THOROUGHFARE STANDARDS REVIEW COMMENTS

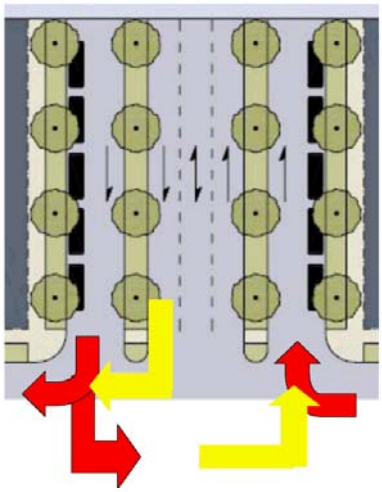
RECEIVED BY JULY 23, 2008 FROM:
DEVELOPER'S COUNCIL, CONSULTANTS, ETC. (items A – G)
AND CITY STAFF (items H – L)

A.

I am very concerned the majority of people will have a difficult time maneuvering safely through this type of intersection. Even I'm confused as to who has the right-of-way? Is it the cars leaving or entering the parking lanes (shown in red) or the through traffic (shown in yellow)? I'm no traffic engineer but this looks too complicated for yield and stop signs. Will the parking lanes (shown in red) have a separate traffic light?

There are potential lawsuits with this type of intersection and everyone, including the design engineer and City will be dragged into it. CWS, SCDOT and a consulting firm were involved in a lawsuit a year ago on a standard right turn only lane with signs and directional arrows. Even when you're right you loose because of lost wages and legal fees. I am requesting the City of Charleston take another look at vehicular as well as pedestrian safety before requiring this type of intersection.

City of Charleston Proposed Boulevard (BV)



B.

- Provide suggestions on utility language
- Discuss outstanding issues such as curb radii, etc.
- Provide several narrower sections
- Resolve T3 parking issue

C.

Section 1. C. regarding the wording about the City Engineer.

D.

1. The latest copy of the proposed standard that I have is dated 7/10/08. There are many items highlighted in red, indicating the need for a resolution. I concur with the need to resolve these.

2. 54-821j I'm not sure I understand what this section means. Perhaps an explanation is in order.

3. 54-821q This section refers to subparagraph "m" and does not appear to be properly referenced.

4. 54-821t Similarly the reference paragraphs do not appear to be correct.

5. Section BV-115-33 This section calls for "free movement (inner lanes)" and shows two direction flow in the central lane. Is this intended to be a painted median?

6. The sections refer to the street tree ordinance 54-831e. It would be good to provide this new section to the group for discussion of potential conflicts with these road standards.

7. Under the legend shown in the upper right of the standards, there are unused items shown that do not appear in the standards such as (PW parkway,YS yield street,Bt,BL,BR)

8. The PS Park Street does not appear to be complete. Is this intended to be in the standards?

9. PS-174-40 is there going to be a minimum requirement of 174'?

10. Do all sub-urban use areas have to have parking included in the sections? Are there any one-way sections that can be used in the sub-urban use areas? Are the parking lanes to be striped? Section DR-50-26 shows 18' face to face. Does this section meet the minimum width for fire apparatus?

11. Are pavement markings intended to be used to delineate the lanes? Would the marking requirement apply to all sections?

12. Section ST? is not defined. It appears that it would be ST-20-40

13. How is section ST-50-28 intended to be delineated?

14. Under the Roads section. Footnote "use of swale....." What does this note mean? Can the Road sections be used in the sub-urban areas as a use of right or does someone or some committee need to make the determination. Please explain how sidewalks or paths would fit into a swale section with a right of way width of 50'.

15. Under the Rear Alley/Lane section, Please explain the footnote about the use of inverted crown.

E.

1. How do utilities relate to the various sections?

2. Storm drainage strategies are constantly changing and the use of "bio-swales", infiltration systems, and others are sometimes not allowed for thoroughfares to be conveyed to the public.

3. When and where are the proposed road standards allowed?

4. Has the fire department reviewed the standards for adequacy?

5. What is the status of the tree protection ordinance and why was it not incorporated into the street tree requirement?

6. How have the Neighborhood District standards evolved and what lessons were learned.

7. Is the "Smart Code" intended to be adopted and can the source of the proposed standards be studied in more detail to help understand how others have dealt with the underground utilities?

F.

Jimmy DuPre; 708+7907; General Comments on 7/10 Draft

- Curb widths are not accounted for; assumption is that tree shoulders will be 6 inches less in width
- Is there going to be flexibility to vary shoulder, median, and sidewalk widths due to planning initiatives? For example, providing a larger planting zone at neighborhood entrances?
- What is the narrowest shoulder width necessary to plant street trees? (My opinion, 7 feet)
- For any street with a speed 25 or less gutter width should be considered as part of pavement width.
- Will streets without gutter (vertical face curb only) be allowed?
- CWS requires meters in the ROW. We have moved sidewalk 18 inches from edge of ROW to accommodate the meters. If this continues the ROW width would need to be 3 feet wider, or allow 4 foot sidewalks and widen ROW by 1 foot.
- Can either sewer or drainage be within the pavement cross section?

Comments on specific sections

- CS-80-54 and CS-100-64
    - The parking depth of 17 feet is not adequate, especially for the 80 ft. ROW. I use 22 feet for the parking depth, which allows a smaller car to edge out slowly where sight distance is blocked by a larger car.
- DR-50-28; The curb to curb dimensions are more than adequate depending on volume, 27 would probably work; Similar to Pierce Street on Daniel Island. I would like to see the flexibility for a wider tree shoulder, and sidewalk
- ST-50-24; Very similar to typical Daniel Island neighborhood street. Very little parking during the day makes this section seem too wide most of the time. Bump outs would help with this.
- ST-40-20 (not named in draft); A very nice one way street. Except in extremely high density areas a pavement width of 18 is adequate. A version with wider shoulders and five foot sidewalks would be nice; ROW width would be 46 depending on water meter issue. Cattle Ranch Street in Daniel Island Park is similar ; it has a 18 foot pavement width and a 36 foot ROW.
- ST-50-30 and ST-60-32; we need to be careful where we use these; if there is not enough on street parking they will seem really wide. Farr Street on Daniel is similar; except there are bump outs. It runs through an apartment complex.

G.

54-821 n 2 indicates that connections to undeveloped tracts should include a right of way or easement with a temporary turnaround - The City should consider allowing permanent cul-de-sacs in lieu of the temporary turnarounds as these are not attractive, especially if the adjacent tracts have no foreseeable development timeline - Also, would the right of way or easement dedication have an expiration or run into perpetuity?

54-821.1 a 1 requires that cul-de-sacs must have a natural feature in the center of the turnaround that shall be a size at least equal to the square footage of the pavement surrounding it - does the City propose to maintain these natural areas? - Also, the size requirement seems somewhat excessive depending on the physical constraints of the site.

H.

Recommended language re: fire access:

"Building Code and Fire Code Compliance: Emergency vehicle access shall be considered in the design of thoroughfares and thoroughfare systems and minimum requirements shall be met for the proposed subdivision to be approved. Failure to satisfy all emergency vehicle access requirements of ratified Building Codes and Fire Codes in the design of thoroughfares and thoroughfare systems will result in additional requirements when constructing buildings to include, but not be limited to, a requirement for installation of a building fire sprinkler system."

I.

There is still a concern regarding how bicycles will be accommodated on these streets. I recognize that these are low volume, low speed streets and bicycles will share the road for the most part, but I think there needs to be something that states that. If the new idea of sharrows is going to be implemented then we need to identify on what streets those can be used. I just don't want to hear from the bicycling community that we didn't consider them when this is all said and done especially if we are committed to the Complete Streets idea.

J.

We propose that the following revisions be made to the current draft of the street standards ordinance. The revisions are intended to define a public right-of-way ("Thoroughfare") which serves 5 or more parcels or serves or connects to any other Thoroughfare and on which gates will not be permitted. The revisions define Private Roads as a private right of way that serves less than 5 parcels and require written justification for their creation and maintenance easements from the parcel owners. Finally, the revisions provide that for properties platted after the effective date of the ordinance, garbage service shall only be provided to the nearest Thoroughfare.

Our revisions are as follows:

1. Sec. 54-120. Definitions.

Modify the definition of Thoroughfare to read:

The term "Thoroughfare" shall mean the entire width between boundary lines of every right-of-way serving five or more parcels or serving or connecting to any other Thoroughfare. A Thoroughfare shall provide public access for vehicular and pedestrian travel and shall be accepted for maintenance by the City, the County or the S. C. Department of Transportation. A Thoroughfare shall include any accessway, road, highway, street, avenue, boulevard, parkway, alley, lane, drive, bridge and approaches thereto within the city.

Add definition of "Private Road" to read:

The term "Private Road" shall mean the entire width between boundary lines of every right-of-way serving less than five parcels and which connects to a Thoroughfare. A Private Road shall provide private access to less than five parcels for vehicular and pedestrian travel and shall not be maintained by the City, the County or the S. C. Department of Transportation. A Private Road shall include any private accessway, road, street, lane, drive, bridge and approaches thereto within the City.

2. Sec. 54-821. Street Thoroughfare Design Standards

Delete (h) and substitute with:

(h) Private Roads: Justification for creating Private Roads shall be provided in writing and private easements in recordable form requiring collective responsibility for the Private Road maintenance by the owners of such parcels shall be provided.

3. Sec. 54-821.1 Neighborhood District Thoroughfares

Delete "Gated Thoroughfares are not permitted" and create a new #4 in Sec. 54-821(n) to read:

4. Gates shall not be permitted to block Thoroughfares.

4. Sec. 54-821(v)

After this section, add a new paragraph "w" to read:

For properties platted after the effective date of this ordinance, garbage service shall only be provided to the nearest Thoroughfare.

K.

Pavement Widths:

- **Engineering Comment:** Pavement widths either need to exclude gutter in the dimensions or they need to be widened by a one foot per side to include gutter.
- **HPE Response:** Lane widths are one important element for achieving speed control. Our field work is based on measurements to the face of curb. This is the operative dimension in lower speed urban environments. Highway design has properly excluded gutter pan width due to the need to separate vehicle operation from the collected storm water on facilities operating at higher speeds (over 35 or 40 mph). At lower, urban walkable speeds, parking is provided on most streets, thus delineating the edge condition. In these exception areas where no parking exists, other lane width considerations usually control the decision.
- **Engineering Response:** Please explain what these conditions are? **W**ith any form of curb there is some effect on the lateral position of drivers; drivers tend to move away from the curb, which reduces effective through-lane width. A gutter with an evident longitudinal joint and somewhat steeper cross slope than the adjacent lane is a greater deterrent to driving near the gutter than the situation in which the traveled way and gutter are integral. Also, drivers will shy away from curbs that are high enough to damage the underbody and fenders of vehicles.

Curb Radii.

- **Engineering Comment:** For design speeds of 20 MPH or less, it is a common practice to use a curb radius of 15 feet. Some intersections on avenues, main streets and boulevards require a large curb radius of up to 25 feet. Substandard turning radius results in unnecessary lane encroachment and increased traffic conflict and accident potential. Traffic must cross into opposing lanes in order to negotiate narrow turns, thereby encroaching upon unsuspecting pedestrians, cyclists, and other vehicles traveling in opposite lanes.
- **HPE Response:** HPE often recommends using 15' curb radii as standard with traditional streets like those proposed by the City. Most intersections are more than ample for the passage of even very large vehicles such as tractor-trailers and ladder trucks, with this curb radius. Larger curb radii will simply allow higher passenger car turning speeds, which detracts from walkability.

  The exception is the intersection of an alley with a street. At this intersection, experience has shown that a regular curb geometry has several drawbacks. A curb radius large enough to support passage of a garbage truck (usually about 20') will create speeding problems with passenger cars traveling into and out of the alley. A curb radius short enough to discourage speeding (5' or shorter) will require the garbage truck to drive over the curb, which eventually destroys the curb (and creates annoyance and difficulty for the garbage truck service.) ….
- **Engineering Response:** Recommend using a 15 to 20 feet minimum curb radius for all intersections and applying Auto Turn to check adequacy of proposed sections and geometrics.

Intersection Sight Triangles.

- **Engineering Comment:** Standard minimum sight triangle for stop conditions at street intersections is usually 70 feet along the major road right-of-way and about 10 feet along the minor road right-of-way. This may be reduced for lower design speeds (ref: NCDOT Traditional Neighborhood Development Street Design Guidelines)
- **HPE Response:** No direct response was provided.
- **Engineering Response:** The proposed standards do not appear to address minimum sight triangle for stop conditions at street intersections. This comment need to be addressed by HPE.

Curb and Gutters.

- **Engineering Comment:** The proposed standards do not address the use of curb and gutter sections which in many cases are needed to quickly move stormwater runoff from the street to a storm structure.
- **HPE Response:** No direct response was provided.
- **Engineering Response:** This comment need to be addressed by HPE.

K. continued

Additional Comments on the Proposed Thoroughfare Standards:

Addition comments are provided as follows:

- Page 2. What is meant by "reverse frontage", item c, #2; and "reverse strips or parcels", item d?
- Page 3. There are many important geometric and road design issues covered in this section, which need to be included or referenced in some form. Recommend keeping paragraphs e. – i.
- Page 4. Item f, this is in accordance with the 2006 International Fire Code requirements.
- Page 6. Item m, Where is appendix M?
- Pages 17 – 20. Need to discuss disposition of Engineering comments concerning specific comments for each section, e. g. curb and gutter, pavement widths, etc.
- Page 12. Suggest combining DR-50-28 and DR- 50-26 into one section.
- Page 13. Section ST-50-24. Eight foot street widths are not advisable, especially with two way traffic & 15 foot turning radius, even at 15 MPH. This seems excessively restrictive & could be eliminated, especially considering adjacent section ST-50-26.
- Page 16. Section ST-50-14. Seven foot street widths are not advisable, especially with two way traffic & 15 foot turning radius, even at 15 MPH. This seems excessively restrictive & could be eliminated, especially considering adjacent section ST-50-18.
- Page 18. Section RA-24-24. Using inverted crowns with pavement widths exceeding 12 feet is not a good idea and should be discouraged for various reasons associated with drainage and maintenance issues. A traditional crown design should be used for this section.
- Neighborhood District, Page 24. Thoroughfare Type 5 turning radius should be increased to 15 feet. What applies to item b footnote?

L.

1. Sharrows proposed. We need to make sure that DRC is comfortable with the graphic placed on the street.
2. "Chicane effect" is still being discussed. I thought I remembered something at the last meeting where this was not going to be proposed. I might be imagining things…
3. Backing out into the ROW still a potential issue due to City ordinance. I realize this is allowed on Daniel Island but I believe it was somehow written into their master plan. We just need to make sure that we aren't creating two ordinances that contradict each other.
4. We need to see how the end of the parking, if allowed, will be treated. There's a note on the sections that the bulb-outs are to be removed. Will there be striping? Should we look into how Daniel Island manages to accomplish this without the bulb-outs?
5. Should the street graphics somehow incorporate graphical sections? Should we start seeing how the curb, tree, medians, parking and ROW utilities should all go together? It would be beneficial to see this in the street sections where open swales are proposed with street trees.
6. PS-174-40 (pg8) should possibly be adjusted to incorporate a sidewalk in the median. As it is designed now, pedestrians do not have a safe stopping point- they will be required to walk the entire width (174'?).