July 31, 2012

Honorable County Judge
& Commissioners

SUBJECT: Recommendation by the Director of Architecture & Engineering Division that Commissioners’ Court Adopt a Revision to the “Harris County/City of Houston Geometric Design Guidelines for Subdivision Streets” and Subsequent to Adoption that the Executive Director of the Public Infrastructure Department be Authorized to Execute the Revision on behalf of Harris County

Dear Court Members:

Transmitted for your consideration is a recommendation that Commissioners’ Court adopt a revision to the “Harris County/City of Houston Geometric Design Guidelines for Subdivision Streets” and that the Executive Director of the Public Infrastructure Department be authorized to execute the revision on behalf of Harris County.

This change will supersede and replace one exhibit and add text in support of the revised exhibit. All other elements of the previously-adopted Guidelines will remain in force.

Attached is a fact sheet highlighting pertinent information, a City of Houston document adopting the Guidelines and a description of the changes to the Guidelines to be adopted by this proposed Court action.

Sincerely,

John R. Blount, P.E.
Director, Architecture & Engineering

JRBL/Sam
Attachments
cc: Arthur L. Storey, Jr.
    Jackie L. Freeman
    Loyd Smith
    Agenda File
Hereby approved as basic requirements for future street planning and development.

By: ______________________________________________________________________

Arthur L. Storey, Jr., County Engineer

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS & ENGINEERING

appendix 1
chapter 10
geometric design guidelines for subdivision streets

harris county

city of houston

The Guidelines presented in Appendix 1 include the most often requested information regarding geometric design of subdivision streets. Designated Major Thoroughfares and Collector Streets shall be considered for special design features such as presented in Appendix 2 of this Chapter. Design features not shown in Appendix 1 should be considered special design features. Agency Engineer or used throughout this section shall mean City Engineer for the City of Houston and the designated representative for Harris County Public Infrastructure Department. The average daily traffic volumes presented in Standard Drawing No. 10.06-01, 02, and Appendix 2 Figure 1 are provided as general guidelines to define each street classification. Professional engineering experience and judgment should be used in application of the guidelines to a specific project.

It is advisable to consult with the appropriate agencies and review the most recent edition of the following publications to determine adequate thoroughfare requirements and special design features:

- Recommended Guidelines for Subdivision Streets, Institute of Transportation Engineers
- Guidelines for Urban Major Streets Design, Institute of Transportation Engineers
- A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials (AASHTO)
- Texas Manual on Uniform Traffic Control Devices (TMUTCD), Texas Department of Transportation

THE GUIDELINES IN THIS APPENDIX ARE HEREBY APPROVED AS BASIC REQUIREMENTS FOR FUTURE STREET PLANNING AND DEVELOPMENT

JULY 2009
3. Intersection Sight Distance:
   a. Dedicated right-of-way or easements are required to meet the intersection sight distance triangle requirements.
   b. Design Basis
      (1) Design Vehicle – Passenger Car
      (3) Lane Widths – 12 foot wide travel lanes
      (4) Level Road Surface
      (5) Sight Distance – Is measured to the center of the outside lane on main roadway approaching from the left and to the center of the inside lane of traffic on the main roadway approaching from the right.
      (6) The intersection of local streets serving residential properties only, meeting at an angle of 85 degrees or more. Within 250 feet of the intersection, each of the uncontrolled approaches to the intersection of two local residential streets will:
         1. Have land uses adjacent to the street that are exclusively single family residential lots (or unoccupied reserves of limited size, such as landscape reserves, drainage reserves or utility reserves).
         2. Residential lots with driveway access to the uncontrolled approach street
         3. A posted (or prima facie) speed limit of 30 mph or less
   c. Design Procedures:
      (1) Determine design speed of main roadway. Refer to Figure 1 of Appendix 2 for design speeds of street classifications in the MTFP and CMP.
      (2) For the appropriate design speed, determine the minimum sight distance from the following Table 10.3:
### TABLE 10.3 Triangle Applicability

<table>
<thead>
<tr>
<th>Highest classification greater width street</th>
<th>Sight triangle driver’s eye setback distance</th>
<th>Sight triangle dimension on uncontrolled street (Design speed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High speed major thoroughfare (&gt;45 mph posted speed)</td>
<td>25 ft</td>
<td>sight-specific analysis</td>
</tr>
<tr>
<td>Major thoroughfare or major collector on MTFP map</td>
<td>25 ft</td>
<td>500 ft (45 mph)</td>
</tr>
<tr>
<td>Divided streets and 41 ft. streets</td>
<td>15 ft</td>
<td>500 ft (45 mph)</td>
</tr>
<tr>
<td>28 ft. local and collector streets</td>
<td>15 ft</td>
<td>390 ft (35 mph)</td>
</tr>
<tr>
<td>28 ft. single family residential frontage on both streets (1)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

(3) Develop a scaled drawing depicting the sight triangle based on the design criteria. Refer to the City of Houston Standard Drawing No. 10.06-05.

d. Exceptions

(1) Replats and partial replats at the intersections of a local/local street, local major collector street, and major collector major collector street are exempt from providing intersection sight distance rights-of-way or easements where existing site conditions for abutting properties preclude compliance.

(2) Variances or deviations to these guidelines will be considered on a site-by-site basis. An engineering analysis should be prepared to support the proposed sight triangle dimensions, based on criteria in the AASHTO “Green Book”, latest edition. Where the uncontrolled street is existing, design speeds should be based on an analysis of the 85th percentile operating speed.
Fact Sheet

August 2012 Revisions to Roadway Geometric Guidelines

Background

City of Houston and Harris County maintain their own standards, specifications and design requirements for roadway construction. One significant exception is a set of engineering drawings depicting the geometric features of roadways. These drawings represent a common set of guidelines adopted by both the City of Houston and Harris County.

The City Engineer establishes the Guidelines as an Appendix to their Infrastructure Design Manual. The Harris County establishes the Guidelines by action of the County Engineer after receiving authorization from Commissioners Court.

History of This Revision

The most recent updates to the Guidelines occurred in 2009. Among the changes at that time was establishing a new standard for maintaining intersection sight distances at roadway intersections. The intersection sight distance exhibit established a “sight triangle” that allows a driver entering the intersection to see a specified distance along the roadway he is entering.

Through application experience, it was been determined that strict interpretation of the sight distance guideline could result in situations that required a sight triangle that was in excess of that required to maintain public safety.

A committee developed changes to expand and clarify the criteria for sight distance triangles. Participants included City of Houston and Harris County engineering staff, along with representatives of the American Council of Engineering Consultants - Houston Chapter (formerly HCEC) and the Greater Houston Builder’s Association.

As indicated in the attached letter, on July 1st the City of Houston adopted changes to their Infrastructure Design Manual which included the technical changes recommended by the committee.

Purpose of this Action

Harris County’s adoption of these changes will maintain consistency between City of Houston and Harris County Geometric Guidelines. The changes will also clarify the application of relevant engineering criteria to a wider variety of roadway and intersection configurations, improving the efficiency of roadway design for both private- and public-sector projects.
July 1, 2012

TO WHOM IT MAY CONCERN:

The 2012 edition of the City of Houston Infrastructure Design Manual is issued by the Public Works and Engineering Department with a publication date of July 1, 2012. The manual has been primarily updated and revised to reflect changes to traffic and signal design requirements.

Per the Engineering and Construction Division of the Public Works and Engineering Department, Capital Improvement Project Designs that have not reached the 50% design submittal stage by July 1, 2012, will be required to comply with all standards in the 2012 Infrastructure Design Manual.

Projects in the public/private sector that submit plans for review and/or permitting AFTER July 31, 2012 will be required to comply with all standards in the 2012 Infrastructure Design Manual.

Questions regarding the changes to the manual or other concerns can be submitted via email to: standardreviewcommittee@houstontx.gov.

Respectfully,

[Signature]

Carl W. Smitha, P.E., C.F.M.
City Engineer

CS:RA:sl

c: Daniel W. Krueger, P.E.
APPENDIX 1
CHAPTER 10

GEOMETRIC DESIGN GUIDELINES FOR SUBDIVISION STREETS

HARRIS COUNTY
CITY OF HOUSTON

The Guidelines presented in Appendix 1 include the most often requested information regarding geometric design of subdivision streets. Designated Major Thoroughfares and Collector Streets shall be considered for special design features such as presented in Appendix 2 of this Chapter. Design features not shown in Appendix 1 should be considered special design features. Agency Engineer as used throughout this section shall mean City Engineer for the City of Houston and the designated representative for Harris County Public Infrastructure Department. The average daily traffic volumes presented in Standard Drawing No. 10-06-01, 02, and Appendix 2 Figure 1 are provided as general guidelines to define each street classification. Professional engineering experience and judgment should be used in application of the guidelines to a specific project.

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THE GUIDELINES IN THIS APPENDIX ARE HEREBY APPROVED AS BASIC REQUIREMENTS FOR FUTURE STREET PLANNING AND DEVELOPMENT

JULY 2009

[Signatures]
Director
Department of Public Works & Engineering
City of Houston

Executive Director
Public Infrastructure Department
Harris County

[Signatures]
Director
Department of Planning & Development
City of Houston

[Signatures]
City Engineer
Department of Public Works & Engineering
City of Houston
### Divided Street Dimensions (Feet)

<table>
<thead>
<tr>
<th>Local Street</th>
<th>Major Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Residential</td>
<td>Principal Thoroughfare, Thoroughfare, Major Collector</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2100</th>
<th>3100</th>
<th>4000-5000</th>
<th>&gt;100</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUM CENTER SW SW</td>
<td>70</td>
<td>90</td>
<td>80</td>
<td>90</td>
</tr>
<tr>
<td>W</td>
<td>20</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>M</td>
<td>8</td>
<td>24</td>
<td>14</td>
<td>22</td>
</tr>
<tr>
<td>S</td>
<td>11</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>T</td>
<td>12</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>P</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Notes:**

1. AVERAGE DAILY TRAFFIC, REFER TO GUIDELINES PRESENTED IN SECTION 10.09A.
2. ANY RIGHT-OF-WAY DIMENSIONS DIFFERENT FROM THOSE SHOWN SHALL REQUIRE SPECIAL GEOMETRIC DESIGN AS DETERMINED BY AGENCY ENGINEER.
3. SIDEWALK LOCATED IN CENTER MEDIAN ONLY (MIN. SW WIDTH = 8')
4. REFER TO CITY MOBILITY PLAN INFRASTRUCTURE DESIGN MANUAL, CHAPTER 10, APPENDIX J FOR ORIFINAL DESIGNS TO SERVE SPECIAL MOBILITY NEEDS, PEDESTRIAN NEEDS, BICYCLE LANES, OR OTHER REQUIREMENTS. APPROVAL BY CITY ENGINEER REQUIRED.
5. 17' MINIMUM WIDTH IS CITY OF HOUSTON STANDARD FOR NON-TRANSIT CORRIDOR STREETS, MINIMUM WIDTH FOR TRANSIT CORRIDOR STREETS IS 19'. FOR MINIMUM WIDTH IN ETA, CONTACT AGENCY ENGINEER.

---

**City of Houston**

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DIVIDED STREET

TYPICAL CROSS SECTION

(Not to Scale)

[Signature]

CITY ENGINEER

[Signature]

DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFFECTIVE DATE: JULY 01, 2009

DRAWN BY: [Signature]

ENGINEER IN CHARGE: [Signature]

PREVIOUS NO: CH 10 FIG 01

10-20

07-01-2012
NOTES:
1. ALL RAMPS AND SECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AGENCY STANDARD DETAILS, AND ACCORDING TO THE TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) REQUIREMENTS.
2. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH AGENCY STANDARD DETAILS AND THE TEXAS MANUAL ON UNIFORM TYPICAL DESIGN (TxDOT).
3. CURB RAISERS SHALL BE DESIGNED TO ACCOMMODATE THE TYPE OF VEHICLES ANTICIPATED TO USE THE FACILITY, SUCH AS BUSES, TRUCKS, ETC., IN ACCORDANCE WITH THE CRITERIA FOR CURB RAISER USE.
4. WHERE ALTERNATIVE MINIMUM CURB RAISERS ARE REQUIRED TO ENSURE ACCESSIBILITY, PEDESTRIAN, OR OTHER SPECIFIC NEEDS, SUBMIT DESIGN LAYOUT AND SUPPORTING CALCULATIONS TO AGENCY ENGINEER FOR REVIEW AND APPROVAL.
5. THE CORNER CUT BACK IS RESERVED FOR TRAFFIC SIGNALS AND EQUIPMENT AND SHALL BE KEPT FREE OF SIGNS, POLES, DRUMS, POWER LINES AND ALL SERVICE ENTRANCES WHICH COULD PREVENT THE FUTURE INSTALLATION OF SUCH EQUIPMENT WITHIN THE AREA.
6. WHERE A NEW ROADSIDE OR GRAYWAY IS CONNECTING TO AN EXISTING SIGNALIZED INTERSECTION, THE APPLICANT SHALL BE RESPONSIBLE FOR DESIGNING AND CONSTRUCTING THE NECESSARY MODIFICATIONS TO THE EXISTING SIGNAL SYSTEM AS REQUIRED BY AGENCY ENGINEER.

TABLE 1. INTERSECTION CURB RADIUS REQUIREMENTS

<table>
<thead>
<tr>
<th>INTERSECTION TYPE</th>
<th>MINIMUM CURB RADIUS BY INTERSECTION ANGLE</th>
<th>0 DEG</th>
<th>30-90 DEG</th>
<th>90-180 DEG</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCAL - LOCAL</td>
<td>25 FT</td>
<td>30 FT</td>
<td>30 FT</td>
<td></td>
</tr>
<tr>
<td>COLLECTOR - LOCAL</td>
<td>25 FT</td>
<td>30 FT</td>
<td>30 FT</td>
<td></td>
</tr>
<tr>
<td>COLLECTOR - COLLECTOR</td>
<td>30 FT</td>
<td>30 FT</td>
<td>30 FT</td>
<td></td>
</tr>
<tr>
<td>THROUGHFARE - THROUGHFARE</td>
<td>35 FT</td>
<td>35 FT</td>
<td>35 FT</td>
<td></td>
</tr>
<tr>
<td>PRINCIPAL THROUGHFARE - THROUGHFARE</td>
<td>35 FT</td>
<td>35 FT</td>
<td>40 FT</td>
<td></td>
</tr>
<tr>
<td>TRAFFIC LANE - THROUGHFARE</td>
<td>35 FT</td>
<td>35 FT</td>
<td>40 FT</td>
<td></td>
</tr>
<tr>
<td>PRINCIPAL THROUGHFARE - PRINCIPAL THROUGHFARE</td>
<td>35 FT</td>
<td>35 FT</td>
<td>40 FT</td>
<td></td>
</tr>
</tbody>
</table>

(1) Sketch shows acceptable property cutback distance X as substitute for row radius R.

TABLE 2. ROW CUTBACK REQUIREMENTS

<table>
<thead>
<tr>
<th>CURB RADIUS</th>
<th>MINIMUM ROW CUTBACK</th>
<th>ROW RADIUS R1</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 FT</td>
<td>20 FT x 20 FT</td>
<td>25 FT</td>
</tr>
<tr>
<td>30 FT</td>
<td>20 FT x 20 FT</td>
<td>30 FT</td>
</tr>
<tr>
<td>35 FT</td>
<td>20 FT x 20 FT</td>
<td>35 FT</td>
</tr>
<tr>
<td>40 FT</td>
<td>20 FT x 20 FT</td>
<td>40 FT</td>
</tr>
<tr>
<td>45 FT</td>
<td>20 FT x 20 FT</td>
<td>45 FT</td>
</tr>
</tbody>
</table>

1. BASED ON 90 DEGREE INTERSECTION (*)
2. FOR ACUTE ANGLE USE 25 FT CURB RADIUS (MIN)
3. FOR OBLIQUE ANGLE, USE CURB RADIUS R (*/)

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
INTERSECTION GEOMETRY CURB RADIUS AND CORNER CUTBACK
(NOT TO SCALE)

CITY ENGINEER
DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFT DATE JULY 01-2009 TIVO NO. 10.06-04

10-22
07-01-2012
TABLE 1
REQUERED INTERSECTION SIGHT DISTANCE

<table>
<thead>
<tr>
<th>STREET CLASSIFICATION</th>
<th>SIGHT DISTANCE (')</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCAL STREET</td>
<td>300'</td>
<td>15'</td>
</tr>
<tr>
<td>ALL OTHER STREETS</td>
<td>500'</td>
<td>20'</td>
</tr>
</tbody>
</table>

NOTES:
1. INTERSECTION SIGHT DISTANCES ARE BASED ON AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
2. IF ROADWAY BEING CROSSED OR TURNED ONTO HAS A MEDIAN THAT IS 25 FEET OR GREATER, SIGHT DISTANCE TO THE RIGHT MAY BE MEASURED FROM THE POINT AT WHICH A VEHICLE CAN SAFELY STOP WITHIN THE MEDIAN OPENING.

TYPICAL CROSSWALK AND STOP BAR PLACEMENT DETAIL
TYPICAL MEDIAN OPENING C

MINIMUM MEDIAN LENGTH A, B

<table>
<thead>
<tr>
<th>MEDIAN INTERSECTION FOR</th>
<th>NO LTB</th>
<th>1 LTB</th>
<th>2 LTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIVATE DRIVE</td>
<td>45°</td>
<td>50.5°</td>
<td>60°</td>
</tr>
<tr>
<td>UNDIVIDED STREET &lt;40</td>
<td>45°</td>
<td>50°</td>
<td>55.5°</td>
</tr>
<tr>
<td></td>
<td>44°</td>
<td>50°</td>
<td>55°</td>
</tr>
<tr>
<td>DIVIDED STREET ALL</td>
<td>0+22'</td>
<td>3+22'</td>
<td>6+22'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INTERSECTING STREET CLASSIFICATION</th>
<th>MAJOR STREET/THOROUGHFARE (A)</th>
<th>COLLECTOR STREET (A)</th>
<th>LOCAL STREET (A)</th>
<th>PRIVATE STREET OR DRIVEWAY (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRINCIPAL</td>
<td>500'</td>
<td>500'</td>
<td>350'</td>
<td>300'</td>
</tr>
<tr>
<td>THOROUGHFARE/THOROUGHFARE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COLLECTOR STREET</td>
<td>350'</td>
<td>300'</td>
<td>250'</td>
<td>200'</td>
</tr>
<tr>
<td>LOCAL STREET</td>
<td>250'</td>
<td>230'</td>
<td>250'</td>
<td>250'</td>
</tr>
</tbody>
</table>

NOTE:
(1) LTB - LEFT TURN BAY
(2) DISTANCE FROM CENTERLINE OF OPENING TO MEDIAN MOSE WITH LEFT TURN LANE IS 35' FOR RIGHT ANGLE INTERSECTIONS. FOR INTERSECTIONS OTHER THAN 90°, APPLY DESIGN VEHICLE TURNING TEMPLATE TO DETERMINE DIMENSIONS TO MEDIAN MOSE CUT OFF.
CITY OF HOUSTON
DESIGN MANUAL
Department of Public Works & Engineering
Street Paving Design Requirements

MEDIAN DIMENSIONS

<table>
<thead>
<tr>
<th></th>
<th>R₁</th>
<th>R₂</th>
<th>R₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10°</td>
<td>NONE</td>
<td>W</td>
<td>NONE</td>
</tr>
<tr>
<td>&gt;10°&lt;40°</td>
<td>90</td>
<td>W</td>
<td>NONE</td>
</tr>
<tr>
<td>&gt;40°</td>
<td>NONE</td>
<td>NONE</td>
<td>15</td>
</tr>
</tbody>
</table>

LEFT TURN BAY DIMENSIONS

A = 150° MINIMUM AT INTERSECTION OF TWO MAJOR STREETS.
B = 100° MINIMUM AT ALL OTHER INTERSECTIONS.
B₁ = TAPER LENGTH MAY BE SHORTER IF IT IS ON A HORIZONTAL CURVE TO THE LEFT.
B₂ = TAPER LENGTH MAY BE LONGER IF CURVE IS TO THE RIGHT.
W₂ = 10° MINIMUM

NOTE: DIMENSIONS MAY BE ADJUSTED AS DETERMINED BY AGENCY ENGINEER.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

MEDIAN DESIGN
MEDIAN NOSE AND LEFT TURN BAY
(NOT TO SCALE)

10-25
07-01-2012
NOTES:

1. APPROACH AND DEPARTURE TAPER REQUIREMENT:
   \[ L = \frac{W \times S}{60} \]
   WHERE:
   \[ L \] = LENGTH IN FEET
   \[ W \] = LATERAL OFFSET IN FEET
   \[ S \] = 35 M.P.H. MINIMUM DESIGN SPEED FOR SUBDIVISION STREETS
   \[ W = A - B \]

2. 350' MINIMUM CENTERLINE RADIUS FOR HORIZONTAL CURVE WITH APPROACH OR DEPARTURE TAPERS.

3. REFER TO STANDARD DRAWING NO. 10.06-06 FOR MEDIAN LENGTHS AND MEDIAN OPENING.

---

<table>
<thead>
<tr>
<th>ROADWAY CROSS SECTION (FEET)</th>
<th>TAPER [ \text{L} = \frac{W \times S}{60} ] (FEET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A + A</td>
<td>B + B</td>
</tr>
<tr>
<td>80</td>
<td>40</td>
</tr>
<tr>
<td>70</td>
<td>40</td>
</tr>
<tr>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>40</td>
<td>30</td>
</tr>
</tbody>
</table>
Street Paving Design Requirements

Symmetrical Cul-de-Sac

Offset Cul-de-Sac

Type 2 Permanent Access Easement (PAE)

Cul-de-Sac

Abutting Land Use

<table>
<thead>
<tr>
<th></th>
<th>Single Family</th>
<th>All Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>60'</td>
<td>60'</td>
</tr>
<tr>
<td>B</td>
<td>40'</td>
<td>40'</td>
</tr>
<tr>
<td>C (MIN)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C (MAX)</td>
<td>20'</td>
<td>15'</td>
</tr>
<tr>
<td>D</td>
<td>90'</td>
<td>90'</td>
</tr>
<tr>
<td>E</td>
<td>35'</td>
<td>35'</td>
</tr>
<tr>
<td>F</td>
<td>25'</td>
<td>25'</td>
</tr>
<tr>
<td>G</td>
<td>35'</td>
<td>35'</td>
</tr>
</tbody>
</table>

City of Houston
Department of Public Works and Engineering

Street Termination
Cul-de-Sac and Type 2 PAE

Not to Scale

Effective Date: July 01, 2009

Dwg No.: 10.06-09

Previous No.: CH 10 FIG 6

10-27
07-01-2012