

Source
John Glascock

TO: City Council
FROM: City Manager and Staff 
DATE: October 26, 2007
SUBJECT: Supplemental Report Concerning the Proposed Improvements at Forum & Stadium

Fiscal Impact

- Yes
- No

Other Info.

EXECUTIVE SUMMARY

Staff has prepared for Council consideration a supplemental report regarding the proposed improvements at Forum & Stadium as designed by HDR Engineering, Inc. The report proposes to list staff recommendations concerning the improvements after receiving public input.

DISCUSSION

Staff held a public information meeting on October 9, 2007. A majority of those in attendance supported some type of improvement which would enhance visibility for both pedestrian and vehicular traffic. Some property owners continued to express concerns about the proposed improvements on creating congestion, causing delays and truck turning movements. Staff concurs that the proposed improvements will add delay to certain turning movements. To address these would require additional lanes and right of way, which exceeds the scope of our non-motorized pilot project.

At the public information meeting an adjacent property owner suggested that whatever modifications were made, the traffic impacts be monitored for a year so actual data could be collected on the affects of the changes. Staff supports this demonstration approach and would recommend further discussions on the possibility of creating a supplemental contract change with HDR to assess the impact of the changes. Mr. Tom Ryan with HDR recommended using the University of Missouri's traffic research group to analyze the impact. Staff recognizes advantages to this approach for the following reasons:

- The City would be responding to a constituent.
- Creating a partnership with the University on traffic issues.
- Facilitating cooperation with the public with a win/win solution
- Data would be created for other cities wanting to duplicate this process.

A major concern from the adjacent property owner was about the viability of the proposed design with respect to trucks classified as WB-67 (meaning wheel base of 67 feet). Prior to design, staff discussed the design vehicle with MoDOT staff. A decision was made to pursue a WB-50 truck design vehicle (wheel base of 50', typical urban design vehicle). The proposed improvements as designed could inhibit some WB-67 truck turning movements. Some minor changes could be made to the island configuration to slightly lessen the impact for WB-67 trucks (truck aprons). However, it is staff's opinion that since this is an urban setting, the design vehicle should be a WB-50 truck.

Based on feedback from the Non-motorized Pilot Project Committee, a median along Stadium Boulevard is part of the proposed design. The median would provide separation of the through travel lanes. However, the median, as proposed, would not provide a true pedestrian refuge due to lack of adequate pavement on Stadium for travel lanes. It would provide an emergency haven for pedestrians crossing Stadium.

Staff recommends Council approve the island reconfiguration, crosswalks and signal improvements and to address the truck turning movement concerns, not construct a median at this time. The median could either be constructed as part of a future vehicle capacity upgrade project or could be constructed separately at a later date. Not constructing the median island would help with the concern about the truck turning movement issue.

SUGGESTED COUNCIL ACTION

Council should direct staff to move forward with the design as proposed with the exception of the raised median on Stadium Boulevard. If Council concurs with the concept of creating a demo/pilot project, then direct staff to proceed with the project.

Source

John Glascock

*John Glascock
for SDM*

TO: City Council
FROM: City Manager and Staff 
DATE: September 13, 2007
SUBJECT: Proposed Non-motorized Intersection Improvements at Forum Boulevard and Stadium Boulevard

Fiscal Impact

- Yes
- No

Other Info.

EXECUTIVE SUMMARY

Staff has prepared for Council consideration a supplemental report regarding the non-motorized design of the Forum Boulevard and Stadium boulevard intersection that was tabled at the August 20, 2007 Council meeting.

DISCUSSION

The attached letter by HDR Engineering Consultants addresses comments made by the Forum Development Group in an August 15, 2007 letter (attached) concerning the Forum and Stadium Boulevard Intersection. At the August 20, 2007 Council meeting, Mr. Jay Lindner with the Forum Development Group and Mr. Wayne Whitehead with SKW Engineering Consultants expressed concerns that they, as the major property owner, needed time to review the design with the City and the other affected property owners and businesses. Their concern stemmed from their review that the design creates a safety concern for pedestrians and reduces the efficiency of vehicles and trucks using the intersection.

Staff is still working with the property owners concerning this design. Because the response from HDR has just been recently submitted, it may be desirable to table this discussion to the next council meeting.

Staff is moving forward with the other two designs at Stadium and Providence and Providence and Stewart intersections.

SUGGESTED COUNCIL ACTION

Staff will determine whether the HDR response is sufficient to satisfy the Forum Development Group's concerns; tabling the discussion to the next council meeting (October 1, 2007).

September 6, 2007

Mr. John Glascock, Director
City of Columbia Public Works
P.O. Box 6015
Columbia, Missouri 65205-6015

Subject: Columbia Non-Motorized Pilot Program Intersection Designs
Stadium Boulevard and Forum Boulevard
City Project Nos. NMT 2006-0001
Federal Aid Project No. CPP-9999(502)
Response to a Letter of Inquiry

Dear Mr. Glascock:

The purpose of this letter is to provide information to help the City respond to a letter addressed to David Nichols from Jay Lindner, dated August 15, 2007, regarding the Stadium Boulevard/Forum Boulevard intersection.

As you know, the City of Columbia has been working with several consultant firms to achieve the City's intent expressed in their submittal for the federal non-motorized transportation program. This submittal was developed and submitted through a cooperation effort between the City staff and PedNet. As part of this overall effort to address mobility and safety of all transportation modes, several key intersections were identified and some preliminary information was gathered to enhance these intersections.

The City wanted to get the program kicked off, so residents could begin seeing and using the enhancements made through this program. The three intersections of Stadium Boulevard/Forum Boulevard, Stadium Boulevard/Providence Road and Providence Road/Stewart Road were identified as intersections with pedestrian and bicycle traffic that could be advanced to the design and construction stage based on the preliminary information and potential solutions recommended by the City's Bicycle and Pedestrian Commission. These intersections were identified by the Commission as "low-hanging fruit", at which fairly simple improvements could be made without right-of-way acquisition or significant reconstruction.

Comment 1. *Reducing the width of drive lanes to 11 feet, especially on a 50 mile-an-hour road, to create a situation where vehicles will be transitioning from 12 feet to 11 feet at great speeds.*

Response. The design holds to the principle that a through lane next to a curb or median will be a minimum of 12 feet wide (plus gutter). However, the design does include 11-foot lanes in the following locations:

- *Stadium Boulevard westbound through and left-turn lanes.* The purpose of reducing the widths of these lanes to 11 feet is to allow conversion of the existing painted median to a raised median island that will serve at least three purposes: (1) better directional guidance of vehicular traffic (and a consequent safety improvement by eliminating head-on crash potential), (2) a refuge area for pedestrians crossing Stadium Boulevard, and (3) a visual cue to approaching motorists that will increase awareness of the intersection and the potential for non-motorized users. The through lanes are 11 feet wide, but are not adjacent to a median: the inside lane is adjacent to a turn lane, and the outside lane is adjacent to the shoulder/bike lane. The transition from 12 feet to 11 feet occurs over a 200-plus-foot length adjacent to the taper for the dual left-turn bay. This, plus the fact that the transition occurs on a curve, indicates that drivers will probably not even notice the transition. The total length of the 11-foot through lanes is fairly short: roughly 400 feet.
- *Forum Boulevard lanes.* All of the lanes on Forum Boulevard are shown on the plans as narrowed to 11 feet. These are not the subject of the comment, because they are not "high-speed" lanes. However, it is worth mentioning that the reduction of these lanes is to allow the provision of marked bicycle lanes along Forum Boulevard. These bicycle lanes will provide connection and access to the shoulder areas along Stadium that are also being developed into bicycle lanes, which in turn will provide valuable access to downtown, the University campus and west-side commercial centers. The bike lanes on both Stadium and Forum Boulevard are consistent with the City's PedNet Master Plan.

Comment 2. *Reducing the overall width of the intersection, thereby choking down the available room for turning movements and prohibiting trucks from making the various turns without encroaching into adjacent lanes.*

Response. As you are aware, City staff was very concerned with this issue. As part of the design effort, truck movement analysis was performed using the AutoTurn software. A WB-50 truck standard was used in the assessment, per design requirements agreed upon with the City and MoDOT. It was found that trucks will be able to make all four turning movements at the intersection (northbound left, northbound right, westbound left, eastbound right). This information was provided to the City on a CD. Trucks and cars will be able to turn side-by-side in both the northbound and westbound dual left-turn lanes, with the proviso that westbound left-turning trucks will need to use the outside left-turn lane (which is presumably also the case with the existing configuration).

Comment 3. *The use of "Australian right turns", thereby negatively affecting truck traffic.*

Response. As stated in the response to comment 2, trucks were found to be able to successfully complete both right-turn movements. The right-turn lanes have been intentionally designed with sufficient width and clearance to facilitate trucks.

The Australian right-turn design application (or "Gap-Acceptance Right-Turn", GART) is gaining recognition across our country. Some early applications of this treatment (reducing the radius of the right-turn lane and developing an intersecting angle closer to 90 degrees with the crossroad) have resulted in very promising safety improvements. Placing a right-turning vehicle in this alignment allows motorists to look to the left for oncoming traffic instead of over their shoulders, enabling them make better decisions in determining acceptable gaps and recognition of crossing pedestrian traffic.

In the St. Louis area, MoDOT implemented this design along the I-64 Eastbound off-ramp to Missouri Route 141 in 2003. The annual number of crashes in 2002 was 92 crashes and in 2004 it dropped to 12. Since then, MoDOT has implemented this type of design at other locations that have experienced similar crash patterns.

Comment 4. *An analysis of the existing and future turning volumes for the peak hours that would indicate the delay and Level of Service before and after the revisions at this intersection.*

The table at right provides a summary of the before-and-after analysis for the proposed construction.

The difference in the before and after conditions ranges from 0.4 of seconds additional delay per vehicle to 11.2 seconds. In general, the delay increase is 4 seconds or less except in the PM 2030 condition.

Note that capacity improvements will be needed before 2030 in order for this intersection to operate at acceptable levels of service. The intent of this intersection project is to improve non-motorized travel conditions, and it has been acknowledged from the outset that further vehicular capacity improvements will be warranted at some point in the future. The increased delay from reducing the lane widths is a minor part of the expected overall future delay.

	Average Delay, sec (LOS)		Delay Difference, sec
	Before	After	
2007			
AM Peak	42.2 (D)	42.6 (D)	0.4
Noon	27.8 (C)	29.8 (C)	2.0
PM Peak	51.4 (D)	55.2 (E)	3.8
2030			
AM Peak	172.3 (F)	174.2 (F)	1.9
Noon	63.8 (E)	68.0 (E)	4.2
PM Peak	212.9 (F)	224.1 (F)	11.2

Comment 5. *The truck off-tracking diagrams for the left-turning traffic from Stadium to Forum and from Forum to Stadium and the right turns from Stadium to Forum and from Forum to Stadium*

Response. Information has been provided to the City; see Comment 2 above.

Comment 6. *The 12-hour traffic counts for cars, trucks, pedestrians and bikes for all through and turning movements*

Response. The 12-hour count information was provided by MoDOT and is attached. For this intersection, 2002 volumes (the most recent available) were adjusted to 2007.

Comment 8. *An analysis of reducing the lane width from 12 feet to 11 feet for westbound through and left-turn traffic on Stadium and northbound and southbound traffic on Forum.*

Response. See the response to Comment 4. Highway Capacity Manual analysis was conducted for 2007 and 2030 conditions, both before and after the proposed lane-width reductions.

We appreciate the opportunity to provide these responses. If you have further questions, please contact me at (816) 360-2721.

Sincerely,

Christopher S. Kinzel, P.E., P.A.
Project Manager

Copy: Richard Stone

August 15, 2007

Mr. David A. Nichols, P.E.
Manager of Engineering & Inspections
City of Columbia
701 E. Broadway
Columbia, MO 65201

RE: Review of Preliminary Plans of Stadium and Forum Intersection

Dear David:

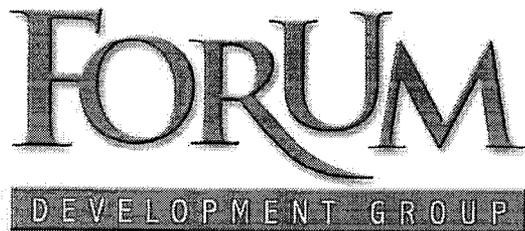
We have recently reviewed the preliminary plans for changes to the Stadium and Forum intersection as submitted to MODOT and the City of Columbia on June 11, 2007. We are surprised that the plans are this far along without any communication from the City or the Consultant to the stakeholders informing us of the proposed revisions to this intersection. We find the following design elements to be of particular concern:

1. Reducing the width of drive lanes to 11', especially on a 50 mile an hour road to create a situation where vehicles will be transitioning from 12' to 11' at great speeds.
2. Reducing the overall width of the intersection, thereby choking down the available room for turning movements and prohibiting trucks from making the various turns without encroaching into the adjacent turn lane.
3. The use of "Australian right turns", thereby negatively effecting truck traffic.

We find the overall design to be counterproductive, as it appears that vehicles have been given secondary preference and this very busy intersection will now not adequately handle the vehicular and truck traffic that has, is, and always will exist. We are certainly in favor of creating a safer environment for pedestrians, but if it comes at the cost of reducing safety for over 95% of the people using this intersection, we cannot support such a change.

For us to review the proposed revisions to the intersection to see what effect this might have on existing and future traffic (vehicles and trucks), we would appreciate receiving the following:

- An analysis of the existing and future turning volumes for the peak hours that would indicate the delay and Level of Service before and after the revisions at this intersection.



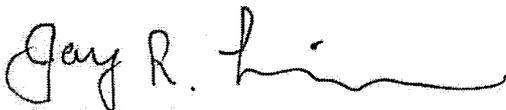
P.O. Box 1037
1400 Forum Boulevard
Columbia, MO 65205
Telephone (573) 446-5500
Fax (573) 446-5050

- The truck off – tracking diagrams for the left turning traffic from Stadium to Forum and from Forum to Stadium and the right turns from Stadium to Forum and from Forum to Stadium.
- The 12 hour traffic counts for cars, trucks, pedestrians and bikes for all through and turning movements.
- A purpose and need study for this intersection that addresses the proposed revisions.
- An analysis of reducing the lane width from 12' to 11' for westbound through and left turn traffic on Stadium and northbound and southbound traffic on Forum.
- A copy of the revised preliminary plans as a result of the comments from the City and MODOT.

We are very concerned that this intersection will not be able to handle the present and future traffic, which increases to 50,570 ADT for Stadium and 22,300 ADT for Forum in the design year 2030, if these revisions are made and are not thoroughly analyzed for the impacts to the capacity of this intersection. We are also very much in favor of a public meeting amongst stakeholders to gain additional input, as most of the public is not aware of the detrimental impacts these proposed changes may have to the safety of vehicular traffic in this area.

If you have any questions, please let me know. We look forward to discussing this matter further with you.

Sincerely,



Jay R. Lindner
Executive Vice President

cc: William H. Watkins, City Manager
John Glascock, P.E., Public Works Director
Ted Curtis, Bike/Ped Program Manager
R. Wayne Whitehead, Shafer, Kline & Warren
Jerry Wade, 4th Ward Councilman
Roger Schwartz, MODOT District Engineer

Source
John Glascock



TO: City Council
FROM: City Manager and Staff 
DATE: July 27, 2007
SUBJECT: Non-Motorized Transportation Intersection Improvements

EXECUTIVE SUMMARY

Staff has prepared for Council consideration a resolution setting a public hearing regarding proposed non-motorized intersection improvements at Forum & Stadium, Providence & Stadium and Providence & Stewart. Preliminary plans are attached.

Fiscal Impact

- Yes
- No

DISCUSSION

In January, 2007 Council authorized the City Manager to hire HDR, Inc. to complete survey work, conceptual and final design for non-motorized transportation improvements at Forum & Stadium, Providence & Stadium, and Providence & Stewart. These three intersection projects were for improvements generally within the right of way.

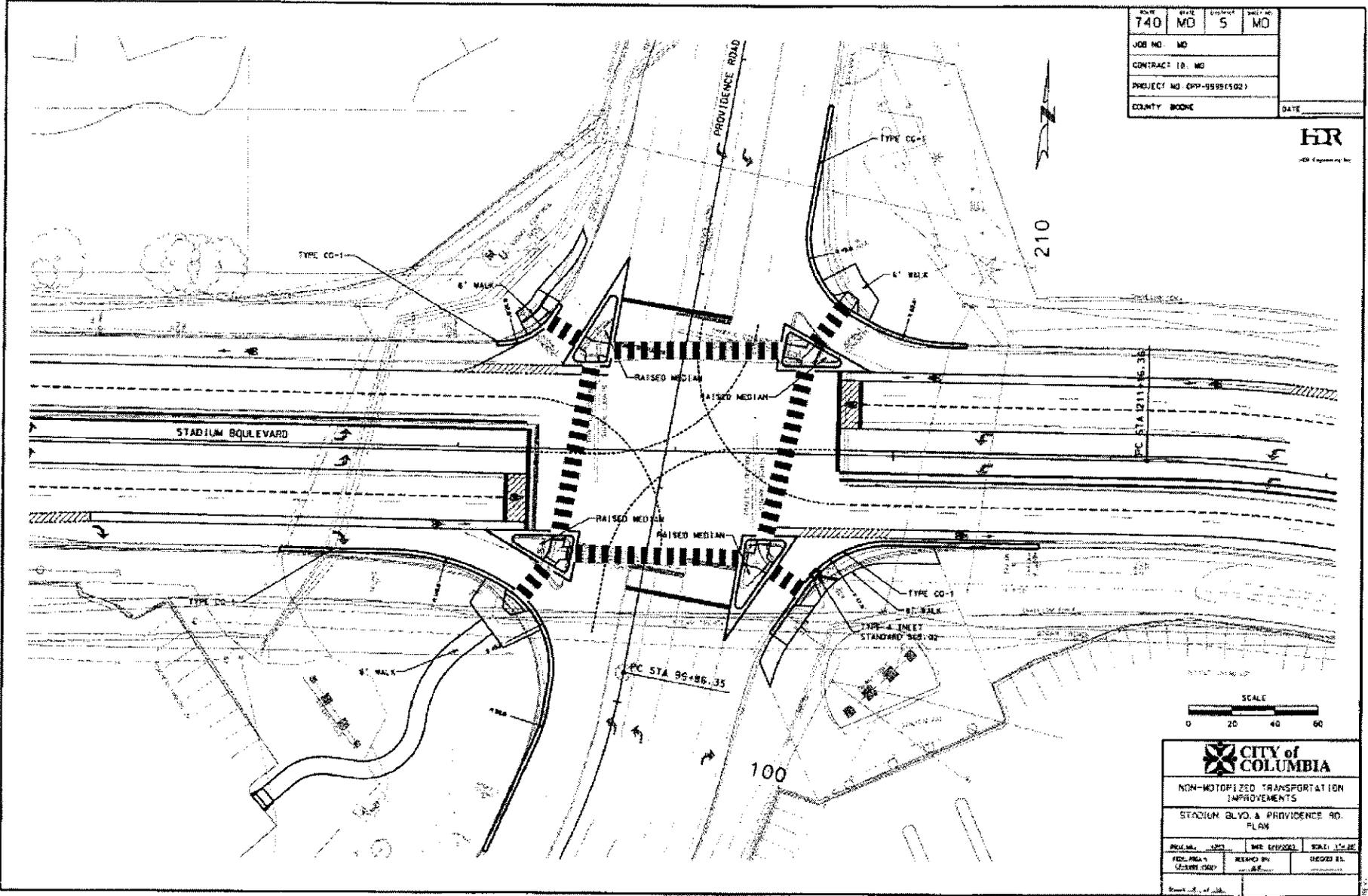
The attached plans reflect the work Council authorized as outlined in a December 21, 2006 memo to Council. Concepts for the proposed improvements were discussed in detail with the Non-motorized Pilot Project Advisory Committee. The core aspects of the Advisory Committee's recommendations were addressed and preliminary plans were forwarded to MoDOT and the City for comment prior to final plans. Preliminary plans for the three intersections have been submitted to MoDOT and City staff for review. The comments from City staff and MoDOT officials are attached for reference.

Once final plans are complete, they will be submitted to Council for approval followed by bidding. Depending on modifications by Council, final plans and documents should be ready for bidding this year.

SUGGESTED COUNCIL ACTION

Approval of the resolution

Other Info.



ROUTE	STATE	DISTRICT	SHEET NO.
740	MD	5	MD
JOB NO. MD			
CONTRACT 18. MD			
PROJECT NO. OPP-9995(502)			
COUNTY	BOONE	DATE	



SCALE
0 20 40 60

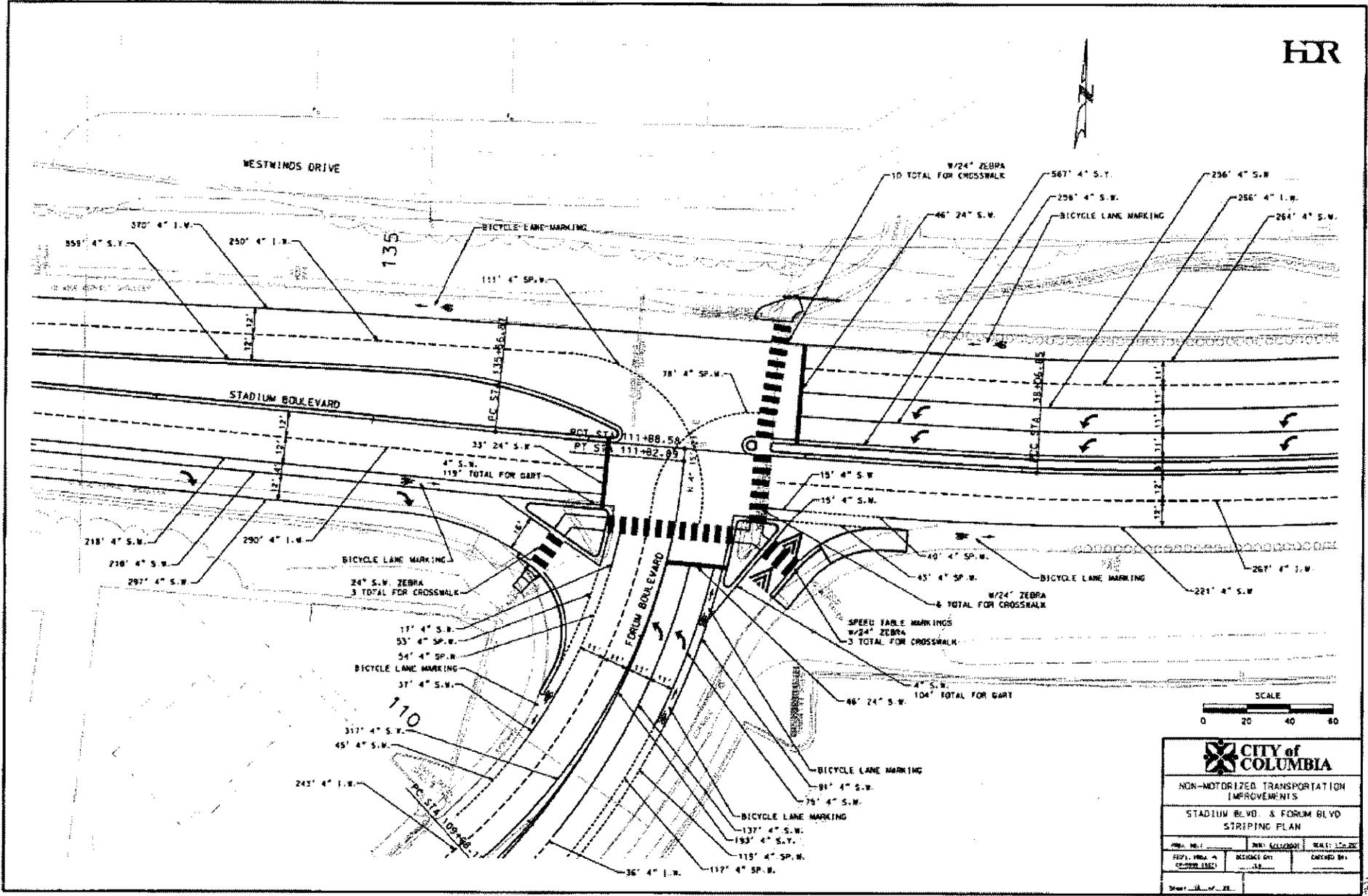
CITY of COLUMBIA

NON-MOTORIZED TRANSPORTATION IMPROVEMENTS

STADIUM BLVD. & PROVIDENCE RD.
PLAN

DESIGNED BY J. L. ...	CHECKED BY ...	SCALE 1"=20'
DATE ...	REVISION ...	DESIGNED BY ...

Sheet # of #



CITY of COLUMBIA		
NON-MOTORIZED TRANSPORTATION IMPROVEMENTS		
STADIUM BLVD. & FORUM BLVD STRIPING PLAN		
PHD: M.J.	CHK: K.L.C.	DATE: 12-20-20
APP: M.A.	DESIGN BY: J.L.	DRAWN BY: J.L.
Sheet: 11-21	PLAN	100.1



CITY OF COLUMBIA, MISSOURI

PUBLIC WORKS DEPARTMENT

July 17, 2007

Christopher Kinzel
HDR, Inc.
4435 Main Street, Suite 1000
Kansas City, MO 64111-1856

SCANNED
CMV ✓

✓ JULY 17 2007 LETTER
• DOC

Re: Columbia, Missouri NMT Intersections – CPP 9999(502)

Dear Christopher:

Following are comments regarding the June 7, 2007 preliminary plans for intersection improvements:

Forum & Stadium:

1. Transition from asphalt shoulder to concrete should be perpendicular in the shoulder area (approximately Station 131+00), south side of Stadium for eastbound bicycle traffic. Additional pavement appears to be needed to make a perpendicular transition.
2. What is the impact to right turn vehicle capacity by the addition of the raised table? Based on comments at the meeting with MoDOT, inclement weather issues may be enough of a concern with the raised table for MoDOT to reject the device. If MoDOT does not support the concept, push button signalization with flashing yellow lights for northbound Forum could be beneficial. This could be accommodated with addition of a short conduit from the pull box at the SE corner island under the right turn lane to a pull box in the grass area east of the intersection (near southern edge of pavement rebuild section).
3. Recommend that the location of the flat area be a minimum of one car length from Stadium. Additional interior opening for cycle turning desirable. Sketch of proposed set-up attached.
4. There will need to be water service conduit to all landscape islands.
5. There will need to be a way to ensure that a pedestrian that chooses to stop in the median island area has sufficient clearance time to cross the travel lanes. We are not sure the minimum green time for northbound to westbound traffic is sufficient during off-peak periods. Please examine this issue.
6. Add a 8' sidewalk connection from the sidewalk on the SW corner to the Schnucks parking lot, connecting to one or two spaces. Attached is a sketch of the general layout as discussed with the adjacent property owner. Adjustments for grades may be necessary to accommodate ADA requirements. Will need to be labeled as 'Not part of this project' due to acquisition time line.

701 E. BROADWAY • P.O. BOX 6015 • COLUMBIA, MISSOURI 65205-6015

(573) 874-7250 • FAX (573) 874-7132 • TTY (573) 874-7251 • www.GoColumbiaMo.com

Providence & Stadium:

1. Per discussion since submittal, eliminate bicycle boxes.
2. Will there be loops for the bicycle lanes?
3. Tie points for sidewalks and bicycle lanes east of intersection may need to be adjusted. Examination will be part of a future engineering project.
4. There will need to be water service conduit to all landscape islands.

Providence & Stewart:

1. Additional landscape features to be addressed by Parks & Recreation and reviewed by Ted Curtis.
2. Provide additional sidewalk at NW and SE corners. Sketch showing desirable extents provided.
3. Address drainage questions on westbound Stewart approach per MoDOT comments. This is a non-motorized concern due to splash and loss of control safety concerns.
4. Add diagonal curb cut on southbound Providence 70' south of south leg crosswalk (to trail).
5. Sidewalk to be reconstructed to 10' wide west side of Providence from intersection to point 100' south of south leg crosswalk.
6. Would the signal need to be actuated to mark bicycle stand position markings? Our review indicates the signal would not necessarily need to be signalized. By providing these markings and maintaining a simple time based phasing, the bicycle should be in the proper position for the movement when the controller serves the cyclists' phase.
7. Expand bike-merge-to-sidewalk area (SW side of Stewart) per attached sketch to allow for bike traffic to avoid heavy pedestrian traffic on sidewalk.

Thank you for your attention to detail on this project. We look forward to MoDOT's comments as well. Final approval remains MoDOT's responsibility, so we will need to discuss how best to handle any comments they may have.

If you have questions, please let contact Richard Stone or Ted Curtis of my staff.

Respectfully,

Department of Public Works

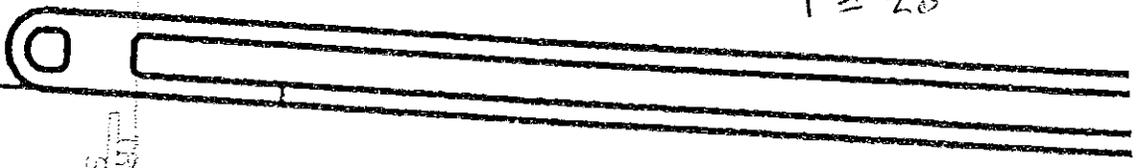


David A Nichols, P.E.

Manager Engineering and Inspections

Attachments

2
+88.58
+82.89
N 4° 15' 21" E



PROPOSED TRAILS
SIGNAL LIGHT

BUILD GAP ACCEPTANCE
RIGHT TURN ISLAND
WITH SIDEWALK

R 50

BUILD SHOULDER

BUILD SIDEWALK

BUILD CURB
AND GUTTER

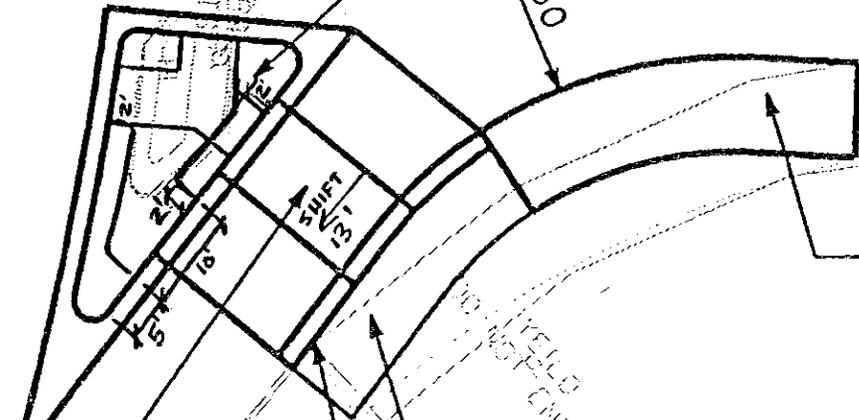
BUILD SPEED
TABLE

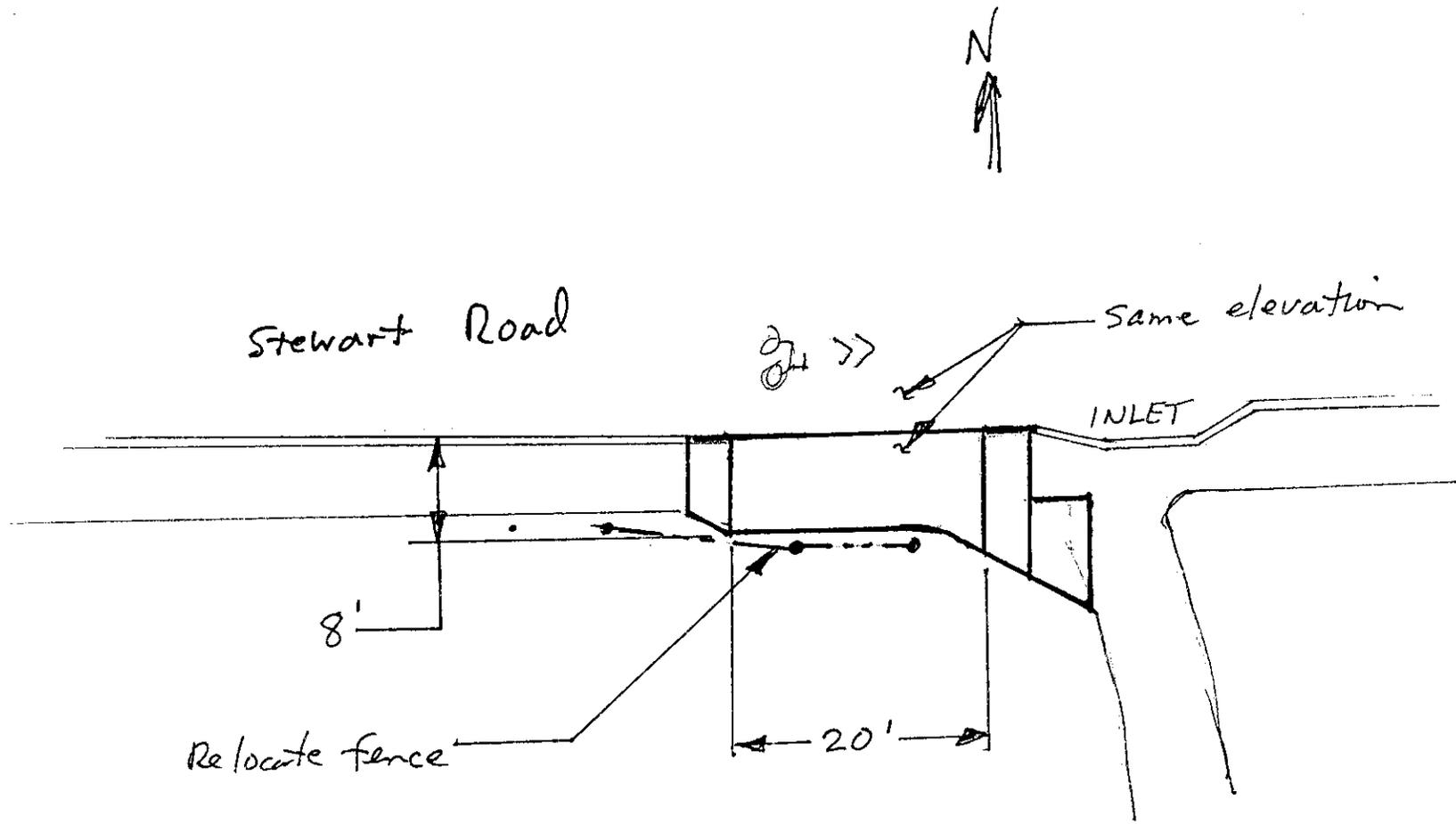
IRP
E..

DRIVE BELLEGRON

SHIFT TABLE PORTION ~1/3'
SOUTH - PROVIDE 1 CAR LENGTH
FROM RAISED FLAT AREA TO
NOSE OF ISLAND

SIDEWALK





Expand bike-ped crossing area to minimize conflicts.

A 111+82

89

N 4° 15'

BUILD CURB
NO GUTTER

FORUM BOULEVARD
Forum

BUILD SPEED
TABLE

RIGHT TURN
SIGNAL LIGHT

BUILD GAP ACCEPTANCE
RIGHT TURN ISLAND
WITH SIDEWALK

R 50

Stadium

N

BUILD SHOULDER

BUILD SIDEWALK

BUILD CURB
AND GUTTER

Add Pedway/sidewalk to parking
lot. 8' wide pedway if possible - 6'
sidewalk minimum. Remove 2 bushes

Parking lot

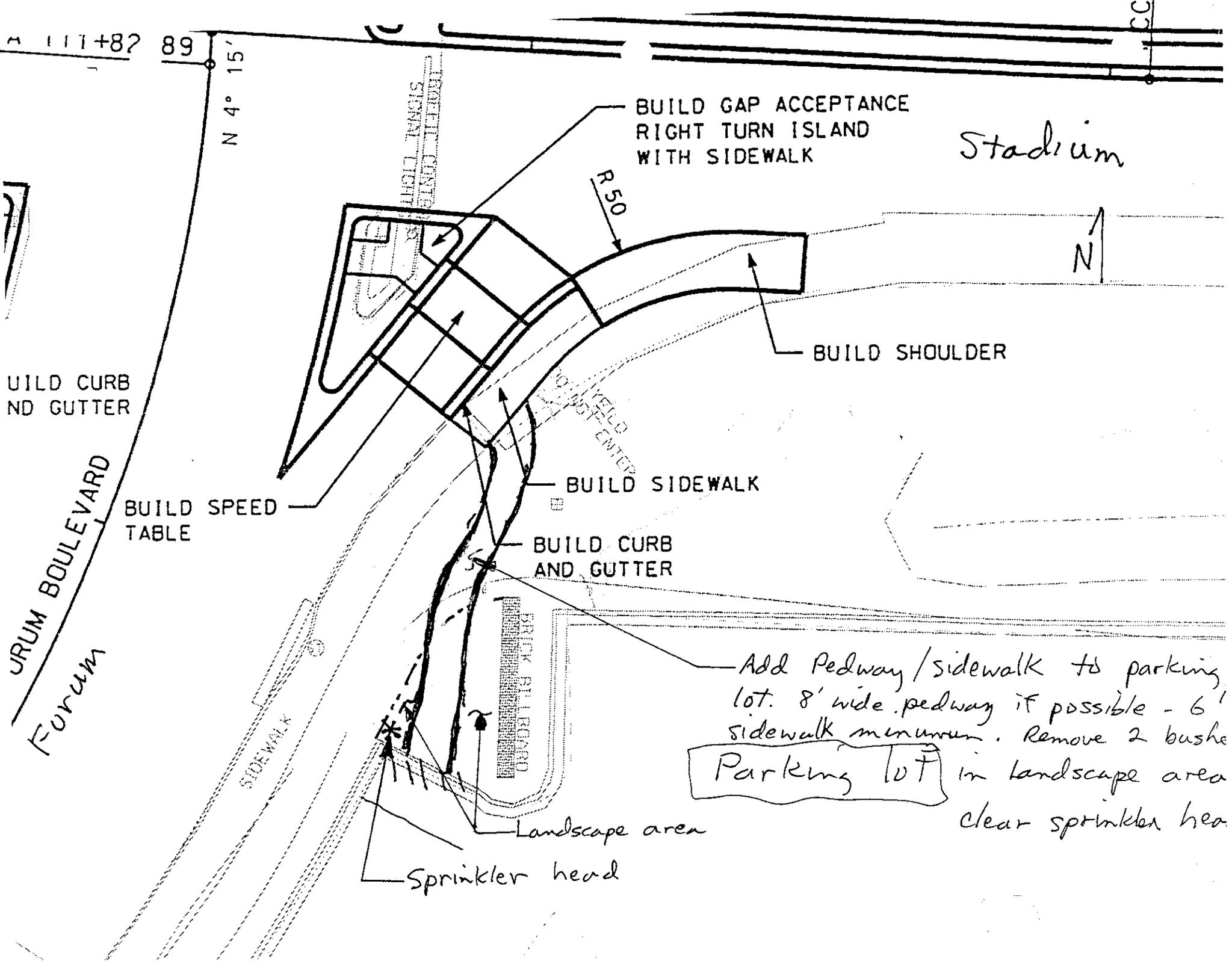
clear sprinkler head

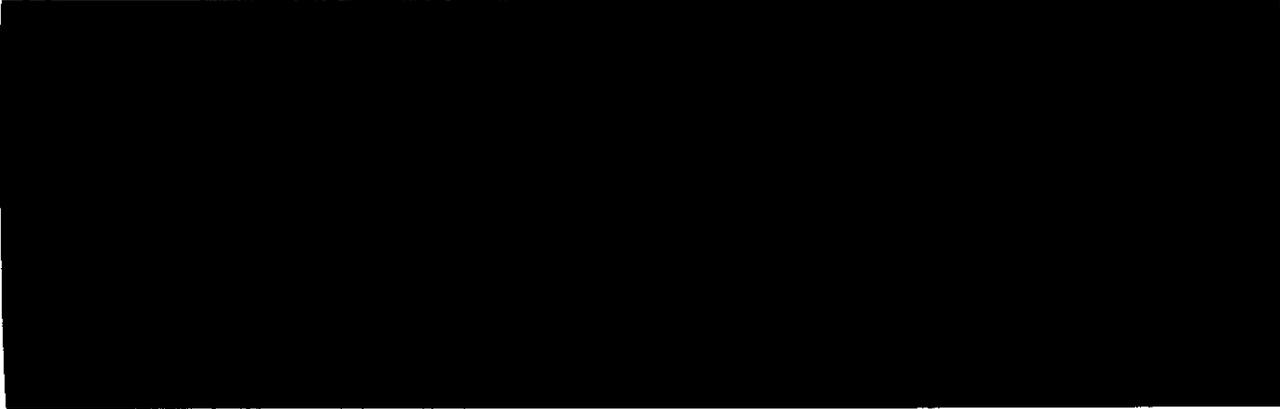
BRICK PAVEMENT

Landscape area

Sprinkler head

SIDEWALK





Project Manager
 HDR Engineers
 4435 Main Street, Suite 1000
 Kansas City, MO 64111-1856

Dear Mr. Kinzel:

We have completed our review of the preliminary plans for the PedNet Project submitted to this office. The plans consist of intersection improvements for three intersections: Stadium Blvd and Forum Blvd, Stadium Blvd and Providence Road, and Providence Road and Stewart Road. We have tried to break down our comments into general concept, traffic control (signals), and landscaping.

General Concepts

- Gap-Acceptance Right-Turn islands have been used at several locations in our district and seem to be having positive benefits for both pedestrians and right turning traffic. We agree with using this treatment at these intersections.
- We understand that the bike box is no longer being considered. We agree with eliminating this concept, especially since the geometrics at the Stadium Blvd and Providence Road intersection will not currently allow eastbound and westbound dual lefts to operate simultaneously.
- Using a “pedestrian table” across a right turn lane is not something that we have seen, but agree with trying this concept.
- We support the concept of green paint to emphasize bicycle/vehicle crossover points and “share the road” pavement marking. However, we are unsure if these concepts have MUTCD interim approval or if a request for permission to experiment needs to be submitted to Federal Highways. Any applications will need to be submitted to Federal Highways through MoDOT.
- We did not see any signs, other than those for the signals, in the plans. The plans need to show any additional signs, such as signs proposed in conjunction with the “share the road” pavement markings, as well as any relocation/removal of existing signs. We will need to review the necessary signing plans.

Signal Review

General Requirements Needed

- Each signal needs to have a legend
- Approach legs need to have the speed limit, approach grade with direction arrow, lane width, travel directions (indicated with arrows), and distance to the next signal
- Traffic volume/turning diagram needs to be displayed
- Need to indicate use, removal and/or replacement of existing facilities including mast arms, signs, pull boxes, etc.
- Need pull boxes at the bases of new posts
- Radii need to be labeled on the right turn pockets and “puppy tracks” for left turn movements
- Detection zones or loops need to be shown
- Signs on mast arms need to be shown and description needs to be added to the D-37A sheets
- At least one pull box at each signal needs to have type II drain
- Pull box sizes need to be reviewed and the class set according to the number of conductors present
- Phasing diagrams (D-sheet) are required for each signal
- Conductor runs need to be continuous from the controller to termini, not broken at various pull boxes as shown
- More information for the pedestrian and bike signing needs to be added
- Power supply needs to be specified and the proper information entered on the D-sheet

Stadium Blvd & Providence Road

- Signal heads need to be labeled on plans (RYS, RYL etc)

Stadium Blvd & Forum Blvd

- Need more information at post 3A & 4, unclear as to what is intended for pedestrian fixtures (signal and signing)
- How are the bike zones to be detected? Loops, video? Any addition of detection equipment needs to be added to plans
- Existing condition and proposed elements are nearly impossible to differ between.
- Would prefer a 3 head signal at 3A with another signal in the median
- Use of existing conduit may not be possible due to present conduit being full or collapsed

Stewart Road & Providence Road

- How are the bike zones to be detected? Loops, video? Any addition of detection equipment needs to be added to plans
- Use of existing conduit may not be possible due to present conduit being full or collapsed
- Existing signal is pre-timed, is the intention to change the entire signal to detection?

Landscaping at Stadium Blvd and Forum Blvd

- The area in the median shown as being landscaped is acceptable.
- Plantings should be maintained at a maximum height of 18 inches and contained within medians/islands. As the landscape plan is being designed, additional consideration should be given to areas where the view of bicyclist and pedestrians is an increased need.
- Future maintenance of all landscaping needs to be the responsibility of the City.

We realize that we have included a lot of comments covering a lot of areas in this response. If you have any questions feel free to contact me at 573-751-5754. If you believe it would benefit you or your staff to meet and discuss specific comments, especially concerning the signal comments, let us know.

Sincerely,

Trent Brooks, P.E.
Traffic Operations Engineer

Copy - Ted Curtis – City of Columbia
Richard Stone – City of Columbia
Dion Knipp – MoDOT
Ryan Libbert – MoDOT

A RESOLUTION

declaring the necessity for non-motorized transportation intersection improvements at Forum Boulevard and Stadium Boulevard, Providence Road and Stadium Boulevard and Providence Road and Stewart Road; stating the nature of and the estimate of the cost of the improvement; providing for payment for the improvement; providing for compliance with the prevailing wage law; and setting a public hearing.

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF COLUMBIA, MISSOURI, AS FOLLOWS:

SECTION 1. The City Council deems the construction of non-motorized transportation intersection improvements at Forum Boulevard and Stadium Boulevard, Providence Road and Stadium Boulevard and Providence Road and Stewart Road, necessary to the welfare and improvement of the City.

SECTION 2. The nature and scope of the improvement shall consist of furnishing all labor, materials, transportation, insurance and all other items, accessories and incidentals thereto necessary for the complete construction of the improvements.

SECTION 3. The estimated cost of this improvement is \$800,000.00.

SECTION 4. Payment for this improvement shall be made from Non-Motorized Transportation Pilot Program Project funds and such other funds as may be lawfully appropriated.

SECTION 5. Any work done in connection with the construction of the improvement specified above shall be in compliance with the provisions of the prevailing wage laws of the State of Missouri. The City shall also cause to be inserted into the contract a stipulation that all laborers and mechanics employed by the contractor or subcontractors in the performance of work under the contract shall be paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis-Bacon Act.

SECTION 6. This resolution shall be published in a daily newspaper of general circulation in the City of Columbia for seven (7) consecutive insertions, and a public hearing in respect to this improvement will be held in the Council Chamber of the Daniel Boone Building, 701 E. Broadway, Columbia, Missouri, at 7:00 p.m. on August 20, 2007.

ADOPTED this _____ day of _____, 2007.

ATTEST:

City Clerk

Mayor and Presiding Officer

APPROVED AS TO FORM:

City Counselor