

Permit Information Package for Common Residential Projects (Excluding New Residences)



*Building Code Enforcement Branch
1002 Washington Avenue, Houston, TX 77002
Phone: 832-394-9494*

Revised 04-01-2022

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INTRODUCTION

This guideline lists the various requirements for plan submittal and review of residential construction projects. **Note:** Application and plans must be submitted electronically. For information about the electronic process, refer to the EPR User Guides at <https://www.houstonpermittingcenter.org/our-services/eservices>

GENERAL REQUIREMENTS

All projects reviewed by this section shall have the following items prior to review:

- Application.** Building Permit Application is completed via [iPermits](#).
- Declaration in Support of Application for City of Houston Building Permit.** Complete the appropriate form below and upload to iPermits when completing the building permit application.
 - [Individual Owner](#)
 - [Business Entity Owner](#)

Note: *The declaration must be signed by the property owner and will be validated against HCAD records. If ownership does not match HCAD, applicants must also upload proof of ownership.*
- Project Number.** The project number will be generated by iPermits once the plan review fee (if applicable) is paid.
- Plans.** Plans shall be drawn to scale and clearly labeled with dimensions.

IMPORTANT NOTES

- Properties located in the floodplain are required to obtain approval from the Flood Plain Section on all projects.
- It is imperative that you verify if there are any deed restrictions in your subdivision. Permits may be revoked for deed restriction violations.

SPECIFIC REQUIREMENTS BY PROJECT TYPE

The following projects may be reviewed by the One-Stop group, if the review time is ≤ 30 minutes. All of the required documents and plans listed below must be uploaded to [ProjectDox](#) in the appropriate subfolder.

ADDITIONS	Other Reviews Required: <input checked="" type="checkbox"/> Planning <input checked="" type="checkbox"/> Taps & Meters <input type="checkbox"/> Traffic <input checked="" type="checkbox"/> Storm
<input type="checkbox"/> Grading for Excavation and Fill Worksheet (Form 1094) - The worksheet will determine if a Residential Grading for Excavation and Fill Permit is required.	
<input type="checkbox"/> <u>If required</u> , the “ Residential Grading Permits for Excavations and Fill Application (Form 1084) ” shall be submitted.	
<input type="checkbox"/> Calculation of Impervious Percentage (Form 1207) - For lots less than 15,000 sq. ft. to determine whether lot has 65% or more of impervious cover. Note: Lots over 15,000 sq. ft. shall be submitted for review by the Storm Section.	
<input type="checkbox"/> Complete plans including the following items: <ul style="list-style-type: none"> - Texas registered survey or complete site plan showing existing property lines, easements, building setback lines, and showing the existing building, proposed addition and any other structures located on the site. - Foundation plans showing pad location, concrete strength, beam details with dimensions, and the steel bar layout with sizes noted. (Professional Engineer designed plans may be required for concrete slabs) - If block and base, indicate the size, spacing, grade, and species of floor joists. - Floor plans that include the addition and footprint of the existing building showing in detail the adjacent areas of the existing building, with use of each room labeled, and the location of partitions, windows and doors identified. - Door and window schedule or plan with all dimensions clearly indicated. - Roofing and Framing plans indicating size, spacing, grade, and species of ceiling joists and rafters, and if required, the location of purlins. (Professional Engineer designed plans may be required) - Wall section details indicating size, spacing, grade, and species of studs to determine the method of bracing. - Plans shall indicate materials used. - Plans must include details showing how compliance with windstorm or strapping is achieved. (Reference Section 302 or Appendix L of the IRC) - Plans must show prescriptive compliance with the 2015 International Energy Conservation Code or include REScheck or IC3 Compliance Report. 	

RESIDENTIAL ONE-STOP GUIDELINE

REMODELS	Other Reviews Required: <input type="checkbox"/> Planning <input checked="" type="checkbox"/> Taps & Meters <input type="checkbox"/> Traffic <input type="checkbox"/> Storm
<p><input type="checkbox"/> Complete plans including the following items:</p> <ul style="list-style-type: none"> - Provide floor plan of existing building and show in detail affected area. - Wall section details to determine bearing and non-load bearing walls. - Plans shall indicate materials used. - Demolition of any load bearing walls will require additional requirements to determine direction of ceiling joists, and the location of header and beam. - Plans must show prescriptive compliance with the 2015 International Energy Conservation Code or include REScheck or IC3 Compliance Report. 	
NEW GARAGES/CARPORTS/ STORAGES OVER 120 SQ. FT.	Other Reviews Required: <input checked="" type="checkbox"/> Planning <input checked="" type="checkbox"/> Taps & Meters <input type="checkbox"/> Traffic <input checked="" type="checkbox"/> Storm
<p><input type="checkbox"/> Grading for Excavation and Fill Worksheet (Form 1094) - The worksheet will determine if a Residential Grading for Excavation and Fill Permit is required.</p> <p><input type="checkbox"/> If required, the “Residential Grading Permits for Excavations and Fill Application (Form 1084)” shall be submitted.</p> <p><input type="checkbox"/> Calculation of Impervious Percentage (Form 1207) - For lots less than 15,000 sq. ft. to determine whether lot has 65% or more of impervious cover. Note: Lots over 15,000 sq. ft. shall be submitted for review by the Storm Section.</p> <p><input type="checkbox"/> Complete plans including the following items:</p> <ul style="list-style-type: none"> - Texas registered survey or complete site plan showing existing property lines, easements, building setback lines, and the location of the residence and proposed garage/carport. - Foundation plans if addition requires additional foundation, dimensions shall include beams and steel bars, and foundation conditions should be noted on plans. (Professional Engineer designed plans may be required for concrete slabs) - If block and base, indicate the size, spacing, grade, and species of floor joists. - Floor plan that includes the addition and footprint of the existing building showing in detail the adjacent areas of the existing building, with use of each room labeled, and the location of partitions, windows and doors identified. - Door and window schedule or plan with all dimensions clearly indicated. - Roofing and Framing plans indicating size, spacing, grade, and species of ceiling joists and rafters, and if required, the location of purlins. (Professional Engineer designed plans may be required) - Wall section details indicating size, spacing, grade, and species of studs to determine the method of bracing. - Plans shall indicate materials used. - Plans must show prescriptive compliance with the 2015 International Energy Conservation Code or include REScheck or IC3 Compliance Report. 	
GARAGE CONVERSIONS	Other Reviews Required: <input checked="" type="checkbox"/> Planning <input checked="" type="checkbox"/> Taps & Meters <input type="checkbox"/> Traffic <input checked="" type="checkbox"/> Storm
<p><input type="checkbox"/> Complete plans including the following items:</p> <ul style="list-style-type: none"> - Texas registered survey or complete site plan showing existing property lines, easements, building setback lines, and showing the existing building, and any other structures located on the site to determine off-street parking. (Planning) - Floor plan with use of each room labeled, and the location of partitions, windows and doors identified - Door and window schedule or plan with all dimensions clearly indicated. - Wall section details to determine bearing and non-load bearing walls. - Demolition of any load bearing walls will require additional requirements to determine direction of ceiling joists, and the location of header and beam. - Plans must show prescriptive compliance with the 2015 International Energy Conservation Code or include REScheck or IC3 Compliance Report. 	

RESIDENTIAL ONE-STOP GUIDELINE

FENCES	Other Reviews Required:
Fences 8 feet or less, other than masonry or concrete, and that are not electrically energized do not require a building permit.	<input checked="" type="checkbox"/> Planning <input type="checkbox"/> Taps & Meters <input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Storm
<input type="checkbox"/> Complete plans including the following items: <ul style="list-style-type: none"> - Texas Registered survey or complete site plan showing existing property lines, easements, building setback line and location of proposed fence layout to determine visibility. - Structural section plan designed by a Professional Engineer design is required. 	
<p>Note: Drilled piers are not allowed on easements.</p> <ul style="list-style-type: none"> - Plans shall indicate materials for fencing and columns. - Show height elevation - Show location of gate(s) and method of operation (e.g., remote control, manual, keypad) 	
MINOR REPAIRS (LIKE-FOR-LIKE CONST)	Other Reviews Required: <input type="checkbox"/> Planning <input type="checkbox"/> Taps & Meters <input type="checkbox"/> Traffic <input type="checkbox"/> Storm
<input type="checkbox"/> Residential Repair Spec List (Form 1059)	
DRIVEWAY/SIDEWALK	Other Reviews Required: <input type="checkbox"/> Planning <input type="checkbox"/> Taps & Meters <input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Storm
<input type="checkbox"/> Sidewalk-Driveway Curb & Gutter-Culvert Parking Lot Permit Application (Form 1023) <input type="checkbox"/> Texas Registered survey or complete site plan indicating existing property lines, easements, building setback line, and showing the proposed driveway, curbs and/or sidewalk location and layout.	
<p>Notes:</p> <ul style="list-style-type: none"> ✓ Only a <u>bonded</u> contractor will be able to purchase this permit. ✓ The homeowner may purchase the permit when curb cut is not <i>involved</i>. ✓ If the work involves replacing sidewalk panels only for existing residential sidewalks (excludes any commercial property, new residential construction and sidewalks through driveways) refer to the Sidewalk Panel Replacement Guide for information about the requirements. 	
CULVERTS	Other Reviews Required: <input type="checkbox"/> Planning <input type="checkbox"/> Taps & Meters <input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Storm
<input type="checkbox"/> Sidewalk-Driveway Curb & Gutter-Culvert Parking Lot Permit Application (Form 1023) <input type="checkbox"/> Site plan indicating location and width of driveway.	
<p>Notes:</p> <ul style="list-style-type: none"> ✓ Must be a minimum of 24" diameter and not less than the nearest upstream culvert pipe. ✓ Only the homeowner or a bonded contractor may purchase this permit. 	

CONTACT INFORMATION

One-Stop Plan Review Section

Hours: 8:00 am – 4:30 pm
 Phone Number: (832) 394-8820

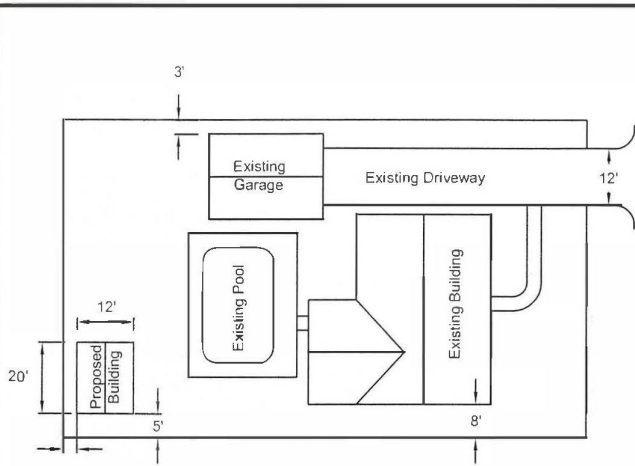
Location: 1002 Washington Ave. 3rd Floor, Houston, TX 77002
 Email: OneStop.PlanReview@houstontx.gov

Other Sections & Departments

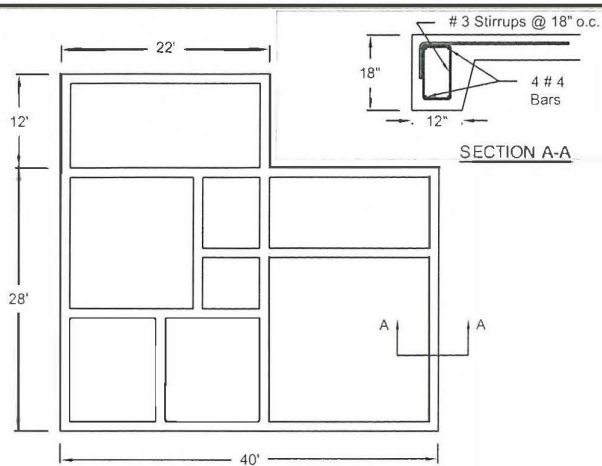
Customer Assistance and Code Development Office
 Development Services (Planning)
 Floodplain Management Office
 Traffic & Transportation
 Taps & Meters
 Storm Plan Review
 Structural Inspections
 COH Deed Restrictions Hotline ([Complaints](#))
 Harris County Clerk - [Deed Restrictions](#)
 201 Caroline 3rd Floor, Houston, TX 77002

☎ (832) 394-9494
 ☎ (832) 394-8849
 ☎ (832) 394-8854
 ☎ (832) 394-8851
 ☎ (832) 394-8888
 ☎ (832) 394-9164
 ☎ (832) 394-8840
 ☎ (832) 393-6333
 ☎ (713) 274-8600

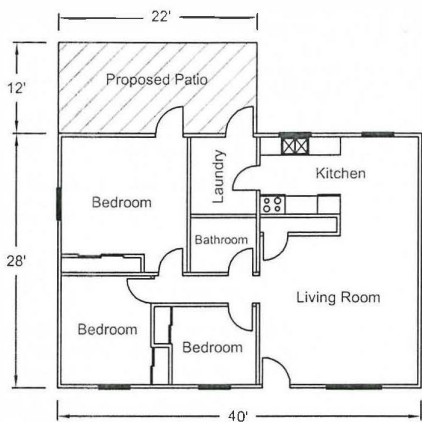
✉ rmcaacd@houstontx.gov
 ✉ pd.siteplanreview@houstontx.gov
 ✉ fmo@houstontx.gov
 ✉ taptechs@houstontx.gov
 ✉ structural.inspections@houstontx.gov
 ✉ ccinfo@cco.hctx.net



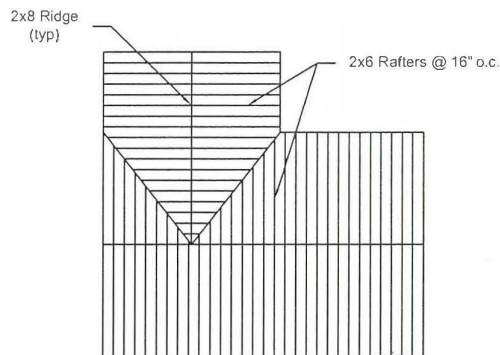
SITE PLAN



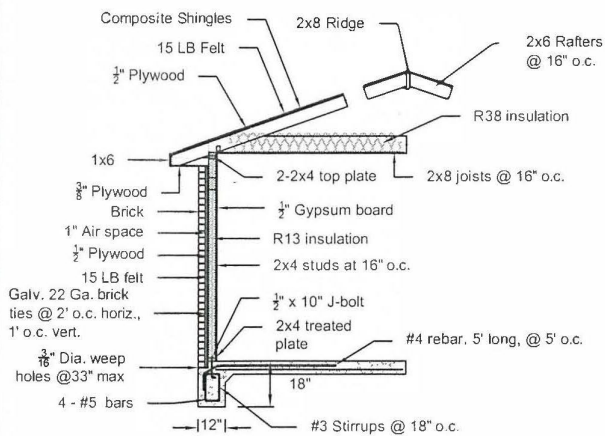
FOUNDATION PLAN



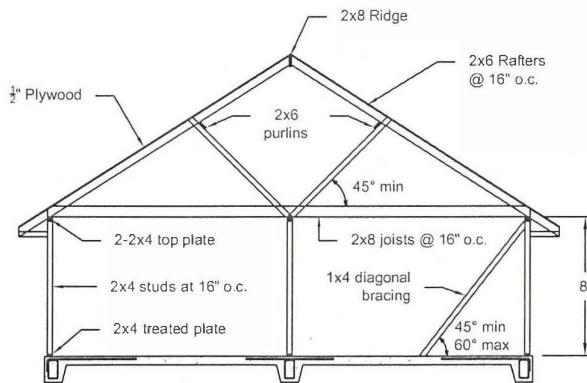
FLOOR PLAN



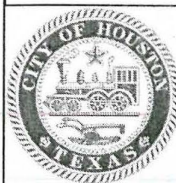
ROOF PLAN



TYPICAL WALL SECTION



ROOF AND FRAMING DETAILS



STANDARD DRAWING

CITY OF HOUSTON
DEPARTMENT OF PUBLIC
WORKS & ENGINEERING

EXAMPLES OF REQUIRED PLANS
(RESIDENTIAL INFORMATION PACKAGE-1)

1002 WASHINGTON AVE., HOUSTON, TEXAS 77002

APPROVED BY:

Earl...
BUILDING OFFICIAL

DATE:
1 / 5 / 2017

DWG No:
17-01-R

1 of 1

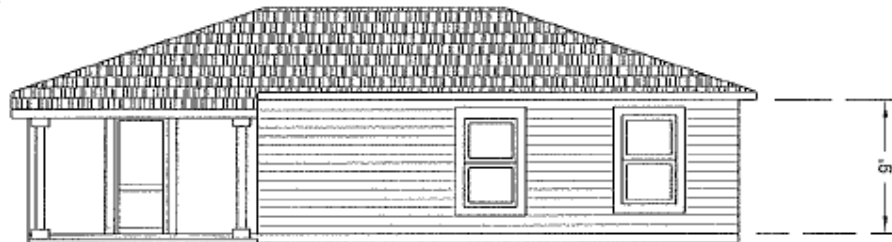
P.L.



FRONT ELEVATION

P.L.

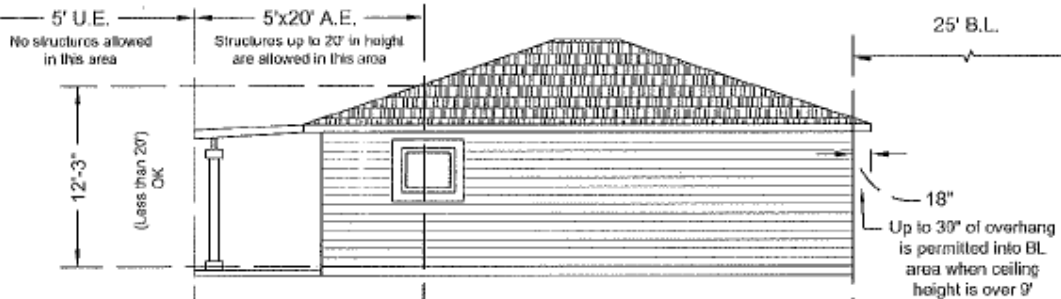
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REAR ELEVATION

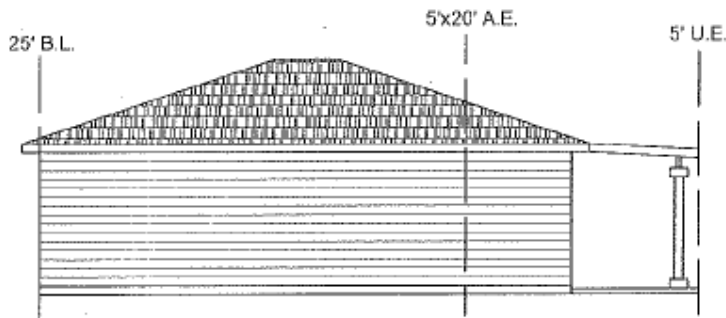
P.L.

P.L.



LEFT ELEVATION

P.L.



RIGHT ELEVATION

N.T.S.

Note:
 This is only an example.
 Actual Building Lines and
 Easements must be verified
 per recorded plat and survey.



STANDARD DRAWING

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC
 WORKS & ENGINEERING

ELEVATIONS EXAMPLES
 (ALLOWABLE ENCROACHMENTS INTO
 BUILDING LINES AND EASEMENTS)

1002 WASHINGTON AVE., HOUSTON, TEXAS 77002

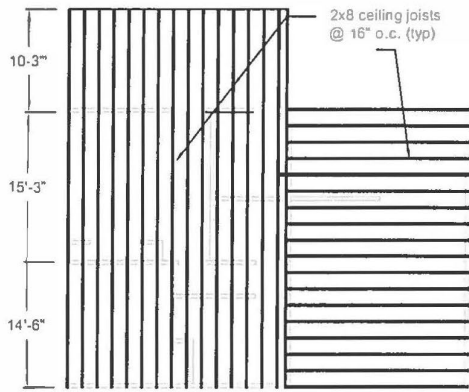
APPROVED BY:

BUILDING OFFICIAL

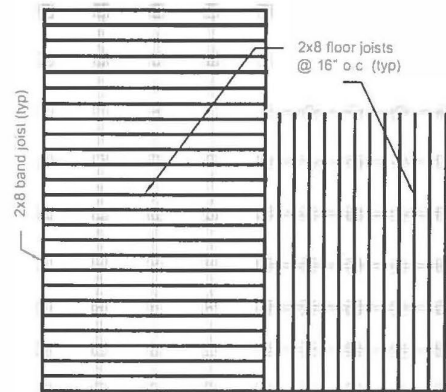
DATE: 11 / 29 / 2017

DWG No: 17-13-R

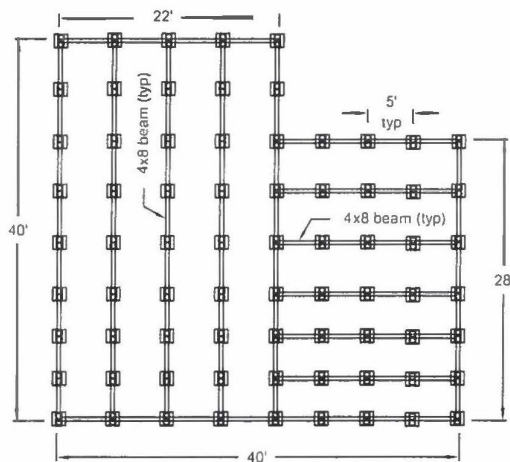
1 of 1



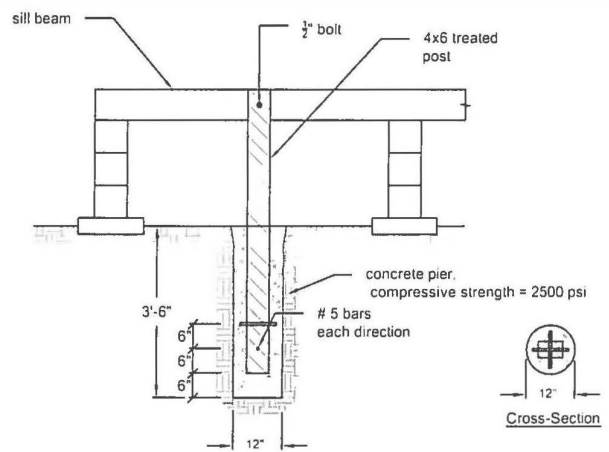
CEILING FRAMING PLAN



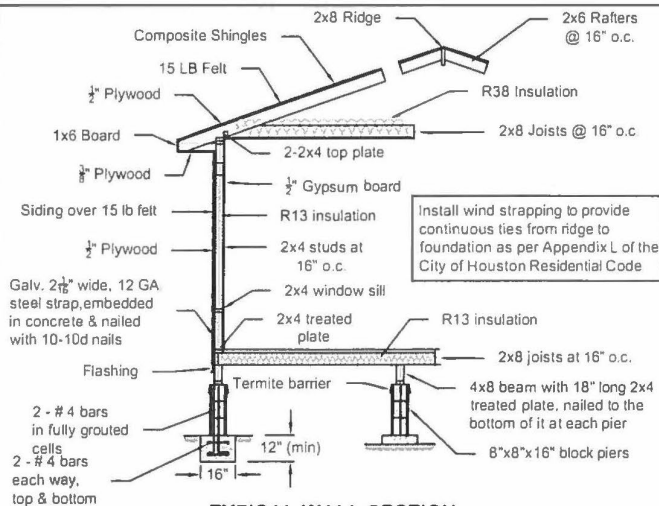
FLOOR FRAMING PLAN



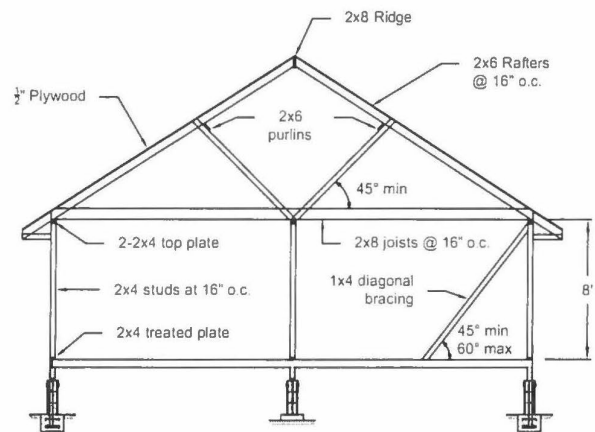
FOUNDATION PLAN



ANCHORING DETAILS



TYPICAL WALL SECTION



FRAMING DETAILS



STANDARD DRAWING

CITY OF HOUSTON
DEPARTMENT OF PUBLIC
WORKS & ENGINEERING

EXAMPLES OF REQUIRED PLANS
(RESIDENTIAL INFORMATION PACKAGE-2)

1002 WASHINGTON AVE., HOUSTON, TEXAS 77002

APPROVED BY

BUILDING OFFICIAL

DATE
1 / 19 / 2017

DWG No
17-02-R

1 of 1



City of Houston
Building Inspection
CODE WORD 2012
INTERPRETATIONS AND APPLICATIONS OF
THE HOUSTON ADOPTED CODES
2012 IBC, 2012 IRC, 2014 NEC, 2012 UMC, 2012 UPC,
2015 IECC and ASHRAE 90.1-2013

CW No:	2012-R10	Page:	1	of	1
PUBLICATION:	Revision December 10, 2013				
SUBJECT:	Block and Base Foundations				
CODE(S):	Residential & Building				
SECTION(S)	R403.1 & R403.2 (IRC) and 1809.9(IBC)				

This policy is an acceptable alternate as per Section 104.11 of the Building Code for existing buildings when performing maintenance or repair of existing block and base foundations. This alternative shall apply to conventional light-frame construction designed with girders and supported on blocks and bases in such a manner that the building can be easily leveled any time after the full load has been applied. For repair of existing block and base foundations the following apply:

1. All loose material and vegetation must be removed to ensure solid bearing beneath bases.
2. End joints of girders shall occur over supports.
3. Minimum thickness of concrete bases shall be 4 inches.
4. The minimum width of the structure shall not be less than the overall height.
5. Girders shall not be placed further than the depth of the joist from the exterior wall.

For new and relocated buildings, as well as additions, block and base foundations shall be designed by a Texas registered Professional Engineer to comply with the applicable code sections, or in accordance with Code Enforcement Drawing #13-05-R

This interpretation is applicable to all building plans submitted on or after March 1, 2014.

Approved:


Earl N. Greer, Building Official

The Texas Engineering Practice Act, Section 1001.402, states that a public official of this state, or of a political subdivision of this state, who is responsible for enforcing laws, ordinances, codes or regulations that affect the practice of engineering may accept plans, specifications and other related documents only if those plans, specifications and other related documents were prepared by registered professional engineers, as evidenced by the seal of the engineer.

Section 1001.056 exempts the following from the provisions of the Act:

1. A private dwelling, one story apartment buildings not exceeding eight units, two story apartment buildings not exceeding four units, garages or other structures pertinent to such buildings;
2. Private buildings used exclusively for farm, ranch or agricultural purposes, or used exclusively for storage of raw agricultural commodities; or
3. Other one-story buildings, except public buildings, containing no clear span between supporting structures greater than 24 feet on the narrow side and having a floor area of 5,000 square feet or less.

Section 1001.053 exempts the following public works from the provisions of the Act:

1. A public work that involves electrical or mechanical engineering, if the contemplated expense for the completed project is \$8000.00 or less.
2. A public work that does not involve electrical or mechanical engineering, if the contemplated expense for the completed project is \$20,000.00 or less.

Plans submitted for permits will require engineer seals in accordance with state law unless specifically exempt.

The Office of the Attorney General of the State of Texas has determined that the design of air conditioning systems that licensed air conditioning contractors are permitted to perform under the Air Conditioning Contractor License Law (Article 8861 of V.T.C.S), serves as an exception to the Engineering Practice Act (Article 3271a of V.T.C.S.).

Similarly, the design of electrical and plumbing systems that licensed electrical and plumbing contractors are permitted to perform serves as an exception to the Engineering Practice Act.

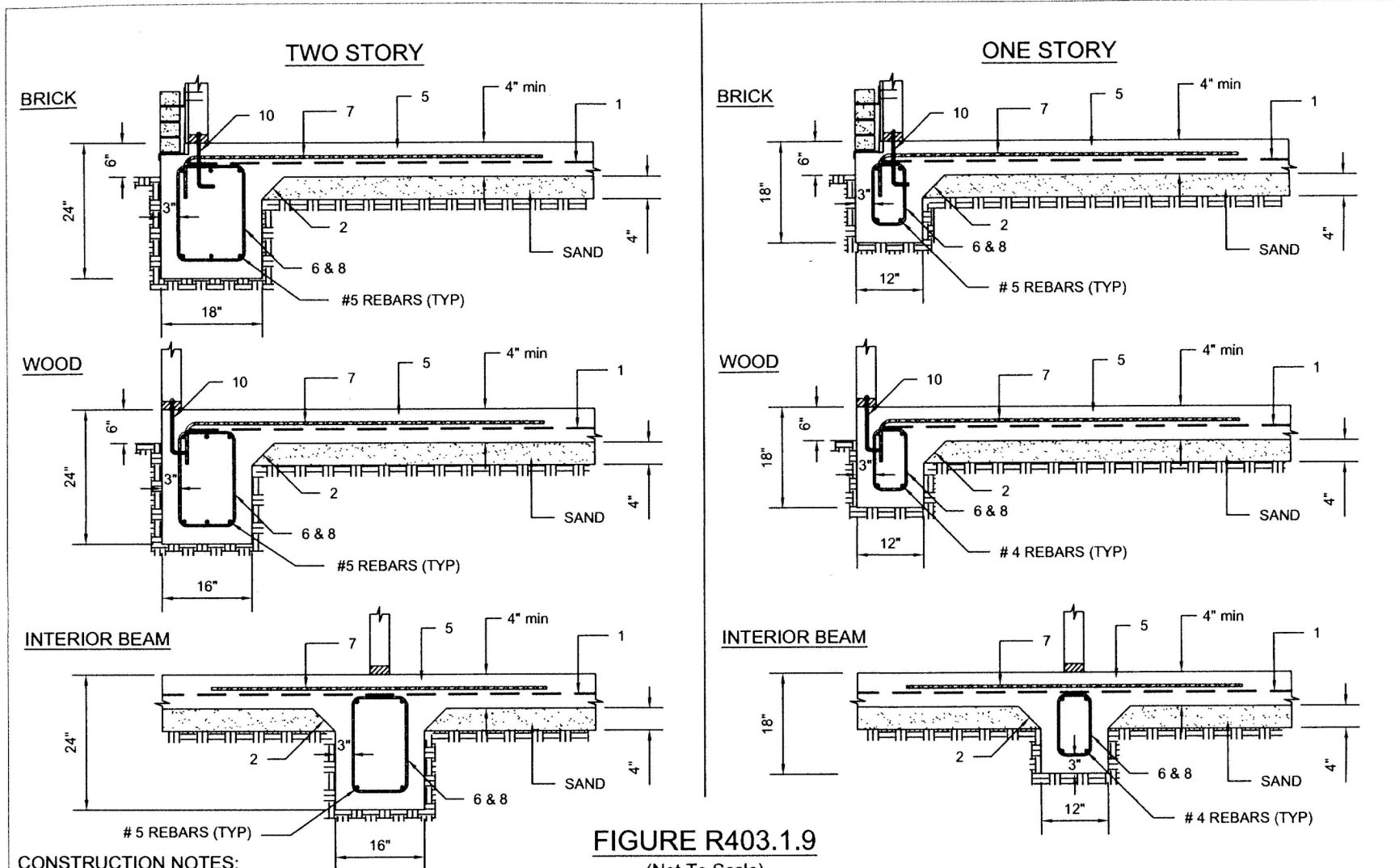


FIGURE R403.1.9
(Not To Scale)

CONSTRUCTION NOTES:

1. All slabs shall be reinforced with #6 web wire mesh 6"x6" min.
2. All house slabs shall have a 6 mil vapor barrier using poly or other approved material.
3. All slabs shall be a minimum of 4" thick with a 4" sand cushion.
4. Concrete shall have a minimum of 2500 psi in 28 days.
5. Steel shall be covered with 2" of concrete.
6. Stirrups to be #3 rebar @ 18" O.C.
7. Shear reinforcing at intersection of slab and all beams to be #4 rebar, 5' long, 5' on center.
8. Steel shall be covered with 3" of concrete.
9. Interior beams every 20 linear ft. or under bearing partition.
10. 1/2" anchor bolts, 10" long. Extend a minimum of 7" into concrete.

CITY OF HOUSTON		
Department of Public Works and Engineering		
FOUNDATIONS FOR ADDITIONS		
DATE: 12 / 29 / 09	DWG No: 09R15	1 of 1



APPENDIX L

CONVENTIONAL LIGHT-FRAME WOOD CONSTRUCTION FOR SINGLE FAMILY RESIDENTIAL CONSTRUCTION IN HIGH-WIND AREAS

SECTION AL101 GENERAL

AL101.1 Scope. This chapter applies to regular-shaped single family residential buildings that are not more than three stories in height and are of conventional light-frame construction.

Exception: Detached carports and garages not exceeding 700 square feet (65 m²) and accessory to Group R 3 occupancies need only comply with the roof-member-to-wall-tie requirements of Section AL 103.8.

SECTION AL102 DEFINITION

CORROSION RESISTANT or NONCORROSIVE. Refers to a material having a corrosion resistance equal to or greater than a hot-dipped galvanized coating of 1.5 ounces of zinc per square foot (4 g/m²) of surface area. When an element is required to be corrosion resistant or noncorrosive, all of its parts, such as screws, nails, wire, dowels, bolts, nuts, washers, shims, anchors, ties and attachments, shall also be corrosion resistant or noncorrosive.

SECTION AL103 COMPLETE LOAD PATH AND UPLIFT TIES

AL103.1 General. Blocking, bridging, straps, approved framing anchors or mechanical fasteners shall be installed to provide continuous ties from the roof to the foundation system. Tie straps shall be 1 1/8 inch (28.6 mm) by 0.036 inch (0.91 mm) (No. 20 gauge) sheet steel and shall be corrosion resistant as herein specified. All metal connectors and fasteners used in exposed locations or in areas otherwise subject to corrosion shall be of corrosion-resistant or noncorrosive material. The number of common nails specified is the total required and shall be equally divided on each side of the connection. Nails shall be spaced to avoid splitting of the wood.

Exception: Pre-manufactured connectors that provide equal or greater tie-down capacity may be used, provided that they are installed in compliance with all the manufacturer's specifications.

AL103.2 Wall-to-foundation tie. Exterior walls shall be tied to a continuous foundation system or an elevated foundation system in accordance with Section AL105

AL103.3 Sills and foundation tie. Foundation plates resting on concrete or masonry foundations shall be bolted to the foundation with not less than 1/2 inch diameter (13 mm) anchor bolts with 7inch (178 mm) minimum embedment into the foundation and spaced not more than 4 feet (1,219 mm) on center.

AL103.4 Floor-to-foundation tie. The lowest level exterior wall studs shall be connected to the foundation sill plate or an approved elevated foundation system with bent tie straps spaced not more than 32 inches (813 mm) on center. Tie straps shall be nailed with a minimum of 4 ten penny nails.

AL103.5 Wall framing details. The spacing of studs in exterior walls shall be in accordance with Chapter 23. Mechanical fasteners complying with this chapter shall be installed at a maximum of 32 inches (813 mm) on center as required to connect studs to the sole plates, foundation sill plate and top plates of the wall. The fasteners shall be nailed with a minimum of 8 eight penny nails.

Where openings exceed 4 feet (1,219 mm) in width, the required tie straps shall be secured at each edge of the opening and connected to a doubled full-height wall stud. When openings exceed 12 feet (3,658 mm) in width, two ties or a manufactured fastener designed to prevent uplift shall be provided at each connection.

AL103.6 Wall sheathing. All exterior walls and required interior main cross-stud partitions shall be sheathed in accordance with Chapter 6.

AL103.7 Floor-to-floor tie. Upper level exterior wall studs shall be aligned and connected to the wall studs below with tie straps placed a minimum of 32 inches (813 mm) on center and connected with a minimum of 6 eight penny nails per strap.

AL103.8 Roof-members-to-wall tie. Tie straps shall be provided from the side of the roof-framing member to the supporting member below the roof. Tie straps shall be placed at every roof framing member and connected with a minimum of 8 eight penny nails.

AL103.9 Ridge ties. Opposing common rafters shall be aligned at the ridge and be connected at the rafters with tie straps spaced a maximum of 32 inches (813 mm) on center and connected with 8 eight penny nails.

AL103.10 Gable end walls. Gable end wall studs shall be continuous between points of lateral support that are perpendicular to the plane of the wall. Gable end wall studs shall be attached with approved mechanical fasteners at the top and bottom. 8 eight penny nails shall be required for each fastener. Fasteners shall be spaced a maximum of 32 inches (813 mm) on center.

SECTION AL104 ROOFS

AL104.1 Roof sheathing. Solid roof sheathing shall be nailed to roof framing in an approved manner and shall consist of a minimum 1 inch thick (25.4 mm) nominal lumber applied diagonally or a minimum 15/32 inch thick (11.9 mm) wood structural panel or particle board (OSB) or other approved sheathing applied with the long dimension perpendicular to supporting rafters. The end joints of wood structural panels or particle board shall be staggered and shall occur over blocking, rafters, or other supports.

AL104.2 Roof covering. Roof coverings shall be approved and shall be installed and fastened in accordance with Chapter 9 or with the manufacturer's instructions, whichever is most restrictive.

AL104.3 Roof overhang. The roof eave overhang shall not exceed 3 feet (914 mm) unless an analysis is provided showing that the required resistance is provided to prevent uplift. The roof overhang at gabled ends shall not exceed 2 feet (610 mm) unless an analysis showing that the required resistance to prevent uplift is provided.

SECTION AL105 ELEVATED FOUNDATION

AL105.1 General. When approved, elevated foundations supporting not more than one story and meeting the provisions of this section may be used. A foundation investigation may be required by the building official.

AL105.2 Material. All exposed wood framing members shall be treated wood. All metal connectors and fasteners used in exposed locations shall be corrosion-resistant or noncorrosive steel.

AL105.3 Wood piles. The spacing of wood piles shall not exceed 8 feet (2,438 mm) on center. Square piles shall not be less than 10 inches (254 mm) and tapered piles shall have a tip of not less than 8 inches (203 mm). Eight inch square (5,161 mm²) piles shall have a minimum embedment length of 5 feet (1,524 mm) and shall project not more than 8 feet (2,438 mm) above undisturbed ground surface. Eight inch (203 mm) taper piles shall have a minimum embedment length of 6 feet (1,828 mm) and shall project not more than 7 feet (2,134 mm) above undisturbed ground surface.

AL105.4 Girders. Floor girders shall consist of solid sawn timber, built up 2 inch thick (51 mm) lumber, or trusses. Splices shall occur over wood piles. The floor girders shall span in the direction parallel to the potential floodwater and wave action.

AL105.5 Connections. Wood piles may be notched to provide a shelf for supporting the floor girders. The total notching shall not exceed 50 percent of the pile cross section. Approved bolted connections with ¼ inch (6.4 mm) corrosion-resistant or noncorrosive steel plates and ¾ inch diameter (19 mm) bolts shall be provided. Each end of the girder shall be connected to the piles using a minimum of two ¾ inch diameter (19 mm) bolts

ROOF MEMBERS TO WALL TIES

Tie straps shall be placed at every roof-framing member and connected with a minimum of 8-8d nails.
(Section AL 103.8)

RIDGE TIES

Tie straps spaced at 32" max and connected with 8-8d nails.
(Section AL 103.9)

FLOOR TO FLOOR TIES

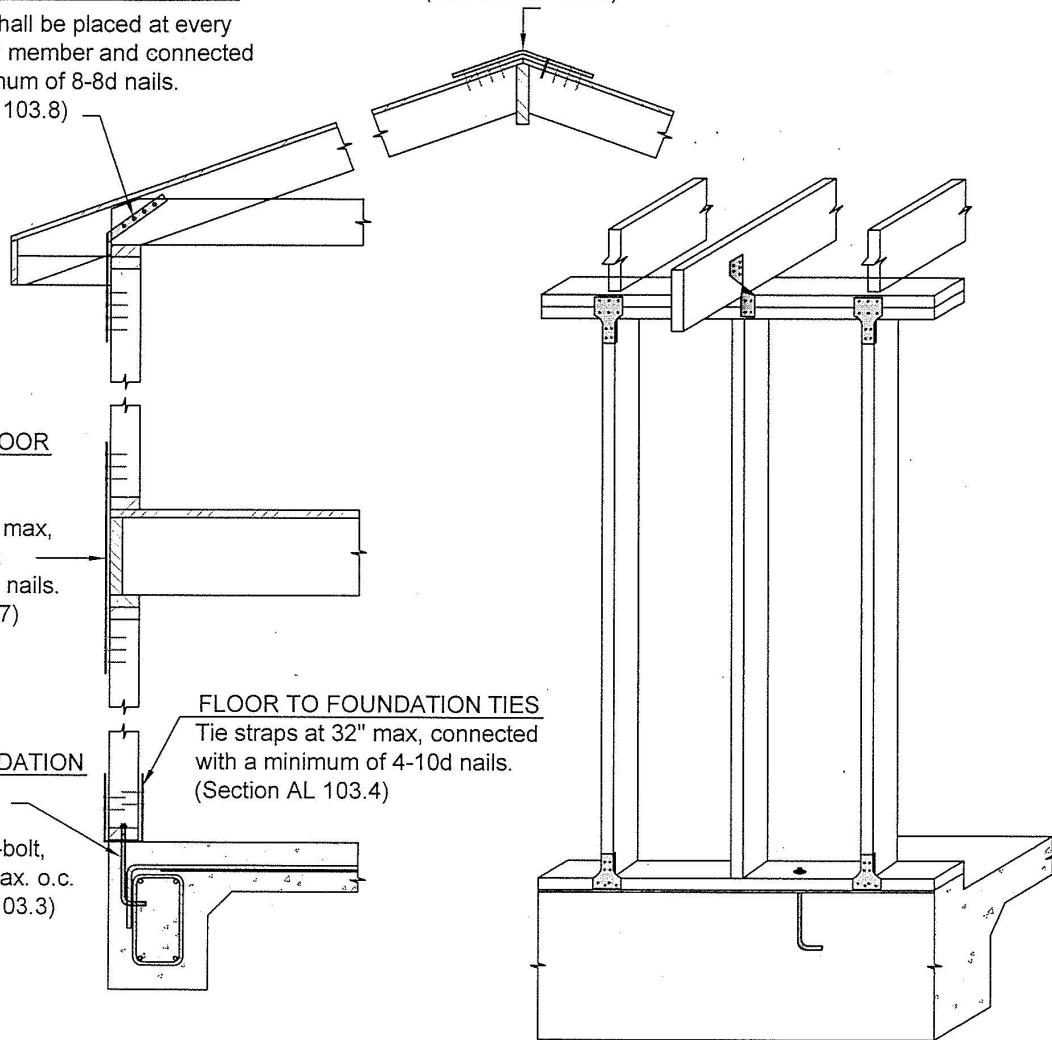
Tie straps at 32" max, connected with a minimum of 6-8d nails.
(Section AL 103.7)

FLOOR TO FOUNDATION TIES

Tie straps at 32" max, connected with a minimum of 4-10d nails.
(Section AL 103.4)

SILL TO FOUNDATION TIES

1/2" X 10" J-bolt, spaced @ 4' max. o.c.
(Section AL 103.3)



WALL FRAMING DETAILS

Mechanical fasteners shall be installed at a maximum of 32" o.c. to connect studs to top plates, sole plates and sill plates. Fasteners shall be nailed with a minimum of 8-8d nails.
(Section AL 103.5)

NOTES

1. Tie straps shall be 1 1/8" x .036" (20 gage) sheet steel and shall be corrosion-resistant.
2. Pre-manufactured connectors that provide equal or greater tie-down capacity may be used provided that their application complies with all the manufacturer's specifications.



STANDARD DRAWING

CITY OF HOUSTON
DEPARTMENT OF PUBLIC
WORKS & ENGINEERING

APPENDIX L ILLUSTRATION

1002 WASHINGTON AVE., HOUSTON, TEXAS 77002

APPROVED BY:

E. J. [Signature]
BUILDING OFFICIAL

DATE: 11 / 17 / 2016

DWG No: 16-06-R

1 of 1

Compliance Path Overview

There are four (4) ways to show compliance to the 2015 International Energy Conservation Code (IECC):

1. **Prescriptive Method** (3 options)
 - a. *R-Value Computation* (R402.1.2).
 - b. *U-Factor Alternative* (R402.1.4)
 - c. *Total UA Alternative* (R402.1.5)
2. **Performance Method** – (Section R405.3)
3. **ERI - Energy Rating Index** - (Section R406.2)
4. **Above Code Programs**, such as Energy Star are allowed per the Texas Health and Safety Code

Prescriptive Method: R-Value Computation

To show energy conservation compliance using the R-Value Computation Compliance Method (Section R402.1.2 of the 2015 IECC) specify the following required insulation and fenestration values for Climate Zone 2:

- **Maximum Fenestration U-Factor: 0.40 (0.65 for Skylights*)**
- **Maximum Glazed Fenestration SHGC: 0.25**
- **Minimum Ceiling R-Value: 38**
- **Minimum Wall R-Value: 13**
- **Minimum Floor R-Value: 13**

* Skylights may be excluded from glazed fenestration SHGC requirements in climate zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

FORMS



*Building Code Enforcement Branch
1002 Washington Avenue, Houston, TX 77002
Phone: 832-394-9494*

Revised 04-01-2022

Appendix J of the Houston Adopted 2015 International Building Code as Amended specifies permit requirements for grading a lot of any size on private property. Section 1 – Identifies when a separate “*Grading Permit*” is required. Section 2 – Identifies the type of grading permit required, “*Engineered Grading or Regular Grading*”, when a “*Geotechnical Report*” is required in the plans, and when a “*Storm Availability Letter*” is required to be attached to the submittal documents.

Grading and/or excavation permits is required for any proposed work that includes excavations, grading, or fill, or combination thereof, and includes but is not limited to the following permit types:

- **Excavation Permit(s)** – Work proposing the mechanical removal or relocation of earth material.
- **Fill Permit(s)** – Work proposing deposit(s) and/or relocation of earth material placed by artificial means.

NOTE: THERE SHALL BE NO FILL LOCATED WITHIN A PUBLIC RIGHT-OF-WAY

SECTION 1: Are Permits and Plans Required?

A Grading Excavation permit and plans is required if “Yes” is answered to any question 1 through 4.

- _____ (1) Does the excavation work affect the lateral support or increase the stresses in, or pressure upon any adjacent or contiguous property?
- _____ (2) When excavating below finish grade for basements and footings of a building, retaining wall or other structures authorized by a valid building permit, will there be an unsupported excavation height greater than 5-feet after completion of such structure?
- _____ (3) Will there be any excavation greater than 5-feet in depth?
- _____ (4) Will the excavation create a cut slope 2-feet or more in height but less than 5-feet, with a slope steeper than 1-unit vertical in 1.5-units horizontal? (66.7% slope)

A Grading Fill permit and plans is required if “Yes” is answered to any question 5 through 10.

(50 cubic yards = 1,350 square feet @ 1-foot depth)

- _____ (5) Does the fill work affect the lateral support or increase the stresses in, or pressure upon any adjacent, or contiguous property?
- _____ (6) Does the scope of work include fill that is 3-feet or more in depth?
- _____ (7) Does the scope of work include fill greater than 1-foot but less than 3-feet, with a slope that is equal to or greater than 1-unit vertical in 5-units horizontal? (20% slope)
- _____ (8) Does the scope of work include fill that is greater than 50 cubic yards on any one lot?
- _____ (9) Does the proposed fill obstruct any natural and/or previously constructed drainage course?
- _____ (10) Is proposed fill greater than 1-foot in depth and intended to support a structure, “now or in the future”?

SECTION 2: What Type of Permits and Plans Are Required?

NOTE: When the building official has cause to believe that site geologic factors exist, grading will be required to conform to recommended grading, inspection, and testing by a *Texas Professional Engineer*.

Engineered grading plans are required if “Yes” is answered to question 11. Plans shall be designed, sealed, signed, and dated by a Texas professional engineer. These grading permits shall be designated as “Engineered Grading”.

(1,000 cubic yards = 27,000 square feet, @ 1-foot depth)

- _____ (11) Does the proposed project include an aggregate grading in excess of 1,000 cubic yards?

Grading plans shall be designated “Regular Grading” if “Yes” is answered on question 12: (no engineered plans required.)

- _____ (12) Is the grading less than or equal to 1,000 cubic yards?

A Geotechnical Report is required if “Yes” is answered to any one of questions 13, 14 or 15:

- _____ (13) Will there be any cut slopes steeper than 1-unit vertical in 2-units horizontal (50% slopes)?
- _____ (14) Is there any grading that requires an engineered design? (*Reference item 11 above and Chapter 19 of the City Code.*)
- _____ (15) Does the site include any special geological features and/or considerations?
- _____ (16) Is the property located in the 100- or 500-year flood plain? Review by Flood Department required!

A Stormwater information form is required to be included with the submitted documents if “Yes” is answered to questions 16 or 17:

- _____ (17) Does the scope of work to lots exceeding 15,000 square feet, include any new impervious cover?
- _____ (18) Does the project include connection to the city’s public storm sewer system?

ADDRESS _____ **PROJECT #** _____ **DATE** _____

PRINT
NAME OF APPLICANT _____ **SIGNATURE** _____

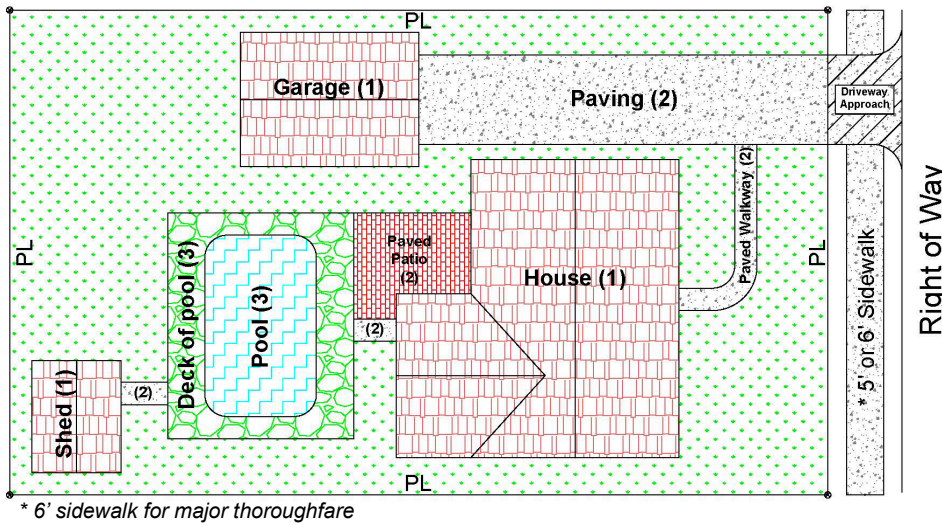
PROJECT INFORMATION

City Project Number: _____

Date: _____

Address: _____

Applicant's Printed Name: _____ Applicant's Signature: _____

CALCULATION OF IMPERVIOUS AREA PERCENTAGE
A. Total area of impervious cover located on private property.


This diagram is to assist in identifying the various items considered impervious.

IMPORTANT NOTES

1. If > 65%, refer the Infrastructure Design Manual (IDM), Chapter 9, Section H for additional provisions and provide calculation in the submitted plans for review.
2. Permeable Paver/Pavement System must be considered impervious in the table below.
3. Stormwater Quality Permit is requested (according to IDM, Ch. 9) for using these Low Impact Development (LID) techniques.
4. All drainage plans will be reviewed by the Storm Review team.

	Existing Sq. Ft.		Proposed Sq. Ft.		Final Sq. Ft.	Disturbed Sq. Ft.
1. Building(s) (e.g., house, garage, shed, carport)		+		⇒ =	↓+	↓+
2. Paving (e.g., driveway, sidewalk, patio. etc.)		+		⇒ =	↓+	↓+
3. Detention Ponds, etc.		+		⇒ =	↓+	↓+
4. Swimming Pool		+		⇒ =	↓+	↓+
5. Others		+		⇒ =	↓+	↓+
Totals		+		=	sq. ft. (A)	sq. ft.

B. Total Area of Lot: _____ sq. ft.

C. Percentage Impervious Area Calculation

$$\left(\frac{\text{A}}{\text{B}} \right) \times 100 = \text{C} \%$$