SUBDIVISION DEVELOPMENT AGREEMENT BETWEEN WALLER COUNTY, TEXAS AND ASHTON HOUSTON RESIDENTIAL, LLC FM 1774 180 SUBDIVISION

This Subdivision Development Agreement with attached exhibits ("Agreement") is entered into by and between Waller County, Texas ("County"), a political subdivision of the State of Texas, and Ashton Houston Residential, LLC ("Developer"), a Texas limited liability company qualified to conduct business in Texas, for the FM 1774 180 subdivision effective as of _____, 2026 (the "Effective Date"). County and Developer are sometimes referred to herein collectively as "the Parties" and individually as "a Party".

Recitals

WHEREAS, Developer has purchased or intends to purchase approximately 180.2 acres of real property located in Waller County, Texas, which is more particularly described by metes and bounds in Exhibit A ("Property") and which will be developed into the FM 1774 180 subdivision ("Project"); and

WHEREAS, Developer desires to develop Project in accordance with the uses, layout, configuration, lot sizes, lot widths, landscaping, traffic circulation patterns, and all other provisions Plan of Development detailed in the plan of development attached hereto as Exhibit B – Plan of Development ("Plan of Development" or "Exhibit B"), as well as the general development plan attached hereto as Exhibit C – General Development Plan ("General Development Plan" or "Exhibit C"), and in accordance with the variances approved by the County attached hereto as Exhibit D – Variances ("Exhibit D" or "Variances"); Exhibit E – Waller County Subdivision and Development Regulations ("Exhibit E" or "County SDR's") and Exhibit F – Memorandum of Agreement ("Exhibit F" or "Memo"), and

WHEREAS, County finds that subdivision development agreements are an appropriate way of providing for the responsible construction of appropriate and necessary infrastructure, encouraging orderly growth, and promoting the welfare of residents in the County; and

WHEREAS, County desires that the project be developed on the Project and expects to receive a benefit from the development; and

WHEREAS, in exchange for the approval of the Variances needed to facilitate the development of Project, Developer agrees to complete the development subject to certain construction and development standards, which are more particularly described in the Plan of Development attached hereto and hereby incorporated.

NOW, THEREFORE, IN CONSIDERATION of the mutual covenants and promises set forth in this Agreement and its Exhibits and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. **INTEGRATION OF RECITALS.** The Parties agree that the foregoing recitals are true and accurate and constitute matters agreed to herein, and that the recitals are made a part hereof for all purposes.

2. **PURPOSE.** The purpose of this Agreement is to provide for the responsible construction of the appropriate and necessary infrastructure for the Project. The Parties shall coordinate the development of certain aspects of the Project as detailed in Exhibits A, B, C, and D. Developer agrees to comply with the terms of this Agreement and its attached Exhibits while developing the Project.

3. **AUTHORITY.** The County is entering into this Agreement under the authority of the Constitution and laws of the State of Texas.

4. **ASSIGNMENT.** The Parties acknowledge that rights and obligations under this Agreement are intended to facilitate the development of Project in accordance with the terms of this Agreement and its Exhibits. While Developer and its Affiliate entities (as defined below), its contractors and subcontractors will be the primary actor in grading and laying out the lots, this Agreement is not intended to prevent the construction of

single-family homes and their appurtenant infrastructure by a variety of homebuilders who may purchase finished lots or entitled lots from Developer, as long as construction complies with the terms of this Agreement. Developer intends to sell the Property to Ashton Houston Residential, L.L.C, a Texas limited liability company ("AW"). Assignment of this Agreement to a party other than an Affiliate of Developer or AW shall require the written agreement of the County. For purposes of this Agreement, the term "Affiliate" means (a) an entity that directly or indirectly controls, is controlled by or is under common control with Developer or AW, or (b) an entity at least five percent of whose economic interest is owned by Developer or AW or an entity that directly or indirectly controls, is controlled by or is under common control with Developer or AW, or (c) a land banking entity to which the Developer or AW has a contractual right to repurchase finished lots or all or a portion of the Property from the land banking entity; and the term "control" means the power to direct the management of such entity through voting rights, ownership or contractual obligations.

5. **AMENDMENTS AND WAIVERS.** Amendments to this Agreement, beyond the allowances and minor modifications stipulated within the Plan of Development, must be in writing and signed by both Parties. Verbal amendments or deviations from the requirements herein are not effective or binding. Any failure by a Party to insist upon strict performance by the other Party of any provision of this Agreement will not, regardless of length of time during which that failure continues, be deemed a waiver of that Party's right to insist upon strict compliance with all terms of this Agreement. Any enforceable waiver of a provision of this Agreement must be in writing and signed by both Parties, and such waiver shall only be effective as to the specific default and the specific time period set forth in the waiver. A written waiver will not constitute a waiver of any subsequent default or right to require performance of the same or any other provision of this Agreement in the future.

6. **COVENANT RUNNING WITH THE LAND.** This Agreement shall constitute a covenant that runs with the land and is binding on future owners of Project. A memorandum of this Agreement in the form attached hereto as Exhibit F shall be recorded in the Official Public Records of Waller County, Texas. Agreement is not

intended to be binding upon, or create any encumbrance to title as to, any ultimate consumer who purchases a fully developed and improved lot within the Property.

7. **DEVELOPMENT RIGHTS.** Upon the mutual execution of this Agreement, the County and Developer agree that the Development Rights, consisting of the covenants, agreements, and privileges regarding the development of the Project as set forth in this Agreement, shall be governed by applicable law, including Chapter 245 of the Texas Local Government Code.

8. **VARIANCES.** County has granted the Variances set forth in Exhibit D prior to the execution and approval of this Agreement. County has the authority to enter into this Agreement and to grant the Variances attached to this Agreement, as well as to consider and grant future variances in accordance with applicable law.

9. **COST REIMBURSEMENT**. Developer shall reimburse County for all reasonable and documented costs incurred by County in connection with the review, negotiation, administration, and enforcement of this Agreement, including but not limited to legal fees, engineering review fees, and third-party consultant costs. County shall provide Developer with an itemized invoice, and payment shall be due within thirty (30) days of receipt.

10. **TOSCA LANE IMPROVEMENT.** Developer agrees that Tosca Lane shall serve as a second point of vehicular access to the Project upon the platting and recordation of one hundred fifty (150) residential lots within the Project. Upon reaching this threshold, Developer shall, at its sole cost and expense, construct and complete the Tosca Lane connection in accordance with County standards and subject to County review and approval, including milling and overlaying Tosca Lane. Furthermore, the Developer shall be responsible for acquiring any additional right-of-way as necessary to make the connection. The secondary access via Tosca Lane shall be completed and operational prior to the issuance of building permits for any lots in excess of the initial 150 lots, unless otherwise approved in writing by the County. The connection may either be a permanent access easement or platted.

11. **DEFAULT.** No Party shall be deemed in default of any provision of this Agreement until the expiration of thirty (30) days following the receipt of notice of default from the other Party, during which time the defaulting Party may cure the default. Absent *force majeure* or a written extension of the cure period signed by both Parties, if the default is not cured within the thirty-day cure period, the non-defaulting Party may pursue all available legal and equitable remedies, including specific performance. All remedies will be cumulative, and the pursuit of one remedy will not constitute an election of remedies or waiver of the right to pursue other available remedies. In addition to other remedies, County may withhold acceptance of roads within the subdivision for County maintenance for non- compliance with this Agreement.

12. **TERMINATION FOR FAILURE TO BEGIN DEVELOPMENT.** County may terminate this Agreement if Developer has not completed construction of 95% of the roads and streets in Phase 1, as shown in Exhibit C, and Developer has not sold at least 5% of the lots in Phase 1 to builders on or before December 31, 2030; provided the County gives prior written notice, and Developer fails to cure within 60 days of receipt of the notice. Upon said termination by County, this Agreement shall have no further force and effect.

13. **NOTICES.** All notices for this Agreement shall be in writing and may be affected by sending notice by registered or certified mail, return receipt requested, to the addresses below. Notice shall be deemed given three (3) business days after deposited with the United States Postal Services with sufficient postage affixed. A Party may change its address for notices by giving notice to the other Party in accordance with this section.

Notices mailed to County:	County Judge 425 FM 1488, Ste. 106 Hempstead, Texas 77445
With a Copy to Attorney:	Randle Law Office Attn: J. Grady Randle 820 Gessner, Suite 1570 Houston, Texas 77024
Notices mailed to Developer:	Eugene and Paula Mattern

Attn: Jarrod Payne
P.O. Box 1029
Magnolia, TX 77353
ojadevelopment@gmail.com

Ashton Houston Residential, L.L.C.
Attn: Ryan Day
4920 Westway Blvd, Suite 125
Houston, TX 77041 972-768-1876
Ryan.day@ashtonwoods.com

With copy to:

Ashton Woods USA L.L.C
Attn: Christina Malone, Vice President and Associate General Counsel
3820 Mansell Road, Suite 400
Alpharetta, Georgia 30022 678-781-2078
Christina.malone@ashtonwoods.com

14. **AUTHORITY FOR EXECUTION.** The Waller County Commissioners Court is the contracting authority for County. The County hereby certifies, represents, and warrants that the execution of this Agreement is duly authorized and adopted in conformity with County ordinances and the laws of the State of Texas. The Developer hereby certifies, represents, and warrants that the execution of this Agreement is duly authorized and adopted in conformity with Developer's governing documents.

15. **TIME IS OF THE ESSENCE.** Time is of the essence with respect to all provisions of this Agreement and its Exhibits that specify a time for performance; provided, however, that this shall not be construed to limit or deprive a party of the benefits that it may have pursuant to any lawful excuse for delay under this Agreement.

16. ***FORCE MAJEURE*.** In this Agreement, *force majeure* shall mean acts of God, strikes, riots, epidemics, fires, hurricanes, natural disasters, or other causes not reasonably within the control of the Parties that impact a Party's ability to perform in a timely manner with the provisions of this Agreement. If a Party is wholly or partially unable to perform its obligations under this Agreement due to *force majeure*, then such Party shall give written notice to the other Party within ten (10) days of the occurrence of a *force majeure* event.

While a *force majeure* event may delay or postpone a Party's obligations during the continuance of an inability to perform, a *force majeure* event will not waive or alter the substance of a Party's obligations under this Agreement. The Party claiming *force majeure* shall make reasonable efforts to remove or overcome its inability to perform and resume its obligations as soon as practicable.

17. **SEVERABILITY.** If any court of competent jurisdiction determines that any provision of this Agreement is invalid or unenforceable, that provision shall be fully severable. This Agreement shall be construed and enforced as if the invalid or unenforceable provision had never been part of the Agreement, and the remaining provisions of this Agreement shall remain in full force and effect. Any provision deemed invalid or unenforceable shall be automatically replaced with a provision as similar as possible to the original provision in terms that make the provision valid and enforceable.

18. **JURISDICTION, VENUE, AND GOVERNING LAW.** This Agreement shall be governed by the laws of the State of Texas, without regard to its conflict of laws provisions. Jurisdiction and venue for disputes over this Agreement shall lie exclusively in Waller County, Texas for state claims and the Southern District of Texas for federal claims.

19. **NO JOINT VENTURE.** This Agreement does not create a joint venture or partnership between the Parties. County and its past, present, and future officers, employees, agents, and officials do not assume any responsibilities or liabilities to any third party in connection with the development of Project.

20. **NO THIRD-PARTY BENEFICIARIES.** This Agreement does not benefit any third parties and does not create any third-party beneficiary rights in any person or entity who is not a Party to this Agreement.

21. **GOVERNMENTAL VERIFICATIONS.** Developer hereby verifies, in compliance with Section 2270.002 of the Texas Government Code, that it does not boycott Israel and that it will not boycott Israel during the term of this Agreement. "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations

specifically with Israel, or with a person or entity doing business in Israel or in an Israeli controlled territory, but does not include an action make for ordinary business purposes.

Developer hereby verifies, in compliance with Section 2274.002 of the Texas Government Code, that it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate against a firearm entity or firearm trade association during the term of this Agreement. "Discriminate against a firearm entity or firearm trade association" means refusing to engage in the trade or any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; refraining from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or terminating an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association.

Developer hereby verifies, in compliance with Section 2276.002 of the Texas Government Code, that it does not boycott energy companies and will not boycott energy companies during the term of this Agreement. "Boycott energy company" means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company engages in the exploration, production, utilization, transportation, sale, or manufacture of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law, or does business with such a company.

Developer hereby represents, in compliance with Section 2252.152 of the Texas Government Code, that neither it nor any of its parent companies, wholly- or majority owned subsidiaries, or other affiliates is a company identified on a list maintained by the Texas Comptroller of Public Accounts as a company known to have contacts with or who provides supplies or services to a foreign terrorist organization, Sudan, or Iran.

22. **INCORPORATION AND ORDER OF PRECEDENCE.** The Exhibits identified in this Agreement and attached hereto are incorporated by reference and made a part hereof. In the event of conflict between the terms of this Agreement and its Exhibits, the order of precedence shall be as follows: 1) this Agreement, 2) Exhibit D, 3) Exhibit A, 4) Exhibit B, then 5) Exhibit C.

23. **DISCLOSURE OF INTERESTED PARTIES.** Developer hereby affirms that it is required to electronically file Form 1295 with the Texas Comptroller, a disclosure of interested parties, prior to the execution and approval of this Agreement.

24. **EFFECT OF STATE AND FEDERAL LAWS.** Notwithstanding any other provision of this Agreement, Developer, its successors or assigns, shall comply with all applicable statutes or regulations of the United States and the State of Texas.

25. **COUNTERPARTS.** This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

In Witness whereof, the Parties hereto have duly executed this agreement, as of the Effective Date.

[EXECUTION PAGES TO FOLLOW]

WALLER COUNTY

_____

Carbett "Trey" J. Duhon III
County Judge

_____

Date

STATE OF TEXAS §
§
COUNTY OF WALLER §

This instrument was acknowledged before me on the _____day of _____, 202_ by Carbett "Trey" J. Duhon III, Waller County Judge, on behalf of Waller County, Texas, a political subdivision of the State of Texas.

_____

Notary Public, State of Texas

Ashton Houston Residential, LLC
A Texas limited liability company

By: _____
Name: _____
Title: _____
Date: _____

STATE OF _____ §
§
COUNTY OF _____ §

This instrument was acknowledged before me on the _____day of _____, 202___ by _____, Ashton Houston Residential LLC, a Texas limited liability company.

_____
Notary Public, State of Texas

EXHIBITS

Exhibit A – Real Property Description

Exhibit B – Plan of Development

Exhibit C – General Land Plan

Exhibit D – Approved Variances

Exhibit E – Waller County Subdivision Regulations

Exhibit F – Memorandum of Agreement

Exhibit A

Real Property Description

TEXAS PROFESSIONAL SURVEYING, LLC.
3032 N. FRAZIER STREET, CONROE, TEXAS 77303
(936)756-7447 FAX (936)756-7448
FIRM REGISTRATION No. 100834-00

FIELD NOTE DESCRIPTION
180.156 ACRES
IN THE R.O. LUSK SURVEY, ABSTRACT NUMBER 299
GRIMES COUNTY, TEXAS
IN THE R.O. LUSK SURVEY, ABSTRACT NUMBER 212
AND IN THE B.B.B. & C. RR. CO. SURVEY, ABSTRACT NUMBER 99
WALLER COUNTY, TEXAS

BEING a 180.156 acre tract of land situated in the R.O. Lusk Survey, Abstract Number 299, Grimes County, Texas, in the R.O. Lusk Survey, Abstract Number 212, and in the B.B.B. & C. RR. Co. Survey, Abstract Number 99, Waller County, Texas, being comprised of the remainder of that certain called 70.191 acre tract described as "Tract One" and all of that same called 19.755 acre tract described as "Tract Two", both in instrument to Eugene Mattern and Paula J. Mattern, recorded in Volume 571, Page 767, of the Deed Records of Waller County, Texas (D.R.W.C.T.), and all of that same called 91.557 acre tract described as "Tract One" in instrument to Eugene D. Mattern, recorded in Volume 1038, Page 398, of the Official Records of Waller County, Texas (O.R.W.C.T.), also recorded in Volume 1038, Page 398, of the Real Property Records of Grimes County, Texas (R.P.R.G.C.T.), said 180.156 acre tract being more particularly described by metes and bounds as follows:

BEGINNING at a 5/8 inch iron rod with 3 inch aluminum cap stamped "TXDOT" found in the northeasterly right-of-way of Farm to Market Road 1774 (FM 1774), for the common corner of said remainder of 70.191 acre tract, the remainder of that certain called 2.000 acre tract described in instrument to Robert I. Scheffler 2018 Revocable Trust, recorded under Instrument Number 1808255, of the Official Public Records of Waller County, Texas (O.P.R.W.C.T.), that certain called 0.1861 acre tract described as "Parcel 9A", in instrument to The State of Texas, recorded in Instrument Number 1702386, O.P.R.W.C.T., and that certain called 0.2144 acre tract described as "Parcel 8", in instrument to The State of Texas, recorded under Instrument Number 1702386, O.P.R.W.C.T., being the most westerly southwest corner of the herein described 180.156 acre tract, from which a 5/8 inch iron rod with cap found for reference, bears South 43°09'49" East, 701.69 feet, said **POINT OF BEGINNING** having a Texas State Plane Coordinate value of **N: 14,011,830.08, E: 2,973,583.67**, Central Zone, grid measurements;

THENCE North 43°07'54" West, 474.94 feet, with the northeasterly right-of-way of said FM 1774, the common line between said remainder of 70.191 acre tract and said 0.2144 acre tract, to a 5/8 inch iron rod with 3 inch aluminum disk stamped "TXDOT" found for the common corner of said remainder of 70.191 acre tract, said 0.2144 acre tract, that certain called 0.0968 acre tract described as "Parcel 7", in instrument to The State of Texas, recorded under Instrument Number 1702382, O.P.R.W.C.T., and Block 4, Section 6, of Mill Creek Estate, as shown on the map or plat thereof, recorded in Volume 221, Page 501, D.R.W.C.T., being the most westerly corner of the herein described 180.156 acre tract;

THENCE with the common line between said remainder of 70.191 acre tract and said Section 6, the following three (3) courses and distances:

1. North 45°17'33" East, 134.64 feet, to a 1/2 inch iron pipe found for corner;
2. North 45°11'50" East, at a distance of 108.35 feet, pass a 1/2 inch iron rod with cap found for reference, at a distance of 216.82 feet, pass a 1/2 inch iron pipe found for reference, at a distance of 325.03 feet, pass a 1/2 inch iron pipe found for reference, at a distance of 433.41 feet, pass a 1/2 inch iron pipe found for reference, at a distance of 541.73 feet, pass a 1/2 inch iron pipe found for reference, at a distance of 649.84 feet, pass a 1/2 inch iron pipe found for reference, at a distance of 758.39 feet, pass a 5/8 inch iron rod with cap found, in all, a total distance of 969.76 feet, to a ½ inch iron rod found for corner;
3. North 45°05'15" East, at a distance of 164.31 feet, pass a 5/8 inch iron rod found for reference, in all, a total distance of 1781.48 feet, to an angle iron found in the westerly line of said 91.557 acre tract for the common northerly corner of said remainder of 70.191 acre tract and said Section 6, being an interior corner of the herein described 180.156 acre tract;

THENCE North 08°40'00" West, 218.51 feet, with the easterly line of said Section 6 and Block 11, of Lake Hollyhill Acres, as shown on map or plat thereof, recorded in Volume 275, Page 292 of the Plat Records of Grimes County, Texas (P.R.G.C.T.), common to the westerly line of said 91.557 acre tract, to a 3/8 inch iron rod found for the westerly common north corner of said 91.557 acre tract and said Block 11, being the most northerly northwest corner of the herein described 180.156 acre tract;

THENCE North 87°06'05" East, with the common line between said 91.557 acre tract and said Block 11, at a distance of 415.10 feet, pass a 3/4 inch iron pipe found for reference, at a distance of 615.30 feet, pass a 3/4 inch iron pipe found for reference, at a distance of 815.50 feet, pass a 5/8 inch iron rod found for reference, at a distance of 1015.48 feet, pass a 5/8 inch iron rod found for reference, in all, a total distance of 1508.95 feet, to a 1 inch iron pipe found in the westerly line of that certain called 269.16 acre tract described in instrument to MGW Development Company, recorded under Instrument Number 2104269, O.P.R.W.C.T., also recorded under Document Number 2021-315622, R.P.R.G.C.T., for the common easterly corner of said 91.557 acre tract and said Block 11, being the northeasterly corner of the herein described 180.156 acre tract;

THENCE South 01°48'31" East, 2771.18 feet, with the easterly line of said 91.557 acre tract, to a fence corner post found for the common easterly corner of said 91.557 acre tract and said 19.755 acre tract, being an angle point in the easterly line of the herein described 180.156 acre tract;

THENCE with the easterly line of said 19.755 acre tract, the following four (4) courses and distances:

1. South 01°54'44" East, 495.11 feet, to a 1/2 inch iron rod with cap stamped “TPS 100834-00” set for corner;
2. South 03°28'29" East, 439.91 feet, to a 1/2 inch iron rod with cap stamped “TPS 100834-00” set for corner;
3. South 00°21'30" East, 98.02 feet, to a 1/2 inch iron rod with cap stamped “TPS 100834-00” set for corner;
4. South 07°30'46" West, 48.74 feet, to a 1/2 inch iron rod found for the common easterly corner of said 19.755 acre tract and that certain called 56.081 acre tract described in instrument to Anna M. Rumfolo, recorded in Volume 799, Page 485, D.R.W.C.T., being the southeasterly corner of the herein described 180.156 acre tract;

THENCE with the common line between said 19.755 acre tract and said 56.081 acre tract, the following two (2) courses and distances:

1. North 83°32'27" West, 829.56 feet, to a 1/2 inch iron rod found for corner;
2. North 02°30'37" West, 994.63 feet, to a 1/2 inch iron rod found for the common corner of said 19.755 acre tract, said 56.081 acre tract, and said 91.557 acre tract, being an interior corner of the herein described 180.156 acre tract;

THENCE with the common line between said 91.557 and said 56.081 acre tract, the following two (2) courses and distances:

1. South 86°45'01" West, 591.36 feet, to a 1/2 inch iron rod with cap stamped “TPS 100834-00” set for corner;
2. North 05°41'43" West, 75.37 feet, to an angle iron found for the common easterly corner of said remainder of the 70.191 acre tract and said 56.081 acre tract, being an interior corner of the herein described 180.156 acre tract;

THENCE South 87°27'24" West, 896.66 feet, with the northerly line of said 56.081 acre tract, that certain called 1.500 acre tract, described as “Lot 6” in instrument to Brad Wood and Lynda Wood, recorded in Volume 682, Page 732, D.R.W.C.T., that certain called 1.0 acre tract, described as “Lot 7” in instrument to Ronald Nunley and Marian A. Nunley, recorded in Volume 299, Page 851, D.R.W.C.T., and that certain called 0.83 acre tract, now or formerly described as “Lot 8” in instrument to Beverly Elliot Arcia, recorded in Volume 1278, Page 282, O.P.R.W.C.T., common to a southerly line of said remainder of 70.191 acre tract, to a 1/2 inch iron rod found for a common corner of said remainder of 70.191 acre tract and said 0.83 acre tract, being an angle point in a southerly line of the herein described 180.156 acre tract;

THENCE South 87°13'26" West, 562.34 feet, with the northerly line of said 0.83 acre tract, that certain called 0.8285 acre tract, described as “Lot 9” in instrument to Gordon Edward Clunn, recorded under Instrument Number 2111690, O.P.R.W.C.T., and that certain called 1.0 (Net) acre tract, described as “Lot 10” in instrument to Rachelle L. Luera, recorded under Instrument Number 2007817, O.P.R.W.C.T., common to a southerly line of said remainder of 70.191 acre tract, to a 3/4 inch iron rod found in the easterly line of said remainder of 2.000 acre tract, for the common westerly corner of said remainder of 70.191 acre tract and said 1.0 (Net) acre tract, being a southwesterly corner of the herein described 180.156 acre tract;

THENCE with the common line between said remainder of 70.191 acre tract and said remainder of 2.000 acre tract the following two (2) courses and distances:

1. North 02°22'32" West, 131.63 feet, to a 1/2 inch iron rod with cap found for corner;
2. South 87°24'53" West, 391.38 feet, to the **POINT OF BEGINNING** and containing a computed area of 180.156 acres of land within this Field Note Description.

This Field Note Description was prepared from a survey performed on the ground on September 19, 2025, by Texas Professional Surveying, LLC., and is referenced to Survey Drawing Project Number 20950.

All coordinates, bearings, distances, and areas shown hereon are grid measurements based on GPS observations and referenced to the North American Datum 1983 (NAD83), Texas State Plane Coordinate System, Central Zone, U.S. Survey Feet.

March 3, 2026
Date



Thomas A. McIntyre
R.P.L.S. No. 6921

Exhibit B

Plan of Development

EXHIBIT B

PLAN OF DEVELOPMENT

FM 1774 180 SUBDIVISION

A. Introduction

FM 1774 180 Subdivision (Project) is a single-family community consisting of approximately 180 acres, located northeast of F.M. 1774, and southeast of East Holly Hill Drive. The tract is located at the far northeast corner of Waller County, in Precinct 2 and Grimes County, in Precinct 2. The Project may have a different name in the future, and if the name does indeed change, the Developer shall inform County staff prior to the first final plat submittal.

The Developer desires to construct a community consisting of recreational amenities and open space, with a range of housing types and prices.

This Plan of Development (PD), its description, rules, and regulations shall apply to the entirety of the property as is depicted in Figure 2 – Conceptual Plan. The land plan depicted in Figure 2 is preliminary and subject to change.

1. This Plan of Development includes the following sections:

    A. Introduction
    B. General Provisions
    C. Land Uses
    D. Development Regulations
    E. Parks, Recreation and Trails
    F. Street Plan & Cross Sections
    G. Building Regulations
    H. Applicability
    I. Minor Modifications

B. General Provisions

1. The PD approved herein will be constructed, developed, and maintained in compliance with this PD and other applicable ordinances of the County.

2. If there are discrepancies between the text of this document and the figures attached, the text shall prevail.

3. The Project shall be developed in accordance with the following figures that are attached to and made part of this PD:

   Figure 1 - Boundary Exhibit
   Figure 2 – Conceptual Plan
   Figure 3 - Landscape and Open Space Plan
   Figure 4 - Street Type Designation Map
   Figure 5 - Street Cross Section, Local Residential Street
   Figure 6 - Street Cross Section, Collector Street
   Figure 7 - Fence Exhibit
   Figure 8 – Tosca Lane Improvement Exhibit

4. The Project will be a part of a Municipal Utility District (MUD) and will be annexed into a district prior to the recordation of the first plat. The Developer shall notify the County once the MUD is created and when the Project is added to the MUD.

5. A homeowners' association (HOA) shall be established and made legally responsible to maintain all common areas, private streets, recreation reserves, and community amenities not otherwise dedicated to the public. All land and facilities dedicated to the (MUD) shall be maintained by said District.

6. The HOA shall enforce deed restrictions established and recorded for the Project.

7. All roadways within the development shall be constructed with a minimum 6-inch-thick concrete pavement section.

8. The Developer shall maintain a maintenance bond in accordance with Waller County Subdivision Rules and Regulations.

This space left intentionally blank.

9. As a prerequisite for the development outlined in this agreement, the Developer shall conduct a comprehensive Traffic Impact Analysis (TIA) in accordance with the standards and guidelines established by TxDOT. The TIA shall thoroughly assess the potential impact of the proposed development on the surrounding transportation infrastructure, including but not limited to roadways, intersections, and traffic flow. The analysis shall consider factors such as vehicular and pedestrian movements, peak traffic hours, and any other relevant parameters.

10. The Developer acknowledges and agrees to be solely responsible for the installation of traffic control devices on all county roads affected by the Project described herein. The scope of responsibility includes, but is not limited to, the procurement, installation, and maintenance of all necessary traffic control devices in accordance with the TIA recommendations, county regulations and standards. All traffic control devices installed by the Developer shall comply with the latest edition of the Texas Manual on Uniform Traffic Control Devices and any other relevant county ordinances, regulations, or standards in effect at the time of installation. The MUD, HOA, or TxDOT (and not Waller County) shall be responsible for funding any future traffic control improvements necessitated by traffic generated by the Project. If Waller County determines that such improvements are warranted, the costs shall be allocated on a prorated basis based on the Project's share of traffic contributing to the need for the improvement, as determined by a TIA. The Project's proportionate share shall be funded by the MUD or HOA, with the remaining costs allocated among other adjacent developments that also contribute to the need for the improvement, as identified in the TIA.

11. The Developer shall acquire and construct a connection to Tosca Lane and add an asphalt overlay up to the existing width of Tosca Lane as necessary to provide paved vehicular access to East Holly Hill Drive (Figure 8). The Developer's improvements shall connect to the existing public right-of-way, and the Developer shall not be required to dedicate or acquire any additional right-of-way. The connection may either be a permanent access easement or platted. Currently there is not a cul-da-sac constructed within the right-of-way of Tosca Lane and therefore, the Developer shall not be required to construct a cul-de-sac within said right-of-way. No further roadway improvements beyond those expressly described herein shall be required of the Developer.

12. Law Enforcement: Developer, HOA, or the MUD shall contract with the Waller County Sheriff's Office to provide supplemental police protection services to the Project by a deputy sheriff at 50% buildout, as determined by occupied homes per a MUD operator's report to be provided along with all final plat submittals beginning with Section 3.

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C. Land Uses

1. The maximum number of single-family lots shall not exceed 700 lots. Currently, there is planned to be approximately 564 lots.

2. In accordance with the proposed PD, a portion of the land will be allocated for neighborhood park purposes, to equal one acre for every 54 proposed dwelling units. A minimum of 10.4 acres shall be dedicated for these purposes (564 lots/54 = 10.4 acres). If additional lots are platted, the commensurate amount of parkland shall be dedicated. A parkland dedication table shall be provided with each plat to ensure compliance with this requirement. The requirements for parkland dedication are described in Section E. Each plat does not need to stand on its own with regard to parkland dedication as parkland dedication shall be considered on a project total basis.

3. Multi-family and build-to-rent development shall be prohibited within the Project.

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D. Development Regulations

Area within the PD shall be developed in accordance with the following regulations:

1. The maximum number of lots shall not exceed 700 lots (unless additional tracts of land are acquired and added to this PD).

2. No more than 35% of the total lots shall be 49.99-feet in width or less in width, as measured at the right-of-way line, except along cul-de-sacs and knuckles which shall be measured at the building line.

3. Maximum lot coverage: 70% calculated as the ground covered by building structures, principal, or accessory, and the driveway of the gross lot surface area.

4. Minimum front yard building setback: 25 feet; measured from the front property/right-of-way line, and described in Exhibit D.

   (a) Cul-de-sac front yard setback – minimum 20 feet (cul-de-sac bulbs and knuckle bulbs). Lot width is measured at the building line.

   (b) Where the cul-de-sac is surrounded entirely by lots (no landscape or other reserves), the lots fronting the cul-de-sac shall have a dual building line: 20' for the principal structure, 25' for garages. The dual building line is not required on an open cul-de-sac where part of the curb is not encumbered by driveways.

5. Minimum side yard building setbacks: 5 feet for interior, non-corner lots and the non-street side of corner lots; 10 feet exterior side yard for corner lots. Minimum 25 feet garage setback if the garage door faces the side street, as described in Exhibit D. Fence lines between homes shall start at the rear of the structures, maintaining a 5' clear space on each side of the property line to provide a total of 10' clear space between structures.

6. Minimum rear yard building setback: 10 feet, except when the rear utility easement width is greater than ten feet, the greater width is the minimum rear yard building setback. When a lot or a reserve is either directly adjacent to a major or minor arterial right-of-way or directly adjacent to a reserve less than 15 feet wide that is adjacent to a major thoroughfare, the minimum rear yard building setback is 25 feet measured from the street right-of-way line and a minimum of ten feet from the rear property line.

7. The minimum right-of-way width for local streets within the PD shall be 50 feet as approved by variance, and described in Exhibit D.

8. The minimum right-of-way width for collector streets within the PD shall be 60 feet as approved by variance, and described in Exhibit D. A boulevard entry is planned which will have an 80-foot right-of-way that transitions to a 60-foot right-of-way as shown in Figure 2.

9. The minimum lot size within the PD shall be 40 feet wide and 5,000 square feet as approved by variance, and described in Exhibit D.

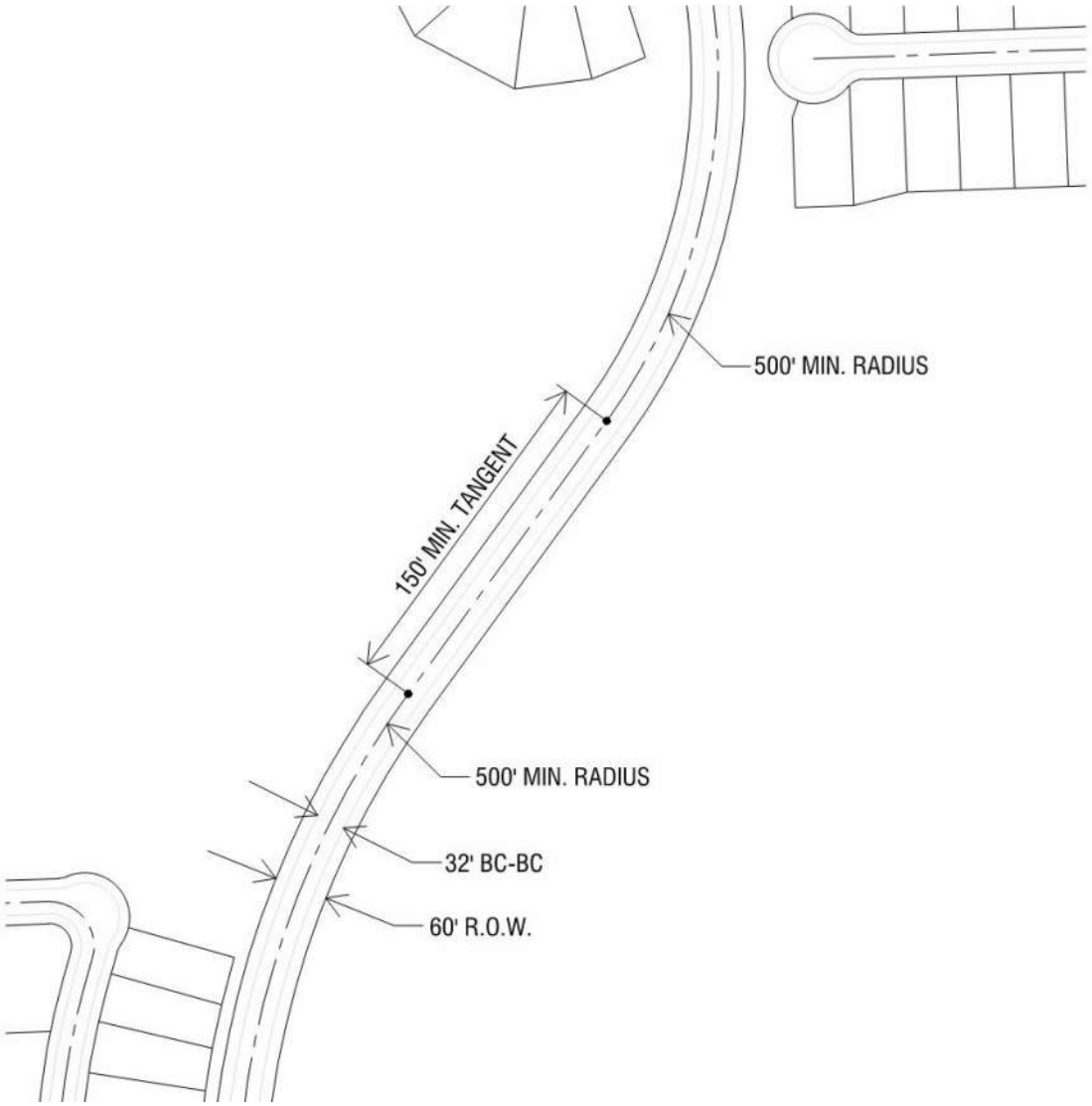
10. For local streets, curves shall have a minimum centerline radius of 300 feet. Reverse curves shall be separated by a tangent distance of not less than 50 feet. This shall not apply to "L type" intersections. These types of intersections shall have a minimum centerline radius of 50 feet. The provisions of this standard were approved by variance, and are described in Exhibit D.

    Diagram: Minimum Centerline Radius and Tangent
    300' Minimum Centerline Radius
    50' Minimum Centerline Tangent Distance between Curves
    50' Right of Way
    28' Back of Curb to Back of Curb



11. For collector streets, curves shall have a minimum centerline radius of 500 feet. Reverse curves shall be separated by a tangent distance of not less than 150 feet. The provisions of this standard were approved by variance and are described in Exhibit D.

    Diagram: Minimum Centerline Radius and Tangent
    500’ Minimum Centerline Radius
    150’ Minimum Centerline Tangent Distance between Curves
    60’ Right of Way
    32’ Back of Curb to Back of Curb
    10’ Minimum Landscape Reserve along Each Side of Collector



12. Cul-de-sac bulbs and knuckles shall have a 60-foot right-of-way radius and a 50-foot paving radius as approved by variance, and described in Exhibit D.

13. Developer will make three equal payments of $25,000.00 upon final platting and issuing of permits for Lots 1, 201, and 551, which funds will be used by the County for "Community Enhancements" such as park or engineering improvements in Precinct 2. Total payments to equal $75,000.00. No additional fees or dedication of land or public parks shall be required.

14. Shade Trees:

    (a) All lots shall have a minimum of one tree, planted in the front yard setback. The trees must be a minimum of 3 inches in caliper width and a minimum height of eight feet as measured at the tree trunk from the ground as planted.

    (b) In addition, on corner lots, one tree shall be provided within 15 feet of a street-side lot line per 50 feet of lot frontage on the side street, or portion thereof. Required trees shall be placed within the side yard setback.

15. Parking:

    Each single-family home in the Project shall be subject to parking restrictions to be memorialized in separately filed covenants and restrictions as follows:

    (a) Resident Parking - Vehicles of residents shall be parked in the residents' garage or driveway.

    (b) Guest parking - Guests of residents must park in the driveway of the single-family residence they are visiting and may only park on the street if the driveway is not capable of parking another vehicle. This provision does not apply to law enforcement vehicles, emergency services vehicles, vehicles of service workers, such as landscapers, construction workers, or plumbers, but does apply to vehicles belonging to caregivers or domestic help that routinely provide services to the residents.

    (c) Enforcement - The enforcement of these Parking Restrictions shall be done both in accordance with Chapter 684 of the Texas Transportation Code relating to the towing of vehicles, and in accordance with provisions relating to the issuance of fines and the granting of variances from the Parking Restrictions to be contained in separately filed covenants and restrictions.

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16. Screening:

    (a) Refer to Figure 7 – Fence Exhibit, which illustrates the types and locations of required screening.

    (b) A 6-foot brick or masonry perimeter fence shall be provided at the primary entry on FM 1774 along the backs and side lot lines within 100-feet of the entry intersection and along the main internal collector road.

17. Block Length and Intersection Spacing:

    (a) Each local street shall intersect with another local street, or collector street at least every 1,500 feet, measured from edge of right-of-way to edge of right-of-way.

    (b) Intersections along local streets shall be spaced a minimum of 100 feet apart, measured from edge of right-of-way to edge of right-of-way.

    (c) No additional stub streets shall be required other than those shown in Figure 2.

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E. Parks, Recreation and Trails

As shown in Figure 3 - Landscape and Open Space Plan, an integrated network of open space and recreational amenities shall be provided in accordance with the following regulations:

1. At least 50% of the area required for parks and open space shall be provided by neighborhood parkland consisting of the following:

   (a) Pocket parks: recreation reserves of a minimum of 1/4 acre.

   (b) Community parks: recreation reserves of a minimum of 1/2 acre.

2. Each home shall be located within 1/4 mile of a pocket park or 1/2 mile of a community park.

3. The remainder of the acreage required for parks and open space may be provided by the following:

   (a) Unencumbered landscape buffer and open space

   (b) Land encumbered by detention areas or lake and drainage channel borders, if it complies with criteria listed below:

      1) Areas along lake and drainage channel borders have an average width of at least 30 feet and a minimum width of 20 feet; and

      2) Side slopes do not exceed a four to one (4:1) ratio; and

      3) It is not a maintenance berm that is counted as park land in the previous section.

4. All pocket parks, community parks, unencumbered landscape buffer and open space, and land encumbered by detention are or lake and drainage channel borders that counts towards the required parkland dedication shall comply with the criteria listed below:

   (a) Front a minimum of 60 feet on a public street or directly adjacent to a park that has the requisite frontage.

   (b) Contain additional man-made improvements provided by the Developer including but not limited to: concrete cart paths, sidewalks, planter beds, educational signage, water fountains, benches, playgrounds, and shelters that facilitate an active/passive human recreational role.

   (c) Furthermore, all pocket parks and community parks shall include a minimum of five (5), fifteen (15) gallon shade trees upon initial construction.

5. Minimum 4-foot-wide sidewalks shall be provided along both sides of local residential streets and along the maintenance berms of wet detention ponds (where being utilized to meet parks and open space requirements and illustrated on Figure 3, attached hereto). All sidewalks shall be constructed in accordance with the County details and shall meet the State of Texas ADA standards.

6. Minimum 4-foot-wide sidewalks shall be provided along both sides of internal collectors within the property. At the discretion of the Developer, an 8-foot-wide joint use trail may be constructed on only one side of the right-of-way in lieu of two separate 4-foot-wide sidewalks on both sides of the right-of-way. In either case, the sidewalks or joint use trail may meander out of the right-of-way and into an adjacent landscape reserve if so provided. If a joint use trail illustrated on Figure 3 happens to abut an internal collector road, only one trail shall be required in that location. And if so provided, the HOA or District (not Waller County) shall be responsible for the maintenance of the joint-use trail and its ancillary signage, and landscape.

7. Minimum 4-foot-wide sidewalks shall be provided along the perimeter of any "wet" detention basin that is intended to hold water on a permanent basis. Installation of said sidewalks shall occur within 12 months of the completion of construction of the respective detention basin.

8. Parkland may be provided within the Grimes County portion of the Project if it is included in a recorded plat or if it is included within a recorded easement that dedicates such area for recreation purposes.

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F. Street Plan and Cross Sections

1. All new construction will be concrete curb and gutter with ultimate storm sewer.

   (a) Street cross sections are listed below.

      1) Figure 5 - Street cross section, Local Residential Street

      2) Figure 6 - Street cross section, Collector Street

   (b) Street improvements: Streets shall be built in phases as the Project develops in accordance with the County's Engineering Design Criteria and Development Agreement.

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G. Building Regulations

Single-family homes within the PD shall be developed in accordance with the following building regulations:

1. Primary exterior finishes comprise 50% of the front façade.

2. No single exterior finish material shall cover more than 80% of the front of any home.

3. Primary finishes:

   (a) Brick, metal, stone, real stucco (wire mesh, cement lime based), steel, vertical board and batten, fiberglass doors, and glass.

4. Secondary exterior finishes:

   (a) Wood, ceramic tiles, oriented strand board siding, wood fiber, Hardie Plank siding, and fiber cement siding.

5. Use of architectural metals may include canopies, roof systems, and miscellaneous trim work and such use shall meet the durability standards of the development code.

6. The following building materials shall not be used on the exterior finish:

   (a) Vinyl siding, wood fiber hardboard siding, oriented strand board siding.

   (b) plastic, or fiberglass panels.

   (c) Smooth or untextured concrete surfaces.

   (d) Exterior Insulated Finish Systems (E.I.F.S.) – except moldings.

   (e) Unfired or underfired clay, sand, or shale brick.

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H. Applicability

This document shall apply to any development within this tract and has no expiration. It shall be upheld for any and all existing and future developers or builders, except and unless a new amended agreement is written and approved by all Parties.

The Waller County Subdivision and Development Regulations are attached to the Development Agreement. Applicable Variances to those regulations are addressed in this Development Agreement. This does not preclude the granting of additional variances in the future. Any future amendments or changes to the Waller County Subdivision and Development Regulations will not apply to this PD, unless as a lesser restriction.

I. Minor Modifications

Certain changes to the provisions of the PD may be made administratively by the County Engineer or his designee and/or a Commissioners' Court designee (Designated Official), provided such changes are consistent with the intent and general purpose of the PD. Decisions by the Designated Official regarding administrative changes shall be subject to appeal to the Waller County Commissioners Court.

The following shall be considered minor modifications of the PD:

1. Modifications to internal street patterns.

2. Modifications to the location of connections to existing or future thoroughfares and collectors, so long as the minimum requirement for separation is maintained within this PD.

3. Modifications to the proposed location of land uses identified in Figure 2 to address market conditions.

4. Modifications to lot size, geometry, or configuration shown in Figure 2, provided that such lots shall adhere to the minimum standards and requirements set forth in this PD.

5. Changes to development regulations that are in the interest of the community and do not affect health or safety issues.

6. Relocation or modification of park sites, trails, or any other community feature.

7. The creation of gated neighborhoods, private residential streets, or other modifications in common area assets to be maintained by an HOA, or similar, provided the overall circulation of the Project is maintained.

8. The Designated Official may determine that a particular use will be allowed, which is not specifically listed as a permitted use because it is determined to be analogous and/or accessory to a permitted use.

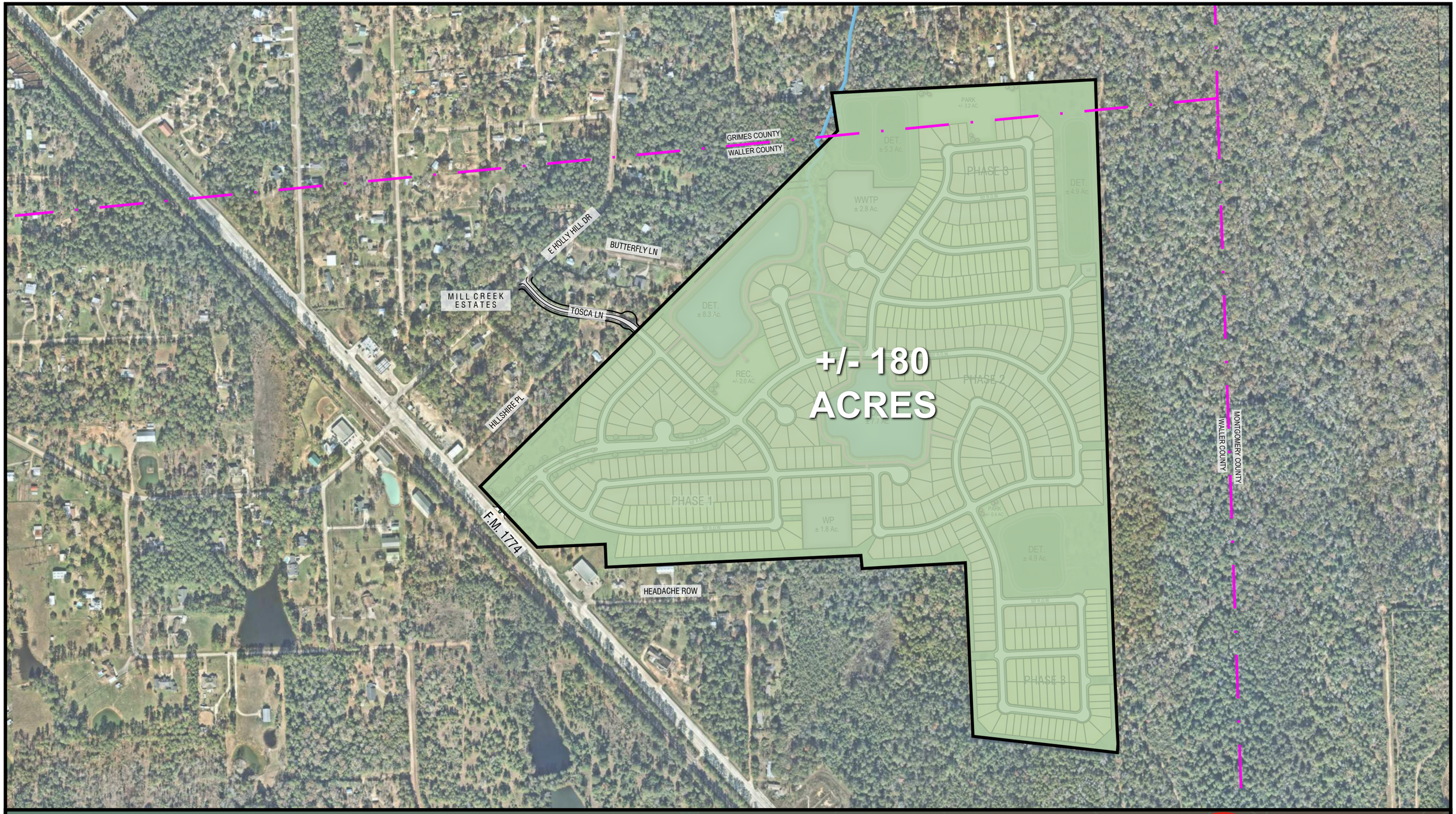


Figure 1: Boundary Exhibit

Waller & Grimes County, Texas

0 125' 250' 500'
SCALE: 1"=500'
TRUE SCALE AT 11" x 17"

NORTH

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251-041-00
TRIP No. 25-1740

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P:\251-041-00\Land Plan\DA\For Exhibit Prep\Exhibit B - Plan of Development\Figure 1-3 Boundary Exhibits 20260629.dwg Jul 17, 2026-12:23pm Edited by: wmohamed

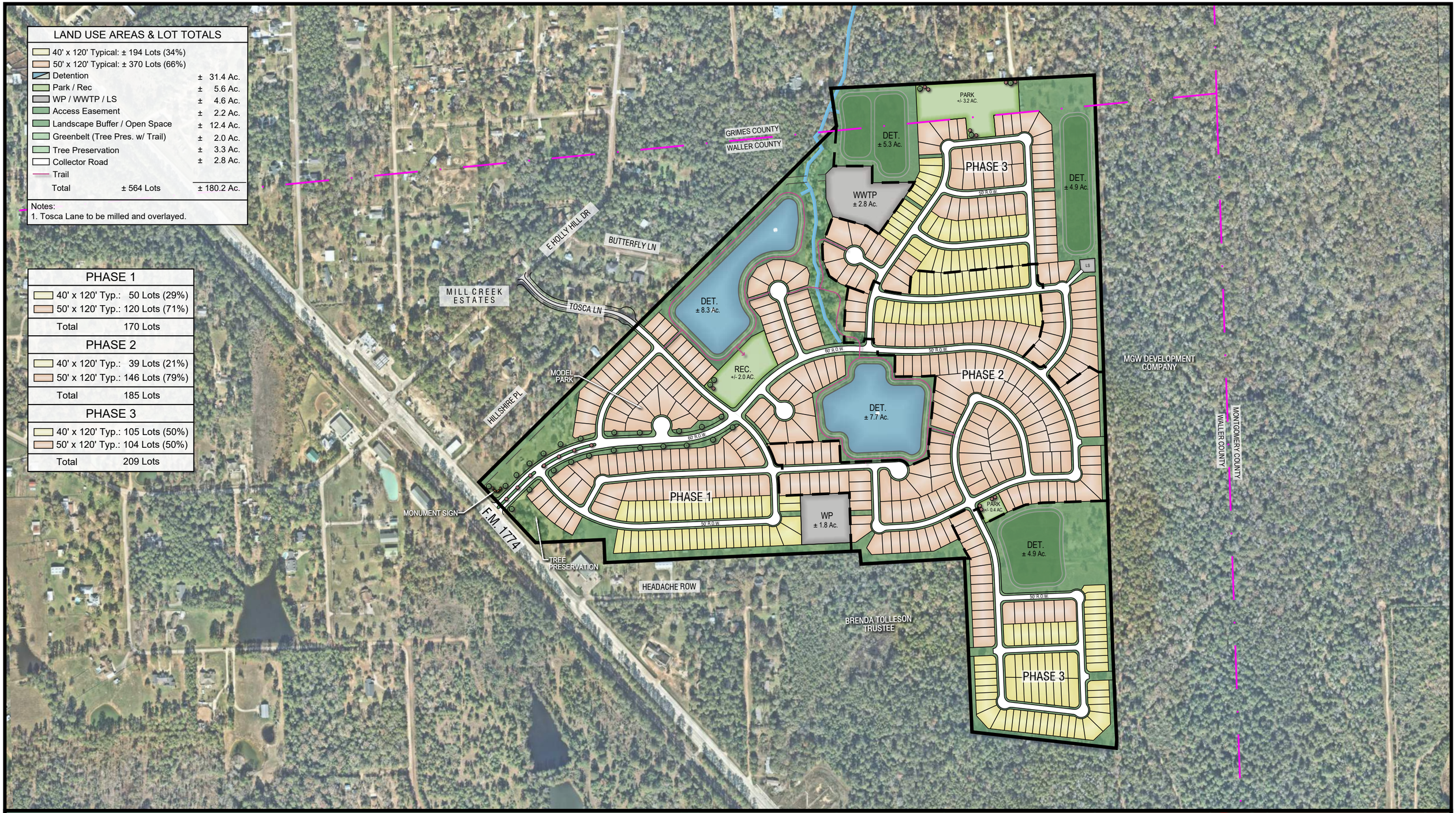


Figure 2: Conceptual Plan - 564 Lots

Waller & Grimes County, Texas

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TRUE SCALE AT 11" x 17"

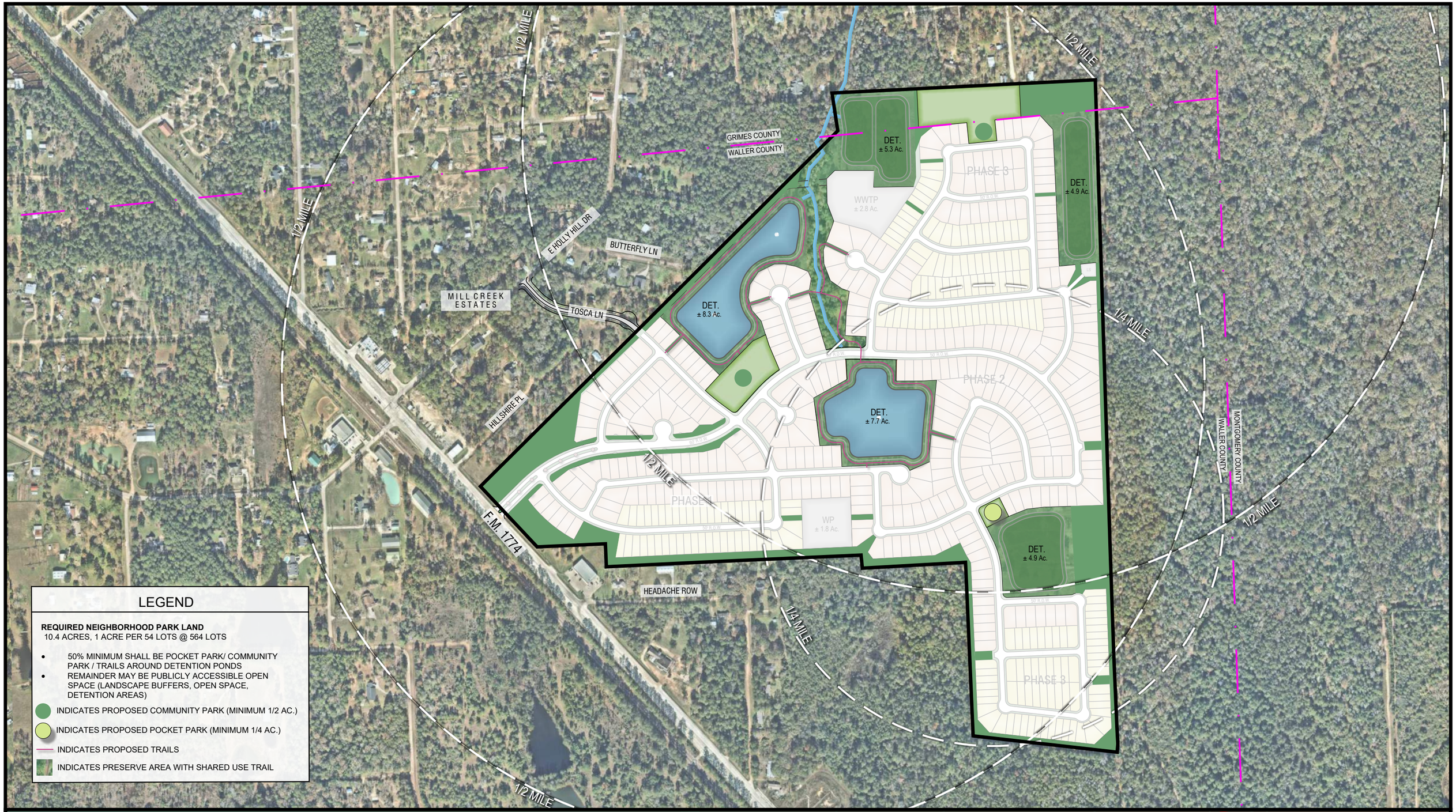
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LEGEND

REQUIRED NEIGHBORHOOD PARK LAND
10.4 ACRES, 1 ACRE PER 54 LOTS @ 564 LOTS

- 50% MINIMUM SHALL BE POCKET PARK/ COMMUNITY PARK / TRAILS AROUND DETENTION PONDS
- REMAINDER MAY BE PUBLICLY ACCESSIBLE OPEN SPACE (LANDSCAPE BUFFERS, OPEN SPACE, DETENTION AREAS)

INDICATES PROPOSED COMMUNITY PARK (MINIMUM 1/2 AC.)

INDICATES PROPOSED POCKET PARK (MINIMUM 1/4 AC.)

INDICATES PROPOSED TRAILS

INDICATES PRESERVE AREA WITH SHARED USE TRAIL

Figure 3: Landscape & Open Space Plan

Waller & Grimes County, Texas

0 125' 250' 500'
SCALE: 1"=500'
TRUE SCALE AT 11" x 17"

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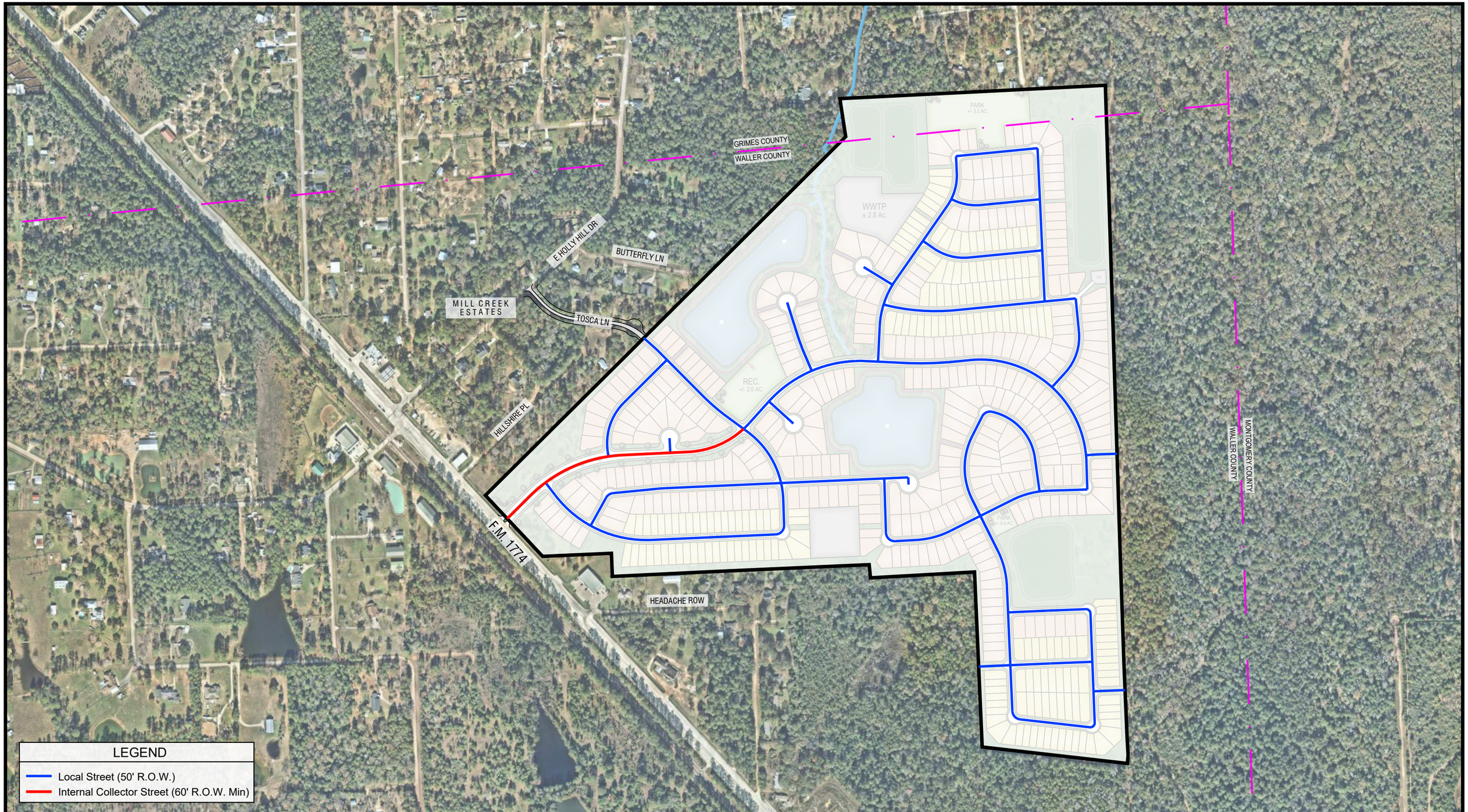


Figure 4: Street Type Designation Map

Waller & Grimes County, Texas

0 125' 250' 500'
SCALE: 1"=500'
TRUE SCALE AT 11" x 17"

NORTH

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P:\251-041-00\Land Plan\DA\For Exhibit Prep\Exhibit B - Plan of Development\Figure 4 - Street Type 20260629.dwg Jul 17, 2026-12:18pm Edited by: wmohamed

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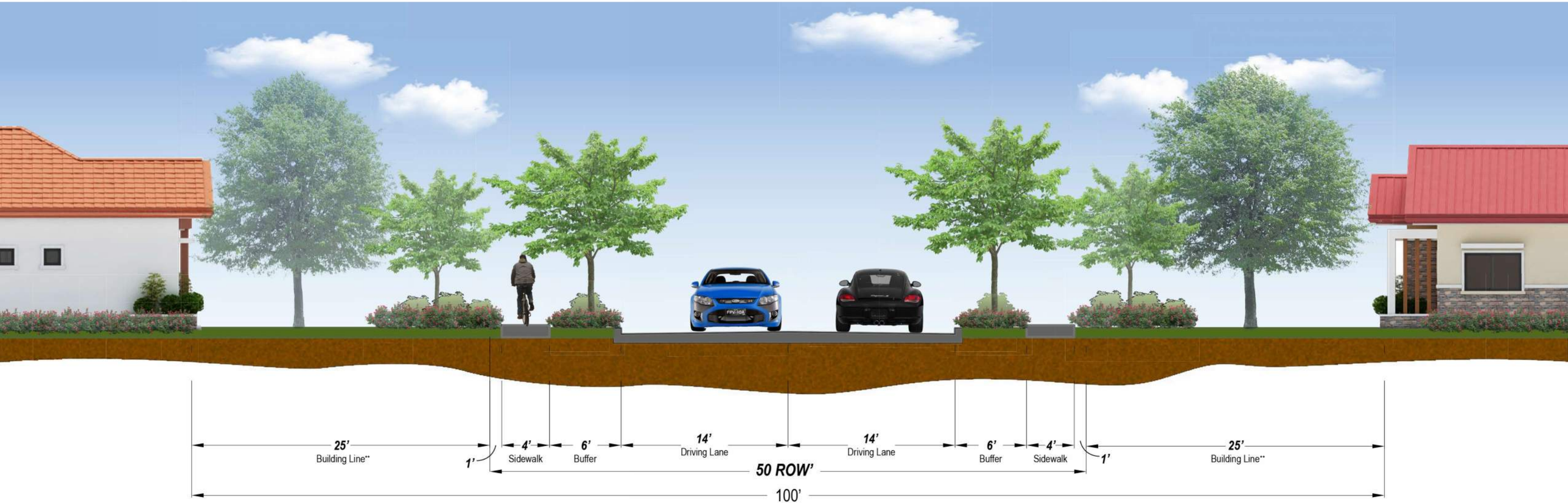


Figure 5: Street Cross Section | Residential Street
*Sidewalk can meander within the ROW
**Building line can be reduced to 20' on cul-de-sacs and knuckles

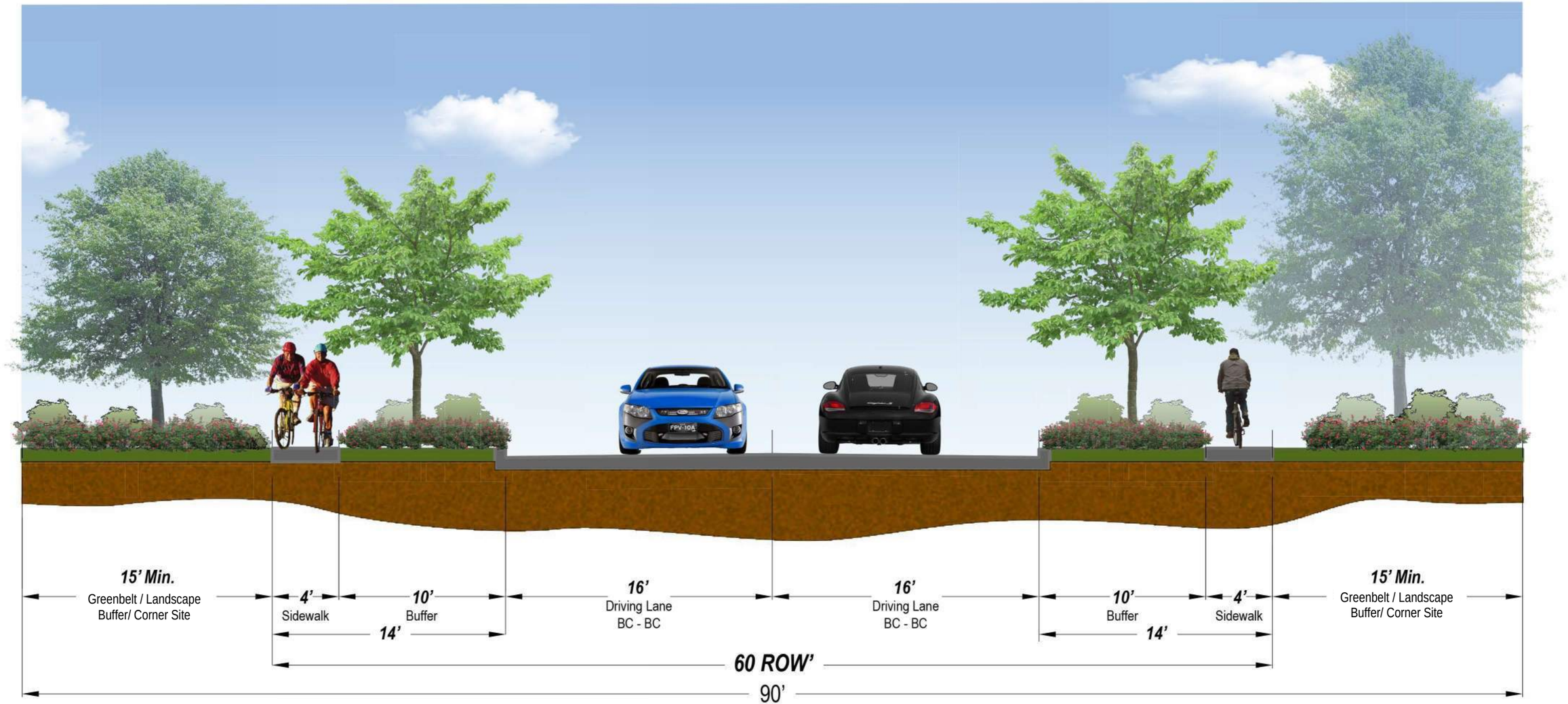


Figure 6 : Street Cross Section | Collector Street

*Sidewalk can meander within the ROW

GRIMES COUNTY

WALLER COUNTY

E HOLLY HILL DR

BUTTERFLY LN

MILL CREEK ESTATES

TOSCA LN

HILLSHIRE PL

F.M. 1774

HEADACHE ROW

PARK
+/- 3.2 AC.

WWTP
± 2.8 Ac.

REC.
+/- 2.0 AC.

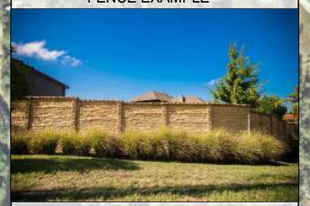
PARK
+/- 0.4 AC.

50' R.O.W.

MONTGOMERY COUNTY

WALLER COUNTY

6' MASONRY/PRE-CAST CONCRETE FENCE EXAMPLE



NOTE: THE ABOVE IMAGE IS A CHARACTER IMAGE ONLY. THE EXACT STYLE, HEIGHT, AND COLOR MAY VARY UPON CONSTRUCTION.

LEGEND

6' Masonry/Pre-Cast Concrete Fence

Figure 7: Fencing Exhibit

Waller & Grimes County, Texas

0 125' 250' 500'

SCALE: 1"=500'

TRUE SCALE AT 11" x 17"

NORTH

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Figure 8: Tosca Lane Improvement Exhibit

Waller & Grimes County, Texas

0 15' 30' 60'
SCALE: 1"=60'
TRUE SCALE AT 11" x 17"

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P:\251-041-00\Land\Plan\DA\For Exhibit Prep\Exhibit B - Plan of Development\Figure 8 - Tosca Lane Improvement Exhibit 20260807.dwg Aug 07, 2026 - 8:50am Edited by: SSweitzer

Exhibit C

General Land Plan

GENERAL NOTES:

1. D.E. indicates Drainage Easement.
   U.E. indicates Utility Easement.
   ESMT. indicates Easement.
   STM. S.E. indicates Storm Sewer Easement.
   W.C.D.R. NO. indicates Waller County Deed Record Number.
   P.U.E indicates Public Utility Easement.
   R.O.W. indicates Right-Of-Way.
   S.S.E. indicates Sanitary Sewer Easement.
   (S) indicates Set 3/4" Iron Rod with cap stamped E.H.R.A. 713-784-4500.
   W.L.E. indicates Waterline Easement.

2. The coordinates shown hereon are Texas South Central Zone No. 4204 State Plane Grid Coordinates (NAD83) and may be brought to surface by applying the following combined scale factor: 1.0.

3. A subdivision variance has been submitted to reduce the minimum right-of-way width for a collector street to 60 feet.

4. A subdivision variance has been submitted to reduce the minimum lot width to 40 feet.

5. A subdivision variance has been submitted to allow cul-de-sacs to have a right-of-way radius of 60 feet and a pavement radius of 50 feet.

6. A subdivision variance has been submitted to reduce the minimum right-of-way width for local streets to 50 feet.

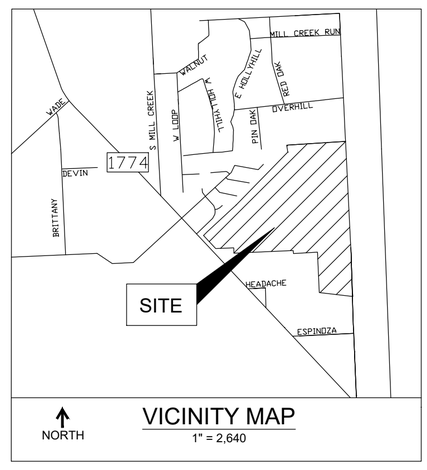
7. A subdivision variance has been submitted to reduce the minimum centerline radius for local streets to 300 feet with a minimum tangent of 50 feet between reverse curves.

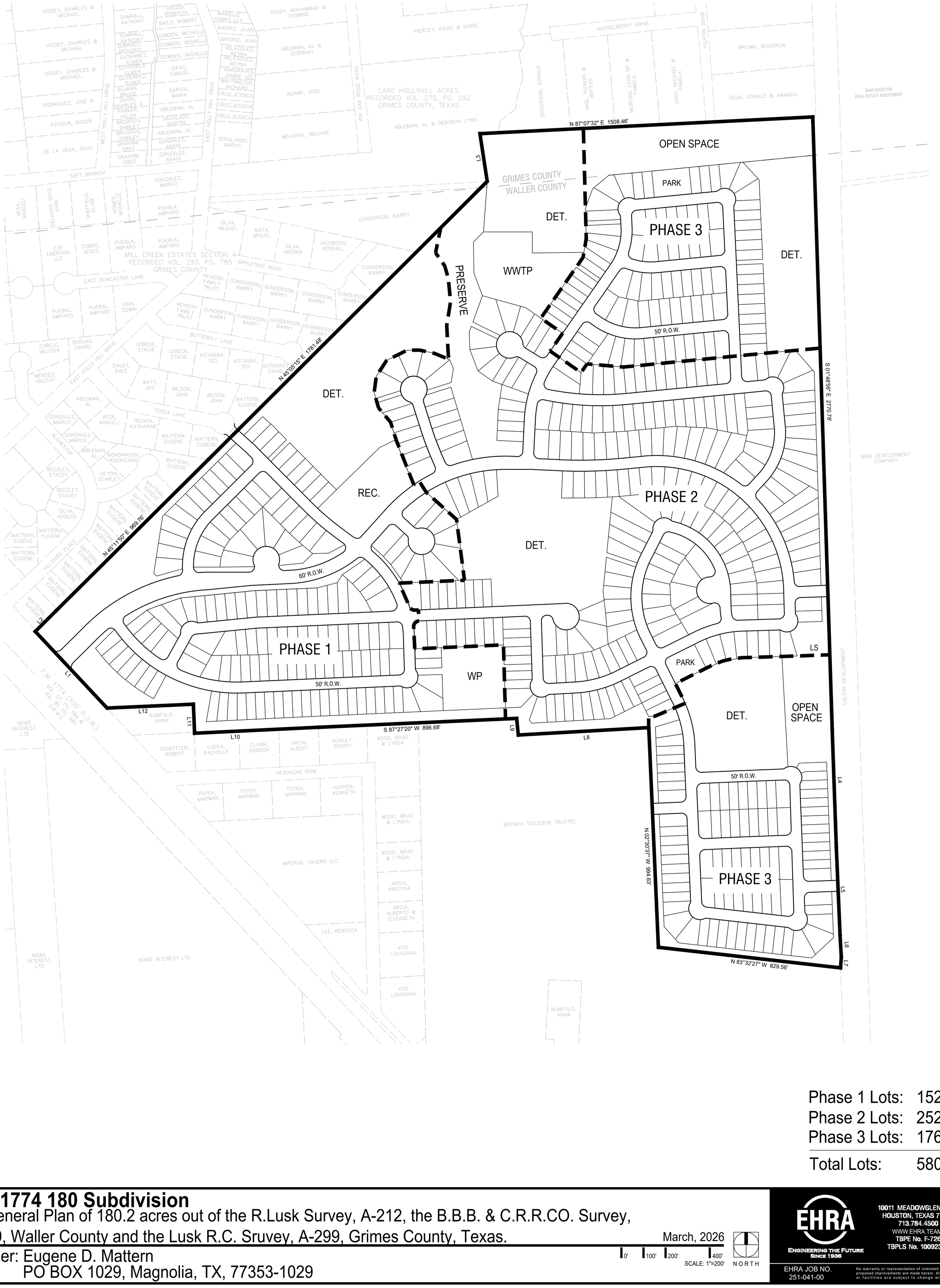
8. A subdivision variance has been submitted to reduce the minimum centerline radius for collector streets to 650 feet with a minimum tangent of 150 feet between reverse curves.

9. Phasing, section lines, and ultimate lot count subject to change.

LINE TABLE

LINE	ANGLE	DISTANCE
L1	N 43°10'08" W	474.80'
L2	N 45°08'24" E	134.51'
L3	N 08°40'00" W	218.51'
L4	S 01°59'00" E	533.81'
L5	S 02°27'30" E	400.44'
L6	S 03°15'38" E	98.02'
L7	S 04°19'25" W	48.74'
L8	S 86°45'01" W	591.36'
L9	N 05°41'43" W	75.37'
L10	S 87°13'33" W	562.32'
L11	N 02°22'32" W	131.63'
L12	S 87°25'59" W	390.90'





Phase 1 Lots:	152
Phase 2 Lots:	252
Phase 3 Lots:	176
Total Lots:	580

FM 1774 180 Subdivision

A General Plan of 180.2 acres out of the R.Lusk Survey, A-212, the B.B.B. & C.R.R.CO. Survey, A-99, Waller County and the Lusk R.C. Sruvey, A-299, Grimes County, Texas.

March, 2026

Owner: Eugene D. Mattern
PO BOX 1029, Magnolia, TX, 77353-1029

0' 100' 200' 400'
SCALE: 1"=200'
NORTH

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HOUSTON, TEXAS 77042
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TBPLS No. 10092300

EHRA JOB NO. 251-041-00

No warranty or representation of intended use, design or proposed improvements are made herein. All Plans for land or facilities are subject to change without notice.

P:\251-041-00\LandPlan\DA\For Exhibit Prep\Exhibit C\Exhibit - General Plan 20260324.dwg Mar 24, 2026-3:13pm Edited by: mmohamad

Exhibit D

Approved Variances

1. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential LLC, for the FM 1774 180 subdivision:

   Variance from: Waller County Subdivision and Development Regulations, 3.4.7, requiring a 50-foot minimum lot width.

   Approved Variance: 40-foot minimum lot width, measured at the building line, and 5,000 square foot minimum is permitted.

2. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential LLC, for the FM 1774 180 subdivision:

   Variance from: Waller County Subdivision and Development Regulations, 3.4.15, requiring a 15-foot minimum side street building line.

   Approved Variance: 10-foot minimum side street building line is permitted.

3. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential, for the FM 1774 180 subdivision:

   Variance from: Waller County Subdivision and Development Regulations, 3.4.15, requiring a 25-foot front building line for local streets.

   Approved Variance: 20-foot front building line for lots fronting cul-de-sac bulbs and knuckle bulbs are permitted.

4. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential, LLC, for the FM 1774 180 subdivision:

Variance from:	Waller County Subdivision and Development Regulations, Appendix A, Engineering Design Standards, 4.3.4, requiring a cul-de-sac right-of-way radius of 70-feet.
Approved Variance:	60-foot cul-de-sac right-of-way radius is permitted.

5. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential, LLC, for the FM 1774 180 subdivision:

Variance from:	Waller County Subdivision and Development Regulations, Appendix A, Engineering Design Standards, 4.3.5, requiring a minimum 650-foot radius on local street centerlines.
Approved Variance:	A minimum 300-foot radius on local street centerlines is permitted.

6. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential, LLC, for the FM 1774 180 subdivision:

Variance from:	Waller County Subdivision and Development Regulations, Appendix A, Engineering Design Standards, 4.3.1, requiring a minimum 60-foot right-of-way for urban subdivisions.
Approved Variance:	A minimum 50-foot right-of-way width is permitted.

7. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential, LLC, for the FM 1774 180 subdivision:

Variance from:	Waller County Subdivision and Development Regulations, Appendix A, Engineering Design Standards, 4.2.5, requiring a minimum 1,200-foot radius on collector street centerlines.
Approved Variance:	A minimum 500-foot radius on collector street centerlines is permitted.

Exhibit E

Waller County

Subdivision and Development Regulations

WALLER COUNTY

SUBDIVISION AND DEVELOPMENT REGULATIONS

Effective: March 15, 2021
Amended as Noted: December 6, 2023

Resolution and Order

On December 06, 2023, the Commissioners Court of Waller County, Texas, met at the County Courthouse with the following members present:

Carbett "Trey" Duhon III, County Judge Presiding,
John Amsler, Commissioner Precinct One,
Walter Smith, Commissioner Precinct Two,
Kendrick Jones, Commissioner Precinct Three, and
Justin Beckendorff, Commissioner Precinct Four,

when among other matters, came for consideration and action the following Resolution and Order:

Whereas, the Commissioners Court of Waller County, Texas, duly convened, and acting in its capacity as the governing body of Waller County, ORDERED that the regulations attached and appended hereto, entitled "**WALLER COUNTY SUBDIVISION AND DEVELOPMENT REGULATIONS**" are revised as noted; and

Whereas, all officials and employees of Waller County having duties under said regulations are ordered and directed to perform such duties as required of them under said regulations.

Therefore be it Resolved, that Commissioners Court adopts the attached document as the "Waller County Subdivision and Development Regulations" and **orders** that it be in effect on and after **March 15, 2021**; and

Further Resolved, that County Judge Carbett "Trey" Duhon III is authorized to sign this Resolution and Order as the act of Commissioners Court.

The Resolution and Order was moved by Commissioner _Jones_, seconded by Commissioner __Beckendorff__, and adopted by the Commissioners Court on a vote of __5__ members for and __0__ opposed.

_____
Carbett "Trey" Duhon III, Waller County Judge

TABLE OF CONTENTS

WALLER COUNTY SUBDIVISION AND DEVELOPMENT REGULATIONS

1. Purpose 1
2. Definition of Terms 1
3. Platting Procedure 5
4. Replats 13
5. Improvement Construction Security and Acceptance 15
6. Improvement Maintenance Security and Acceptance 17
7. Substandard/Illegal Subdivisions 18
8. Variances 19
9. 911 Rural Addressing 19
10. Enforcement 19
11. Summary of Costs 20
12. Plat Required 22
13. Plat Not Required 22

APPENDIX A – ENGINEERING DESIGN STANDARDS

1. Improvement Plans 1
2. Lot Size 2
3. Street Alignments 2
4. Minimum Street Requirements 3
5. Construction: General 5
6. Subgrade 6
7. Base Material 6
8. Wearing Surface 7
9. Street Names and Markers 8
10. Drainage – see Appendix E 9
11. Driveways – see "Driveway Regulations" (under separate cover) 9
12. Pipelines 9

APPENDIX B – PLAT NOTES

1. Street Widening Easements 1
2. Owner's Responsibilities 1
3. Owner's Release 2
4. Lien Holder's – either the Release or the Subordination is required in situations where there is a lien against the property. 7
5. Certificate of Commissioners Court 9
6. Certificate of County Clerk 10
7. Certificate of City Council 10
8. Floodplain Certification 10
9. Pipelines 11
10. Additional Plat Notes and Releases 11

APPENDIX C – INFRASTRUCTURE DEVELOPMENT PLAN FOR MANUFACTURED HOME RENTAL COMMUNITIES AND RV PARKS

1. Infrastructure Development Plan 1

APPENDIX D – ENGINEERING REPORT FOR MANUFACTURED HOME RENTAL COMMUNITIES AND RV PARKS

1. Water Supply Facilities 1
2. Wastewater Disposal Facilities 1
3. Roadways 2
4. Signage Plan 2
5. Traffic Impact Study 3
6. Drainage 3
7. Electronic Submission 3

APPENDIX E – DRAINAGE CRITERIA MANUAL

1. INTRODUCTION 1
2. ADMINISTRATION 2
3. HYDROLOGY 4
4. HYDRAULICS 8
5. DETENTION FACILITIES 9
6. DESIGN PARAMETERS 14

WALLER COUNTY SUBDIVISION AND DEVELOPMENT REGULATIONS

On February 16, 2007, acting pursuant to Chapter 232, Texas Local Government Code, Commissioners Court adopted the following regulations governing the subdivision of land. These regulations shall be known as the "Waller County Subdivision and Development Regulations".

1. Purpose

1.1 These regulations have been prepared to aid in the orderly development of Waller County, Texas. Specifically they have been prepared for the following purposes:

1.1.1 To furnish the developer with guidance in the expedient preparation and approval of a plat.

1.1.2 To protect the citizens of Waller County by enacting minimum subdivision standards.

1.1.3 To provide standards for the location, design, and construction of streets, intersections, drainage improvements and other features that provide safety for the public.

1.1.4 To prevent the Waller County Street System from being burdened with substandard local streets.

1.2 These rules, regulations and requirements may be revised at any regular session of Commissioners' Court, said amendments or revisions to become effective upon formal adoption by the Court.

1.3 The publication "Policies for Subdivisions Created without the Corporate Limits of any Town in Waller County", dated the 15th of June 1981, as amended through the 27th of September 2005, is rescinded, effective the February 16, 2007.

2. Definition of Terms

2.1 Acceptable Outfall – that point as determined by the developer's Engineer and approved by the County where storm water can be released without causing erosion or resulting sedimentation to the receiving channel or its floodplain. Where necessary, the outlet shall include structural and vegetative measures to assure non-erosive conditions.

2.2 Arterial Streets (Primary Thoroughfares) – those streets that are principally regional in nature and are used for through traffic and shall be divided into two classifications:

2.2.1 Streets which will serve vehicular traffic beyond the limits of the subdivision; and connect one collector or arterial with one or more collectors or arterials.

2.3.1 Streets in this category as shown in the current Major Thoroughfare Plan.

2.3 Building Line – a line of a plat generally parallel to the street right-of-way, indicating the limit beyond which buildings or structures may be erected and the area between the street right-of-way and the building line within which no private structure may be permitted. The building line is also known as the "setback" requirement.

2.4 Collector Streets (Secondary Thoroughfares) – those which connect arterial streets with local streets.

2.5 County Commissioner – the Waller County Commissioner(s) in whose precinct(s) the subdivision is located.

2.6 County Engineer – an Engineer, registered to practice engineering in the State of Texas, representing and/or contracted to represent Waller County.

2.7 Cul-de-sac – a short public street having but one (1) opening or access to another public street and terminated by a permanent vehicular turn-around.

2.8 Developer – any owner or person representing the interests of the owner of the property to be subdivided.

2.9 Final Plat – a drawing of a proposed subdivision prepared in a manner suitable for recording in the County records and in conformance with the conditions of preliminary approval of Commissioners Court and meeting the requirements of Section 3.4.

2.10 Flag Lot – for the purposes hereof, a key or flag shaped lot shall mean a lot having gross disparities in width between side lot lines, sometimes resembling a flag or flag pole, a key, or some other lot shape of comparable irregularity. Key or flag shaped lots shall not be prohibited if otherwise in compliance with the minimum lot size requirements of this and other applicable regulations of the County and, provided that no portion of any such lot is less than sixty feet

(60') in width.

2.11 Local Streets - those which principally provide direct access to lots within a subdivision.

2.12 Lot - any portion of land surface contained within property lines of a specific area, including land within easements and setback lines. The word "lot" includes the word "parcel" and "tract".

2.13 Rental Community (including Manufactured Home Rental Communities and RV Parks)- a plot or tract of land that is separated into two or more spaces or lots that are rented, leased, or offered for rent or lease, for a term of less than 60 months without a purchase option. (See Appendix C and D)

2.14 Owner – the person or persons with equitable or legal title to the property to be subdivided.

2.15 Parent Tract – the original tract prior to any division.

2.16 Preliminary Plat – a drawing of a proposed subdivision meeting the requirements of Section 3.3.

2.17 Private Street – those intended to be designated for private maintenance and private access. No county maintenance is provided on such streets unless and until they are brought up to county standards.

2.18 Recreational Vehicle – a unit which contains facilities for either sleeping or temporary living quarters, or both, and which has its own motive power or is designed to be mounted on or towed by another motor vehicle. The term recreational vehicle shall include but not be limited to a motor home, truck camper, travel trailer and camping trailer; provided, however a recreational vehicle shall not include a boat, a mobile home or a manufactured home.

2.19 Recreational Vehicle Park – a contiguous development of land which has been planned and improved for the placement of recreational vehicles approved by the County in accordance with applicable codes, laws, rules, and regulations.

2.20 Rural Street – any street situated so that the spacing of driveways is greater than 100 feet apart.

2.21 Street - a way for vehicular traffic and used to describe all vehicular ways regardless of any other designation, and includes public streets, private streets and easements. The terms "street" and "road" are interchangeable.

2.22 Subdivision – the division of a tract into two or more parts with any of the tracts being 10 acres or less in area. Section 232 of the Texas Local Government Code shall control the definition of a subdivision in these Regulations. Any amendment of the Local Government Code shall amend these Regulations, without further action by Commissioners Court.

2.23 Texas Department of Transportation (TxDOT) Standards – those current standard specifications set forth in the TxDOT Standard Specifications for Construction of Highways, Streets, and Bridges

2.24 Urban Street – any street situated so that the spacing of driveways is less than 100 feet apart for a distance of 1/4 of a mile. This distance does not apply to a subdivision using curb and gutter. Any curb and gutter street will be considered an urban street.

3. Platting Procedure

The platting procedure for subdivisions within Waller County shall be as follows:

3.1 Pre-application Procedure

Before any preliminary plans are prepared, the developer should obtain a copy of these regulations and become familiar with the various requirements to avoid expenditures of time and money, only to find that changes are required to make the plat and plans conform to the regulations.

3.2 Procedure for Rental Communities

Developers shall not begin any construction on a proposed rental community until they comply with Section 232.007 of the Texas Local Government Code, Appendices C & D of these regulations and notify Commissioners Court in writing of their intentions to develop the community.

3.3 Preliminary Plat Procedure

3.3.1 The Commissioners Court has assigned the duty of approving preliminary plats to the County Engineer. The Commissioners Court retains the right to overrule the County Engineers decision.

3.3.2 Developers shall not begin any construction on a proposed subdivision, until obtaining preliminary plat and construction drawing approval from the County Engineer.

3.3.3 Prior to any subdivision of land, the Developer shall set a meeting with the County Engineer. Based upon the comments from the meeting and submittal of the appropriate application, the Developer or his representative shall submit three (3 copies of the preliminary plat of the subdivision to the County Engineer’s Office for preliminary approval.

3.3.4 The County Engineer shall review plat for compliance with these Regulations, and provide written comments. The County Engineer shall provide the developer with comments and take the following action by issuing a certificate of:

1. Preliminary Approval

2. Preliminary Approval with conditions to be satisfied at the time of Final Plat Approval

3. Denial of Preliminary Plat Approval

3.3.5 Prior to the approval of the preliminary plat, the Developer shall supply the County Engineer with a digital file (via CD or email) of the preliminary plat. The digital file shall be in a .DWG format or a format that is readily convertible to .DWG format. The file shall be submitted to County Engineer's Office.

3.3.6 If the property to be subdivided lies within the extraterritorial jurisdiction of a city, this procedure shall be accomplished with the platting procedures as established in individual city interlocal agreements.

3.4 Preliminary Plat Criteria:

3.4.1 The lot layout drawn on a scale of 1" = 100' or larger, 1" = 200' or larger for plats with lots greater than 2.5 acres in size, or 1" = 400' or larger for plats with lots greater than 20 acres in size. Sheet size shall be 24" x 36", with a 1" binding margin on all sides.

3.4.2 Multiple sheet plats shall have the subdivision name and sheet number located in the lower right hand corner of each sheet. A key map shall be provided showing individual sheet relationships.

3.4.3 Provide a scale and North arrow.

3.4.4 Existing topographic contours, which may be obtained from U.S. Geological Survey 7.5 minute quadrangle map.

3.4.5 The location of existing property lines, easements, streets, 1% chance and 0.2% (100-year and 500-year) flood boundary, lakes and water courses, utility easements, and drainage culverts within the tract or immediately adjacent within two hundred feet (200').

3.4.6 Proposed lots, blocks, reserves, streets, alleys, building setback lines, easements, and any areas of special use including suggested operations sites for

exploration, development and production for minerals.

3.4.7 Lots shall have a minimum of 50 feet in width at the right-of-way line (50 feet in width at building line for lots on cul-de-sacs) and shall front a local street. Single-family residential lots shall not have direct access and shall not front on an urban arterial or an urban collector street.

3.4.8 Flag lots, if allowed, shall have a minimum strip of land (Flag staff) width of 60 feet and staff length no longer than 500 feet + 20 feet for each acre greater than 10 acres. No more than two flag lot strips shall be located side by side. The flag lots main body of land cannot be located behind another flag lot.

3.4.9 Names, and right-of-way dimensions for all proposed and existing streets.

3.4.10 Boundary of the subdivision and scaled dimensions, both linear and angular.

3.4.11 Area of subdivision, total number of lots and blocks and total area of reserves.

3.4.12 Proposed and existing easements and detention reserves.

3.4.13 Include a dimensioned typical sanitary control easement detail on the face of the plat.

3.4.14 Proposed typical property line dimensions and radii.

3.4.15 Front building lines shall be 25 feet. Side street building lines shall be 15 feet on local streets, 25 feet on collector streets and 35 feet on arterial streets.

3.4.16 A general statement of the proposed uses of the land within the subdivision.

3.4.17 Name, address, telephone number and fax number for the subdivision owner, developer and surveyor and/or engineer.

3.4.18 If the subdivision is to be carried out in two or more phases, a proposed master plan for the entire tract shall be prepared and filed with the County

Engineer's Office prior to the time the first unit is submitted. Requirements of the plat, concerning sheet size and drafting media shall be the same as for the plat to be recorded. Scale of this plat will be left to the discretion of the surveyor or the engineer.

3.4.19 City limits boundaries, extraterritorial jurisdiction boundaries, and county boundaries.

3.4.20 The title block in the lower right hand corner shall contain the proposed subdivision name preceded by the words "Preliminary Plat of _____" and the abstract and survey in which the property is located.

3.4.21 Vicinity map in the upper right hand corner showing location of subdivision in relation to existing streets and highways, and railroads within one (1) mile.

3.4.22 Approval of the appropriate jurisdiction when the subdivision is within the extraterritorial jurisdiction (ETJ) of that city.

3.4.23 A preliminary plat review fee (section 10) shall be paid with the submission of the preliminary plat for review.

3.5 Final Plat Procedure:

The final plat procedure will be the same as the preliminary plat procedure with the following additions.

3.5.1 Final plat and construction document review fee (See section 10) shall be paid with the submission of the final plat for review.

3.5.2 Commissioners Court shall not grant final approval on any subdivision until the Developer meets every subdivision requirement, including signature, Construction securities, mylar originals, paper originals, preliminary plat approval and fees. In addition, if the project is located within the Brookshire-Katy Drainage District (B-KDD), the Developer shall obtain written approval from the District of the development plans, and a copy of said approval shall be submitted to the County Engineer as a requirement of final plat approval.

3.5.3 The Developer shall submit to the County Engineer the specified number of original plats on 4 mil mylar and four identical size of either 22" x 34" or 24" x 36", at least fourteen (14) days before the date of the Commissioners Court meeting at which approval is requested. All text shall be on the front of the mylar. **Photocopies are not acceptable.** The specified number of original plats may vary but will generally be understood as one full-size original for the developer, the County Clerk, the County Engineer, the Appraisal District and one additional for cities when platted within an ETJ and/or within the B-KDD.

Originals Needed:

(2) 8½"x14" – Black line or Mylar

(3) Mylar Plat - 22"x34" or 24"x36"

(2) Black Line copies - 22"x34" or 24"x36"

3.5.4 The developer shall provide a letter clarifying the procedure he chooses for construction acceptance and final maintenance acceptance. In connection with this letter the developer must provide the securities as needed for construction per Section 5 and for maintenance per Section 6.

3.5.5 The County Engineer shall review plat and plans for compliance with these Regulations, and provide written comments. The County Engineer shall recommend the Commissioners Court to take the following action:

1. Final Approval
2. Denial of Final Plat Approval
3. Table Final Plat Approval to resolve outstanding issues.

3.5.6 Prior to placement of the approval of the final plat on the Commissioners Court agenda, the Developer shall supply the County Engineer a CD or email with a digital file of the final plat. The digital file shall be in a .DWG format or a format that is readily convertible to .DWG format. A check made payable to the County Clerk for handling and processing shall also be submitted with the final plat along with a check for the filing fee.

3.5.7 Following final approval of the subdivision, the County Clerk will record the plat in the Plat Records of Waller County, Texas, and distribute the originals with the recording information. The Clerk will retain a copy of the plat for the County's records.

3.5.8 Unless the preliminary plat is followed by final plat approval within one year, the preliminary plat lapses and the subdivision must be resubmitted.

3.5.9 The final plat must be approved at a meeting of Commissioners Court.

3.6 Final Plat Criteria

3.6.1 Owners' and any lien holders' dedication, and restrictions, if any, shall be duly acknowledged in the manner required for acknowledgment of deeds. For street widening and drainage purposes, the Developer may dedicate either the fee interest in the property or a right-of-way easement for street widening and drainage improvements at the County's option. Right-of-way easements for widening streets or improving drainage must be accompanied by a plat note as found in Appendix B Item 1. The plat must also contain the note found in Appendix B Item 2. All streets and easements for utilities, street easements, street widening easements and street widening dedications shall be created by a notarized statement executed by all property owners and any lien holders or their legal representatives.

3.6.2 Easements shall be provided for existing utility lines located on the property. Easements for proposed utility improvements shall be identified on the face of the plat. Existing undefined or "blanket" easements shall be defined prior to final plat approval. If no agreement can be reached on a defined easement, then building setback lines shall be shown at a minimum distance of 25 feet from and parallel to the nearest pipeline or facility.

3.6.3 The plat shall show the location of the 100-year and 500-year floodplain as identified on the most current Waller County Flood Insurance Rate Map (FIRM) published by the Federal Emergency Management Agency. In addition, the plat shall show the location of special flood hazard areas identified by an engineering study (if required), under the seal of a Texas Professional Engineer. Additionally, the plat shall designate all easements of public record and shall include the plat note found in Appendix B Item 8.

3.6.4 Place address numbers assigned by the 911 Rural Addressing Coordinator within the individual lot boundaries, if possible. If not, include in a table on the face of the plat.

3.6.5 The placement of an elevation benchmark with the location, description and elevation of the benchmark shall be identified on the face of the plat. The elevation of this benchmark shall be tied into the closest benchmark with the latest USGS datum. Minimum first floor elevations for structures shall be identified when within the 1% chance and 0.2% chance (100-year and 500-year) floodplain boundary.

3.6.6 The standard note for lien holders acceptance that dedication of all public streets and easements shall be accomplished free of liens shall be as found in Appendix B Item 4. Any required release of liens shall be provided to the Commissioners Court.

3.6.7 A form on the plat as found in Appendix B Item 5 for Commissioners Court approval, including authorization for the County Clerk to file the plat for record as found in Appendix B Item 6.

3.6.8 A copy of a title report commitment or plat letter for the specific tract of land dated within 60 days of the plat approval date.

3.6.9 Approval of the appropriate jurisdiction when the subdivision is within the ETJ of that city.

3.6.10 A letter of serviceability from an entity or entities providing water service or a letter from the Developer stating that no service is available within 1000 feet of the subdivision and certifying that the lots are suitable for private wells.

3.6.11 A copy of the tax certificate from each taxing unit with jurisdiction of the real property indicating that no delinquent taxes are owed on the real property as well as payment of all other property taxes and assessments pertinent to the subdivision.

3.6.12 A letter from the Developer acknowledging that it is the responsibility of the Developer, not the County, to ensure compliance with the provisions of all applicable state, federal, and local laws and regulations relating to the environment, including (but not limited to) the Endangered Species Act, State Aquifer Regulations, surface water and/or ground water district regulations, and municipal watershed ordinances.

3.6.13 Certification by a Texas Professional Engineer under seal that all engineering, for streets and drainage, within the subdivision is in compliance with these

Regulations (including the Engineering Design Standards incorporated as Appendix A) and with all generally accepted engineering standards. If the Developer elects to proceed with plat recordation under the provisions of Section 5.3, the Developer shall provide upon completion of the construction an additional certification by a Texas Professional Engineer under seal that all construction for streets and drainage within the subdivision was completed in compliance with these Regulations (including the Engineering Design Standards incorporated as Appendix A) and with all generally accepted engineering standards.

3.6.14 The following plat notes are located in Section B Item 10:

Certificate(s) of Tax Collector

Legal Description

Certificate of Surveyor

3.6.15 When any public street is established by plat and where such public street forms either a stub street into adjacent acreage or where such public street lies along and parallel with the subdivision boundary and adjacent to acreage, a one (1) foot wide reserve shall be established within the street right-of-way to form a buffer strip, dedicated to the public, between the public street right-of-way and the adjacent unsubdivided acreage to prevent access to this public street from the adjacent unsubdivided acreage unless and until a plat of the adjacent property is duly recorded. The conditions associated with the establishment of a one (1) foot reserve on a plat are contained in the following note that shall be placed upon the face of any plat where a one (1) foot reserve is to be established.

"One (1) foot reserve dedicated to the public in fee as a buffer separation between the side and end of streets where such streets abut adjacent property. The condition of such dedication being that when the adjacent property is subdivided or replatted in a recorded plat, the one (1) foot reserve shall thereupon become vested in the public for street right-of-way purposes and the fee title thereto shall revert to and revest in the dedicator, his heirs, assigns or successors."

3.6.16 "Any plat or master plan may make reasonable accommodation for a specific surface site(s) for extraction of oil and gas. If a surface site is designated, the developer shall provide proof from

the mineral owner, geologist or other professional that the site designated for such extraction is a reasonable solution for the mineral owner, in accordance with the usual and customary practice of the oil and gas industry. After such a site is designated, and the plat is approved, no oil or gas extraction activity may take place except utilizing the designated surface site."

3.7 Amending Plat

3.7.1 This section is applicable only if the applicable city regulations allow an amending plat and the amended plat is approved by the city. After approval by the City, the amended plat must be submitted for review and approval of the County Engineer and Commissioners' Court prior to recording with the County Clerk.

4. Replats

4.1 A person who owns real property in a tract that has been subdivided and that is subject to the subdivision controls of the county in which the property is located may apply in writing to the County Engineer for permission to revise the subdivision plat that applies to the property and that is filed for record with the County Clerk. After review by the County Engineer, consideration of the replat will be placed on the next Commissioners Court agenda to set a public hearing on the proposed replat.

4.2 Prior to placement of the consideration of the replat on the Commissioners Court agenda, the Owner shall supply the County Engineer with Copies of the proposed plat (prepared in accordance with the platting procedure outlined in Section 3.) and a digital file of the proposed plat. The digital file shall be in a .DWG format or a format that is readily convertible to .DWG format. A check made payable to the County Treasurer for handling and processing shall also be submitted with the final plat along with a check made payable to the County Clerk for the filing fee.

4.3 After the application is filed with Commissioners Court and a public hearing date is set the County Engineer shall publish a notice of the application in a newspaper of general circulation in the county. The notice must include a statement of the time and place at which the court will meet to consider the application and to hear protests to the revision of the plat. The notice must be published at least three times during the period that begins on the 30th day

and ends on the seventh day before the date of the meeting; and

4.4 If all or part of the subdivided tract has been sold to nondeveloper owners, the County Engineer shall also give notice to each of those owners within 400' of the proposed replat by certified or registered mail, return receipt requested, at the owner's address in the subdivided tract. *(This notice is not required if the proposed plat only combines existing tracts.)* A listing of property within the boundary of the replat area must be submitted as well.

4.5 If the replat is within the ETJ of any city, the owners must also obtain approval of the affected city.

4.6 If the Court finds after the public hearing that the replat will not interfere with the established legal rights of any owner of a part of the subdivided land or each owner whose rights may be interfered with has agreed to the revision, it will enter an order partially vacating the original plat and approving the plat of the replat. If the Court finds that the replat will affect established legal rights, it shall not approve the replat without the written consent of all affected owners of a part of the subdivided land.

4.7 In addition to the normal handling, processing and filing fees, the person requesting the replat shall pay the actual cost of the newspaper notice and postage expenses required by the replat process. The fees for the newspaper notice and postage must be paid prior to either being submitted for publication or delivery.

5. Improvement Construction Security and Acceptance

5.1 The developer of any tract that desires to obtain approval of a plat for recording in the county records shall construct all streets and drainage in the subdivision to the standards and specifications set forth in the Engineering Design Standards incorporated as Appendix A of these Regulations before offering the plat for approval, unless exempted by Section 5.2.

5.2 Improvement plans shall be approved by the County Engineer who shall certify that the plan is in conformance with these regulations. Variance from the requirements shall be permitted only by Commissioners Court Order.

5.3 The Developer shall give a good and sufficient bond, cash, or letter of credit. This will be referred to as the construction security. The improvements shall be completed within 12 months of the plat date and the security shall reflect this 12 months. With court approval, an extension of up to one year may be granted. This construction security must be payable to the County Judge of Waller County, in an amount equal to the estimated cost of construction, according to the calculations of a Texas Professional Engineer and approved by Commissioners Court. The security shall be conditioned on the completion (in compliance with the Engineering Guidelines) of all the streets and drainage shown on the plat.

5.4 In areas within the ETJ of a city, the city's letter of credit policy may apply if the Commissioners Court finds that the city's policy provides adequate protection of the County's interest in the land development and construction of infrastructure, and the County is named with the City on the financial document.

5.5 The developer shall be entitled to partial reductions of his security requirement with written approval by the County Commissioners Court.

5.6 The Developer shall submit construction plans for streets and drainage, traffic signage, landscaping (within the public right-of-way), irrigation(within the public right-of-way), and utilities within a platted subdivision to the County Engineer's Office for approval prior to final plat approval being granted by Commissioners Court. These plans shall show the location of all underground utilities, including

water, sewage, and storm sewers. These plans shall include the design issues as described in Appendix A – Engineering Design Standards.

5.7 If landscaping and/or irrigation is proposed within the right-of-way, the Developer shall create an entity (municipal utility district, homeowners' association, neighborhood association, or other entity approved by Commissioners Court) that will be responsible for the maintenance and liability of the landscaping and/or irrigation. This entity shall have assessment authority to ensure proper maintenance.

5.8 When construction has been completed, the Developer shall provide the County Engineer with a set of "Record Drawings". These plans are to show the improvements as they were actually built. The digital file shall be in a .DWG format or a format that is readily convertible to .DWG format. After the "Record Drawings" plans are received, the County Engineer will provide the Developer a letter approving the construction of the subdivision.

5.9 The County may determine plats containing "flag lots" to be a detriment to the public interest, welfare and/or safety, and may require internal street construction at the sole discretion of the Commissioners Court.

5.10 When traffic signal lights and additional turn lanes are required for traffic generated by subdivisions, these items shall be the responsibility of the Developer and the construction cost shall be included in the security.

6. Improvement Maintenance Security and Acceptance

6.1 By accepting a subdivision plat for filing, the Commissioners Court does not accept streets in the subdivision for ownership or maintenance by the County. The owner of the platted lots is responsible for maintenance of all streets within a subdivision until such time as the streets have been accepted for maintenance by the County. This holds true even though the County has approved the construction of the improvements.

6.2 The County will not accept a street for maintenance without the following:

6.2.1 A dedication to the public of an easement or fee interest in the entire street;

6.2.2 Written certification from a Texas Professional Engineer that the street was constructed in accordance with the Engineering Guidelines in effect when the subdivision was legally platted (or has been upgraded to those standards). The letter from the County Engineer as noted in Section 5.8 may be used to meet this requirement. If the subdivision where the street is located was never legally platted, it must meet the current Guidelines;

6.2.3 Written certification from a Texas Professional Engineer that the street is currently in compliance with the applicable Guidelines. The cost of any improvements, maintenance, or repairs required to reach that standard shall be borne by the developer or current owners;

6.2.4 Agreement by the County Commissioners Court that the street should be accepted, following an inspection by the County Engineer; and

6.2.5 The expiration of one year from the date that all streets, drainage and other improvements in the subdivision are completed, inspected by the County Engineer, and approved by Commissioners Court;

6.3 This section is required in order to provide security for the maintenance under section 6.2.4.

6.3.1 With the approval of Commissioners Court, the Developer shall give a surety bond, cash or letter of credit in an amount equal to 25% of the cost of construction for the streets and drainage in the subdivision. This will be referred to as the maintenance bond.

6.3.2 Commissioners Court must approve each bond or letter of credit. This security is to be conditioned upon the Developer's maintenance of the streets in a state of good repair until the time as they are accepted. The security shall be made payable to the County Judge of Waller County, and shall remain in effect until released by Commissioners Court.

6.3.3 Security will be released when the street qualifies for final acceptance under Section 6.2. Before release of the security, the County Engineer shall final inspect the streets, and the Developer shall remedy all deficiencies. If the deficiencies are not promptly remedied, the County shall make the repairs and draw on the security for payment.

6.4 The enforcement of plat restrictions is the responsibility of the developer and other owners in the subdivision; however, in an ETJ, both the city and the County shall have the authority to enforce plat restrictions to prohibit the construction or connection of utilities, or issuing of permits unless the requirements of the plat restrictions have been achieved.

6.5 The County will assume no responsibility for drainage facilities in the subdivision, other than those running on or along the streets or in approved drainage easements until they are formally accepted by the County Commissioners Court for maintenance. Maintenance and liability of landscaped areas within the right-of-way will be the responsibility of the developer, the municipal utility district, neighborhood association, or other Developer entity.

7. Substandard/Illegal Subdivisions

7.1 The County may accept maintenance of any street located in a subdivision in existence prior to June 15, 1981 (whether that subdivision was lawfully platted or not), provided that the streets meet all the criteria in Paragraphs 6.2 and 6.3 of these Regulations. The County will assume no part of the cost of bringing the streets into compliance before acceptance.

7.2 Subdivisions of property that are created without going through the proper platting procedure (either full plat or plat exemption) will not receive addresses or permits from the Engineer's Office.

8. Variances

8.1 The Commissioners Court of Waller County, may by written order passed in court grant variances from these Regulations.

8.2 Any person who wishes to receive a variance must apply to the County Engineer, who will request it be placed on the agenda of the Court with a recommendation whether the variance should be granted or not.

8.3 If the variance affects a city's ETJ, the person must contact the appropriate jurisdiction as stated in interlocal agreements under Local Government Code 242.001 (c) (d) (4).

8.4 The decision of the County Commissioners Court to grant or deny a variance is at its sole discretion.

9. 911 Rural Addressing

9.1 No 911 address will be provided for any development type (i.e. residential or commercial) until proof of adherence to platting regulations is confirmed.

9.2 All addresses shall be provided by the 911 Addressing Coordinator.

9.3 Address numbers shall be placed on mailboxes, gates and houses, so that emergency personnel can easily locate the correct location.

10. Enforcement

10.1 Section 232.005 of the Texas Local Government Code provides for the enforcement of these Regulations.

10.2 Under Chapter 7 of the Texas Penal Code, a person may be responsible as a party to an offense if the person (acting with intent to promote or assist the commission of the offense)

solicits, encourages, directs, aids, or attempts to aid another person to commit the offense. Thus, a real estate agent or broker, a lender, an attorney, a surveyor, an engineer, a title insurer, or any other person who assists in violating these Regulations may also face criminal penalties.

10.3 Besides prosecuting a criminal complaint, the District Attorney may file a civil action to enjoin any violation or threatened violation of these Regulations, and to recover damages.

11. Summary of Costs

Excluding any required bonds or letters of credit, a developer will pay the county the costs per the following sections:

11.1 Preliminary Plat Review

The preliminary plat review fee is $50 per lot plus $50 per reserve. Fees shall be paid with the submission of the preliminary plat for review. Payable to: Waller County

11.2 Final Plat Review

The final plat and construction document review fee is $100. Fees shall be paid with the submission of the final plat for review. Payable to: Waller County

11.3 Replat Review

The replat and construction document review fee is $50 per lot plus $50 per reserve. Fees to be paid prior to items placement on a Commissioners Court agenda. These fees shall be paid with the submission of the preliminary replat for review. Other fees include:

(1) Public Notice Fee - must pay for three weeks of ads in a paper of local circulation.
(2) Notification letter postage (certified or registered mail, return receipt requested) – must be sent to each property owner within 400’ of the replat area.

11.4 Handling and Processing Fee (Final Plats)
(Replats)

A charge of $50.00 will be assessed for handling and processing Final subdivision plats for approval in Commissioners Court. In the event a subdivision is developed in sections, a charge of $50.00 will be assessed for each section platted. This fee, in the form of a

Check, made out to the Treasurer, Waller County, Texas, will accompany the plat at time of submission to the Court for approval.

11.5 Filing Fee (Final Plats)
(Replats)

File (1) 8 ½ x 14 in the Official Public Records, filing fee is $50.00 per plat plus $11.00 for the first page and $4.00 for each additional page.

EX: 1 Page plat = $66.00, 2 Page plat = $70.00

11.6 Infrastructure Development Plan Review (Rental Communities)

Infrastructure Development Plan Review fee of $200 plus $10.00 per rental space will be charged. Fees shall be paid with the submission of the Infrastructure Development Plan for review. Payable to: Waller County

11.7 Variance Requests

A charge of $100.00 per residential request and $500 per non-residential request will be assessed for handling and processing of Variance Requests for approval in Commissioners Court. This fee, in the form of a check, made out to the Treasurer, Waller County, Texas, will accompany the variance at time of submission to the Court for approval.

12. Plat Required

12.1 Commissioners Court adopts the following as a guide to the public in determining when a plat is necessary:

12.2 A plat is required for any subdivision as defined by Chapter 232, Local Government Code and as defined by these Regulations.

12.3 It is immaterial that the sale of a subdivision lot is by contract or lease-purchase rather than by deed, or that the lots are described by metes and bounds rather than lot and block.

12.4 A replat is required to divide a parent tract which is already located within a subdivision.

12.5 If the tract of land is located within the extraterritorial Jurisdiction of a municipality but outside the limits of said municipality, a plat must still be prepared and submitted to Waller County.

12.6 The owner of a tract of land located outside the limits of a municipality shall have a plat of the subdivision prepared if the owner divides the tract into two or more parts to lay out:

1. a subdivision of the tract, including an addition; or
2. lots; or
3. streets. alleys, squares, parks or other parts of the tract intended to be dedicated to public use or for the use of purchasers or owners of lots fronting on or adjacent to the streets, alleys, squares, parks, or other parts.

13. Plat Not Required

The following exemptions may allow a division of property without the preparation of a subdivision plat. Under these exemptions, a property owner may not be required to prepare a subdivision plat for their division of their property, but the division of property must still meet the minimum lot size requirements set forth in the Waller County On-Site Sewage Facility Order, if applicable. A Certificate of Plat Exemption shall be issued by the County Engineer or Road Administrator for presentation to the

County Clerk stating that the division of Land is exempt from the subdivision plat requirements.

Commissioners Court adopts the following as a guide to the public in determining when a plat is not necessary:

13.1 Family Provision: The County shall not require the owner of an unplatted tract of land located outside the limits of a municipality who divides the tract into two or more parts to have a plat of the subdivision prepared if:

13.1.1 Each of the lots is sold, given, or otherwise transferred to an individual who is related to the owner within the third degree of consanguinity of affinity, as determined by Chapter 573, Government Code; and

13.1.2 the owner does not lay out a part of the tract as described in Section 12.6.3.

13.1.3 If any lot is sold, given, or otherwise transferred to an individual who is not related to the owner within the third degree consanguinity or affinity, the platting requirements apply.

13.1.4 A maximum of 4 lots can be created.

13.2 10 Acre Provision: The County shall not require the owner of an unplatted tract of land located outside the limits of a municipality who divides the tract into two or more parts to have a plat of the subdivision prepared if:

13.2.1 All of the lots in the subdivision are more than 10 acres in area; and

13.2.2 the owner does not lay out a part of the tract as described in Section 12.6.3.

13.3 Veterans Provision: The County shall not require the owner of an unplatted tract of land located outside the limits of a municipality who divides the tract into two or more parts to have a plat of the subdivision prepared if:

13.3.1 The owner does not lay out a part of the tract as described in Section 12.6.3; and

13.3.2 all of the lots are sold to veterans through the Veteran’s Land Board Program.

13.4 State Provision: The County shall not require the owner of an unplatted tract of land located outside the limits of a municipality who divides the tract into two or more parts to have a plat of the subdivision prepared if:

13.4.1 The tract is owned by the state or other state agency, board, or commission or owned by the permanent school fund or any other dedicated funds by the state.

13.5 Floodplain Dissolution Provision: The County shall not require the owner of an unplatted tract of land located outside the limits of a municipality who divides the tract into two or more parts to have a plat of the subdivision prepared if:

13.5.1 The owner of the land is a political subdivision of the state, the land is situated in a floodplain, and the lots are sold to adjacent landowners.

13.6 Single Division Provision: The County shall not require the owner of an unplatted tract of land located outside the limits of a municipality who divides the tract into two or more parts to have a plat of the subdivision prepared if:

13.6.1 The owner does not lay out a part of the tract as described in Section 12.6.3; and

13.6.2 one new part is to be retained by the owner, and the other new part is to be transferred to another person who will further subdivide the tract subject to the plat approval requirements of these regulations.

13.7 Undivided Interest Provision: The County shall not require the owner of an unplatted tract of land located outside the limits of a municipality who divides the tract into two parts to have a plat of the subdivision prepared if:

13.7.1 The owner does not lay out any part of the tract as described in Section 12.6.3; and

13.7.2 all parts are transferred to persons who owned undivided interest in the original tract and a plat is filed before any further development of any part of the tract.

13.8 Mortgage Provision: The County shall not require the owner of an unplatted or platted tract of land located outside the limits of a municipality who divides the tract into two parts to have a plat of the subdivision prepared if:

13.8.1 The owner does not lay out any part of the tract described in Section 12.6.3; and

13.8.2 the subdivision is the result of the owner dividing a tract by granting a security interest in property to secure indebtedness.

13.9 Adjacency Provision: The County shall not require the owner of an unplatted tract of land located outside the limits of a municipality who divides the tract into parts to have a plat of the subdivision prepared if:

13.9.1 The owner does not lay out any part of the tract described in Section 12.6.3; and

13.9.2 the subdivision is the result of the owner dividing a tract to convey property to an adjacent property owner.

APPENDIX A – ENGINEERING DESIGN STANDARDS

1. Improvement Plans

The Developer shall employ a Texas Professional Engineer to prepare the "Improvement Plans" in conformance with these regulations. Utility companies and other affected public agencies should be consulted before plans are prepared. Improvement Plans shall be submitted to the County Engineer for approval prior to construction.

1.1 Construction Drawings: Two (2) white background prints of the drawings shall be submitted, and the sheet size shall be 24" x 36" or 22" x 34". The drawings shall be referenced to the proposed subdivision, show elevations based on mean sea level datum plan, and be in compliance with the following information:

1.1.1 Street Plan Profile: The plan of each proposed street (indicating the existing ground elevations and proposed street grade surface including existing street grade for a distance of one hundred feet (100') beyond the tract boundary), at a scale of not more than twenty feet (20') per inch.

1.1.2 Street Typical Sections: A typical-section of each proposed street if all are not the same, not to scale, but having horizontal and vertical measurements showing width of proposed stabilization, base, wearing surface, curbs, shoulders, ditches, etc.

1.1.3 Water Supply and Sanitary Sewer System: The plans and profiles proposed and existing water distribution systems and sanitary sewer if submitted to the required State agencies for approval, shall be submitted to the County Engineer's Office to be approved by County Engineer prior to commencement of construction.

1.1.4 Drainage: The size, location and typical sections of drainage ditches (or storm sewer, if used) including easements shall be shown. All drainage plans, profiles and computations shall be submitted to the County Engineer's Office for approval by County Engineer prior to construction.

1.1.5 Existing Utilities: Plans and profiles of existing utilities shall be shown where applicable.

1.1.6 Bench Marks: Shall be provided at convenient points, with description, location and Mean Sea Level elevations indicated on the improvement plans. Tie to FEMA Benchmarks.

2. Lot Size

2.1 Minimum lot size shall be one and one-half (1.5) net acres for lots which have a private water well and private septic system and one (1.0) net acre for public water and private septic system, per dwelling in each instance. All easements are to be excluded from the acreage calculation. The Waller County On-Site Sewage Facility Regulations or other Federal, State, or Local laws or regulations may impose further lot restrictions.

3. Street Alignments

3.1 Streets shall be laid out so as to align with existing streets in adjoining or nearby subdivisions, leaving the possibility of connecting the subdivisions with a minimum of street construction. No voids shall be left within the subdivision with the intent of avoiding responsibility for constructing streets or bridges, nor along the subdivision boundary to avoid connecting with adjacent subdivisions or streets. Arterials shall be placed and designed in accordance with the plan of the County Thoroughfare Plan and the County Engineer. Collectors will be placed in accordance with any collector street plan that contains the subdivision.

3.2 Maximum block length shall be based on the average lot size fronting on the subject street in accordance with the following:

Average Lot Size Not Greater Than (Ac.)	Block Length Length (Ft.)
0.5 1,500 1.0 1,500 2.0 1,500 5.0 2,000	
10.0 2,500 20.0 3,500	
40.0	5,000

3.3 Dead-end streets which end at property that may be developed may remain as Dead End streets, but must be extended to the property lines. Dead End streets which shall remain as Dead

End streets shall end on a temporary cul-de-sac with a minimum radius of right-of-way 70 feet (minimum base 50 foot radius) with Dead End street signs placed on these streets.

3.4 County may require an internal street system that minimizes street cuts to existing County streets.

4. Minimum Street Requirements

4.1 Arterial streets shall be designed as follows:

4.1.1 If the arterial is included in the transportation plan, the right-of-way and pavement shall be as required in the plan.

4.1.2 The minimum right-of-way shall be 100 feet for urban (curb and gutter) construction and 120 feet for rural (open ditch) construction.

4.1.3 The pavement cross section in a rural subdivision shall be 36 feet of paved surface travel-way.

4.1.4 The pavement cross section in an urban subdivision shall be two 24-foot travel-ways with a 19-foot median.

4.1.5 The minimum design speed shall be 55 MPH. A minimum centerline radius of 2,000 feet shall be used.

4.2 Collector streets shall be designed as follows:

4.2.1 If the collector is included in a transportation plan, the right-of-way and pavement cross section shall be as required in the plan.

4.2.2 The minimum right-of-way shall be 80 feet for urban (curb and gutter) construction and 90 feet for rural (open ditch) construction.

4.2.3 The pavement cross section in a rural subdivision shall be 28 feet of paved surface travel-way.

4.2.4 The pavement cross section in an urban subdivision shall be a 32-foot paved travel-way.

4.2.5 The minimum design speed shall be 45 MPH. A minimum centerline radius of 1200 feet shall be used.

4.3 Local streets shall be designed as follows:

4.3.1 The minimum right-of-way shall be 70 feet in a rural (open ditch) subdivision and 60 feet in an urban (curb and gutter) subdivision.

4.3.2 The pavement cross section in a rural subdivision shall be 22 feet of paved surface travel-way, or 28 feet back of curb to back of curb.

4.3.3 The pavement cross section in an urban subdivision shall be a 28 feet, back of curb to back of curb.

4.3.4 Cul-de-sacs shall have a minimum right-of-way of 70 feet (radius) with a rural paving section of 50foot radius paved travel-way, or a 50-foot radius to back of curb.

4.3.5 The minimum design speed shall be 35 MPH. A minimum centerline radius of 650 feet shall be used.

4.4 The following standards apply to all streets:

4.4.1 Concrete streets with curbs shall have a back of curb to back of curb width equal to those sections with curb and gutter sections.

4.4.2 Concrete Curb and gutter sections where used with non-concrete pavement shall be a minimum of 24 inches in width.

4.5 Additional Right-of-Way for Existing Streets:

4.5.1 Where the subdivision affects a county street, the Commissioners Court shall determine the right-of-way width which will be necessary for the maintenance and improvement of the street.

4.5.2 Where the subdivision affects only one side of a county street, adequate right-of-way shall be provided to obtain one-half the total proposed width to provide right-of-way as prescribed by Commissioners Court.

4.5.3 Where the development is on both sides of the existing county street, right-of-way for the total prescribed width shall be provided.

4.5.4 Any improvements proposed by the developer along an existing county streets shall:

1. Comply with the standards set in Paragraph 4.1;

2. Be included in the construction plans as approved by the County Engineer; and

3. Where it is an improved facility, it must be equal to the existing street, in sole discretion of Commissioners Court.

4.6 Unless otherwise stated in these regulations, all streets shall be designed in accordance with the latest version of AASHTO (American Association of State Highway and Transportation Officials) "A Policy on Geometric Design of Highways and Streets". All references to "mountainous terrain" shall not apply to Waller County.

4.7 Private streets shall be allowed at the discretion of the Commissioners Court. Private streets shall be constructed to County standards in all matters. County shall not be obligated in the future to accept any private street into the County road maintenance system.

4.8 Road Maintenance Acceptance Criteria for Roads and Streets.

4.8.1 To be accepted, concrete roads and streets must meet the criteria set forth by the County Engineer in the Waller County Acceptance Criteria for New Construction, Repair, and Replacement of Concrete Roadways: Acceptance Guidance for Concrete Pavement.

5. Construction: General

5.1 A preconstruction meeting shall be scheduled prior to the start of construction. The Design Engineer, Developer, Contractor, Subcontractors and County Engineer or his designated representative shall attend this meeting. All streets are to be constructed according to specifications found in the current version of the TxDOT Manual Standard Specifications for Construction of Highways, Streets, and Bridges unless otherwise stated in these standards.

5.2 All streets, and concrete structures shall be tested by an Independent Testing Laboratory. The subgrade will be tested for Plasticity Index (PI), percent of lime if lime is added, and compaction. Each base course will be tested for compaction and depth. The two course surface treatment will have certification of distribution of AC-5 or HFRS-2 asphalt and of the cover stone. The HMAC course will be tested for compaction and depth. All compaction test reports will

include a copy of the work sheet showing 100% Design Proctor Standard. Pavement concrete will be tested for Compressive strength. A test specimen will be taken at intervals no greater than 500 feet. The developer shall pay for all testing and will furnish the County Engineer's Office with certified copies of these tests.

5.3 All underground nonferrous utilities within an easement or street must be accompanied by ferrous metal lines to aid in the location of the utilities through the use of a metal detector except for electrical lines.

5.4 All pavement is to be designed by a professional engineer. The design is to be based upon a soil report of samples taken along the proposed streets. Test holes will be placed at a maximum spacing of 1000 feet of proposed roadway. The County Engineer shall review the report along with the street and drainage construction plans for the subdivision.

5.5 Iron Rods and caps shall be placed at all points of curvatures and tangencies for all rural streets.

6. Subgrade

6.1 The preparation of the subgrade shall follow good engineering practices as directed by the Design Engineer. When the P.I. is greater than 20, then a sufficient amount of lime shall be in accordance with TxDOT Item 260 – Lime Treatment for Materials Used as Subgrade (Road Mixed) and Item 264 – Lime and Lime Slurry until the P.I. is less than 20. Subgrades such as sand, with low plasticity (P.I. less than 5) shall be cement stabilized. The subgrade will be prepared and compacted to 95% Standard Proctor density. The subgrade shall be watered, rolled and bladed to a depth of ten (10) inches before any flexible base material is placed on it.

6.2 The subgrade must be inspected and approved by an Independent Testing Laboratory and a certified copy given to the County Engineer's Office.

6.3 The subgrade shall extend 24 inches outside of the base width on each side of the base material.

7. Base Material

7.1 Base material shall conform to TxDOT Item 247 "Flexible Base". The base material shall be Type A Grade 2.

7.2 The base will be prepared and compacted to 95% Standard Proctor Density, +1-2% optimum moisture. The base must be inspected and approved by an Independent Testing Laboratory and a certified copy of all tests given to the County Engineer's Office for approval. All streets must have a flexible base. The flexible base shall have a minimum thickness of eight (8) inches after compaction of the authorized base material on local streets and a minimum thickness of twelve (12) inches after compaction of the authorized base on collector and arterial streets.

7.3 The base shall extend 24 inches outside the paving width on each side of the pavement material. Where there is no curb, the base material is to conform to the final grade of the wearing surface.

8. Wearing Surface

8.1 Hot Mix Asphaltic Concrete (HMAC)

8.1.1 Local streets require a minimum two (2) inch layer of HMAC Type D. Compact to 95% Standard Proctor density. Aggregate used in the mix shall be on the TxDOT Quality Monitoring Schedule. The County Engineer's Office shall be provided with a copy of the HMAC design.

8.1.2 Collector and Arterial streets require a minimum of three (3) inches of HMAC Type D; to be placed in two (2) lifts. Compact to 95% Standard Proctor density. Aggregate used in the mix shall be on the TxDOT Quality Monitoring Schedule. The County Engineer's Office shall be provided with a copy of the HMAC design.

8.1.3 Paving material shall be applied only as directed in the TxDOT Manual.

8.1.4 Subgrade – applied in accordance with A6.

8.1.5 Base Material – applied in accordance with A7.

8.1.6 The asphalt surface must be inspected and approved by an Independent Testing Laboratory and a certified copy given to the County Engineer's Office for approval by the County Engineer.

8.2 Concrete

8.2.1 Design Engineer shall determine class of concrete for each structure. Aggregate used in the mix shall be on the TxDOT Quality Monitoring Schedule. Batch design will be required for each class of concrete. Test specimens will be required for each 500 SY or a minimum of one cylinder for each class of concrete. For structural concrete, test cylinders will be required for each 50 CY. A slump test will be required for each set of test beams or cylinders. Air entraining and retarding agents used shall be from approved TxDOT list.

8.2.2 Fly ash is allowed in the mix, up to 25% maximum by weight.

8.2.3 Concrete pavement shall be a 5 ½ sack mix and a 28-day compressive strength of 3500 PSI. Structural concrete shall have a 28-day compressive strength of 4000 PSI.

8.2.4 Minimum pavement requirements shall be as follows:

8.2.4.1 Subgrade – in accordance with A6.1

8.2.4.2 Arterial Street – minimum thickness is eight (8) inches with #5 bars longitudinally on six (6) inch centers, and #5 bars transversely on twenty-four (24) in centers.

8.2.4.3 Collector Street - minimum thickness is seven (7) inches with #5 bars longitudinally on nine (9) inch centers, and #5 bars transversely on twenty-four (24) inch centers.

8.2.4.4 Local Street - minimum thickness is six (6) inches with #5 bars longitudinally on twelve (12) inch centers, and #5 bars transversely on thirty (30) inch centers.

8.2.4.5 At irregularities; two (2) #5 bars will be provided, the first at three (3) inches and the second at six (6) inches from the edge of the irregularity. An irregularity is any change in the width, thickness, and/or continuity of the structural cross section. (i.e. headers, manholes, valves, drainage inlets, utility covers, etc.)

8.0.4.6 Crack control joints shall be spaced no greater than twenty (20) feet apart and properly sealed. Additional crack control joints shall be provided where necessary to prevent uncontrolled cracking.

8.2.4.7 All reinforcing steel shall be a minimum Grade 60, ASTM A615.

9. Street Names and Markers

9.1 All streets to be dedicated to the public with a subdivision shall be named, with prior approval for the name from the 911 County System, and the Commissioners Court. The street names shall be displayed on standard intersection street markers erected by the Developer at each street intersection. All houses shall be numbered. Where rural

route mail boxes are in use, the boxes shall be set behind curbs 3 ft. from the edge of the pavement when used. All mailboxes within county right-of-way shall meet the current TxDOT standards.

9.2 Traffic control signs (such as stop, yield, and speed limit signs) as approved by Commissioners Court, shall be installed by the Developer of the subdivision at all intersections. Other traffic control signs shall be installed to indicate any unusual traffic or street hazard or conditions that may exist. All traffic control devices shall be placed in compliance with the current standards of the TxDOT and the construction cost shall be included in the security. The placement of these signs shall be shown in the construction plans.

9.3 A speed limit of 30 MPH for local streets, 40 MPH for collector streets and 50 MPH for arterial streets within all platted subdivisions is required. This limit may be changed only by Commissioners Court upon a finding that the prima facia maximum reasonable and prudent speed for a particular street (or part of a street) should be different, based on an engineering study.

9.4 All of the requirements regarding street names, street signs and traffic control signs must be fulfilled prior to being accepted for final maintenance by the Commissioners Court, under Section 6.

9.5 All street signs shall adhere to the Texas Manual of Uniform Traffic Control Devices (TMUTCD).

10. Drainage – see Appendix E

11. Driveways – see "Driveway Regulations" (under separate cover)

11.1 Minimum driveway spacing on arterial streets without curb and gutter shall be 200 feet.

11.2 The use of concrete "dip type" driveways is encouraged. The maximum grade break at each vertical point of intersection shall be 15%. Concrete will be 3000 PSI with a minimum thickness of five inches. Minimum reinforcement shall be #4 at 18" on center each way (ocew).

12. Pipelines

Pipelines placed (or replaced) beneath existing roads shall be installed by boring or tunneling. Jacking may not be used unless approved in writing by Commissioners Court. The use of explosives is prohibited.

All borings shall extend beneath all travel lanes. Unless precluded by right-of-way limitations, the following clearances are required:

20 feet from all mainlanes on roads with speed limits exceeding 40 mph or higher;

10 feet for speed limits of 40 mph or less.

All traffic control devices, including signs, markings, or barricades used to warn the public of the construction activity must conform to the TMUTCD.

12.1 Natural Gas and Petroleum Pipeline Crossings

12.1.1 When new streets are constructed over pipelines, the pipelines must meet the following requirements:

12.1.1.1 Encased pipe must be at least 5 feet below the deepest proposed ditch grade (bottom of ditch to top of pipe).

12.1.1.2 Non-cased pipe (of extra wall thickness meeting Federal Regulations) must be at least 10 feet below the deepest proposed ditch.

12.2 No street will be accepted for maintenance by Waller County which contains a petroleum pipe line within the right-of-way, other than crossing pipe lines. The exact horizontal and vertical location of pipe must be shown as determined in the field. The note from Section B Item 9 must be shown on the face of the plat.

APPENDIX B – PLAT NOTES

1. Street Widening Easements

Right-of-way easements for widening streets or improving drainage shall be maintained by the landowner until all street or drainage improvements are actually constructed on the property. The County has the right at any time to take possession of any street widening easement for construction, improvement or maintenance.

2. Owner's Responsibilities

The building of all streets, bridges or culverts is the responsibility of the owners in accordance with the plans prescribed by Commissioners Court. Commissioners Court assumes no obligation to build or maintain any of the streets shown on the plat or constructing any of the bridges or drainage improvements. Upon completion of all obligations by the Developer and written approval from the Commissioners Court, the County will assume full responsibility for maintenance of the streets. The County will assume no responsibility for the drainage ways or easements in the subdivision, other than those draining or protecting the streets.

The County assumes no responsibility for the accuracy of representations by other parties on the plat. Floodplain data, in particular, may change depending on subsequent development.

The owners of land covered by this plat must install at their own expense all traffic control devices and signage that may be required before the streets in the subdivision have finally been accepted for maintenance by the County.

The property subdivided herein is further restricted in its use as specified under the terms and conditions of restrictions filed separately. A copy of said restrictions will be furnished by aforesaid (Corporation Name), to the purchaser of each and every lot in the subdivision prior to culmination of each sale.

Include certification that the subdivider has complied with the requirements of Section 232.032 and that:

(A) the water quality and connections to the lots meet, or will meet, the minimum state standards;
(B) sewer connections to the lots or septic tanks meet, or will meet, the minimum requirements of state standards;
(C) electrical connections provided to the lot meet, or will meet, the minimum state standards; and
(D) gas connections, if available, provided to the lot meet, or will meet, the minimum state standards.

3. Owner's Release

The standard format for owner's approval of the plat restrictions and dedication of easements shall be as follows:

For Corporations (Face of Plat)

We, **(Name of President)** and **(Name of Secretary)**, President and Secretary respectively, of **(Name of Company)**, owner of the property subdivided, in this plat of **(Name of Subdivision)**, make subdivision of the property on behalf of the corporation, according to the lines, lots, building lines, streets, alleys, parks and easements as shown and dedicated to the public , the streets, all alleys, parks and easements shown, and waive all claims for damages occasioned by the establishment of grades as approved for the streets and drainage easements dedicated, or occasioned by the alternation of the surface, or any portion of the streets or drainage easements to conform to the grades, and bind ourselves, our heirs successors and assigns to warrant and defend the title to the land so dedicated.

We, the aforementioned, hereby dedicate to the public all easements and roads shown thereon. There is also dedicated for utilities, an aerial easement five (5) feet wide taken from a plane twenty (20) feet above the ground, located adjacent to all utility easement and streets shown thereon.

Further, all of the property subdivided in the above and foregoing plat shall be restricted in its use, which restrictions shall run with the title to the property and shall be enforceable at the option of Waller County, by Waller County, or any citizen thereof, by injunction as follows:

1. That drainage of septic tanks into roads, streets, alleys, or public ditches, streams, etc., either directly or indirectly is strictly prohibited.

2. All stock animals, horses, and fowl shall be fenced in and not allowed to run at large in the subdivision.

3. Drainage structures under private drives shall have a net drainage opening area of sufficient size to permit the free flow of water without backwater and shall be a minimum of one and **one** quarters (1-1/4) square feet (15" diameter pipe) reinforced concrete pipe, unless specified by the County Road Administrator, or County Engineer. Culverts and bridges must be used for all driveways and/or walks, although dip-style driveways are encouraged where appropriate.

4. Property owners will obtain Development Permits/Permit Exemptions from the County Floodplain Administrator for all development.

5. The property subdivided herein is further restricted in its use as specified in the subdivision restrictions as filed separately for record at Page _____ Volume _____ of the Deed Records of Waller County, Texas. A copy of said restrictions will be furnished by the aforesaid (Corporation Name), to the purchaser of each and every lot in the subdivision prior to culmination of each sale.

6. There are no underground pipelines within the confines of this subdivision except as shown on the above plat.

7. There shall be no sanitary sewer system or any water well constructed within 50 feet of any lot line that does not adjoin a public road.

In Testimony, hereto, the **(Name of Company)**, has caused to be signed by **(Name of President)**, its President, attested by its Secretary, **(Name of Secretary)**, and its seal, this ____ day of _____, 20___.

_____
Name of Company

By: _____
President

Attest: _____

Secretary

Notary Public (for Corporation)

STATE OF TEXAS }

COUNTY OF }

BEFORE ME, the under signed authority, on this day personally appeared **(Name of President)**, President, and **(Name of Secretary)** Secretary of **(Name of Company)**, known to me, to be the persons whose names are subscribed to the foregoing instruments, and acknowledged to me that the same was the act of the corporation, for the purposes and considerations expressed, and in the capacities stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS ___ DAY OF _____20___.

_____

Notary Public

In and for _____County, Texas

For Individual(s) (Face of Plat)

I, (or we), (Name of owner or names of owners), owner, (or owners) of the property subdivided in the above map of the (Name of Subdivision), make subdivision of the property, according to the lines, streets, lots, alleys, parks, building lines and easement as shown, and dedicate to the public, the streets, alleys, parks and easements shown, forever, and waive all claims for damages occasioned by the establishment of grades, as approved for the streets and drainage easements indicated, or occasioned by the alteration of the surface, or any portion of the streets or drainage easements to conform to the grades, and bind ourselves, our heirs, successors and assigns, to warrant and defend the title to the land so dedicated.

I, (or we), the aforementioned, hereby dedicate to the public all easements and roads shown thereon. There is also dedicated for utilities, an aerial easement five (5) feet wide taken from a plane twenty (20) feet above the ground, located adjacent to all utility easements and streets shown thereon.

Further, all of the property subdivided in the above and foregoing plat shall be restricted in its use, which restrictions shall run with the title to the property and shall be enforceable at the option of Waller County, by Waller County, or any citizen thereof, by injunction as follows:

1. That drainage of septic tanks into roads, streets, alleys, or public ditches, streams, etc., either directly or indirectly is strictly prohibited.
2. All stock animals, horses, and fowl shall be fenced in and not allowed to run at large in the subdivision.

3. Drainage structures under private drives shall have a net drainage opening area of sufficient size to permit the free flow of water without backwater and shall be a minimum of one and **one** quarters (1-1/4) square feet (15” diameter pipe) reinforced concrete pipe, unless specified by the County Road Administrator, or County Engineer. Culverts and bridges must be used for all driveways and/or walks, although dip-style driveways are encouraged where appropriate.

4. Property owners will obtain Development Permits/Permit Exemptions from the County Floodplain Administrator for all development.

5. The property subdivided herein is further restricted in its use as specified in the subdivision restrictions as filed separately for record at Page _____ Volume _____ of the Deed Records of Waller County, Texas. A copy of said restrictions will be furnished by the aforesaid (Corporation Name), to the purchaser of each and every lot in the subdivision prior to culmination of each sale.

6. There are no underground pipelines within the confines of this subdivision except as shown on the above plat.

7. There shall be no sanitary sewer system or any water well constructed within 50 feet of any lot line that does not adjoin a public road.

WITNESS MY (or our) hand in (City), _____, County, Texas, this ___ day of _____, 20___.

_____

(Signature of Owner)

_____

(Signature of Owner)

Notary Public [For Individual(s)]

STATE OF TEXAS }

COUNTY OF }

BEFORE ME, the undersigned authority, on this day personally appeared [Name(s) of Owner(s)], known to me to be the person(s), whose name(s) is (or are) subscribed to the foregoing instrument, and acknowledged to me that he (she) (they) executed it for the purposes and consideration set forth.

Given under my hand and seal of office, this ___day of _____, 20___.

_____

Notary Public
In and For _____County, Texas

4. Lien Holder's – either the Release or the Subordination is required in situations where there is a lien against the property.

a) Release

(The following phrase is to be included only if there is a lien against the property) (Face of Plat)

I (or we), [Name(s) of Mortgage(s)], Owner and Holder (or owners and holders) of a lien (or liens) against the above-described property, the lien (or liens), being evidenced by an Instrument of Record in Volume ____, Page ____, of the Mortgage Records of Waller County, Texas subordinate to the subdivision and dedication the lien (or liens), and I (or we) confirm that I am (or we are) the present owner (or owners) of the lien (or liens) and have not assigned the same, nor any part.

NOTE: All lien holder signatures shall be acknowledged by a Notary Public.

b) Lien Holder's Subordination To Dedication

OWNER'S RATIFICATION OF PLATS

THE STATE OF TEXAS

COUNTY OF WALLER

KNOW ALL MEN BY THESE PRESENTS
WHEREAS, *(names of all owners within the plat boundaries)* are the owners of that certain *(number of acres)* of land out of the *(name of the survey and abstract number) (name of County)*, Texas, said tract being further described by metes and bounds in exhibit A attached hereto and made a part hereof for all purposes: and

WHEREAS, *(names of all owners who signed plat)* have/has platted the herein above described tract of land into a subdivision known as *(name of plat)*, recorded at VOL ____ PG _____, in the Map Records and Clerk's File Number _____ of the official Public Records of Real Property of Waller County, Texas: and

WHEREAS, the undersigned owner did not join in the platting or sign the plat of said *(name of Plat)*, but is willing to ratify and confirm said subdivision plat and consent to all its terms and conditions:

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

That *(name of owner subordinating)* is the owner of that certain tract of land containing *(number of square feet or acres)* located within the subdivision, as described in the deed dated *(date)*, from *(name of previous owner)*, recorded under Clerk's File Number _____ of the Official Public Records of Real Property, Records Of Harris County, Texas, which is Lot ___, Block ____, of the subdivision *(or Reserve ___ of the subdivision)*.

That the undersigned, by executing this Owner's Ratification of Plat:

1. Confirms that he is the owner of the respective tract described in the deed referred to above, and
2. Represents that the tract owned by him is subject only to the vendor's lien described in the deed referred to above, and
3. Hereby ratifies, confirms and consents to the subdivision plat of *(name of plat)* and all terms and conditions therein contained, as described and referred to herein and as described in as shown on the plat of *(name of plat)* with the same force and effect as the undersigned had originally joined in the plat or signed the plat of *(name of plat)*.

EXECUTED this _____ day of _____, 20___, A.D.

By: _____
(Print Owner's Name & Title)

NOTE: All lien holder signatures shall be acknowledged by a Notary Public.

5. Certificate of Commissioners Court

APPROVED by Commissioners Court of Waller County, Texas, this ____ day of _____, 20___ A.D.

_____
Name

County Judge

_____	_____
Name	Name
Commissioner, Precinct 1	Commissioner, Precinct 2
_____	_____
Name	Name
Commissioner, Precinct 3	Commissioner, Precinct 4

NOTE: Acceptance of the above plat by the Commissioners Court does not signify Waller County acceptance of the dedicated roads for integration into the County Road System. The developer is required to comply with Sections 5 and 6 of the then current Waller County Subdivision and Development Regulations, in this regard.

Privately maintained paved streets:

[Owner], by filing this Plat of Record, and all future owners of property within this subdivision, by purchasing such property, acknowledge and agree that Waller County shall have no obligation whatsoever to repair or accept maintenance of the roads shown on this subdivision until and unless [Owner] and/or the _____ Homeowners Association has improved the roadways to the then current standards required by Waller County and the roads have been accepted for maintenance by formal, written action of the Waller County Commissioners Court and the roadway, with all required right of way, has been dedicated by the owners thereof, and accepted by the County, as a public street. [Owner] and all future owners of property within this subdivision shall look solely to [Owner] and/or the _____ Homeowners Association for future maintenance and repair of the roads and streets shown on this Subdivision.

6. Certificate of County Clerk

I, Debbie Hollan, Clerk of the County Court of Waller County, Texas, do hereby certify that the within Instrument with the certificate of authentication was filed for registration in my office on the ____ day of ___ 20_____, A.D. at _____ o'clock_____. M, in File # _____ of the Official Public Records of Waller County for said county.

Witness my hand and seal of office, at Hempstead, the day and date last above written.

Debbie Hollan

_____
Clerk of the County Court
Waller County, Texas

By_____
Deputy

7. Certificate of City Council

(If Subdivision is located within Extraterritorial Jurisdiction) (Face of Plat)

The certificate must follow the city's regulations.

8. Floodplain Certification

The following note shall appear on the face of the plat, "Structures built on lots in the designated Floodplain shall be elevated to two (2) feet or more above the 500-year floodplain elevation, in the 100-year floodplain. Within the 500-year, these structures must be elevated to one (1) above the 500-year floodplain elevation. No development permits will be issued in a Flood Hazard Area below the base flood elevation (B.F.E.). Contact the County Engineer's Office for specific information."

9. Pipelines

(Face of Plat)

(Show all existing oil and gas pipe lines and/or plus pipe line easements or statement that: No pipe line or pipe line easement exist within the boundaries of this plat.)

If pipe lines do exist within the proposed subdivision, written "crossing" approvals must be submitted from each owner.

10. Additional Plat Notes and Releases

A. Certificate of Surveyor (Face of Plat)

This is to certify that I (Name), a Registered Professional Land Surveyor of the State of Texas, have platted the above subdivision from an actual survey on the ground; and that all block corners, lot corners and permanent referenced monuments have been set, that permanent control points will be set at completion of construction and that this plat correctly represents that survey made by me.

[(A) or (NO)] Portion of this subdivision lies within the boundaries of any municipality's corporate city limits, or area of extra territorial jurisdiction.

[(A) or (NO)] Portion of this subdivision lies within the boundaries of the 1% annual chance (100 year) floodplain as delineated on Waller County Community Panel #_____, dated 2/18/2009.

[(A) or (NO)] Portion of this subdivision lies within the boundaries of the 0.2% annual chance (500 year) floodplain as delineated on Waller County Community Panel #_____, dated 2/18/2009.

_____
Surveyor
TX Registration No._____

(Seal)

B. Legal Description (Face of Plat)

(Herein, provide a legal description [metes and bounds description] of the property platted, tied to an original corner of the original survey.)

C. Certificate of County Engineer (Face of Plat)

I, (Name of County Engineer), County Engineer of Waller County, certify that the plat of this subdivision complies with all existing rules and regulations of Waller County.

No construction or other development within this subdivision may begin until all Waller County permit requirements have been met.

_____ _____

Date Name
County Engineer

D. Certificate(S) of Tax Collector

(This document does not appear on the face of the Plat, but is a separate document. A Certificate from each Tax Collector of a Political Subdivision in which the property is located must accompany the Plat to be recorded, showing that all taxes owed to the State, County, School District, Drainage District and/or other Political Subdivision, have been paid in full to date.)

E. Drainage District Approval (Face of Plat)

(If subject property lies within the boundaries of a Drainage District.)

The certificate must follow the district's regulations.

F. WASTEWATER DISPOSAL (Face of Plat)

SEPTIC SYSTEM CERTIFICATION

This is to certify that (Name of Subdivision) lies in the _____ soil formation/formations, this/these soil formation(s) has/have a _____ strata to a depth of _____ inches. Suitable systems in this/these formation(s) can be

_____.

Certified True & Correct

_____ _____

(Name of Registered Engineer) Date
(Registration No.)

No structure in this subdivision shall be occupied until connected to a public sewer system or to an onsite wastewater system which has been approved and permitted by Waller County Environmental Department.

Per Texas Administrative Code 285.4, FACILITY PLANNING [C] Review of subdivision or development plans. Persons proposing residential subdivisions, manufactured housing communities, multi-unit residential developments, business parks, or other similar structures that use OSSFs for sewage disposal shall submit planning materials for these developments to the permitting authority and receive approval prior to submitting an OSSF application.

G. WATER AVAILABILITY (Face of Plat)

No structure in this subdivision shall be occupied until connected to an individual water supply or a state-approved community water system.

H. FIRE SUPPRESSION SYSTEM (Face of Plat)

In a subdivision that is not served by fire hydrants as part of a centralized water system certified by the Texas Commission on Environmental Quality as meeting minimum standards for water utility service, the Commissioners Court may require a limited fire suppression system that requires a developer to construct:

(1) For a subdivision of fewer than 50 houses, 2,500 gallons of storage; or
(2) For a subdivision of 50 or more houses, 2,500 gallons of storage with a centralized water system or 5,000 gallons of storage.

Appendix C – Infrastructure Development Plan for Manufactured Home Rental Communities and RV Parks

The owner who intends to use the land for any type of rental community including, a manufactured home rental community or recreational vehicle park, must have an infrastructure development plan prepared that complies with the minimum infrastructure standards established herein. (Texas Local Government Code Chapter 232.007)

1. Infrastructure Development Plan

1.1 The Rental Community Infrastructure Development Plan (IDP)) shall show at minimum the following:

1.1.1 The development shall have a minimum of sixty (60) feet fronting a street or roadway which has been previously dedicated to the public for the public's use and benefit as a street or roadway. Access roads to the individual rental spaces must be constructed and paved to a minimum width of 20 feet with a 2 inch thick Hot Mixed Asphaltic Concrete (HMAC) paved surface, 8 inch thick crushed stone base, and, if located in clay or sandy soils, a 10 inch thick treated subgrade.

1.1.2 No space may contain more than one single family residential unit or Commercial Unit. No common driveways shall be allowed. Each space shall have separate and individual access.

1.1.3 A survey of the property shall be submitted to the County Engineer's Office prior to the request by the owner or occupier of the lot for any permit and/or utility services.

1.1.4 The owner shall submit a letter of application, signed by the owner, which stipulates the intention of the owner; name, address, phone number of the owner; names of water and electricity providers; and name of wastewater provider or type and usage of onsite sewage facilities.

1.1.5 Only 22" x 34" or 24" x 36" sheets will be acceptable and at a maximum scale of 1"=200' (1" = 100' preferred), or as approved by the County Engineer. An index on the first sheet is required when more than two sheets are required for the IDP.

1.1.6 Names, locations, dimensions (bearings and distances), and layouts of existing and proposed streets, alleys easements, and other public right-of-way and public street right-of-way easement, alley, park, or other public dedication.

1.1.7 Dimensions, bearings and distances, of the proposed rental spaces.

1.1.8 Signatures and date of approval and certifications on the IDP. These approval signatures shall be not more than six (6) months prior to the submission. Examples of the required acknowledgments and certifications are as contained in the exhibits attached hereto. (See Appendix B)

1.1.9 Legal description, acreage, and name of the proposed Development. The Development's name shall not be spelled or pronounced similarly to the name of any existing Development or Subdivision located within the County.

1.1.10 The boundary of the Development indicated by a heavy line and described by bearings and distances.

1.1.11 Scale, legend, north arrow, spot elevations on 100' or an appropriate grid, with two foot (2.0') contour lines. Alternate contour intervals may be submitted, based on terrain, with approval from Commissioners Court and County Engineer.

1.1.12 Deed record, name of owner, volume and page number of adjoining properties.

1.1.13 Dates of survey and preparation of IDP.

1.1.14 Identification code, location, description, and elevation of the USGS or appropriate benchmark used in the survey.

1.1.15 Front building setback lines. Back and side building setback lines by note.

1.1.16 Location of any City's corporate limit line or extraterritorial jurisdiction line.

1.1.17 Vicinity map with streets, ditches, general drainage flow directions to the ultimate outfall, city limits and ETJs, and other major land features.

1.1.18 Net area (gross area less easements) of rental spaces and/or units to the nearest 1/100 of an acre for lots using On-Site Sewage facilities and/or well water.

1.1.19 Limits of all flood hazard areas as defined by the appropriate FEMA FIRM panel and the proposed finished floor elevation of buildings within these flood hazard areas on each space.

1.1.20 A certification by a Surveyor or Engineer describing any area of the Development that is in a Floodplain or stating that no area is in a Floodplain, as delineated by the appropriate FEMA FIRM panel and date.

1.1.21 A surveyor’s signature and seal on the IDP for certification.

1.1.22 The description of the water and sewer facilities, electricity and gas utilities, and roadways and easements dedicated for the provision of water and sewer facilities that will be constructed or installed to serve the Development and a statement of the date by which the facilities will be fully operable, prepared by an Engineer (may be included in an attached document). A certification must be included that the water and sewer facilities described by the IDP, or document attached to the IDP, are in compliance with these Regulations.

1.1.23 Approvals by other regulatory and governing bodies, as required.

1.1.24 Letters signed and dated from water, wastewater, and electric utilities of service commitment and availability and statement of approval of existing and proposed utility easements.

1.1.25 A tax certificate showing that all taxes currently due with respect to the original tract have been paid.

1.1.26 Results of soil analysis certified by a qualified site evaluator (as defined by 30 TAC Chapter 285) for on-site sewage facilities (OSSF).

1.1.27 Engineering Design Construction Plans for roadway access to each rental space for fire and emergency vehicles.

1.1.28 Drainage design plans to ensure adequate drainage off of the rental spaces and/or units to drainage channels and out of the Development, including the design of drainage structures, culverts, and/or systems using a 10 year storm frequency, such that the drainage out of the Development does not have a negative drainage impact on neighboring properties. If additional right-of-way (ROW) is required for existing County road drainage and access as determined by the County Engineer to achieve a 60 foot wide right-of-way, the owner shall dedicate the right-of-way to the County.

1.1.29 The Engineering Report, as described in Appendix D of these regulations.

1.2 Inspection of Improvements. Construction of a proposed Rental Community may not begin before the date the County Engineer and Commissioners Court approves the IDP. Periodic inspection of improvements may be required, as directed by the County Engineer. If the County Engineer directs that a final inspection is required, it must be completed not later than the second business day after the date the County
Engineer receives a written confirmation from the owner that the construction of the infrastructure is complete. If the inspector determines that the infrastructure improvements comply with the IDP, then the County Engineer shall issue a Certificate of Compliance no later than the fifth business day after the date the County Engineer receives written confirmation from the owner that the infrastructure has been completed and in compliance with the IDP.

1.3 Utilities. A Utility may not provide utility services, including water, sewer, gas, and electric services, to a Manufactured Home Rental Community subject to an IDP or to a manufactured home in the community unless the owner provides the utility with a copy of the Certificate of Compliance issued by the County Engineer. This requirement applies to:

1.3.1 A municipality that provides utility services;

1.3.2 A municipality owned or municipality operated utility that provides utility services

1.3.3 A public utility that provides utility services;

1.3.4 A nonprofit water supply or sewer service corporation organized and operating under Chapter 67, Water Code, that provides utility services;

1.3.5 A county that provides utility services; and

1.3.6 A special district or authority created by state law that provides utility services.

1.4 Timely Approval of Infrastructure Development Plans.

No later than the 30th day after the date the owner of a proposed manufactured home rental community submits an infrastructure development plan for approval, the County Engineer will reject the plan, if it is deficient, or request the IDP be placed on the agenda for Commissioners Court and recommended an action. If the plan is rejected, the written rejection must specify the reasons for the rejection and the actions required for approval of the plan. The failure to reject a plan within the period prescribed herein constitutes approval of the plan.

Appendix D – Engineering Report for Manufactured Home Rental Communities and RV Parks

Engineering Report - This report, which shall be signed, dated, and sealed by a licensed professional engineer registered in Texas, shall contain detailed and definitive information on the following:

1. Water Supply Facilities

1.1 Public Water Systems

1.1.1 If the water supplier is a political subdivision of the state: a city, municipality, utility district, water control and improvement district, nonprofit water supply corporation, etc., the Developer shall furnish a signed letter of service availability from the water supplier to provide the state's minimum requirements of quality and quantity of water to the proposed Development.

1.1.2 Water service must be extended into the Development to each lot or rental space if the existing water lines are located within 300 feet of the Development and if there is sufficient water available by the water supplier.

1.2 Private Wells or Non-public Water Systems - Quantitative and qualitative results of sampling test wells in accordance with requirements promulgated by the TCEQ and the Texas Department of Health shall be included where individual wells are proposed for the supply of drinking water to residences and other establishments. The results of the analyses shall be made available to the prospective property owners or renters.

1.3 Prior to IDP approval, plans and specifications for the proposed water facilities system shall have been approved by all entities having jurisdiction over the proposed project, including TCEQ. Evidence of the approvals shall be included in the Engineering Report.

2. Wastewater Disposal Facilities

2.1 Centralized Sewerage Facilities

2.1.1 If wastewater treatment is provided by a political subdivision of the state (city, municipality, utility district, water control and improvement district, nonprofit water supply corporation or an existing investor-owned water supply corporation, etc.) the Developer shall furnish a signed letter of service availability to provide the state's minimum wastewater treatment standard for the proposed Development from the utility.

2.1.2 Prior to IDP approval, an appropriate permit to treat and/or dispose of wastes for the ultimate build-out of the Development shall have been obtained from the TCEQ and plans and specifications for the proposed wastewater collection and treatment facilities shall have been approved by all entities having jurisdiction over the proposed project, including TCEQ. Evidence of the approvals shall be included in the Engineering Report.

2.1.3 Wastewater disposal service must be extended into the Development to each lot or rental space if the existing wastewater lines are within 200 feet of the Development and there is sufficient wastewater capacity available from the wastewater service provider.

2.2 On-Site Sewage Facilities – The engineering report shall include soil analysis results as required under the Waller County Regulations for On-Site Sewage Facilities.

3. Roadways

The Engineering Report shall include a description of the roadways within the Community, and include information on the roadway cross section, pavement width and thickness, base thickness, subgrade treatment, material specifications, and other information as required in these Regulations. Plans and specifications for these improvements shall also be submitted to

the County Engineer's Office for approval by the County Engineer prior to construction.

4. Signage Plan

A signage plan for the streets to be constructed, if any, is to be included that shows an overall street layout depicting the location and description of signs and traffic control devices to be installed. The traffic control devices will include street name signs, stop signs, yield signs, speed limit signs, directional controls, striping, and delineators, etc.

5. Traffic Impact Study

For Manufactured Home Rental Communities of 100 spaces or greater, the Engineering Report may, at the request of the County Engineer, be required to include a Traffic Impact Study in accordance with the requirements of the County to assess the effects of additional traffic on the existing and proposed transportation system.

6. Drainage

The Engineering Report shall include information on the Development and roadway drainage, culverts, conveyances, outfalls, and other information as required to properly convey storm water within and away from the Development. Plans and specifications for these improvements shall also be submitted to the County Engineer's Office for approval by the County Engineer prior to construction.

7. Electronic Submission

An electronic file in AutoCAD format (.dwg) of the layout of the lots and streets (to scale and with state plane coordinates) within the Development shall be submitted for incorporation to the County-wide map.

APPENDIX E – DRAINAGE CRITERIA MANUAL

I. INTRODUCTION

Purpose

This DRAINAGE CRITERIA MANUAL (the Manual) provides design guidance for use by developers and engineers in preparation of drainage plans for development within the unincorporated areas of Waller County. It establishes rules and regulations that must be consistently followed and will be enforced throughout the unincorporated areas of the County. The design methods presented in this manual are intended to provide guidance for determination of runoff rates; methods of storm water collection, conveyance, and detention; and design standards for facilities (ditches, ponds, detention basins, etc.).

Methods of design and analysis other than those included in this Manual may be considered in certain cases where there may be inherent problems with the traditional methods. The National Oceanic and Atmospheric Administration's (NOAA) Atlas 14 rainfall data must be used in all instances. However, any deviation from this Manual will require consideration and acceptance by the County Engineer before approval will be granted for any work based on these alternatives.

Policy

Due to the nature of the watershed hydraulics within Waller County and the prevalent existence of floodplains that exceed the banks of the creeks, it shall be the policy of Waller County to maintain zero net increase in storm water runoff rates and to insure no negative impacts attributable to new development. Although it is Waller County's long-term goal to construct and maintain facilities (i.e., channels and regional detention facilities) that will contain 100-year storm flows within drainage rights-of-way, it is recognized that further impacts cannot be tolerated in the interim period. It is further recognized that impacts to other land owners and jurisdictions outside of Waller County's boundaries are unacceptable, and Waller County is dependent and supportive of the action of others to construct upstream and downstream facilities to accommodate 100-year flows.

Individual developers must provide infrastructure required to meet Waller County's stated objective of zero net increase in runoff rates and no negative impacts. Practically, this will mean that developers will provide adequate on-site detention volume to off-set increased runoff rates and must provide compensating storage volume for all fill placed in the 1% annual chance (100-year) and 0.2% annual chance (500-year) floodplain. Development in the delineated 100-year floodway will be

restricted by Waller County. Waller County prefers separate off-line detention facilities, but in-line facilities will be considered on a case-by-case basis and will only be approved after Waller County is satisfied that there will be no negative impacts to adjacent property owners.

Waller County recognizes that a portion of the County lies within the jurisdiction of the Brookshire-Katy Drainage District. A developer shall obtain approval from the District for all development projects within the District. In case of a conflict between the requirements of the County and the District, the more stringent of the two shall apply.

II. ADMINISTRATION

Submittal

Waller County has authority for review and approval of development plans for projects within its jurisdiction. Prior to commencing construction on proposed improvements, two (2) copies of plans, plats, reports, and calculations shall be submitted for review at least two weeks prior to the meeting at which the item will be considered. Proposed plats and plans shall be submitted for each development unless an overall master drainage plan for the development has been previously approved, in which case the applicant must demonstrate compliance with the approved master plan. All plans and reports must be prepared and sealed by a Professional Engineer licensed to practice in the State of Texas.

In addition, if the project is located within the Brookshire-Katy Drainage District, the Developer shall obtain written approval from the District of the development plans, and a copy of said approval shall be submitted to the County Engineer as a requirement of final plat approval.

Site Visit

Waller County may require a representative of the property owner or developer to meet with Waller County Representative at the project site prior to drainage plan approval. This meeting shall be for Waller County’s benefit and allow the Waller County Engineer to better understand the developer’s intentions.

Datum

All topographic information shown on plans must be on the same vertical datum as the current FEMA FIRM Map showing the project area.

Drainage Plan Review

The drainage plan shall present the applicant's overall approach to collecting and conveying rainfall runoff to the appropriate drainage artery. It is recommended that prior to preparation of the plan a meeting be arranged between the applicant and the Waller County Engineer to discuss the proposed concept for drainage of the project. The design submittal shall contain the following items:

1. Name, address, and phone number of the engineer that prepared the plan including contact person.
2. Scale of drawing with a minimum scale of 1"=100'.
3. Benchmark and reference benchmark with datum and year of adjustment.
4. A detailed location or vicinity map drawn to a scale. The project site shall be accurately located on the map.
5. Date on all submittals with date of all revisions with month, day, and year.
6. Signature lines for The County Engineer.
7. Contour lines at 1 foot where slopes do not exceed 2.0% and 5 foot intervals for slopes exceeding 2.0% intervals covering the entire development and extended beyond the development boundaries at least 50 feet on all sides. At least two contours are required for each project.
8. Preliminary scheme for the passage of sheet flow from adjacent properties.
9. Drainage area divides for project area, with peak run-off rates for each drainage area.
10. Locations of all planned drainage improvements proposed for moving run-off water from the development to the principle drainage artery, i.e., creek, stream, bayou, ditch etc., and their point(s) of entry into the drainage artery. Proposed detention facilities may not be located within the floodway.
11. Points at which structures or pipelines will cross drainage ditches, streams etc., within the development.
12. Locations of structures or other physical features on the development area to provide orientation as required during field inspection of the site.
13. Location of all existing drainage structures, utility lines, pipelines, and other underground features on the property and adjacent rights-of-way.
14. Location and dimensions of all proposed drainage easements and rights-of-way.
15. Location of major drainage arteries adjacent to or crossing the development.
16. Cross-section of detention facilities showing proposed water surface elevations, freeboard, slopes, and maintenance

berms.

17. Detention calculations in accordance with SECTION VI including volumetric calculations of detention provided.
18. Drainage area map of receiving system, if discharging to existing storm sewer system. Drainage area of receiving channel if discharging to open ditch or stream. Include calculations to prove capacity is available.
19. Copy of approved permit from TxDOT if draining to or impacting their system.
20. Copies of documents and letters of request for permission to cross privately held easements or rights-of-way and their approvals to do so.
21. Limits of floodway, 100-year floodplain, and 500-year floodplain.

Drainage Plan Approval

The Waller County Engineer shall provide comments to the applicant as soon as possible after submittal.

At least seven working days prior to Waller County Commissioners Court regularly scheduled meeting, revised plans/Reports addressing all comments must be submitted to the Waller County's Engineer. If all comments have been addressed, the plan will be placed on that agenda.

At Waller County Commissioners Court meeting at which drainage plan approval is being considered, the original and one (1) copy of the plan must be submitted (the original will be returned for inclusion in the construction plans).

Time Limits of Approvals

Approvals shall expire within one (1) year if construction has not commenced within that time. In cases where approval is given for a master plan and only certain sections are built immediately, the master plan approval will be valid for five (5) years.

Upon written request, the County Engineer may grant extensions of approval for up to one (1) year. All requests for extensions must be approved prior to the expiration of the original approval. No more than one (1) extension will be granted.

Revisions to Drainage Plans and Reports

All revisions to either the approved drainage plan or plat must be approved by the County Engineer. The County Engineer may require a re-submittal of a drainage plan or Report dependent upon the character and extent of the changes made as determined by Waller County.

III. HYDROLOGY

Hydrology is the study of precipitation. Policy makers and engineers must study and understand hydrology because they are interested in designing and building structures and systems to safely convey and discharge precipitation runoff while minimizing the potential of flooding. They must determine how much water should be collected and conveyed or stored, how fast this process must take place, how much can be safely discharged without adversely impacting surrounding properties, and what are other effects of the development being considered. The following sections discuss specific parameters and methods to be used in analyzing proposed developments in the unincorporated areas of Waller County.

Storm Frequency

All drainage improvements shall, at the minimum, be designed for the following storm frequencies. The return intervals listed here are minimums, and the individual design engineer or Waller County may choose to exceed these minimums given site specific requirements or constraints.

Table A

Type of Facility	Return Interval Storm
Closed Conduit Storm Sewers (for new developments)	2-year
County Ditch Culverts (serving less than 100 acres)	5-year
County Ditch Culverts (serving 100 to 250 acres)	25-year
County Ditch Culverts (serving 250 acres or more)	50-year
Bridges crossing County Ditches	100-year
Major Ditches and County Channels	100-year
Detention Facilities	100-year

Peak Storm Runoff Rates

The Rational Method can be used for determining peak runoff flow rate for both existing and proposed conditions. These peak runoff rates are used to estimate the impact of development and the conveyance requirements for drainage improvements. This method is applicable for small to medium drainage areas (generally less than 640 acres) where the flow domain is typically overland sheet flow or shallow surface ditch flow. Other methods should be used to estimate peak runoff rates for

larger areas or those served by well defined channels where flow routing in defined channels may be significant. The Rational Method takes the following form:

$$Q = C_f * (C * I * A)$$ Where:

Q = Peak Runoff Flow Rate (cfs)
C = Runoff Coefficient, See TABLE D
C_f = Frequency factor (the product of C_f and C should not exceed 1.0)
A = Area of drainage basin being studied (acres)
I = Rainfall Intensity of the design storm (inches/hour)

Frequency Factor (C_f)

The Frequency Factor is used in the Rational Method to scale the magnitude of the peak runoff in relationship to the return interval of the storm consistent with observed runoff data. This adjustment factor is used to account for the effects of antecedent moisture conditions that are generally associated with the less frequent storms. Appropriate values of C_f are presented in the following table.

Table B

Storm Frequency	Frequency Factor (C_f)
10	1.00
25	1.10
100	1.25

The product of C_f and C used in the Rational Method should not exceed 1.0.

Basin Time of Concentration (T_c)

The storm rainfall Intensity used in Rational Method will be selected based upon the return interval of the storm to be used (specified in the Storm Frequency Table above), and the duration of the storm to be used (based on the study basin's time of concentration). Time of Concentration (T_c) is defined as the length of time it takes a drop of water to travel from the most hydraulically remote portion of the drainage basin to its outlet. T_c is a property of the drainage basin reflective of its area, shape, surface gradient, land use, land cover, and soil type. T_c (in minutes) may be estimated from the following equation:

$$T_c = \text{Length}/(\text{Velocity} * 60) + 10$$

Where:
Length = Flow distance (feet)
Velocity = Flow velocity (fps) [see following table]

Table C

Flow Condition	Representative Velocities
Shallow overland flow in undefined channels	0.25 to 0.50 fps
Flow in street curb & gutter or road ditches	0.75 to 1.25 fps
Flow in shallow ditches	1.5 to 3.0 fps
Flow in defined channels	2.0 to 4.0 fps
Flow in closed conduit storm sewers	3.0 to 5.0 fps

The constant value of 60 in this equation is used to convert seconds to minutes and 10 is used as an estimate of initial delay between the start of rainfall and development of actual surface runoff. This method can be applied fairly accurately to large and small basins with either undeveloped or developed surfaces. However, the designer must specify the flow condition and estimated flow velocities for each flow domain on the site (i.e., the first 100' is overland flow followed by 250' in a gutter followed by 400' in closed conduit, etc.) and estimate time of concentration as the sum of all these individual flow conditions. The flow path used as the basis of this calculation should be clearly denoted on the plans with the associated design calculations.

Another method that can be used to estimate time of concentration for developed areas (i.e., storm sewer projects) is in the following form:

$$T_c = 10*(A)^{0.1761} + 15$$ Where:

A = Drainage Basin area (acres)

This method accurately estimates T_c for sewered projects, however it tends to underestimate actual T_c for basins with significant overland flow or open ditch flow, and therefore may overestimate peak runoff flow rates for these basins.

Alternative methods for estimating the basin's time of concentration will be accepted for review by Waller County, and may be allowed for use if the method's applicability to a specific situation warrants its use over the methods presented.

Storm Intensity (I)

For small watersheds and individual developments, the storm intensity should be based upon the time of concentration of the basin being analyzed. For example, in the design of a detention facility serving a basin with a 2-hour time of concentration, an

Intensity for a 100-year, 2-hour storm should be selected for use in the analysis.

For large watersheds and regional studies, use a 24-hour duration storm for the analysis and design. Appropriate design storm intensities are shown in TABLE F for various return interval storms.

IV. HYDRAULICS

Hydraulics is the study of fluid flow behavior. Policy makers and engineers must study and understand hydraulics because they are responsible for designing and constructing conveyance and storage facilities capable of managing storm water runoff in a safe and effective manner while reducing the potential for flooding. The following sections discuss specific methods and parameters to be used in analyzing proposed developments in Waller County's service area.

Open Channel Flow

The vast majority of conveyance capacity within Waller County's service area is located in the network of open channels that Waller County builds and maintains. The Chezy-Manning equation will be used to estimate a ditch's conveyance capacity. This equation is in the following form:

$$Q = 1.486/n * A * R^{2/3} * S^{1/2}$$

Where:
n = Manning's Roughness Coefficient (unitless)
A = Flow Cross-sectional area (sf)
R = Hydraulic Radius (ft)
S = Slope of the Hydraulic Grade Line (ft/ft)

Typical values for Manning's 'n' are included in TABLE E. The flow area (A) is estimated from the ditch cross-section, and is the area that will be conveying water (also called the wet area). The hydraulic radius is calculated as the wetted area divided by the wetted perimeter. The wetted perimeter is defined as the length of water/surface interface around the perimeter of the wetted area (does not include the water/air interface length). For open channels, the slope of the hydraulic grade line is estimated to be the same as the ditch slope.

Closed Conduit (Pipe) Flow

The Chezy-Manning equation presented earlier is also applicable for estimating flow capacity for closed conduits (i.e., pipes). There are some important distinctions to remember, including:

• Manning's 'n' for pipe materials are significantly different (i.e., smaller) than those for bare earth or vegetative surfaces. See TABLE E for appropriate 'n' values. • The assumption of hydraulic grade line slope being approximately equal to the pipe slope is only valid under free flow conditions. Once the pipe is full and experiences surcharge conditions, the hydraulic grade line slope will increase as flow increases.

V. DETENTION FACILITIES

To meet Waller County's requirements for zero net increase in runoff rates and no negative impacts due to new development, most projects will need to provide on-site detention facilities. Each detention facility should be designed based upon site specific parameters and constraints using accepted engineering methods. Waller County will not allow in-line storage within County ditches, channels, or streams. Additionally, the use of hydrograph timing as a substitution for detention on any project is prohibited. No approvals will be given by Waller County for any proposed development until the County Engineer has been satisfied that the proposed design meet Waller County's requirements. The following paragraphs describe general design requirements and allowable methods for generating appropriate designs.

The characteristics of an individual development may be such that additional calculations, plans, and details may be required both for proper review and for construction. The County Engineer shall notify the Developer or the Engineer as this need becomes evident.

General Requirements

Rural residential subdivisions consist of large acreage lots with minimal drainage improvements. For the purposes of this section a rural residential subdivision must meet the following design criteria:

- Lot size of 5 acres or greater per lot;
- Roadside ditch drainage system;
- No major drainage improvements that would significantly alter the natural drainage patterns during extreme storm events; and
- Consist only of residential developments.

Little change to the natural storm runoff occurs as a result of rural subdivisions. Waller County will not require detention for these residential developments; however, the sealing engineer remains responsible for ensuring compliance with applicable State drainage codes.

As shown in the storm frequency table earlier, detention facilities will be designed to provide enough storage to accommodate a 100-year event for the sub-area it is intended to serve. Detention facilities may be designed to be wet (constant level ponds) or may be designed to drain completely. They must be designed and constructed with stable slopes (4:1), they must provide adequate access and maintenance berms around the entire perimeter (30' minimum), and they must have erosion control elements (i.e., backslope swales, drop pipes, slope pavement, etc.) as necessary to ensure a stable, low maintenance facility. All detention facilities less than 2 acres in size must provide for 6 inches of freeboard between the projected 100-year water surface elevation and the top of the berm.

All detention facilities over 2 acres must provide 1 foot of freeboard. Outfall structures must be designed to restrict outflow from the detention facility at a rate not to exceed the pre-developed conditions, and must include a controlled release mechanism to safely discharge runoff from storm events in excess of the 100- year design storm.

Detention storage may not be placed in the floodway, road-side ditches, or in curb-and-gutter streets in public or private easements and rights-of-way.

Volume Requirements

The following paragraphs describe allowable methods for use in determining storage volume requirements. This is not an exhaustive discussion of all methods, but will provide developers and engineers with a variety of tools for use in the unincorporated area of Waller County.

Coefficient Method

For small developments (less than 5 acres for commercial or 10 acres for residential), the developer may choose to use this simplified method for detention volume estimation. Using this method, the developer would provide detention storage using the following equation:

$$\text{Storage} = 0.65 * A_{dev}$$

Where:

Storage = Detention volume required (ac-ft),

A_{dev} = The area of the site that will have modified cover (acres).

Using this method, storage is only provided for the portion of the site that is being developed. For example, on a 4 acre commercial tract with 2.5 acres of building, parking and landscape areas, the developer would be required to provide (2.5 acres)*(0.65 ac-ft/ac) = 1.63 ac-ft of detention storage. This method will not be allowed where the total developed area (either proposed or in the future) will exceed 5 acres for commercial or 10 acres for residential developments. The outfall structures will be designed separately as discussed in later paragraphs.

Small Watershed Hydrograph Method (Up to 640 acres)

The storage requirements for detention ponds can be determined using the Small Watershed Method (also called Malcom's Method). This method is a hydrograph based method that compares an expected inflow hydrograph to an allowable outflow hydrograph to determine required storage volume. Using this method, the required volume of storage is equal to the maximum cumulative difference between the inflow and outflow runoff curves.

DETENTION FACILITY INFLOW HYDROGRAPH

The inflow hydrograph is constructed by calculating instantaneous flow rates using the following equations:

$$Q_i = Q_p/2(1-\cos(\pi * t_i/T_p)) \qquad \text{for } t_i \leq 1.25\ T_p$$

And

$$Q_i = 4.34 * Q_p * \exp(-1.3 * t_i/T_p) \qquad \text{for } t_i > 1.25\ T_p$$

Where: Q_i = instantaneous flow rate at time "i" [cfs]

Q_p = peak flow rate (Rational Method) [cfs] t_i = time interval "i" [minutes] T_p = time to peak [minutes]

In the equations listed above, the time to peak (T_p) is calculated by:

$$\text{Time to peak } (T_p \text{ in minutes}) = V/(1.39*60*Q_p)$$

Where: V = volume of runoff [ft^3]

The total volume of runoff generated by the design storm event is the amount of rain that falls upon the watershed minus loses attributable to surface storage, soil infiltration, evaporation & transpiration, etc. For the purposes of projects within County jurisdiction, designers shall use a cumulative depth of excess rainfall consistent with the nearest station from NOAA for a 100-year, 24-hr event. For example, the Katy area is 16.00 and the Hempstead area is 14.8 inches.

Therefore, the total runoff volume is calculated by multiplying the cumulative depth of excess rainfall for the design storm event by the watershed area. In no case shall the detention storage rate be less than 0.55 ac-ft per acre.

Outflow hydrographs are constructed by determining the capacity of the outfall structure under incremental surcharge conditions. A table is generated that contains the estimated outfall rate for the proposed structure given increasing depths of ponding in the detention facility. To determine appropriate detention design, the engineer will provide a mass-balance for water in the detention facility (i.e. change in storage of the system equals the volume of water flowing in minus the volume of water flowing out) for several incremental time steps covering the duration of the storm event. The minimum storage requirement will equal the maximum cumulative storage determined in the time step analysis; however, the minimum shall not be less than 0.55 ac-ft per acre.

The Small Watershed Method is dependent upon the Rational Method for estimation of the peak flow rate, so it should only be used for basins of less than 200 acres where there is no well defined channel and any flow routing can be considered negligible.

HEC-HMS / HEC-RAS Computer Modeling

For basins over 640 acres in size, Waller County will require a HEC-HMS hydrograph analysis covering the site and the adjacent parts of the watershed utilizing Atlas 14 rates. This analysis should verify that the proposed improvements will not increase runoff rates anywhere in the system and therefore will have no negative impacts on adjacent properties. The engineer must submit a complete design report with sufficient detail (program input, program output and discussion of methods and assumptions used) for Waller County staff to review. Before beginning this type of analysis, please check with Waller County to receive the most current baseline HEC-HMS model of the area for development (if one is available). In no case shall the detention storage rate be less than 0.55 ac-ft per acre. Hydrograph timing will not be accepted as a substitution for detention.

Outfall Restrictor Design

The outfall structure is an important design component of the detention facility. The design of the outfall structure can be as simple as a single pipe segment, and can be as complex as multiple pipes with differing diameters at staggered elevations with overflow weirs and flow orifices. The following paragraphs describe ways to estimate flow conveyance of several flow control structures.

Outflow Rate and design

To comply with Waller County policy to avoid increasing flood risks or flood hazards, maximum allowable outflow rates from

detention basins are restricted to the pre-development flows from the 100-year, 25-year and 10-year Storm, 24-hour events.

If a downstream channel has less capacity than a 10 year event, also restrict the outflow to the amount the pre-development project site contributes to the channel when it is flowing full or at its flooding threshold.

When detention basin modifications are necessary to accommodate a proposed storm sewer outfall or a proposed development, design the modifications such that the 100-year, 25-year and 10-year Storm, 24-hour events water surface profiles in the detention basin and downstream channels are not increased above existing conditions.

If the outflow is into a roadside ditch or storm sewer, restrict the maximum allowable outflow to the rate allowed from the proposed site development using criteria adopted by the jurisdiction responsible for the roadside ditch or storm sewer.

Orifice

One of the most simple flow control structures is an orifice. An orifice is a two-dimensional flow structure (i.e., a drilled hole in a concrete wall, a hole in plate steel or a very short section of pipe) with an estimated conveyance capacity dependent upon the difference in water elevations from one side of the orifice to the other and the orifice opening area. The general equation for estimating flow through an orifice is as follows:

$$Q = C * A * (2 * g * H)^{1/2}$$

Where:

Q = Orifice flow capacity (cfs)
C = Orifice coefficient (unitless) [use 0.8]
A = Orifice opening area (sf) g = Gravitational acceleration constant (32.2 ft/s^2) H = Differential head across the orifice (ft)

For the design head differential (H) use the 100-year water surface elevation in the detention facility minus the 25-year water surface elevation in the receiving ditch (if known). If discharging directly into a roadside ditch or a storm sewer, use the difference between the 100-year water surface elevation at the entrance and the centroid of the orifice in feet when orifice is partially submerged. The orifice should generally be greater than 6” diameter to reduce problems with clogging and blockage.

Outfall Pipe

The engineer may use one or more a pipe sections as flow control devices. The conveyance capacity of the pipe(s) can be estimated using the Chezy-Manning equation discussed earlier. In using this method, the slope of the hydraulic grade line is equal to the head differential across the structure divided by the length of the pipe section. For the design head differential use the 100-year water surface elevation in the detention facility minus the 25-year water surface elevation in the receiving ditch (if known). If discharging directly into a roadside ditch or a storm sewer, use the difference between the 100-year water surface elevation at the entrance and the centroid of the orifice in feet when orifice is partially submerged. The restrictor pipe shall not be less than 6” in diameter.

Overflow Weir

An overflow weir can be used on an outfall structure to restrict and regulate outflow. One of the biggest advantages of this outfall structure is that they do not have a finite conveyance capacity, and can therefore be used for emergency overflows to control larger than 100-year flows.

There are many types of weir designs to choose from when designing an outfall structure, and each has a slightly different equation for estimating flow capacity. One of the simplest to design and construct is a Cipoletti weir consisting of a horizontal weir (of width B) with triangular weirs on either side (at 4:1 slopes) and a depth of flow of H feet. Capacity of a Cipoletti weir can be estimate by the following equation:

$$Q = 3.367 * B * H^{3/2}$$

Where:

Q = Weir capacity (cfs)
B = Weir length (ft)
H = Depth of flow across weir (ft)

VII. DESIGN PARAMETERS

The proper hydraulic design of channels is of primary importance to insuring that nuisance drainage conditions, flooding, sedimentation and erosion problems do not occur or the frequency of their occurrence is at an acceptably low rate. The following minimum design standards shall be applied to construction of new or reconstruction of facilities.

Design Frequency

New facilities shall be designed and constructed to contain and safely convey runoff from the 100-year frequency storm when at all feasible to do so. Consideration must be made for the capacity of existing channels downstream, and no improvement shall be made that increase the frequency of downstream flooding.

Design Flow Velocities

Excessive flow velocity can cause erosion problems, may pose a threat to bank stability and may create safety problems. Additionally, velocities that are too low may allow sediment deposition resulting in loss of channel capacity. Generally, design flow velocities in unlined open channels (for 100-year flows) should be between 2 and 5 fps. Flow velocities in concrete lined channels may increase to be between 5 and 8 fps.

Ditch Channel Slope

Ditches shall have a minimum constructed channel slope of 0.05% to provide for the minimum velocities noted earlier. Excessive slopes may unnecessarily increase the potential for erosion of banks and undermining of bridge and culvert structures, therefore maximum slopes should generally not exceed 1.00%. In areas of steep topography, channel drop structures may be required to limit channel invert slopes.

Ditch Side Slopes

In grass lined channels, maximum side slopes shall be 4:1 (horizontal:vertical). Variance from these criteria may be granted by the County Engineer to accommodate site specific issues, but 3:1 slopes should be the absolute steepest unlined slope proposed. Side slopes for concrete lined channels shall be based on field conditions and shall be site specific.

Ditch Bottom Width

The bottom width for ditches should generally be no less than 2 feet. A larger bottom width may be required to meet other parameter requirements including ditch capacity, design velocity, etc.

Ditch Horizontal Curves

In general, centerline curves for grass channels should be as gradual as possible and should have a radius greater than three times the ultimate ditch top width. Smaller curvature radii can be allowed with adequate slope paving as approved by the County Engineer.

Ditch Confluences

The angle of intersection between the tributary and main channel should be between 15° and 45° (with an optimal value of 30°). Angles in excess of 90° will not be permitted.

Ditch Transitions

Expansions and contractions should be designed to create minimal flow disturbance and thus minimal energy loss. Design consideration must be given to reducing erosion potential and turbulent flow characteristics at ditch transitions.

Ditch Drop Structures

When introducing flow into ditch main channel from shallow surface swales, the designer must include drop pipes to reduce the erosion potential at the confluence. Drop structures shall be appropriately sized for the area being served; with a discharge elevation of 12" above the main channel flowline.

Ditch Depth

Roadside ditches shall designed such that the maximum depth from pavement edge to the flowline of the ditch is no more than four (4) feet at any point.

Concrete Lined Channels

As field conditions necessitate, concrete lined channels may be required to provide adequate capacity or erosion protection for less than optimum drainage easement widths. Design of concrete lined channels will be considered by Waller County on a case-by-case basis.

Detention Facilities

Detention facilities shall have:

- Minimum 30-foot wide maintenance berm on all sides.
- Maximum side slopes no steeper than 4:1(h:v).
- Bottom of facility shall have a Minimum 1% cross slope.
- Facility shall have a concrete pilot channel.

Variance from these criteria may be granted by the County Engineer to accommodate site specific issues, but 3:1 side slopes should be the absolute steepest unlined slope proposed.

Table D

Rational Method 'C' Values

Land Use or Land Cover	Rational Coefficient 'C'
Raw, undeveloped acreage	0.20
Improved, undeveloped acreage (i.e., mowed, filled, graded, etc.)	0.30
Park Land	0.40
Residential – 1 acre lots or larger	0.40
Residential – ½ to 1 acre lots	0.45
Residential – less than ½ acre lots	0.55
Multi-Family	0.75
Commercial/Industrial	0.90

Table E

Manning's 'n' Values

Channel/Pipe Material	Manning's 'n'
Plastic Pipe (PVC & HDPE)	0.013
Clean Cast Iron	0.014
Concrete	0.013
Corrugated Metal	0.025
Smooth Bare Earth	0.018
Natural Channels (good condition)	0.025
Natural Channels (stones & weeds)	0.035
Natural Channels (poor condition)	0.060
Rip-rap	0.035

Table F

Design Intensity Values for Use in Waller County

(Based on NOAAs Atlas 14)

$$I = b/(T_c + d)^e$$

Storm Frequency	e	b	d
2-year	0.7962	63.3769	12.3799
5-year	0.7737	71.4160	12.0518
10-year	0.7521	75.9155	11.7528
25-year	0.7252	81.2936	11.4671
50-year	0.7012	82.4987	10.9481
100-year	0.6829	86.2332	11.1001

Exhibit F

MEMORANDUM OF AGREEMENT

This is a Memorandum of Agreement of the Subdivision Development Agreement between Waller County, Texas and Ashton Houston Residential, LLC for the FM 1774 180 Subdivision ("Agreement"). The Agreement, dated effective _, 202__, is identified as Contract ID # in the Official Public Records of Waller County, Texas. Notice is hereby given that the real property described in Exhibit A attached hereto and incorporated herein by this reference is subject to the Agreement. A copy of the Agreement may be obtained from the Waller County Clerk's Office.

[*The remainder of this page is intentionally blank. Signatures follow on next pages*]

WALLER COUNTY

_____

Carbett “Trey” J. Duhon III

County Judge

_____

Date

STATE OF TEXAS §

§

COUNTY OF WALLER §

This instrument was acknowledged before me on the _____day of _____, 202____ by Carbett “Trey” J. Duhon III, Waller County Judge, on behalf of Waller County, Texas, a political subdivision of the State of Texas.

_____

Notary Public, State of Texas

Ashton Houston Residential, LLC
A Texas limited liability company

By: _____
Title: _____
Date: _____

STATE OF _____ §
§
COUNTY OF _____ §

This instrument was acknowledged before me on the _day of _____, 202__ by_____, Manager of Ashton Houston Residential, LLC, a Texas limited liability company.

_____
Notary Public

Exhibit A

Real Property Description

Exhibit B

Plan of Development

Exhibit C

General Land Plan

Exhibit D

Approved Variances

1. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential LLC, for the FM 1774 180 subdivision:

   Variance from: Waller County Subdivision and Development Regulations, 3.4.7, requiring a 50-foot minimum lot width.

   Approved Variance: 40-foot minimum lot width, measured at the building line, and 5,000 square foot minimum is permitted.

2. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential LLC, for the FM 1774 180 subdivision:

   Variance from: Waller County Subdivision and Development Regulations, 3.4.15, requiring a 15-foot minimum side street building line.

   Approved Variance: 10-foot minimum side street building line is permitted.

3. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential, for the FM 1774 180 subdivision:

   Variance from: Waller County Subdivision and Development Regulations, 3.4.15, requiring a 25-foot front building line for local streets.

   Approved Variance: 20-foot front building line for lots fronting cul-de-sac bulbs and knuckle bulbs are permitted.

4. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential, LLC, for the FM 1774 180 subdivision:

Variance from:	Waller County Subdivision and Development Regulations, Appendix A, Engineering Design Standards, 4.3.4, requiring a cul-de-sac right-of-way radius of 70-feet.
Approved Variance:	60-foot cul-de-sac right-of-way radius is permitted.

5. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential, LLC, for the FM 1774 180 subdivision:

Variance from:	Waller County Subdivision and Development Regulations, Appendix A, Engineering Design Standards, 4.3.5, requiring a minimum 650-foot radius on local street centerlines.
Approved Variance:	A minimum 300-foot radius on local street centerlines is permitted.

6. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential, LLC, for the FM 1774 180 subdivision:

Variance from:	Waller County Subdivision and Development Regulations, Appendix A, Engineering Design Standards, 4.3.1, requiring a minimum 60-foot right-of-way for urban subdivisions.
Approved Variance:	A minimum 50-foot right-of-way width is permitted.

7. On _____, the Waller County Commissioners Court approved the following variance for Ashton Houston Residential, LLC, for the FM 1774 180 subdivision:

Variance from:	Waller County Subdivision and Development Regulations, Appendix A, Engineering Design Standards, 4.2.5, requiring a minimum 1,200-foot radius on collector street centerlines.
Approved Variance:	A minimum 500-foot radius on collector street centerlines is permitted.

Exhibit E

Waller County

Subdivision and Development Regulations

Exhibit F

MEMORANDUM OF AGREEMENT

This is a Memorandum of Agreement of the Subdivision Development Agreement between Waller County, Texas and Ashton Houston Residential, LLC for the FM 1774 180 Subdivision ("Agreement"). The Agreement, dated effective _, 202__, is identified as Contract ID # in the Official Public Records of Waller County, Texas. Notice is hereby given that the real property described in Exhibit A attached hereto and incorporated herein by this reference is subject to the Agreement. A copy of the Agreement may be obtained from the Waller County Clerk's Office.

[*The remainder of this page is intentionally blank. Signatures follow on next pages*]

WALLER COUNTY

_____

Carbett “Trey” J. Duhon III

County Judge

_____

Date

STATE OF TEXAS §

§

COUNTY OF WALLER §

This instrument was acknowledged before me on the _____day of _____, 202____ by Carbett “Trey” J. Duhon III, Waller County Judge, on behalf of Waller County, Texas, a political subdivision of the State of Texas.

_____

Notary Public, State of Texas

Ashton Houston Residential, LLC
A Texas limited liability company

By: _____
Title: _____
Date: _____

STATE OF _____ §
§
COUNTY OF _____ §

This instrument was acknowledged before me on the _day of _____, 202__ by_____, Manager of Ashton Houston Residential, LLC, a Texas limited liability company.

_____
Notary Public