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Connecting Communities and People

MEMO

To: Kevin Ashley, City of Concord Planning and Development Manager

From: Andy Christy, Rider Transit Planner

Date: December 30th, 2016

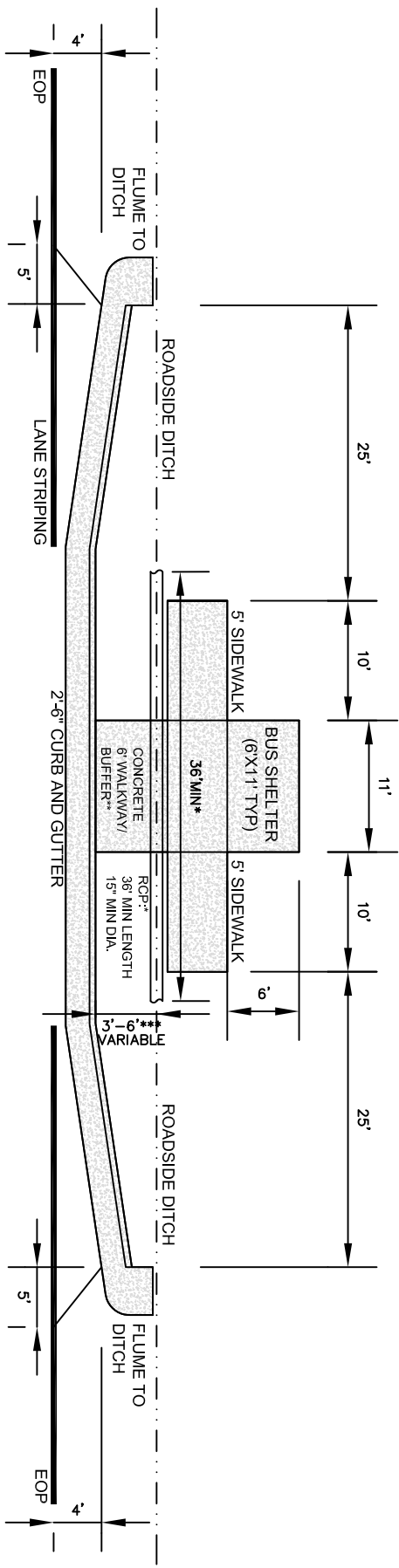
Subject: Proposed TSM text amendment for Rider Transit bus stop design standard

This memo serves as a request for a text amendment to the City of Concord's Technical Standards Manual to include a newly developed Rider Transit bus stop design standard. Currently, no standard exists for the design and construction of bus stops within the City of Concord.

In response to new NCDOT Bus Stop Guidelines, Rider Transit, in coordination with the City of Concord's Transportation Department, has gained approval from NCDOT on a new design standard for bus stops constructed within NCDOT right-of-way. This new standard will be applied to all newly constructed Rider Transit bus stops within NCDOT right-of-way within the City of Concord and City of Kannapolis.

The new bus stop standard addresses user safety, pedestrian access, storm water controls, and aesthetic consistency for transit stops throughout the Rider Transit service area. The proposed text amendment would assure that all new Rider Transit bus stops within the City of Concord, not limited to those within NCDOT right-of-way, are designed to the new standard.

The Rider Transit bus stop design standard is attached to this memo along with the latest NCDOT Bus Stop Guidelines. Please consider this text amendment proposal for presentation to the City of Concord Planning and Zoning Commission at their January 17th, 2017 meeting. Thank you.



CENTERLINE STRIPING

CK RIDER

BUS STOP DETAIL

SCALE: N.T.S.

- NOTES:
- 1.)* RCP PIPE UNDER 6FT WALKWAY TO HAVE MIN 36FT LENGTH AND MIN 15" DIA. WITH 2FT SHOULDER ON BOTH ENDS OF SIDEWALK.
 - 2.)** BUFFER DISTANCE TO BE REGULATED BY POSTED SPEED LIMIT AS FOLLOWS:
 6FT BUFFER FOR 45 MPH POSTED SPEED
 5FT BUFFER FOR 35 MPH POSTED SPEED
 3FT BUFFER FOR 25 MPH POSTED SPEED
 - 3.)*** VARIABLE DISTANCE OF 3FT TO 6FT FROM BACK OF CURB TO FRONT OF SIDEWALK.
 - 4.) EXISTING ROADWAY TO BE SAW CUT TO OBLITERATE THE EXISTING EDGE LINE AND PROVIDE A SMOOTH TIE IN TO THE PROPOSED CURB AND GUTTER.
 - 5.) BUS SHELTERS WITHIN NCDOT RAW MUST FOLLOW THE NCDOT BUS SHELTER & BUS STOP GUIDELINES.



CITY OF CONCORD NORTH CAROLINA STREETS DEPARTMENT		
STANDARD DETAIL DRAWING TYPICAL CK RIDER BUS STOP DETAIL		
DATE: SEPT. 2016	FILE: CKRBS-1.DWG	NO.:

NCDOT Bus Shelter & Bus Stop Guidelines – “Draft” May 18, 2016

As multi-modal consideration and to allow for safe and uniform placement of bus shelters, bus benches and bus stops statewide within NCDOT right of way, the following Guidelines have been established by the Department. Bus Shelters and/or Bus Stops will be allowed within NCDOT right of way by encroachment if the following criteria are met.

1. Bus shelters and bus benches may be allowed within NCDOT Right of Way by Encroachment Agreement. “Form R/W 16.1A, Right of Way Encroachment Agreement for Non-Utility Encroachments on Primary and Secondary Highways” is the appropriate form to use and should be signed by the Division Engineer, District Engineer or their designee. Multiple bus shelters may be approved under one Encroachment Agreement if all of the policy requirements are met.
2. Encroachment Agreements for bus shelters and bus benches may be approved only for Municipalities or other Governmental Agencies, such as a Transit Authority.
3. Maintenance of bus shelters, bus stop benches, bus stops and the areas adjacent to these shall be the responsibility of the Encroaching Party.
4. The posted speed limit of the adjacent roadway must be 45 mph or less for bus shelter and bus bench installations. The proposed bus shelter and bus bench is on a street with NCDOT standard 2'-6" vertical face curb and gutter, with sidewalk. The proposed bus shelter and bus bench is to be located behind the existing sidewalk and as close to the Right of Way line as practical.

In standard 2'-6" curb and gutter installations, the minimum distance from the edge of pavement (edge of gutter) to the face of the bus shelter structure or bus shelter bench is: 12 ft. for 45 mph; 10 ft. for 35 mph; and 8 ft. for 25 mph.

In shoulder section and mountable curb installations, the bus shelter or bus bench should be located outside the clear recovery area as defined by the latest version of the AASHTO Roadside Design Guide.

5. The Encroaching Party has to include a statement signed and sealed by a North Carolina Licensed Professional Engineer to the effect that "the proposed bus shelter is outside of the clear recovery area as defined by the most current version of the AASHTO Roadside Design Guide or the proposed bus shelter will not adversely obstruct sight distances nor create an increased safety hazard within the clear recovery area to a greater extent that existing above ground obstacles (utility poles, trees, etc.), which are in close proximity to the proposed bus shelter.
6. Bus shelters and bus stops are to be placed in locations that ensure safe and efficient operations of vehicular and pedestrian traffic and each site should be independently engineered and designed.

7. Bus Shelter Structure – To ensure the structural adequacy of the bus shelter, the Bus Shelter Manufacturer/Vendor must have a North Carolina Licensed Professional Engineer (PE), seal, sign and date the NCDOT Product Evaluation Program Bus Shelter Structural Adequacy Document. It is recommended that when Municipalities and Transit Authorities advertise Bus Shelter Manufacturers/Vendors for their services, that they write into their RFP’s (Request for Proposals), the requirement of the NCDOT Product Evaluation Program Bus Shelter Structural Adequacy Document.

This one-page document is to be completed prior to submitting the bus shelter encroachment package to the Department. Once the document has been completed and sealed:

- A. It should be returned to NCDOT Product Evaluation Program (PEP) office along with a PEP application via e-mail to: productevaluation@ncdot.gov. The submittal will be reviewed for acceptable completion and a letter will be sent to the manufacturer/vendor notifying them of the approval of the bus shelter for inclusion on the Department’s Approved Product List (APL). (All acceptable bus shelters are assigned a status of “Approved for Provisional Use” as they must adhere to the maximum design wind speed as certified by the PE and follow the encroachment process for site specific foundation designs.)
- B. The District Engineer can move forward with the encroachment process once the signed, sealed and dated Bus Shelter Structural Adequacy Document has been received by the Department.
- C. Once listed on the APL, the bus shelter can be used in locations that adhere to the max wind speed allowed for that specific bus shelter. The wind speed map is on page 2 of the Bus Shelter Structural Adequacy Document.
- D. As part of the encroachment process, the site specific soil conditions of each bus shelter within NCDOT Right of Way must be evaluated by a PE licensed in the state of North Carolina to verify that the foundation is designed according to current AASHTO or ACI requirements. As a minimum the bus shelter foundation and connections must satisfy the manufacturer’s recommendations.

The following documents are located at:

<https://connect.ncdot.gov/resources/Products/Pages/default.aspx>

- a. The NCDOT Structural Adequacy Document for Bus Shelters
- b. The NCDOT PEP Application
- c. The link to the NCDOT Approved Products List
- d. The NCDOT Bus Shelter & Bus Stop Guidelines
- e. The Bus Shelter Encroachment Process (Flow Chart)

8. Bus turn-outs should be evaluated at each bus stop and each bus shelter location by the Municipality or Authority to determine if their placement is applicable for the type of roadway facility that it is being placed. The recommended placement of bus turn-outs should be at the discretion of the Division or District Engineer.
9. No commercial advertising should be allowed on bus shelters within the NCDOT Right of Way.
10. The area around the bus shelters shall allow for circulation of pedestrians and have connectivity to a sidewalk system. All bus shelters shall be ADA compliant and meet ADA Mobility Guidelines.
11. Bus Shelters should have their own lighting for the safety of riders and pedestrians or located within an area where adequate lighting exists. It is preferred that the bus shelter be lit internally or externally with solar lighting, so that additional electrical appurtenances on the right of way will be eliminated. The bus shelter lighting should not cause glare to motorists.
12. There should be appropriate bus signage for each bus stop. The bus signage should comply with the latest version of the MUTCD.
13. Proposed bus shelters & bus stops that do not meet all of the criteria expressed in these Guidelines may be considered on a case by case basis and approved at the discretion of the Division Engineer.
14. NCDOT reserves the right to remove any bus shelter and bus shelter bench within NCDOT right of way found to be a hazard to the traveling public.