

NEW CONSTRUCTION, ADDITION & REMODEL PLAN SUBMITTAL CHECKLIST

City of Hilshire Village

The following checklist is only a summary that is provided for the applicant's benefit; however, fulfilling the requirements of this summary checklist does not relieve the applicant from the responsibility of meeting the regulations in the zoning ordinance, subdivision regulations, and other development related ordinances of the City of Hilshire Village. In the event that there is a conflict between this summary checklist and the city's code of ordinances, the code of ordinances shall control.

Address: _____ Contractor Name: _____

Date of Submittal: _____ Plan Preparer: _____

Plan review fees are based on covered square foot calculations. The plan review fee must be collected prior to review. The plan review fee is separate from and does not apply towards the permit fee. There is a separate plan review fee for Drainage.

House plans shall be submitted by the applicant electronically with a table of contents including page numbers. The plans shall include the following criteria and/or documents listed below. Any omission of these requirements will result in plans being rejected, delayed and potential incremental cost to review again. Drainage plans and required supporting documents should be submitted separately from the house plans.

Utility availability: To be ascertained by applicant prior to plan approval. At least a one (1) inch but no larger than a one and a half (1.5) inch water meter must be located on property prior to installation of Fire Suppression System at cost to Contractor/Property Owner purchased through the City.

Plan Preparer: Initial next to each numbered section to acknowledge your understanding of the requirement and that the plans you are submitting are in compliance to the best of your knowledge.

___ **1. Site Plan** that shows lot coverage calculations separated by the front building line and meets all requirements in Zoning Ordinance. It must show setbacks and have a callout of the actual height of the structure. It shall also include preferred location of sewer and water taps.

(a) Maximum lot coverage 11:01.06: For new construction: The maximum coverage of any lot with any non-permeable constructed surface shall not exceed fifty-five (55) percent of the lot area located behind the required front building line and shall not exceed fifty (50) percent of the lot area located in front of the required front building line; provided, however, the non-permeable constructed surface in front of the required front building line may be increased to fifty-five (55) percent if the non-permeable constructed surface behind the required front building line does not exceed fifty (50) percent of the lot area located behind the required front building line.

(b) Minimum lot width: No lot shall be less than fifty-five (55) feet wide at the front street property line, nor shall its width be less than seventy-five (75) feet at the front building line.

- 12.217 District R-3: No lot shall be less than fifty 50 feet wide at any point.

(c) Front building line: 11:01.03

- District R-1 (A), no building shall be located on any plot nearer than thirty (30) feet to a front lot line which adjoins a local street or forty (40) feet to a front lot line which adjoins either Wirt Road or Westview.
- District R-2 (B), no building shall be located on any plot nearer than twenty-five (25) feet to a front lot line which adjoins a local street.
- 12.217 District R-3 (Pine Creek Lane), no building shall be located on any plot nearer than twenty-five (25) feet to a front lot line which adjoins a local street
- 12.218 District R-4 (Bridle Spur Lane), no building shall be located on any plot nearer than twenty-five (25) feet to a front lot line which adjoins a local street

(d) Side building line: 11:01.04:

- District R-1 and R-2 No building shall be located nearer than eight (8) feet to any side lot line, nor nearer than fifteen (15) feet to any side local street line nor nearer than twenty-five (25) feet to either Wirt Road or Westview Drive. Second story must be set back a minimum of two (2) additional feet to the applicable side lot setback listed above, except where one (1) of the side yard setbacks is fifteen (15) feet or greater.
- 12.217 District R-3 (Pine Creek Lane) No building shall be located nearer than five (5) feet to any side lot line. Second story must be set back a minimum of two (2) additional feet to the applicable side lot setback listed above, except where one (1) of the side yard setbacks is fifteen (15) feet or greater.

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- 12.218 District R-4 (Bridle Spur Lane) No building shall be located nearer than ten (10) feet to any side lot line nor nearer than (15) feet to any side local street line nor nearer than twenty-five (25) feet to either Wirt Road or Westview Drive. Second story must be set back a minimum of two (2) additional feet to the applicable side lot setback listed above, except where one (1) of the side yard setbacks is fifteen (15) feet or greater

(e) **Rear building line: 11:01.05** No main building, including an attached garage, shall be located nearer than twenty-five (25) feet to the rear lot line, and no detached garage or accessory building shall be located nearer than ten (10) feet to any rear lot line.

- If adjoining property is a rear yard the setback must be 25 feet to main building or attached garage, 10 feet to detached garage or accessory building. 3:5 ratios if building is greater than 10 feet in height from the rear or a side yard adjacent to a rear yard

2. Sidewalk and Driveway: Refer to Ordinance 795, adopted 5/19/2020) Sec. 4.623.

- Subject to the provisions of this Article, a property owner may cause or permit the construction, installation or placement of a single point of access driveway, pedestrian walkway, and related culvert facilities within public drainage right-of-way for purposes of providing a driveway access, not to exceed a combined twenty-two (22) feet in width (exclusive of curve/curb returns) with a minimum driveway width of ten (10) feet, and a walkway for pedestrian access, not to exceed six (6) feet in width.
- If a property owner proposes to construct a circular driveway, then such property owner shall be allowed two points of driveway access, not to exceed a combined total of thirty (30) feet in driveway width (exclusive of curve/curb returns); otherwise, such access shall be limited to one point of driveway access and one point of pedestrian access. There must be at least ten feet (10) of open ditch without a culvert between the inner access points of any circular driveway.
- The pedestrian access may not be contiguous to any driveway or circular driveway.
- A driveway access may have an additional five (5) foot turning radius added to each side of the driveway access where it meets the paved surface of the street only.
- The total number of feet of the width of the driveway and any walkway where it meets the paved street shall not exceed 50% of the front property line length (exclusive of curve/curb returns). A property owner will be allowed one driveway access of twenty-two (22) feet in width (exclusive of curve/curb returns) even if the width of the driveway exceeds 50% of the front property line length.
- A driveway shall be installed preferably perpendicular (at right angle) to the street, otherwise, the minimum driveway angle to the street shall be 60 degrees (acute angle measured from the edge of pavement to the centerline of driveway). An exception from the perpendicular/right angle requirement may be allowed only in cases where public safety and/or existing topographic features such as street layout, drainage easements, trees protected by City ordinance, street lights, fire hydrants, sign posts, etc., prevent the driveway to be perpendicular to the street.
- If an exception to the perpendicular/right angle requirement is allowed, then the walkway and driveway width (including driveway flares and/or radiuses) shall not exceed a total of ten (10) feet over the 50% of the front property line length. If a request for an exception is denied, the applicant will have the right to appeal to City Council.
- For stability and erosion control measures, driveway and/or walkway culverts may extend beyond the driveway/walkway width, so long as it meets the following criteria:
- Driveways and/or walkways may have an additional two (2) feet maximum wide grass shoulder on each side; and
- The maximum culvert length on each end of the driveway and/or walkway shall be determined using a maximum side slope of 3.0 (H) to 1 (V) when grading the terminal end of the ditch around the culvert's extensions; or
- Alternatively, retaining walls may be used at each end of a driveway and/or walkway culvert for stability and erosion control measures; provided, the retaining wall height shall not exceed six (6) inches above the driveway/walkway finish elevation.

3. House Plans drawn by a registered Architect or Building Designer of the State of Texas and sealed as applicable. North arrow should be included on all plans.

(a) **Dwelling Unit Requirements:** Refer to Ordinance 588, adopted May 16, 2006, Section 4 and Ordinance 602, adopted March 12, 2007, Section 3.

- 11:03.01 No more than one dwelling unit shall be constructed on any residential lot.
- 11:03.02 Net building area: The net building area shall not exceed forty percent (40%) of the lot area.
- 11:03.03 Total floor areas: The total floor area of each dwelling unit shall not be less than fourteen-hundred (1400) square feet.

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- 11:03.04 multi-story areas: The net building area of the ground floor of any one and a half or two-story dwelling unit shall be not less than one thousand (1000) square feet.
- (b) Building Height Requirements: Refer to Ordinance 588, adopted May 16, 2006, Section 3
 - 02: B-04 Building height: "Building height" shall mean the vertical distance above a reference datum (established below) measured to the highest point of: the coping of a flat roof; the deck line of a mansard roof; the highest ridge of a gabled, pitched or hipped roof; or the highest point of the building. The reference datum shall be selected by either of the following, whichever yields a greater building height:
 1. The elevation of the highest adjoining public sidewalk or natural ground surface within a 5-foot horizontal distance of the exterior wall of the building when such sidewalk or ground surface is not more than 10 feet above lowest grade. (Thirty-Five (35) feet from natural finished grade)
 2. An elevation 10 feet higher than the lowest grade when the sidewalk or ground surface described in Item 1 above is more than 10 feet above the lowest grade.
 - The height of a stepped or terraced building is the maximum height of any segment of the building.
 - 11.02.01 Maximum height: No structure shall exceed thirty-five (35) feet in height including chimney(s) and any and all attachments to the structure, and where a rear lot adjoins another lot, the maximum vertical height limit of that portion of a building or structure located along or adjoining the minimum rear building line shall be ten (10) feet with additional building or structure height allowed at a ratio of three (3) feet vertical (not to exceed the maximum height allowed) for each additional five (5) feet horizontal distance [a 3:5 ratio] beyond the minimum building line; and where a side lot line adjoins the rear lot line of another lot, the maximum vertical height limit of that portion of a building or structure located along or adjoining the minimum rear building line shall be ten (10) feet with additional building or structure height allowed at a ratio of three (3) feet vertical (not to exceed the maximum height allowed) for each additional five (5) feet horizontal distance [a 3:5 ratio] beyond the minimum building line.
 - Standard Base Level Certificate - using the method above, provide a "Height Certification of Principal & Accessory Structures" signed by a registered Land Surveyor prior to the approval of the frame inspection. You may obtain a form from the City office if you do not have a format prepared.
 - **OTHER GUIDELINES AVAILABLE: Hilshire Village Building Height Restrictions: Zones R-1, R-2, R-3 and R-4 and Hilshire Village Lot Building Lines
- (c) Number of Stories: Refer to Ordinance 588, adopted May 16, 2006, Section 3
 - 11:02.02 No building shall be more than two stories.
- (d) Bedroom windows to comply with egress (5.7 sq. ft. net opening 42" AFF max)
- (e) Self-closing fire rated door from garage to dwelling if garage attached.
- (f) Attic: Refer to Ordinance 810-2021, adopted September 21, 2021 11.02.04
 - An attic shall not be a habitable room and shall not enclose such places as bath or toilet rooms, or laundries and if a wall and/or ceiling of such attic space is finished shall have no window or skylight. Provided, however, an attic story of the principal structure may be habitable space if all of the following conditions exist:
 1. the principal structure has a pitched roof;
 2. the habitable area of the attic story is at least seventy square feet (70 sq. ft.);
 3. the minimum width and length of the habitable area in the attic story is at least seven feet (7');
 4. the minimum ceiling height for at least fifty percent (50%) of the habitable area in the attic story is seven feet;
 5. the attic story is accessed by a staircase within 'the principal structure that is in compliance with current International Building Code standards;
 6. the habitable area of the attic story is less than forty percent (40%) of the habitable area of any lower story and does not extend beyond the footprint of the top floor and roof;
 7. any window not facing the street must be frosted or made of textured materials to prevent direct visibility into neighboring properties;
 8. each required emergency egress for the attic is located at least twenty feet (20') from any side property line and thirty feet (30') from any rear property line; and
 9. the habitable area of the attic story complies with all other applicable city regulations, including the ICC building, electrical, fire and plumbing codes
- (g) Overhang: Refer to Ordinance 588, adopted May 16, 2006, Section 3
 - 11:02.03 Overhang allowed: A balcony, cornice, porch, eave, roof or roof overhang of any kind shall not extend over any building a distance of more than twenty-four (24) inches.
- (h) Garage: Refer to Ordinance 588, adopted May 16, 2006, Section 1 and Section 4; Ordinance 602, adopted March 12, 2007, Section 1; Ordinance 627, adopted January 20, 2009, Section 1; Ordinance 602, adopted March 12, 2007, Section 3
 - 02: G-01 Garage, private: "Private garage" shall mean a building or portion of a building, in which only motor vehicles used by the occupants of the dwelling on the premises are stored or kept.

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1. 11:04.01 Required: A private garage, attached or detached, shall be constructed for each dwelling unit.
 2. 11:04.02 Size: A private garage shall be constructed of not less than four hundred (400) square feet, nor more than one thousand (1,000) square feet.
 3. 11:04.03 Entrance or exit: No vehicle door(s) or vehicle entrance or exit of a garage constructed forward of the slab or structure of a dwelling shall face the street of address. Said door(s) or entrance or exit shall be located on a side of a garage which in plain view shall be at a 90-degree angle or greater to the street of address.
 4. 11:04.04 Second story access: Doorway or hallway access to a second story above an attached garage shall be enclosed and through the dwelling to which it is attached.
 - 02: G-02 Garage, attached: "Attached garage" shall mean a garage which has at least ten (10) feet of continuous, uninterrupted wall in common (to both floors if two (2) story) with the building to which it is attached, excluding enclosed or unenclosed hallways, breezeways, or offset rooms from consideration as a means of attachment.
 - 02: G-03 Garage, detached: "Detached garage" shall mean a garage which is not an attached garage; provided, further, a detached garage shall not mean or include a carport. No wall of a detached garage shall be located less than three (3) feet from an outside wall of the main building. A detached garage may be connected to the main building by a walkway covering; provided, however, such covering shall not be more than six (6) feet in width. Any garage or projection thereof located within less than three (3) feet of the main building or any projection thereof shall be deemed to constitute a portion of such main building.
 1. 11:04.05 Detached: A detached garage: (1) shall not exceed one (1) story, and (2) above the ground floor the detached garage shall not have provisions for sanitation, bath or kitchen facilities.
 - (i) A/C Unit: Equipment and pad can be no less than five (5) feet from property line.
 - (j) Engineered Foundation: Detail-signed and sealed by registered Professional: Top of slab must be a minimum 12 inches above base flood elevation. Foundation Form Survey must be submitted to the City prior to the house slab being poured.
 - (k) Energy Code Report: Res Check must comply with the International Energy Conservation Code.
 - (l) Soil Report (one printed copy required) signed and sealed by Registered Professional Engineer of the State of Texas.
 - (m) Framing Detail
 - (n) Electrical one line and load analysis
 - (o) Power Line Survey: (Only required to determine if a swimming pool can be placed in the area)
 - (p) Plumbing Riser detail
 - (q) Mechanical sizing and layout
 - (r) Building Code Compliance:
 - 2024 International Residential Code
 - 2024 International Building Code
 - 2024 International Energy Conservation Code
 - 2021 International Fire Code
 - 2024 International Residential Code
 - 2024 International Mechanical Code
 - 2024 International Plumbing Code
 - 2024 International Fuel Gas Code
 - 2023 National Electrical Code
 - All City Ordinances
4. Tree Survey and a Disposition Plan: Refer to Ordinance 745 adopted 12/19/17
- Sec. 7.703. - Minimum Tree Requirement
 1. Each lot shall have one (1) tree that is eight (8) inches or greater in diameter for every two thousand (2,000) square feet of lot area (excluding any land in the Harris County Flood Control District or utility easement), rounded to the nearest whole number (see Table 1). Trees in the Harris County Flood Control District or in a utility easement will not be counted. (2) If a lot has less than the number of trees described in the preceding subsection, the owner shall keep the number of trees larger than three (3) inches in diameter, counting from the largest diameter to the smallest diameter, that are on the lot (excluding any land in the Harris County Flood Control District or a utility easement) at the time a tree removal permit is sought or the provisions of this article are otherwise invoked. (3) A lot owner who is applying for a permit issued under the building permit process of the city's Code of Ordinances for the demolition of, construction of, or addition to any building, or installation of a swimming pool shall, regardless of the number or size of the trees existing on a lot prior to issuance of a permit, plant such additional trees as may be necessary to meet the minimum tree requirement described in subsection (1) above if the owner is: (a) Constructing a new or replacement building; (b) Constructing an

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addition[s] or extension[s] to an existing building that increases the square footage of the building by forty (40) percent or more; or (c) Installing a swimming pool.

- Sec. 7.704. - Preservation and Protection of Trees.

1. It is unlawful to remove any tree that is eight (8) inches in diameter or greater without first obtaining a tree removal permit from the city for each tree to be removed.
2. It is unlawful to remove a tree that is less than eight (8) inches in diameter without first obtaining a tree removal permit from the city if:
 - a. Such tree is required to meet the minimum tree requirement for the lot as described in section 7.703(2); or
 - b. Such tree was planted as a replacement for a previously removed tree.
3. It is unlawful to intentionally cause serious damage or death to any tree that is eight (8) inches in diameter or greater. Intentionally severing the main trunk or large branches or large roots, girding, poisoning, carving, mutilating, touching with live wires, piercing with nails or spikes, crushing or exposing the roots, or digging or drilling any hole or trench larger than three (3) cubic feet within the critical root zone, unless no other suitable location is possible, may be considered acts intended to cause serious damage or death to the tree.
4. Before beginning demolition or construction, appropriate protection for all trees shall be in place. Appropriate protection shall mean, at a minimum, a fence four (4) feet in height and composed of a material which is strong enough to prevent vehicles, materials, debris, dirt and other demolition or construction refuse from piling up within the critical root zone. Where possible, the fence shall be a minimum of six (6) feet away from the base of the tree at all points to prevent damage to the tree. If the location of a tree is less than six (6) feet from the foundation of the building or the property line, the protective fencing shall be located as far as possible from the base of the tree.

- Sec. 7.705. - Removal of Trees.

1. The city will permit the removal of a tree only if an owner demonstrates to the city that at least one (1) of the following criteria exists:
 - a. The applicant's lot will, after removal of the tree, satisfy the minimum tree requirement as described in section 7.703(1);
 - b. The tree is diseased, dying or dead;
 - c. Construction is planned in the area where the tree stands;
 - d. The tree creates a hazard that is or is likely to cause damage to property or danger to the public health, safety, or welfare; or
 - e. Good arbor management practices indicate removal will be beneficial to surrounding trees.
5. The city may require a lot owner to remove any tree that is damaged, dead or dying, and that the city deems a danger to person or property. The owner shall have fourteen (14) days after receipt of the notice to remove the tree.

- Sec. 7.706. - Replacement of Trees.

1. If, after loss of or removal of a tree, a lot does not or will not satisfy the minimum tree requirement as described in section 7.703(1) or (2), as applicable, then the lot owner shall, within one hundred twenty (120) days after loss of or removal of such tree, properly plant a replacement tree from the approved tree list. The replacement tree shall be at least three (3) inches in diameter measured at six (6) inches above the grade for each lost or removed tree. A tree intended as a replacement tree shall not be planted in the Harris County Flood Control District or in a utility easement, but nothing in this article is otherwise intended to prohibit the planting of trees in the Harris County Flood Control District or a utility easement.
2. With the approval of the city's arborist, a lot owner may plant additional species that are not on, but are similar in size to those that are on, the approved tree list. If the city's arborist does not approve, the owner may appeal by submitting a written request to city council. Property owners are encouraged (but not required) to plant trees native to the Texas Gulf Coast.
3. In situations of financial hardship, the city will have flexibility in obtaining outside help with re-forestation.

- Sec. 7.707. - Tree Survey.

1. Every permit issued under the building permit process of the city's Code of Ordinances for the demolition of, construction of, or addition to any building, or the installation of a swimming pool shall include a tree survey. Permit applicants must obtain and complete the proper forms, available in the city office, to show compliance with this article.
2. The permit holder will make every effort to maintain the distribution of existing trees. However, if the design, layout, plans, or construction of the proposed building cannot avoid the removal of any tree that is eight (8) inches in diameter (25.12 inches in circumference) or larger, then the permit holder shall be required to replace each removed tree with a tree from the approved tree list. Each replacement tree shall have a minimum caliper of three (3) inches in diameter (9.42 inches in circumference).

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3. The tree survey shall be prepared by a person with expertise to prepare such a document, such as an architect, engineer, arborist, or surveyor.
4. The tree survey shall accurately reflect, at a minimum, the following information:
 - a. The actual location (i.e., trunk location), diameter, and type of each tree on the subject site which is eight (8) inches in diameter (25.12 inches in circumference) or larger;
 - b. Building or structure outlines, parking areas and other paved surfaces, fences, utilities, and other improvements existing or to be constructed;
 - c. The location of tree protection fences;
 - d. A scale, north arrow, name, address, phone number and profession or occupation of the person who prepared it, and the name of the permit applicant; and
 - e. Identification of the real estate development and a description of the subject site and its location.
 - f. The location and square footage of utility and flood control easements, and the square footage of the lot excluding utility and flood control easement square footage.
- Sec. 7.708. - Final Inspection and Issuance of Certificate of Occupancy: At final inspection under every building permit that includes a tree survey, the city's inspector shall inspect and confirm compliance with the tree survey and planting of required trees, if any. No certificate of occupancy shall be issued until the minimum tree requirement has been met but, if the certificate of occupancy is to be issued between May and September and the owner has agreed to meet the minimum tree requirement, a provisional certificate of occupancy may be issued until such time as the owner has complied.

 5. Fire Sprinkler System: Plans shall be submitted to the Village Fire Department for approval. One printed approved set shall be supplied to the City at the time of permit issuance, and one set shall remain on-site for inspection purposes. The permit will be acquired from the City. Fire Sprinkler Systems are required on all new construction and existing structures being renovated, restored, remodeled or added on to if the cost of the addition, renovation or remodeling, or restoration, over a twelve (12) month period, exceeds fifty (50) percent of either the most recent Harris County Appraisal District's appraised value, or the value established in a certified appraisal submitted by the owner and completed by a state certified appraiser within the past six (6) months, whichever is higher, of the structure subject to such construction. (Section 5.102b)

- A one and a half (1.5) inch water meter is the maximum size allowed by the City, be sure to prepare the plans to match.

 6. Grading & Drainage Plan: Refer to Ordinance 588, adopted May 16, 2006, Section 2; Ordinance 602, adopted March 12, 2007, Section 2

(a) Prior to demolition activities, an Existing Conditions Topographic Survey shall be prepared and submitted to the City for review and approval.

- The topographic survey shall be prepared, signed and sealed by a Registered Professional Land Surveyor (R.P.L.S.) in the State of Texas.
- In general, the topographic survey shall be tied to an existing benchmark; no assumed elevations will be allowed; and shall indicate property floodplain location status based on the current or latest Flood Insurance Rate Map (FIRM), as published by the Federal Emergency Management Agency (FEMA).
- The topographic survey shall show, as a minimum, the location and elevations of existing structures, roadways, driveways, sidewalks, swimming pools, curb/gutter, ditches, trees, shrubs, flower beds, storm and sanitary sewers, and the existing natural ground elevations throughout the site.
- The topographic survey shall include existing natural ground spot elevations at a maximum of 25-ft spacing covering the lot, including along the perimeter of the lot, grid across the lot, and along the perimeter of all structures (building slabs, sidewalks, patios, driveways, decks, etc.).
- If significant changes occur in the natural ground contour (i.e., depressed areas) and the 25-ft spacing does not adequately depict the lot surface condition, then spot elevations shall be taken at 10-ft spacing or less, in order to provide a clear profile of the site.
- A Storm Water Pollution Prevention Plan (SWPPP) shall also be installed on the lot(s) prior to demolition and/or any other construction activities. The SWPPP shall remain in place for the duration of demolition and construction until the ground has been stabilized with vegetative cover in accordance to SWPPP requirements. If construction is planned to take place for a delayed period after demolition, the SWPPP shall remain in place or have the ground stabilized with vegetative cover in order to have the SWPPP features removed from the site.

(b) A Drainage Plan shall be submitted to the City for review and approval, prior to the start of any construction activities. The Drainage Plan shall be prepared, signed and sealed by a Registered/Licensed Professional Engineer (P.E.) in the State of Texas. In general, the Existing Conditions Topographic Survey shall be used in the development of the proposed Drainage Plan.

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- (c) Area Drainage: Each Lot shall be finish graded so as to maintain the drainage of such property without adversely affecting the existing drainage pattern of adjacent property and to prevent damage by overflow of water onto adjacent property caused either by direct diversion of water onto the adjoining land or by failure to adequately accommodate new or changed drainage patterns. Prior to the issuance of a building permit, a registered drainage engineer shall supply a drainage plan certifying compliance with this section when the existing drainage pattern is altered in any fashion. By way of example, but without limitation, the existing drainage pattern may be altered by the addition of a pool, driveway, or accessory building.
- (d) The drainage plan needs to be submitted separate from the building plans and they must include a copy of the Site Plan including non-permeable/impervious lot coverage calculations, Tree Survey and an Existing Conditions Topographical Survey.
- There is a separate plan review fee for drainage which includes:
 - Initial Submittal Review
 - One Corrective Resubmittal Review
 - Initial Final "As Built" Review
 - One Final "As-Built" Resubmittal Review
 - Any additional reviews will be billed at \$200 per hour.
- (e) The Drainage Plan shall include all aspects of the anticipated development including but not limited to building foundation, patios, decks, swimming pools, driveways, walks, landscaped areas, downspouts, drainage system, etc. The Drainage Plan shall show finished grade elevations of all proposed paving and grading on the site and shall include existing and planned natural ground spot elevations at a maximum of 25-ft spacing covering the lot, including along the perimeter of the lot, grid across the lot, and along the perimeter of all structures (i.e., building, slabs, sidewalks, patios, driveways, decks, etc.) As a minimum, show proposed natural ground elevations throughout the lot to match locations where existing natural ground elevations were previously shot/taken in the Existing Conditions Topographic Survey; and in other areas as necessary to demonstrate proper drainage of the lot.
- (f) No elevation changes shall occur around and within 3-ft of the perimeter of the property which could become a physical barrier for the natural flow of water from adjacent properties into the property being developed or redeveloped ****Include this requirement as a general note in the drainage plan.***
- (g) The drainage of the lot shall be such that no person shall divert or impound the natural flow of surface water falling on the lot, in accordance with the Texas Water Code, without producing evidence of appropriate agreements with the affected property owner.
- (h) Drainage of the lot may be obtained by surface or sub-surface means, or a combination of the two, as is appropriate and necessary to ensure that the water falling on the lot upon which construction is planned will drain into the street, ditch, or storm sewer system of the City of Hilshire Village, or any existing drainage easement.
- (i) Existing drainage from other properties draining into and through the lot to be developed or re-developed shall be maintained during and after construction activities are completed. ****Include this requirement as a general note in the drainage plan.*** The proposed drainage system shall be designed to handle a City of Houston 2-Year Design Storm of additional flow from these adjacent properties.
- (j) For a **sub-surface drainage system** (i.e., storm sewer pipes), the registered/licensed professional engineer shall design the system to handle a City of Houston 2-Year Design Storm, using 6-inch diameter PVC SDR 35 (minimum slope 0.65%) and/or 8-inch diameter PVC SDR 35 (minimum slope 0.44%) storm sewer pipes. All proposed drainage pipes shall be sloped to achieve a minimum velocity of 2.3 ft/sec.
- (k) For a **surface drainage system** (i.e., swales), the registered/licensed professional engineer shall design the system to handle a City of Houston 2-Year Design Storm. Swales shall have a minimum width of 3-ft, minimum side slope of 3 (horizontal) to 1 (vertical), minimum slope of 0.06%, and a maximum flow velocity of 3.0 ft/s.
- (l) Proposed landscaping/planting areas along the property perimeter shall not impede the storm water flow into and through swales or storm sewer inlets. No raised flower beds will be allowed along the perimeter of the property. No landscaping/planting will be permitted in the drainage swales ****Include this requirement as a general note in the drainage plan.***
- (m) Proposed or existing rain gutter downspouts shall not be tied into existing or proposed underground storm sewer lines that drain directly into the City's ditches on the front and/or side of the owner's property, nor shall they be extended to tie directly into the City's ditches ****Include this requirement as a general note in the drainage plan.*** Rain gutter downspouts, however, may be tied into:
- On-site below ground retention features that would allow storm water to percolate into the ground; or
 - On-site below ground retention features to re-use storm water runoff for "green" applications such as irrigation.
- (n) Outfall flow line elevations and flow line of existing system shall be shown where proposed tie-in occurs (i.e., to ditch and/or storm sewer line), and at every bend, tee, wye, inlet/catch basin, as applicable. Unless an

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inlet/catch basin is proposed, install clean-outs at locations in the proposed storm sewer system where horizontal alignment changes occur, to facilitate future cleaning and maintenance of the storm sewer system.

- (o) Driveway culvert(s) shall be able to convey a City of Houston 2-Year Design Storm for all affected area. The minimum culvert size shall be 18-inches in diameter and shall be reinforced concrete pipe (RCP). The City Engineer will establish the culvert's flow line elevations. Refer to Code of Ordinance Section 9.111 for additional information.
- (p) Any change(s) to the approved Drainage Plan shall be submitted to the City for review and approval. Contractor shall allow a minimum of seven (7) calendar days for review of drainage plan submittals and re-submittals, as applicable. (Plan review fee includes two (2) reviews by City Engineer. Any additional reviews will be at cost to the Contractor/Home Owner)
- (q) After construction is completed and the grass has been restored/installed, a Final As-Built Drainage Plan Survey, sealed and signed by a Registered Professional Land Surveyor (R.P.L.S.) in the State of Texas, shall be submitted to the Engineer of Record (i.e., Drainage Engineer that prepared the Drainage Plan approved by the City) for review. This Final As-Built Drainage Plan Survey shall be tied to the same survey benchmark and include the same information furnished in the approved ("Permit"). As a minimum, show proposed natural ground elevations throughout the lot to match locations where existing natural ground elevations were previously shot/taken in the Existing Conditions Topographic Survey; and in other areas shown in the approved Drainage Plan. If storm sewer lines, inlets/catch basins, and clean-outs are installed, Surveyor shall show storm sewer lines and flow line elevations at inlets/catch basins and clean-outs in the Final As-Built Drainage Plan Survey. The Engineer of Record shall review the As-Built Drainage Plan Survey, inspect and verify the drainage system (i.e., storm sewer lines, inlets/catch basins, clean-outs, and/or swales) were installed in general conformance with the approved Drainage Plan and the City's current Drainage Ordinance and Requirements. Engineer of Record shall prepare and include non-permeable/impervious lot coverage calculations based on as-built conditions. Engineer of Record shall prepare a letter in company letterhead, signed and sealed by a Registered Professional Engineer (P.E.) in the State of Texas, certifying the Final As-Built Drainage Plan Survey is in general conformance with the approved Drainage Plans and the City's current Drainage Ordinance and Requirements. Submit Final As-Built Drainage Plan Survey (including non-permeable/impervious lot coverage calculations), and Engineer of Record Certification letter to the City for review, inspection and approval.
- (r) An exception or variance may be granted by the City, on a case-by-case basis, if the drainage in the area could be adversely affected by any of the restrictions or guidelines described above, as determined by the City Engineer upon review of the affected drainage areas.

Acknowledgment of receipt of drainage requirements and that a Drainage Permit is required:

Contractor's Signature

Printed Name

Property Owner's Signature

Printed Name

Property Owner's Signature

Printed Name