000	100%	378,000	163,640	-	130,912	32,728	163,640
Study Costs		15,840	100%	15,840	15,840	-	-	15,840	15,840
Total		\$ 42,776,840		\$ 42,776,840	\$ 18,527,475	\$ -	\$ 14,809,308	\$ 3,718,167	\$ 18,527,475

(1) 2016 Roadway Impact Fee Study As Assigned to Service Area, Appendix A

(2) Line 11 of the Max Fee Table Report

(3) Based on Contributions by Project and Planned Future Debt Financing

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area B

2016 Vehicle Miles (All Service Areas) ⁽¹⁾	653,797
Ten Year Growth in Vehicle Miles (Service Area B) ⁽²⁾	11,872
	<u>10 years</u>
Annual Growth in Vehicle Miles	1,187

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	\$ 99,726	\$ 206,488	\$ 315,650	\$ 427,241	\$ 541,287	\$ 657,814	\$ 776,849	\$ 898,418	\$ 1,022,547	\$ 1,149,262	\$ 6,095,282
2016 Vehicle Miles plus Service Area B Growth	654,984	656,172	657,359	658,546	659,733	660,920	662,108	663,295	664,482	665,669	
Total Debt Service Eligible for Impact Fees per Vehicle Mile	\$ 0.15	\$ 0.31	\$ 0.48	\$ 0.65	\$ 0.82	\$ 1.00	\$ 1.17	\$ 1.35	\$ 1.54	\$ 1.73	
Annual Growth in Service Area B Vehicle Miles (Cumulative)	1,187	2,374	3,562	4,749	5,936	7,123	8,310	9,498	10,685	11,872	
Annual Ad Valorem Revenue Generated by Vehicle Miles for Debt Service Eligible for Impact Fees	\$ 181	\$ 747	\$ 1,710	\$ 3,081	\$ 4,870	\$ 7,090	\$ 9,750	\$ 12,864	\$ 16,442	\$ 20,497	\$ 77,232
Credit Amount	\$ 77,232										

(1) Engineer's calculation

(2) Line 8 of the Max Fee Table Report

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area C

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	0.451%
Annual Service Unit Growth ⁽²⁾	1,084
Existing Fund Balance ⁽³⁾	502,053
Portion of Projects Funded by Existing Debt ⁽³⁾	\$ 1,895,110
Non-debt Funded New Project Cost ⁽⁴⁾	4,468,650
New Project Cost Funded Through New Debt ⁽⁵⁾	15,178,290
Total Recoverable Project Cost⁽⁶⁾	\$ 21,542,049

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁷⁾</u>	<u>Interest⁽⁸⁾</u>	<u>Term</u>
1	\$ 1,517,829	3.02%	20
2	1,517,829	3.77%	20
3	1,517,829	4.02%	20
4	1,517,829	4.27%	20
5	1,517,829	4.52%	20
6	1,517,829	4.77%	20
7	1,517,829	5.02%	20
8	1,517,829	5.27%	20
9	1,517,829	5.52%	20
10	1,517,829	5.77%	20
Total	\$ 15,178,290		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽⁹⁾</u>
1	\$ 1,473,520
2	1,964,694
3	1,964,694
4	1,964,694
5	1,964,694
6	1,964,694
7	1,964,694
8	1,964,694
9	1,964,694
10	2,455,867
Total	\$ 19,646,939

(1) Current Yield for GO Interest and Sinking Fund as of June 30, 2016

(2) Derived from the 10-year Growth Projections Report, Table 7

(3) Totals provided by City Staff on September 23, 2016

(4) Assumes 20% of new project costs funded through sources other than debt unless otherwise specified

(5) Assumes 80% of new project costs funded through new debt issues unless otherwise specified

(6) Line 11 of the Max Fee Table Report

(7) Assumes new debt issued in equal annual amounts

(8) Estimated interest cost provided by City's Financial Advisor on September 28, 2016

(9) Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent fully in tenth year; Non-debt funded capital expenditures made in equal annual amounts

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area C

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 102,211	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 102,211
2	102,211	109,422	-	-	-	-	-	-	-	-	211,632
3	102,211	109,422	111,882	-	-	-	-	-	-	-	323,515
4	102,211	109,422	111,882	114,371	-	-	-	-	-	-	437,886
5	102,211	109,422	111,882	114,371	116,887	-	-	-	-	-	554,773
6	102,211	109,422	111,882	114,371	116,887	119,431	-	-	-	-	674,204
7	102,211	109,422	111,882	114,371	116,887	119,431	122,001	-	-	-	796,205
8	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	-	-	920,803
9	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	-	1,048,025
10	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
11	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
12	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
13	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
14	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
15	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
16	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
17	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
18	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
19	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
20	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
21	-	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,075,685
22	-	-	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	966,263
23	-	-	-	114,371	116,887	119,431	122,001	124,598	127,222	129,871	854,381
24	-	-	-	-	116,887	119,431	122,001	124,598	127,222	129,871	740,010
25	-	-	-	-	-	119,431	122,001	124,598	127,222	129,871	623,123
26	-	-	-	-	-	-	122,001	124,598	127,222	129,871	503,692
27	-	-	-	-	-	-	-	124,598	127,222	129,871	381,691
28	-	-	-	-	-	-	-	-	127,222	129,871	257,093
29	-	-	-	-	-	-	-	-	-	129,871	129,871
	\$ 2,044,214	\$ 2,188,436	\$ 2,237,648	\$ 2,287,419	\$ 2,337,743	\$ 2,388,613	\$ 2,440,023	\$ 2,491,966	\$ 2,544,435	\$ 2,597,423	\$ 23,557,919

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

II. Summary of Annual Expenses

Year	New Annual Debt Service⁽¹⁾	Annual Capital Expenditures⁽²⁾	Annual Bond Proceeds⁽²⁾	Existing Annual Debt Service⁽³⁾	Annual Credit⁽⁴⁾	Total Expense
1	\$ 102,211	\$ 1,473,520	\$ (1,517,829)	\$ 143,934	\$ (407)	\$ 201,429
2	211,632	1,964,694	(1,517,829)	145,060	(1,179)	802,379
3	323,515	1,964,694	(1,517,829)	144,744	(2,318)	912,807
4	437,886	1,964,694	(1,517,829)	144,702	(3,838)	1,025,614
5	554,773	1,964,694	(1,517,829)	144,940	(5,753)	1,140,825
6	674,204	1,964,694	(1,517,829)	144,923	(8,069)	1,257,923
7	796,205	1,964,694	(1,517,829)	144,798	(10,796)	1,377,072
8	920,803	1,964,694	(1,517,829)	144,833	(13,950)	1,498,551
9	1,048,025	1,964,694	(1,517,829)	132,776	(17,361)	1,610,304
10	1,177,896	2,455,867	(1,517,829)	132,710	(21,376)	2,227,269
11	1,177,896	-	-	132,769	-	1,310,665
12	1,177,896	-	-	132,840	-	1,310,736
13	1,177,896	-	-	130,521	-	1,308,417
14	1,177,896	-	-	130,831	-	1,308,727
15	1,177,896	-	-	130,529	-	1,308,425
16	1,177,896	-	-	130,914	-	1,308,810
17	1,177,896	-	-	130,789	-	1,308,685
18	1,177,896	-	-	130,557	-	1,308,453
19	1,177,896	-	-	-	-	1,177,896
20	1,177,896	-	-	-	-	1,177,896
21	1,075,685	-	-	-	-	1,075,685
22	966,263	-	-	-	-	966,263
23	854,381	-	-	-	-	854,381
24	740,010	-	-	-	-	740,010
25	623,123	-	-	-	-	623,123
26	503,692	-	-	-	-	503,692
27	381,691	-	-	-	-	381,691
28	257,093	-	-	-	-	257,093
29	129,871	-	-	-	-	129,871
	\$ 23,557,919	\$ 19,646,939	\$ (15,178,290)	\$ 2,473,171	\$ (85,047)	\$ 30,414,693

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

III. Summary of Principal Paid to Date for Existing Debt⁽³⁾

	Principal Paid on Issuance <u>2005</u>	Principal Paid on Debt <u>2008</u>	Principal Paid on Debt <u>2011</u>	Principal Paid on Debt <u>2015</u>	Total Principal Paid to Date
2005	1,408	-	-	-	1,408
2006	4,625	-	-	-	4,625
2007	4,876	-	-	-	4,876
2008	5,128	-	-	-	5,128
2009	5,379	7	-	-	5,386
2010	5,630	10	-	-	5,640
2011	5,932	11	-	-	5,942
2012	6,234	15	-	-	6,249
2013	6,585	16	-	-	6,601
2014	6,937	17	396	-	7,350
2015	7,289	17	396	26,599	34,302
2016	7,691	18	396	61,932	70,038
	\$ 67,714	\$ 110	\$ 1,189	\$ 88,531	\$ 157,544

IV. Summary of Debt Financing

Existing Debt Funded Project Costs ⁽⁵⁾	\$ 1,895,110
-Less Principal Paid to Date	157,544
Outstanding Debt Principal	1,737,565
New Project Costs Debt Principal ⁽⁵⁾	15,178,290
Principal Component	\$ 16,915,855

(1) Appendix E - Service Area C, Page 2

(2) Appendix E - Service Area C, Page 1

(3) Prior Debt Funding Provided by City Staff

(4) Appendix E - Service Area C, Page 8

(5) Appendix E - Service Area C, Page 1

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area C

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 502,053
1	\$ 2,661	1,084	\$ 2,884,280	\$ 201,429	\$ 2,682,851	\$ 8,314	3,193,218
2	2,661	1,084	2,884,280	802,379	2,081,901	19,096	5,294,215
3	2,661	1,084	2,884,280	912,807	1,971,473	28,323	7,294,011
4	2,661	1,084	2,884,280	1,025,614	1,858,666	37,087	9,189,764
5	2,661	1,084	2,884,280	1,140,825	1,743,455	45,377	10,978,597
6	2,661	1,084	2,884,280	1,257,923	1,626,356	53,181	12,658,134
7	2,661	1,084	2,884,280	1,377,072	1,507,208	60,487	14,225,829
8	2,661	1,084	2,884,280	1,498,551	1,385,729	67,283	15,678,841
9	2,661	1,084	2,884,280	1,610,304	1,273,975	73,584	17,026,401
10	2,661	1,084	2,884,280	2,227,269	657,011	78,271	17,761,683
11	-	-	-	1,310,665	(1,310,665)	77,150	16,528,167
12	-	-	-	1,310,736	(1,310,736)	71,586	15,289,018
13	-	-	-	1,308,417	(1,308,417)	66,003	14,046,604
14	-	-	-	1,308,727	(1,308,727)	60,399	12,798,276
15	-	-	-	1,308,425	(1,308,425)	54,770	11,544,621
16	-	-	-	1,308,810	(1,308,810)	49,115	10,284,925
17	-	-	-	1,308,685	(1,308,685)	43,434	9,019,674
18	-	-	-	1,308,453	(1,308,453)	37,728	7,748,949
19	-	-	-	1,177,896	(1,177,896)	32,292	6,603,345
20	-	-	-	1,177,896	(1,177,896)	27,125	5,452,574
21	-	-	-	1,075,685	(1,075,685)	22,165	4,399,054
22	-	-	-	966,263	(966,263)	17,661	3,450,451
23	-	-	-	854,381	(854,381)	13,635	2,609,705
24	-	-	-	740,010	(740,010)	10,101	1,879,796
25	-	-	-	623,123	(623,123)	7,073	1,263,746
26	-	-	-	503,692	(503,692)	4,564	764,617
27	-	-	-	381,691	(381,691)	2,588	385,514
28	-	-	-	257,093	(257,093)	1,159	129,580
29	-	-	-	129,871	(129,871)	292	0
			\$ 28,842,799	\$ 30,414,693		\$ 1,069,842	

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area C

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.1368	1.0000	1,084	1,232	\$ 201,429	\$ 228,991
2	28	1.1317	1.0000	1,084	1,227	802,379	908,077
3	27	1.1267	1.0000	1,084	1,221	912,807	1,028,414
4	26	1.1216	1.0000	1,084	1,216	1,025,614	1,150,321
5	25	1.1166	1.0000	1,084	1,210	1,140,825	1,273,795
6	24	1.1115	1.0000	1,084	1,205	1,257,923	1,398,236
7	23	1.1066	1.0000	1,084	1,200	1,377,072	1,523,802
8	22	1.1016	1.0000	1,084	1,194	1,498,551	1,650,781
9	21	1.0966	1.0000	1,084	1,189	1,610,304	1,765,922
10	20	1.0917	1.0000	1,084	1,183	2,227,269	2,431,543
11	19	1.0868	1.0000	-	-	1,310,665	1,424,448
12	18	1.0819	1.0000	-	-	1,310,736	1,418,129
13	17	1.0771	1.0000	-	-	1,308,417	1,409,265
14	16	1.0722	1.0000	-	-	1,308,727	1,403,270
15	15	1.0674	1.0000	-	-	1,308,425	1,396,648
16	14	1.0626	1.0000	-	-	1,308,810	1,390,786
17	13	1.0579	1.0000	-	-	1,308,685	1,384,410
18	12	1.0531	1.0000	-	-	1,308,453	1,377,949
19	11	1.0484	1.0000	-	-	1,177,896	1,234,889
20	10	1.0437	1.0000	-	-	1,177,896	1,229,344
21	9	1.0390	1.0000	-	-	1,075,685	1,117,629
22	8	1.0343	1.0000	-	-	966,263	999,433
23	7	1.0297	1.0000	-	-	854,381	879,742
24	6	1.0251	1.0000	-	-	740,010	758,555
25	5	1.0205	1.0000	-	-	623,123	635,871
26	4	1.0159	1.0000	-	-	503,692	511,689
27	3	1.0113	1.0000	-	-	381,691	386,010
28	2	1.0068	1.0000	-	-	257,093	258,835
29	1	1.0023	1.0000	-	-	129,871	130,164
				12,077		\$ 30,414,693	\$ 32,706,948

Total Escalated Expense for Entire Period	\$ 32,706,948
Total Escalated Service Units	12,077
Impact Fee for Service Area C	\$ 2,661

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area C

<u>Impact Fee Project Name⁽¹⁾</u>	<u>Impact Fee Project No.⁽¹⁾</u>	<u>Total Project Cost⁽¹⁾</u>	<u>Percent in Service Area⁽¹⁾</u>	<u>Cost in Service Area⁽¹⁾</u>	<u>Impact Fee Recoverable Cost⁽²⁾</u>	<u>Debt Funded⁽³⁾</u>		<u>Non-Debt Funded⁽³⁾</u>	<u>Impact Fee Recoverable Cost</u>
						<u>Existing</u>	<u>Proposed</u>		
Castle Dr (1)	C-1	\$ 953,000	100%	\$ 953,000	\$ 489,096	\$ -	\$ 391,277	\$ 97,819	\$ 489,096
Castle Dr (2)	C-2	2,390,000	100%	2,390,000	1,226,589	-	981,271	245,318	1,226,589
Castle Dr (3)	C-3	2,424,000	100%	2,424,000	1,244,038	-	995,230	248,808	1,244,038
Castle Dr (4)	C-4	5,536,000	100%	5,536,000	2,841,169	-	2,272,935	568,234	2,841,169
Castle Dr (5)	C-5	2,659,000	50%	1,329,500	682,322	-	545,858	136,464	682,322
Castle Dr (6)	C-6	4,433,000	50%	2,216,500	1,137,545	-	910,036	227,509	1,137,545
Crist Rd	C-7	4,436,000	100%	4,436,000	2,276,631	-	1,821,304	455,326	2,276,631
Firewheel Parkway (2)	C-8	6,292,000	100%	6,292,000	3,229,161	-	2,583,329	645,832	3,229,161
Pleasant Valley Rd (1)	C-9	10,773,000	100%	10,773,000	5,528,887	-	4,423,109	1,105,777	5,528,887
E. Miller Rd	C-10,D-5	955,000	50%	477,500	245,061	-	196,049	49,012	245,061
Pleasant Valley Rd (2)	C-11	3,603,239	100%	3,603,239	1,849,243	1,822,042	-	27,202	1,849,243
Miller Rd Bridge	C-12,D-21	2,743,883	50%	1,371,942	704,104	73,068	-	631,036	704,104
Bottleneck Study Improvements - Service Area C		141,000	100%	141,000	72,364	-	57,891	14,473	72,364
Study Costs		15,840	100%	15,840	15,840	-	-	15,840	15,840
Total		\$ 47,354,962		\$ 41,959,521	\$ 21,542,049	\$ 1,895,110	\$ 15,178,290	\$ 4,468,650	\$ 21,542,049

(1) 2016 Roadway Impact Fee Study As Assigned to Service Area, Appendix A

(2) Line 11 of the Max Fee Table Report

(3) Based on Contributions by Project and Planned Future Debt Financing

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area C

2016 Vehicle Miles (All Service Areas) ⁽¹⁾	653,797
Ten Year Growth in Vehicle Miles (Service Area C) ⁽²⁾	10,840
	<u>10 years</u>
Annual Growth in Vehicle Miles	1,084

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	\$ 246,145	\$ 356,693	\$ 468,259	\$ 582,588	\$ 699,713	\$ 819,127	\$ 941,003	\$ 1,065,636	\$ 1,180,801	\$ 1,310,606	\$ 7,670,569
2016 Vehicle Miles plus Service Area C Growth	654,881	655,965	657,049	658,133	659,217	660,301	661,385	662,469	663,553	664,637	
Total Debt Service Eligible for Impact Fees per Vehicle Mile	\$ 0.38	\$ 0.54	\$ 0.71	\$ 0.89	\$ 1.06	\$ 1.24	\$ 1.42	\$ 1.61	\$ 1.78	\$ 1.97	
Annual Growth in Service Area C Vehicle Miles (Cumulative)	1,084	2,168	3,252	4,336	5,420	6,504	7,588	8,672	9,756	10,840	
Annual Ad Valorem Revenue Generated by Vehicle Miles for Debt Service Eligible for Impact Fees	\$ 407	\$ 1,179	\$ 2,318	\$ 3,838	\$ 5,753	\$ 8,069	\$ 10,796	\$ 13,950	\$ 17,361	\$ 21,376	\$ 85,047
Credit Amount	\$ 85,047										

(1) Engineer's calculation

(2) Line 8 of the Max Fee Table Report

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area D

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	0.451%
Annual Service Unit Growth ⁽²⁾	1,417
Existing Fund Balance ⁽³⁾	1,113,622
Portion of Projects Funded by Existing Debt ⁽³⁾	\$ 2,687,484
Non-debt Funded New Project Cost ⁽⁴⁾	3,245,686
New Project Cost Funded Through New Debt ⁽⁵⁾	10,495,546
Total Recoverable Project Cost⁽⁶⁾	\$ 16,428,715

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁷⁾</u>	<u>Interest⁽⁸⁾</u>	<u>Term</u>
1	\$ 1,049,555	3.02%	20
2	1,049,555	3.77%	20
3	1,049,555	4.02%	20
4	1,049,555	4.27%	20
5	1,049,555	4.52%	20
6	1,049,555	4.77%	20
7	1,049,555	5.02%	20
8	1,049,555	5.27%	20
9	1,049,555	5.52%	20
10	1,049,555	5.77%	20
Total	\$ 10,495,546		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽⁹⁾</u>
1	\$ 1,030,592
2	1,374,123
3	1,374,123
4	1,374,123
5	1,374,123
6	1,374,123
7	1,374,123
8	1,374,123
9	1,374,123
10	1,717,654
Total	\$ 13,741,231

(1) Current Yield for GO Interest and Sinking Fund as of June 30, 2016

(2) Derived from the 10-year Growth Projections Report, Table 7

(3) Totals provided by City Staff on September 23, 2016

(4) Assumes 20% of new project costs funded through sources other than debt unless otherwise specified

(5) Assumes 80% of new project costs funded through new debt issues unless otherwise specified

(6) Line 11 of the Max Fee Table Report

(7) Assumes new debt issued in equal annual amounts

(8) Estimated interest cost provided by City's Financial Advisor on September 28, 2016

(9) Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent fully in tenth year; Non-debt funded capital expenditures made in equal annual amounts

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area D

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 70,677	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 70,677
2	70,677	75,663	-	-	-	-	-	-	-	-	146,340
3	70,677	75,663	77,365	-	-	-	-	-	-	-	223,705
4	70,677	75,663	77,365	79,086	-	-	-	-	-	-	302,791
5	70,677	75,663	77,365	79,086	80,826	-	-	-	-	-	383,617
6	70,677	75,663	77,365	79,086	80,826	82,584	-	-	-	-	466,201
7	70,677	75,663	77,365	79,086	80,826	82,584	84,362	-	-	-	550,563
8	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	-	-	636,721
9	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	-	724,692
10	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
11	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
12	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
13	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
14	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
15	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
16	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
17	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
18	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
19	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
20	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
21	-	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	743,819
22	-	-	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	668,156
23	-	-	-	79,086	80,826	82,584	84,362	86,158	87,972	89,804	590,791
24	-	-	-	-	80,826	82,584	84,362	86,158	87,972	89,804	511,705
25	-	-	-	-	-	82,584	84,362	86,158	87,972	89,804	430,880
26	-	-	-	-	-	-	84,362	86,158	87,972	89,804	348,295
27	-	-	-	-	-	-	-	86,158	87,972	89,804	263,933
28	-	-	-	-	-	-	-	-	87,972	89,804	177,776
29	-	-	-	-	-	-	-	-	-	89,804	89,804
	\$ 1,413,541	\$ 1,513,268	\$ 1,547,298	\$ 1,581,714	\$ 1,616,512	\$ 1,651,688	\$ 1,687,237	\$ 1,723,155	\$ 1,759,436	\$ 1,796,077	\$ 16,289,926

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

II. Summary of Annual Expenses

Year	New Annual Debt Service⁽¹⁾	Annual Capital Expenditures⁽²⁾	Annual Bond Proceeds⁽²⁾	Existing Annual Debt Service⁽³⁾	Annual Credit⁽⁴⁾	Total Expense
1	\$ 70,677	\$ 1,030,592	\$ (1,049,555)	\$ 200,319	\$ (586)	\$ 251,448
2	146,340	1,374,123	(1,049,555)	200,676	(1,498)	670,088
3	223,705	1,374,123	(1,049,555)	200,218	(2,739)	745,754
4	302,791	1,374,123	(1,049,555)	200,178	(4,323)	823,214
5	383,617	1,374,123	(1,049,555)	200,499	(6,262)	902,422
6	466,201	1,374,123	(1,049,555)	200,496	(8,559)	982,707
7	550,563	1,374,123	(1,049,555)	200,293	(11,222)	1,064,203
8	636,721	1,374,123	(1,049,555)	200,340	(14,267)	1,147,363
9	724,692	1,374,123	(1,049,555)	190,489	(17,511)	1,222,240
10	814,496	1,717,654	(1,049,555)	190,434	(21,319)	1,651,711
11	814,496	-	-	190,521	-	1,005,017
12	814,496	-	-	190,622	-	1,005,119
13	814,496	-	-	190,347	-	1,004,844
14	814,496	-	-	190,799	-	1,005,295
15	814,496	-	-	190,359	-	1,004,855
16	814,496	-	-	190,921	-	1,005,417
17	814,496	-	-	190,738	-	1,005,235
18	814,496	-	-	190,400	-	1,004,896
19	814,496	-	-	-	-	814,496
20	814,496	-	-	-	-	814,496
21	743,819	-	-	-	-	743,819
22	668,156	-	-	-	-	668,156
23	590,791	-	-	-	-	590,791
24	511,705	-	-	-	-	511,705
25	430,880	-	-	-	-	430,880
26	348,295	-	-	-	-	348,295
27	263,933	-	-	-	-	263,933
28	177,776	-	-	-	-	177,776
29	89,804	-	-	-	-	89,804
	\$ 16,289,926	\$ 13,741,231	\$ (10,495,546)	\$ 3,508,652	\$ (88,284)	\$ 22,955,979

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

III. Summary of Principal Paid to Date for Existing Debt⁽³⁾

	Principal Paid on Issuance <u>2005</u>	Principal Paid on Debt <u>2008</u>	Principal Paid on Debt <u>2011</u>	Principal Paid on Debt <u>2015</u>	Total Principal Paid to Date
2005	1,147	-	-	-	1,147
2006	3,769	-	-	-	3,769
2007	3,974	-	-	-	3,974
2008	4,179	-	-	-	4,179
2009	4,384	-	-	-	4,384
2010	4,588	-	-	-	4,588
2011	4,834	-	-	-	4,834
2012	5,080	-	-	-	5,080
2013	5,367	-	-	-	5,367
2014	5,653	-	-	-	5,653
2015	5,940	-	-	38,791	44,731
2016	6,268	-	-	90,319	96,587
	<u>\$ 55,183</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 129,110</u>	<u>\$ 184,293</u>

IV. Summary of Debt Financing

Existing Debt Funded Project Costs ⁽⁵⁾	\$ 2,687,484
-Less Principal Paid to Date	184,293
Outstanding Debt Principal	2,503,191
New Project Costs Debt Principal ⁽⁵⁾	10,495,546
Principal Component	\$ 12,998,737

(1) Appendix E - Service Area D, Page 2

(2) Appendix E - Service Area D, Page 1

(3) Prior Debt Funding Provided by City Staff

(4) Appendix E - Service Area D, Page 8

(5) Appendix E - Service Area D, Page 1

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area D

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 1,113,622
1	\$ 1,486	1,417	\$ 2,105,361	\$ 251,448	\$ 1,853,913	\$ 9,203	2,976,738
2	1,486	1,417	2,105,361	670,088	1,435,273	16,662	4,428,672
3	1,486	1,417	2,105,361	745,754	1,359,607	23,039	5,811,318
4	1,486	1,417	2,105,361	823,214	1,282,146	29,100	7,122,565
5	1,486	1,417	2,105,361	902,422	1,202,939	34,835	8,360,339
6	1,486	1,417	2,105,361	982,707	1,122,654	40,237	9,523,229
7	1,486	1,417	2,105,361	1,064,203	1,041,157	45,298	10,609,684
8	1,486	1,417	2,105,361	1,147,363	957,998	50,010	11,617,692
9	1,486	1,417	2,105,361	1,222,240	883,121	54,387	12,555,200
10	1,486	1,417	2,105,361	1,651,711	453,649	57,647	13,066,496
11	-	-	-	1,005,017	(1,005,017)	56,664	12,118,142
12	-	-	-	1,005,119	(1,005,119)	52,386	11,165,410
13	-	-	-	1,004,844	(1,004,844)	48,090	10,208,656
14	-	-	-	1,005,295	(1,005,295)	43,774	9,247,135
15	-	-	-	1,004,855	(1,004,855)	39,439	8,281,718
16	-	-	-	1,005,417	(1,005,417)	35,083	7,311,385
17	-	-	-	1,005,235	(1,005,235)	30,708	6,336,858
18	-	-	-	1,004,896	(1,004,896)	26,313	5,358,275
19	-	-	-	814,496	(814,496)	22,329	4,566,108
20	-	-	-	814,496	(814,496)	18,756	3,770,368
21	-	-	-	743,819	(743,819)	15,327	3,041,876
22	-	-	-	668,156	(668,156)	12,212	2,385,932
23	-	-	-	590,791	(590,791)	9,428	1,804,570
24	-	-	-	511,705	(511,705)	6,985	1,299,849
25	-	-	-	430,880	(430,880)	4,891	873,860
26	-	-	-	348,295	(348,295)	3,156	528,721
27	-	-	-	263,933	(263,933)	1,789	266,577
28	-	-	-	177,776	(177,776)	801	89,602
29	-	-	-	89,804	(89,804)	202	0
			\$ 21,053,606	\$ 22,955,979		\$ 788,751	

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area D

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.1368	1.0000	1,417	1,611	\$ 251,448	\$ 285,855
2	28	1.1317	1.0000	1,417	1,604	670,088	758,359
3	27	1.1267	1.0000	1,417	1,597	745,754	840,203
4	26	1.1216	1.0000	1,417	1,589	823,214	923,311
5	25	1.1166	1.0000	1,417	1,582	902,422	1,007,605
6	24	1.1115	1.0000	1,417	1,575	982,707	1,092,321
7	23	1.1066	1.0000	1,417	1,568	1,064,203	1,177,597
8	22	1.1016	1.0000	1,417	1,561	1,147,363	1,263,917
9	21	1.0966	1.0000	1,417	1,554	1,222,240	1,340,355
10	20	1.0917	1.0000	1,417	1,547	1,651,711	1,803,198
11	19	1.0868	1.0000	-	-	1,005,017	1,092,266
12	18	1.0819	1.0000	-	-	1,005,119	1,087,472
13	17	1.0771	1.0000	-	-	1,004,844	1,082,293
14	16	1.0722	1.0000	-	-	1,005,295	1,077,918
15	15	1.0674	1.0000	-	-	1,004,855	1,072,609
16	14	1.0626	1.0000	-	-	1,005,417	1,068,390
17	13	1.0579	1.0000	-	-	1,005,235	1,063,400
18	12	1.0531	1.0000	-	-	1,004,896	1,058,269
19	11	1.0484	1.0000	-	-	814,496	853,906
20	10	1.0437	1.0000	-	-	814,496	850,072
21	9	1.0390	1.0000	-	-	743,819	772,822
22	8	1.0343	1.0000	-	-	668,156	691,092
23	7	1.0297	1.0000	-	-	590,791	608,328
24	6	1.0251	1.0000	-	-	511,705	524,529
25	5	1.0205	1.0000	-	-	430,880	439,695
26	4	1.0159	1.0000	-	-	348,295	353,825
27	3	1.0113	1.0000	-	-	263,933	266,920
28	2	1.0068	1.0000	-	-	177,776	178,980
29	1	1.0023	1.0000	-	-	89,804	90,006
				15,788		\$ 22,955,979	\$ 24,725,516

Total Escalated Expense for Entire Period	\$ 24,725,516
Total Escalated Service Units	15,788
Impact Fee for Service Area D	\$ 1,486

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area D

<u>Impact Fee Project Name⁽¹⁾</u>	<u>Impact Fee Project No.⁽¹⁾</u>	<u>Total Project Cost⁽¹⁾</u>	<u>Percent in Service Area⁽¹⁾</u>	<u>Cost in Service Area⁽¹⁾</u>	<u>Impact Fee Recoverable Cost⁽²⁾</u>	<u>Debt Funded⁽³⁾</u>		<u>Non-Debt Funded⁽³⁾</u>	<u>Impact Fee Recoverable Cost</u>
						<u>Existing</u>	<u>Proposed</u>		
Bobtown Rd (1)	D-1	\$ 929,000	100%	\$ 929,000	\$ 388,547	\$ -	\$ 310,838	\$ 77,709	\$ 388,547
Bobtown Rd (2)	D-2	1,779,000	100%	1,779,000	744,053	-	595,243	148,811	744,053
Bobtown Rd (3)	D-3	1,995,000	100%	1,995,000	834,394	-	667,515	166,879	834,394
Bobtown Rd (4)	D-4	2,654,000	50%	1,327,000	555,008	-	444,006	111,002	555,008
E. Miller Rd	C-10,D-5	955,000	50%	477,500	199,711	-	159,769	39,942	199,711
E. Oates Rd (Future)	D-6	3,219,000	100%	3,219,000	1,346,323	-	1,077,058	269,265	1,346,323
La Prada Dr	D-7	567,000	50%	283,500	118,572	-	94,857	23,714	118,572
Locust Grove Rd	D-8	2,859,000	100%	2,859,000	1,195,755	-	956,604	239,151	1,195,755
Lyons Rd (1)	D-9	5,014,000	100%	5,014,000	2,097,068	-	1,677,654	419,414	2,097,068
Lyons Rd (2)	D-10	1,366,000	100%	1,366,000	571,319	-	457,055	114,264	571,319
Lyons Rd (Future) (3)	D-11	2,811,000	100%	2,811,000	1,175,680	-	940,544	235,136	1,175,680
Rosehill Rd (1)	D-12	1,364,000	100%	1,364,000	570,483	-	456,386	114,097	570,483
Rosehill Rd (2)	D-13	513,000	100%	513,000	214,558	-	171,647	42,912	214,558
Rowlett Rd (1)	D-14	1,254,000	100%	1,254,000	524,476	-	419,581	104,895	524,476
Rowlett Rd (2)	D-15	1,781,000	100%	1,781,000	744,890	-	595,912	148,978	744,890
Rowlett Rd (3)	D-16	2,486,000	100%	2,486,000	1,039,751	-	831,801	207,950	1,039,751
S. Country Club Rd	D-17	599,000	100%	599,000	250,527	-	200,422	50,105	250,527
Zion Rd	D-18	1,075,000	100%	1,075,000	449,611	-	359,689	89,922	449,611
Northwest Hwy	D-19	2,904,782	100%	2,904,782	1,214,903	1,214,903	-	-	1,214,903
Dairy Rd	D-20	3,597,758	100%	3,597,758	1,504,735	1,413,035	-	91,701	1,504,735
Miller Rd Bridge	C-12,D-21	2,743,883	50%	1,371,942	573,804	59,546	-	514,258	573,804
Bottleneck Study Improvements - Service Area D	Various	236,000	100%	236,000	98,705	-	78,964	19,741	98,705
Study Costs		15,840	100%	15,840	15,840	-	-	15,840	15,840
Total		\$ 42,718,263		\$ 39,258,322	\$ 16,428,715	\$ 2,687,484	\$ 10,495,546	\$ 3,245,686	\$ 16,428,715

(1) 2016 Roadway Impact Fee Study As Assigned to Service Area, Appendix A

(2) Line 11 of the Max Fee Table Report

(3) Based on Contributions by Project and Planned Future Debt Financing

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area D

2016 Vehicle Miles (All Service Areas) ⁽¹⁾	653,797
Ten Year Growth in Vehicle Miles (Service Area D) ⁽²⁾	14,170
	<u>10 years</u>
Annual Growth in Vehicle Miles	1,417

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	\$ 270,996	\$ 347,017	\$ 423,924	\$ 502,969	\$ 584,116	\$ 666,697	\$ 750,856	\$ 837,061	\$ 915,182	\$ 1,004,931	\$ 6,303,748
2016 Vehicle Miles plus Service Area D Growth	655,214	656,631	658,048	659,465	660,882	662,300	663,717	665,134	666,551	667,968	
Total Debt Service Eligible for Impact Fees per Vehicle Mile	\$ 0.41	\$ 0.53	\$ 0.64	\$ 0.76	\$ 0.88	\$ 1.01	\$ 1.13	\$ 1.26	\$ 1.37	\$ 1.50	
Annual Growth in Service Area D Vehicle Miles (Cumulative)	1,417	2,834	4,251	5,668	7,085	8,502	9,919	11,336	12,753	14,170	
Annual Ad Valorem Revenue Generated by Vehicle Miles for Debt Service Eligible for Impact Fees	\$ 586	\$ 1,498	\$ 2,739	\$ 4,323	\$ 6,262	\$ 8,559	\$ 11,222	\$ 14,267	\$ 17,511	\$ 21,319	\$ 88,284
Credit Amount	\$ 88,284										

(1) Engineer's calculation

(2) Line 8 of the Max Fee Table Report

CITY OF GARLAND, TEXAS WATER IMPACT FEE STUDY FINAL DRAFT



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October
2016

Prepared for the City of Garland

Prepared by:

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Phone 972-770-1300

TBPE Firm Registration Number: F-928

Project Number: 063551021

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Appendices

- Appendix A: Finance and Capacity Calculations
 A1: Additional Service Unit & Capacity Calculations

EXECUTIVE SUMMARY

This study was performed to update the City of Garland's (City) water system impact fees. The implementation of an impact fee is a way to shift a portion of the burden of paying for new facilities onto new development.

Capital Improvements to elements of the water system, including storage facilities, pumping facilities, and the distribution network itself, were provided by the City. Population and land use projections were developed by Freese and Nichols, Inc.

Generally, new water infrastructure is designed beyond the 10-year requirements of the Impact Fee; however, Texas' impact fee law (Chapter 395 of the *Local Government Code*) only allows recovery of costs to serve the 10-year planning period. A portion of the remaining costs past the 10-year window may be recovered as a result of impact fee updates in the future.

The impact fee law defines a service unit as "a standardized measure of consumption, use, generation, or discharge attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years". For the purpose of this report, the City defines a service unit as a unit of development that consumes the amount of water requiring a standard 5/8" x 3/4" meter. For developments that require a different size meter, a service unit equivalent has been determined as a multiplier of the 5/8" x 3/4" meter based on its required operating capacity. These service unit equivalency factors and associated maximum assessable impact fees are shown in Table 1.

After analysis of the City's 10-year growth projections and the associated demand values, 3,270 additional service units will need water by the year 2026. Based on these additional service units and recoverable costs calculated from the City's Capital Improvements Plan, the City may assess a maximum of \$593 per service unit. Support and calculations for these results are included in the following report.

Table 1: Maximum Assessable Water Impact Fee for Commonly Used Meters

Meter Size*	Maximum Continuous Operating Capacity (GPM)**	Service Unit Equivalent	Maximum Assessable Fee (\$)
5/8"x 3/4" PD	10	1	593
3/4" PD	15	1.5	890
1" PD	25	2.5	1,483
1 1/2" PD	50	5	2,965
2" PD	80	8	4,744
2" Compound	80	8	4,744
2" Turbine	160	16	9,488
3" Compound	175	17.5	10,378
3" Turbine	350	35	20,755
4" Compound	300	30	17,790
4" Turbine	650	65	38,545
6" Compound	675	67.5	40,028
6" Turbine	1,400	140	83,020
8" Compound	900	90	53,370
8" Turbine	2,400	240	142,320
10" Turbine	3,500	350	207,550

* PD = Positive Displacement Meter (Typical Residential Meter)

** Operating capacities obtained from American Water Works (AWWA) C-700, C-701 & C-702

Introduction

The City contracted Kimley-Horn and Associates, Inc. (Kimley-Horn) to update the existing water impact fee. The most recent water impact fee update was completed by Water Resources Management, LP in November, 2003. The purpose of the report is to satisfy the requirements of the law and provide the City with an updated impact fee capital improvements plan and associated impact fees.

For convenience and reference, the following is excerpted from Chapter 395 of the Local Government Code.

(a) The political subdivision shall use qualified professionals to prepare the capital improvements plan and to calculate the impact fee. The capital improvements plan must contain specific enumeration of the following items:

(1) a description of the existing capital improvements within the service area and the costs to upgrade, update, improve, expand, or replace the improvements to meet existing needs and usage and stricter safety, efficiency, environmental, or regulatory standards, which shall be prepared by a qualified professional engineer licensed to perform the professional engineering services in this state;



- (2) *an analysis of the total capacity, the level of current usage, and commitments for usage of capacity of the existing capital improvements, which shall be prepared by a qualified professional engineer licensed to perform the professional engineering services in this state;*
- (3) *a description of all or the parts of the capital improvements or facility expansions and their costs necessitated by and attributable to new development in the service area based on the approved land use assumptions, which shall be prepared by a qualified professional engineer licensed to perform the professional engineering services in this state;*
- (4) *a definitive table establishing the specific level or quantity of use, consumption, generation, or discharge of a service unit for each category of capital improvements or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, and industrial;*
- (5) *the total number of projected service units necessitated by and attributable to new development within the service area based on the approved land use assumptions and calculated in accordance with generally accepted engineering or planning criteria;*
- (6) *the projected demand for capital improvements or facility expansions required by new service units projected over a reasonable period of time, not to exceed 10 years; and*
- (7) *a plan for awarding:*
 - (A) *a credit for the portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or*
 - (B) *in the alternative, a credit equal to 50 percent of the total projected cost of implementing the capital improvements plan.*

The impact fees are based on recommended capital improvements and the population growth projections provided by the City.

The study process involved the following two tasks:

1. IMPACT FEE CAPITAL IMPROVEMENTS PLAN

This task involved developing cost projections for the capital improvement projects that the City has identified to be built in the 10-year planning window. It also involved estimating the utilized capacity of the existing and proposed capital improvement projects to determine their 10-year recoverable cost.

2. IMPACT FEE ANALYSIS AND REPORT

This task included calculating the additional service units and service unit equivalents. These values were then used to determine the impact fee per service unit and the maximum assessable impact fee by meter size.

Water Service Area

The build-out service area boundary for the City's water system is shown on the enclosed Water System Service Area Map (Exhibit 1). This area encompasses almost all the land within the City's limits and includes approximately 35,900 acres.

Water System Definitions

The following terms are used throughout this report.

Capital Improvements Plan (CIP)

Recommended improvement to the water distribution system based on growth and water demand projections.

Demand (Consumption)

Volume of water used for a given time period, typically measured in million gallons per day (mgd) or gallons per minute (gpm).

EST

Elevated Storage Tank

gpd

Gallons per day

GST

Ground Storage Tank

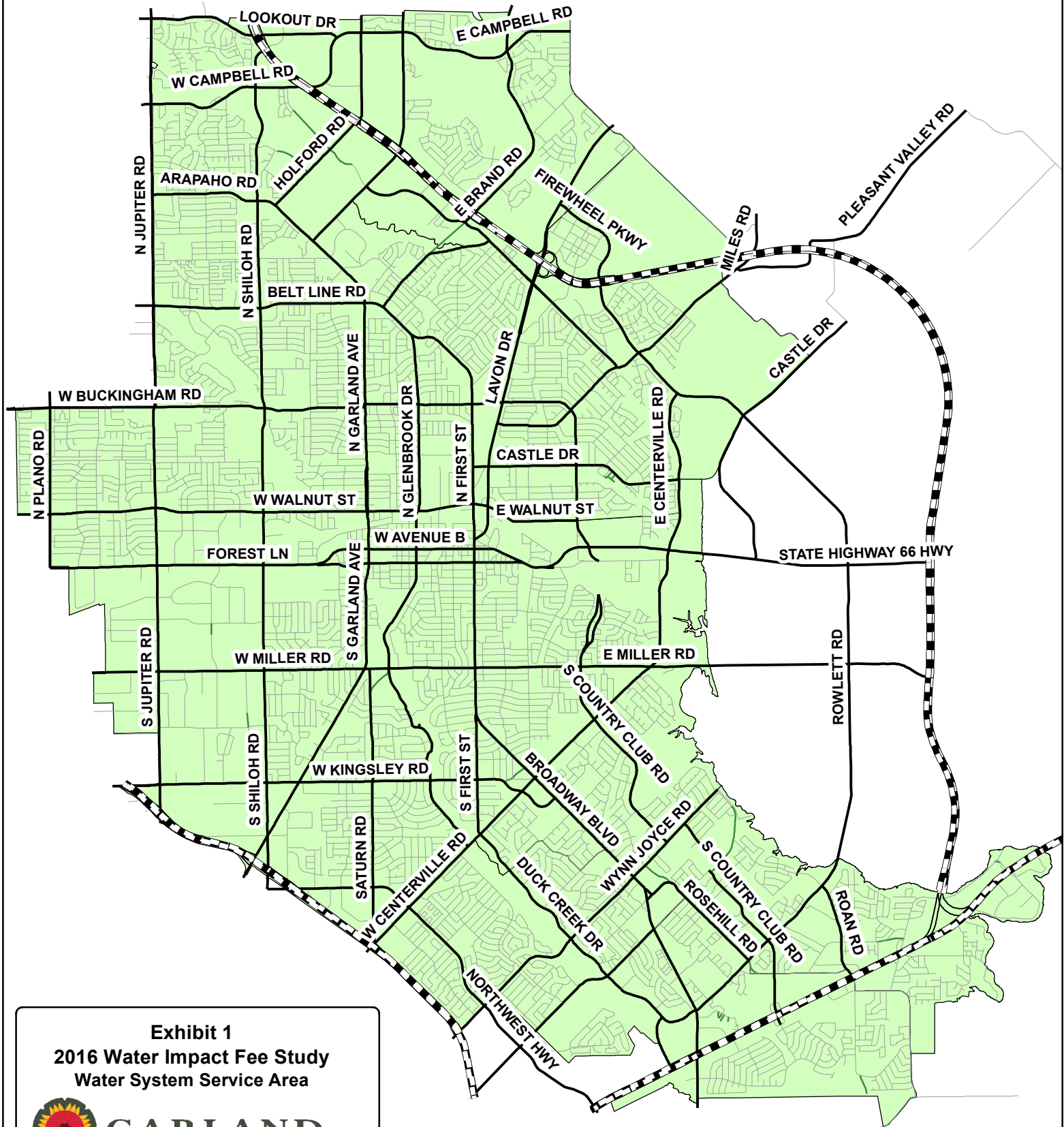


Exhibit 1
2016 Water Impact Fee Study
Water System Service Area



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0 0.5 1 2
 Miles



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October 2016

Legend



Water system Service Area

EXISTING WATER DISTRIBUTION SYSTEM

Infrastructure Eligible for Impact Fees

There is some existing City water system infrastructure which has additional capacity to serve future growth within the City's service area. A portion of the cost of this infrastructure is eligible for recoverable cost in the updated impact fee. Table 2 shows the recoverable cost of the projects that were determined to be eligible for impact fee consideration. These projects are also illustrated in Exhibit 2. The recoverable cost is calculated by multiplying the 2026-2016 capacity utilization percentage by the total project cost.

Table 2: Project Costs for Existing Infrastructure Eligible for Impact Fees

Project No.	Existing Improvement Description	2016 Capacity (% Utilization)	2026 Capacity (% Utilization)	2026 - 2016 Capacity (% Utilization)	Total Project Cost*	2026 Projected Recoverable Cost*
1	Water Line - Firewheel Mall (190 to Lavon)	81%	85%	4%	\$ 542,360	\$ 21,694
2	Pump Station - Broadway Improvements	81%	85%	4%	\$ 5,429,318	\$ 217,173
3	Water Line - Centerville to Pleasant Valley	81%	85%	4%	\$ 4,596,873	\$ 183,875
4	Water Line - Commerce Water Tower to Centerville	81%	85%	4%	\$ 623,561	\$ 24,942
5	Water Lines - Along Naaman Forest & Along Bunker Hill	81%	85%	4%	\$ 1,397,000	\$ 55,880
6	Water Line - Wynn Joyce to Wendell Way	81%	85%	4%	\$ 500,000	\$ 20,000
7	Water Lines - Along Commerce & Along Eastgate Dr	81%	85%	4%	\$ 1,500,000	\$ 60,000
8	Elevated Tank - Commerce Water Tower	81%	85%	4%	\$ 4,978,939	\$ 199,158
9	Water Line - Lawler to Forest along Yale	81%	85%	4%	\$ 814,373	\$ 32,575
10	Water Line - Fifth to under RR tracks along Austin St	81%	85%	4%	\$ 513,000	\$ 20,520
11	Water Lines - Along Fifth St & State St	81%	85%	4%	\$ 1,613,000	\$ 64,520
12	Pump Station - Apollo Northside Improvements	81%	85%	4%	\$ 6,555,322	\$ 262,213
13	Water Line - Centerville to La Prada along Northwest Hwy	81%	85%	4%	\$ 1,760,000	\$ 70,400
14	Water Line - Wendell Way to Rowlett Road	81%	85%	4%	\$ 2,800,000	\$ 112,000
15	Elevated Tank - Southwest Garland Water Tower	81%	85%	4%	\$ 21,376,000	\$ 855,040
16	Water Line - Firewheel to Miles Rd along Pleasant Valley	81%	85%	4%	\$ 700,000	\$ 28,000
TOTAL					\$ 55,699,746	\$ 2,227,990

* Does not include financing costs.

WATER IMPACT FEE CAPITAL IMPROVEMENTS PLAN

The City of Garland identified a list of projects that will be required to supply water to the City's customers in the future. Eight (8) projects are determined eligible for recoverable cost through impact fee over the next 10 years. These impact fee capital improvement projects are summarized in Table 3 and illustrated in Exhibit 2.

Exhibit 2 2016 Water Impact Fee Study Impact Fee CIP Projects



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0 0.5 1 2
Miles



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October 2016

Legend

- Water Service Area
- FEMA Floodplain

Water Pipes

- Existing
- Proposed

Water Tanks

- Existing
- Proposed

Pump Stations

- Existing
- Proposed

Impact Fee CIP Projects

1. Water Line - Firewheel Mall (190 to Lavon)
2. Pump Station - Broadway Improvements
3. Water Line - Centerville to Pleasant Valley
4. Water Line - Commerce Water Tower to Centerville
5. Water Lines - Along Naaman Forest & Along Bunker Hill
6. Water Line - Wynn Joyce to Wendell Way
7. Water Lines - Along Commerce & Along Eastgate Dr
8. Elevated Tank - Commerce Water Tower
9. Water Line - Lawler to Forest along Yale
10. Water Line - Fifth to under RR tracks along Austin St
11. Water Lines - Along Fifth St & State St
12. Pump Station - Apollo Northside Improvements
13. Water Line - Centerville to La Prada along Northwest Hwy
14. Water Line - Wendell Way to Rowlett Road
15. Elevated Tank - Southwest Garland Water Tower
16. Water Line - Firewheel to Miles Rd along Pleasant Valley
17. Water Line - 635 to Kingsley along Shiloh Rd
18. Water Line - Rosehill to I-30 along Bobtown
19. Water Line - 190 to Muirfield along Brand
20. Water Line - Rowlett Rd to Bobtown along Country Club
21. Water Line - Campbell along 190 along Naaman Forest
22. Elevated Tank - East Zone Water Tower
23. Pump Station - Firewheel Pump Station Expansion

Table 3: Estimated Project Costs for
Proposed Capital Improvement Projects

Project No.	Proposed Improvement Description	2016 Capacity (% Utilization)	2026 Capacity (% Utilization)	2026 - 2016 Capacity (% Utilization)	Estimated Total Project	2026 Projected Recoverable Cost
17	Water Line - 635 to Kingsley along Shiloh Rd	81%	85%	4%	\$1,000,000	\$ 40,000
18	Water Line - Rosehill to I-30 along Bobtown	81%	85%	4%	\$1,200,000	\$ 48,000
19	Water Line - 190 to Muirfield along Brand	81%	85%	4%	\$500,000	\$ 20,000
20	Water Line - Rowlett Rd to Bobtown along Country Club	81%	85%	4%	\$1,000,000	\$ 40,000
21	Water Line - Campbell along 190 along Naaman Forest	81%	85%	4%	\$130,000	\$ 5,200
22	Elevated Tank - East Zone Water Tower	81%	85%	4%	\$7,000,000	\$ 280,000
23	Pump Station - Firewheel PS Expansion	81%	85%	4%	\$8,000,000	\$ 320,000
24	Water Master Plan Update	0%	100%	100%	\$550,000	\$ 550,000
Total Project Cost					\$19,380,000	\$ 1,303,200
*Financing Cost					\$ 10,852,800	\$ 729,792
TOTAL					\$30,232,800	\$ 2,032,992

*Includes 20-year simple interest loan @ 4.7% APR

WATER IMPACT FEE CALCULATION

In accordance with Chapter 395 of the *Local Government Code*, the City defines a service unit based on historical water usage over the last 10 years as compared to the estimated residential units. The residential unit is the development type that typically uses a 5/8" x 3/4" meter. The measure of the consumption per service unit is based on a 5/8" x 3/4" meter and the data shown in Table 4.

Table 4: Service Unit Consumption Calculation

Year	Population	Service Units (3.08 persons/unit)	Water Usage Average Day Demand (MGD)	Consumption per Service Unit (GPD)
2006	222,432	72,218	36.18	501
2007	224,988	73,048	30.69	420
2008	226,144	73,423	35.76	486
2009	225,865	73,333	31.57	430
2010	226,876	73,661	35.72	485
2011	231,596	75,194	36.67	488
2012	233,623	75,852	31.97	420
2013	234,694	76,199	29.06	381
2014	235,597	76,493	26.17	342
2015	236,897	76,915	27.24	354
10-Year Average Consumption per Service Unit:				431

* Water Usage Source: City of Garland

* Population Source: Freese and Nichols

Additional Service Unit and Water Impact Fee Calculation

According to the City's 10-year growth projections and corresponding water demand projections, water service will be required for an additional 3,270 service units. The calculation is summarized below:

- A service unit, which is a unit of development that consumes approximately 431 GPD, is a typical residential connection that uses a 5/8" x 3/4" meter. Table 5 details the future water demand projections and how it effects the service units projected for the next 10 years.

Table 5: 10-Year Additional Service Units Calculation

Year	Average Day Demand (MGD)	Service Unit Demand (GPD)	Service Units
2016	27.24	431	63,234
2026	28.65	431	66,504
10-Year Additional Service Units			3,270

Impact fee law allows for a credit calculation to credit back the development community based on the utility revenues or ad valorem taxes that are allocated for paying a portion of future capital improvements. The intent of this credit is to prevent the City from double-charging development for future capital improvements via impact fees and utility rates. If the City chooses not to do a financial analysis to determine the credit value, law requires them to reduce the recoverable cost by 50 percent. The City has decided to forgo the financial analysis and reduce the recoverable cost by 50 percent. The maximum recoverable cost for impact fee is shown in Table 6.

Table 6: Recoverable Cost Breakdown

Water System Facility	Total Project Cost	2026 Recoverable Cost
Existing Bond Projects	\$ 55,699,746	\$ 2,227,990
Proposed Capital Improvement Projects	\$ 30,232,800	\$ 2,032,992
Planning Expenses - Water Impact Fee	\$ 36,594	\$ 36,594
Existing Water Impact Fee Fund Balance	\$ (414,123)	\$ (414,123)
Totals	\$ 85,555,017	\$ 3,883,452

The impact fee per service unit is calculated as follows:

- Assessable Cost = 50% of Recoverable Cost = \$1,941,726
- Impact fee per service unit = $\frac{\text{Assessable Cost}}{\text{Additional service units}}$

- Impact fee per service unit = $\frac{\$1,941,726}{3,270} = \593

Therefore, the maximum assessable impact fee per service unit is \$593.

For developments that require a different size meter, a service unit equivalent has been determined as a multiplier of the 5/8" x 3/4" meter based on its required operating capacity. The maximum impact fee that could be assessed for other meter sizes is based on the values shown in Table 7.

Table 7: Service Unit Equivalency Table for Commonly Used Meters

Meter Size*	Maximum Continuous Operating Capacity (GPM)**	Service Unit Equivalent	Maximum Assessable Fee (\$)
5/8"x 3/4" PD	10	1	593
3/4" PD	15	1.5	890
1" PD	25	2.5	1,483
1 1/2" PD	50	5	2,965
2" PD	80	8	4,744
2" Compound	80	8	4,744
2" Turbine	160	16	9,488
3" Compound	175	17.5	10,378
3" Turbine	350	35	20,755
4" Compound	300	30	17,790
4" Turbine	650	65	38,545
6" Compound	675	67.5	40,028
6" Turbine	1,400	140	83,020
8" Compound	900	90	53,370
8" Turbine	2,400	240	142,320
10" Turbine	3,500	350	207,550

* PD = Positive Displacement Meter (Typical Residential Meter)

** Operating capacities obtained from American Water Works (AWWA) C-700, C-701 & C-702

Appendix A – Capacity Calculations

Table A1: Additional Service Unit & Capacity Calculations

10-Year Additional Service Units Calculation

Year	Average Day Demand (MGD)	Service Unit Demand (GPD)	Service Units	Capacity
2016	27.24	431	63,234	81%
2026	28.65	431	66,504	85%
Buildout	33.55	431	77,878	100%
10-Year Additional Service Units			3,270	



GARLAND POLICY REPORT

City Council Regular Session Agenda

Agenda Item 5.

Meeting Date: December 6, 2016

Item Title: Garland Development Code (GDC) Amendment: Self-Storage Uses in the Light Commercial (LC) District

Submitted By: Will Guerin, Planning Director

Council Goal: Sustainable Quality Development and Redevelopment

ISSUE

Consider an amendment to Chapter 2: Zoning Regulations, Article 5, Division 2 - Land Use Matrix, Section 2.51 of the Garland Development Code (GDC) regarding Self-Storage Facilities (mini-warehouse) in the Light Commercial (LC) District.

RECOMMENDATION

On November 14, 2016, the Plan Commission by a vote of nine (9) to zero (0) recommended approval of an amendment to Chapter 2: Zoning Regulations, Article 5, Division 2 - Land Use Matrix, Section 2.51 of the Garland Development Code (GDC) regarding Self-Storage Facilities (mini-warehouse) in the Light Commercial (LC) District.

BACKGROUND

The Garland Development Code (GDC) was adopted by the City Council in May 2015. As was anticipated, there will be needed amendments to the code as staff, the Plan Commission and City Council periodically discover errors or unintended consequences with a new code. The particular amendment proposed by staff at this time is to ensure consistency with previous zoning regulations and avoid such unintended consequences previously mentioned. The particular amendment is regarding the level of allowance of Self-Storage Facilities in the Light Commercial (LC) zoning district. Explanations of the proposed amendment are included in the considerations below.

CONSIDERATION

1. The proposed amendment to the Land Use Matrix in Chapter 2, Section 2.51 would no longer allow Self-Storage Uses by right in the Light Commercial (LC) zoning district and instead require consideration of such uses in the LC zoning district through a Specific Use Provision (SUP). The Community Retail (CR) District currently requires a Specific Use Provision (SUP) for Self-Storage Facilities, while the use is permitted by right in Heavy Commercial (HC) and Industrial (I), in addition to Light Commercial.
2. The majority of the concentration of existing straight Light Commercial (LC) zoning is along IH-30 and along Centerville Road along and near its intersection with South First Street/Duck Creek Drive. The Light Commercial areas along IH-30 were previously zoned Freeway (FW) and IH-30 Overlay which required a Specific Use Provision (SUP) for Self-Storage Facilities. The Light Commercial areas along Centerville were previously zoned Commercial-1 (C-1) which allowed Self-Storage Facilities by right. While staff recognizes that the storage industry has evolved to more commonly locate near residential areas and in less intensive zoning districts given its higher aesthetic standards, a Specific Use Provision (SUP) process is appropriate in certain less intensive zoning districts to determine on a case-by-case basis whether a Self-Storage Facility is appropriate for a particular location. In addition, there may be development and redevelopment opportunities for other uses along IH-30, which is a catalyst area as identified in the Envision Garland Plan, that could be better realized by requiring a vetting process (SUP) for Self-Storage Facilities rather than allowing them by right.
3. Should the Council approve the proposed GDC amendment, staff will bring forward the subsequent ordinance.
4. Staff will bring forward future amendments to the GDC as they continue to be vetted. As mentioned above, staff recommends particular amendments to Section 2.51 at this time due to the needed consistency with previous zoning regulations.

Attachments

Garland Development Code (GDC) Attachments

Legend:

N/A - Not applicable (i.e., no parking requirement)
* -See Chapter 2, Section 2.52 for special standards
gfa – Gross floor area

Section 2.51: Land Use Matrix

P	The land use is allowed by right in the zoning district indicated.
	The land use is prohibited in the zoning district indicated.
S	The land use is allowed only upon approval of a Specific Use Provision (SUP) in the zoning district indicated.

	AG - Agricultural	SF-E – Single-Family Estate	SF-10 – Single-Family -10	SF-7 – Single-Family-7	SF-5 – Single-Family-5	SFA – Single-Family Attached (townhouse)	2F – Two-Family (duplex)	MF – Multi-Family	NO – Neighborhood Office	CO – Community Office	NS – Neighborhood Services	CR – Community Retail	LC – Light Commercial	HC – Heavy Commercial	IN – Industrial	UR – Urban Residential (live/work)	UB – Urban Business (work/live)	DT – Downtown FBC (see Chapter 7)	Parking Requirements	Cross-Reference(s) for Special Standards
Printing/Publishing House										S		S	S	P	P			-	1 / 300 office gfa + 1 / 1,000 remainder gfa	-
Recording Studio/Media Production										S		P	P	P	P		S	-	1 / 300 gfa	-
Recycling Collection Center (no outside storage)														S	S			-	1 / 300 gfa for office + 1 / 1,000sf warehouse and storage area	Sec. 2.52(A)(8)
Recycling Salvage Yard (unlimited outside storage)															S			-	1 / 300 gfa for office + 1 / 1,000sf warehouse and storage area	Sec. 2.52(A)(8)
Self-Storage Facility (mini-warehouse)												S	P S	P	P			-	1 / 20 units (1/25 units if over 100 units in development) + 1 / 300 office gfa + 1 / manager's apartment	Sec. 2.52(A)(16)
Small Engine/Lawn Equipment Rental & Repair (indoors)												S	P	P	P			-	1 / 300 gfa	-
Taxidermist													S	P	P			-	1 / 400 gfa	-
Vehicle Dispatch & Storage													S	S	P			-	1 / 300 office gfa + 1 / 1,000 remainder gfa	-
Veterinary Clinic, Large Animal (outdoor pens)	S																	-	1 / 400 gfa	-
Veterinary Clinic, Small Animal (indoors only)									S	P	S	P	P	P	P	P	P	-	1 / 300 gfa	-
Veterinary Clinic, Small Animal (outdoor kennels, runs)	S												S	P	P			-	1 / 300 gfa	-
MOTOR VEHICLE & RELATED USES																				
Automobile Leasing/Rental										S		P	P	P	P			-	1 / 400 gfa	Sec. 2.52(A)(3)
Automobile Repair, Major													S	P	P			-	1 / 400 gfa + 2 / repair bay	Sec. 2.52(A)(3), Sec. 4.20
Automobile Repair, Minor												P	P	P	P			-	1 / 400 gfa + 2 / repair bay	Sec. 2.52(A)(3), Sec. 4.20
Automobile Sales, New or Used													S	P	S			-	customer parking: 1 / 400 gfa (minimum 2 spaces), plus 1 space per employee on-site at any time	-
Boat Sales, Leasing & Repair (outside storage)												S	S	P	S			-	1 / 600 gfa	Sec. 2.52(A)(14)

REPORT & MINUTES

P.C. Meeting, November 14, 2016

Consideration of an amendment to Chapter 2: Zoning Regulations, Article 5, Division 2 - Land Use Matrix, Section 2.51 of the Garland Development Code (GDC), Ordinance 6773, regarding Self-Storage Facilities (mini-warehouse) in the Light Commercial (LC) District; and to Chapter 7: Downtown District, Article 8, Section 7.30 regarding Major and Minor Waivers.

Motion was made by Commissioner Dalton, seconded by Commissioner O'Hara to close the public hearing and approve the request for amendment to Chapter 2: Zoning Regulations, Article 5, Division 2 - Land Use Matrix, Section 2.51 of the Garland Development Code (GDC), Ordinance 6773, regarding Self-Storage Facilities (mini-warehouse) in the Light Commercial (LC) District; and to take no action on an amendment to Chapter 7: Downtown District, Article 8, Section 7.30 regarding Major and Minor Waivers. Staff will re-work the latter amendment language and bring it forward at a later date.