

July 31, 2023

Town of Rolesville  
502 Southtown Circle  
PO Box 250  
Rolesville, North Carolina 27571

**RE: Frazier Farm Park CDs  
Case Number: CID-23-05  
Response to 1<sup>st</sup> TRC Review Comments  
2020110039**

The following are the response comments for the above-mentioned project. Our response comments are in **bold**.

### **PLANNING AND ZONING**

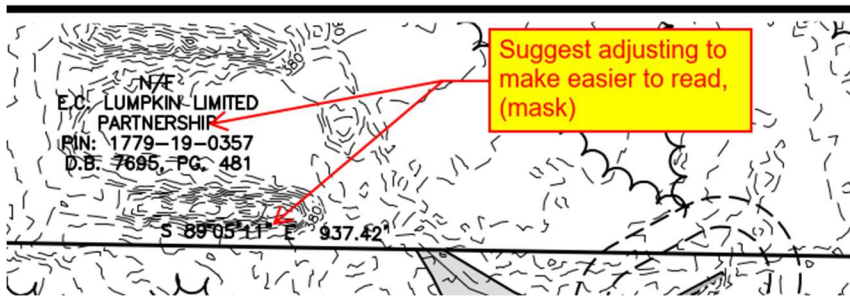
1. Provide a Written Response to ALL the comments received, with the next submittal.  
**McAdams Response: Comment Noted. This response to comments to be provided with resubmittal package.**
2. Add "CID-23-05" to the Cover sheet, and to all sheets, in a common but out of the way spot.  
**McAdams Response: Comment Noted. "CID-23-05" has been added in bottom left corner outside of the title block.**
3. Add Revision dates to the next submittal.  
**McAdams Response: Comment Noted.**

### **ENGINEERING**

**Brian Laux / Jacque Thompson / Alyssa Heinze**

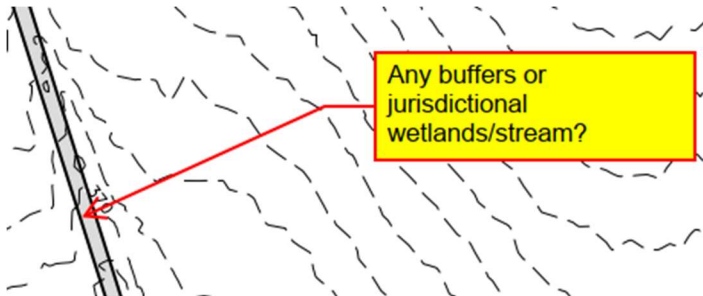
#### Sheet C1.01 Existing Conditions

1. Suggest adjusting to make easier to read, (mask).



**McAdams Response: Masking has been added to labels for clarity.**

2. Any buffers or jurisdictional wetlands/stream?


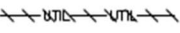



**McAdams Response: There are no buffers associated with this wetland. Please see included delineation report.**

Sheet C1.10 Overall Demolition Plan

3. Are there any trees or utilities to be removed? Nothing is shown on this sheet. If none, consider removing from legend.

**DEMOLITION LEGEND**

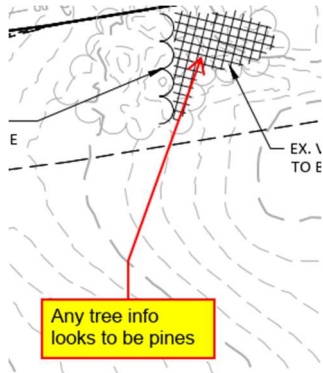
	TREE OR OTHER VEGETATION TO BE REMOVED
	UNDERGROUND UTILITY TO BE REMOVED
	AREA TO BE REMOVED

**ARE THERE ANY TREES OR UTILITIES TO BE REMOVED? NOTHING IS SHOWN ON THIS SHEET. IF NONE, CONSIDER REMOVING FROM LEGEND**

**McAdams Response: Items have now been removed from legend.**

4. Any tree info

Looks to be pines.



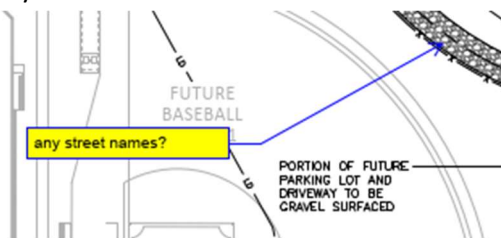
**McAdams Response:** Tree species not identified in survey. We agree that these look to be pine trees based on available imagery. We have noted this in the demolition plan.

Sheet C2.00 Overall Site Plan

5. Provide typical cross section for:
  - a. Gravel drive/streets. Consider increasing size of shoulder to allow for parking in the shoulder area as expressed in meeting.
  - b. Parking lot section.

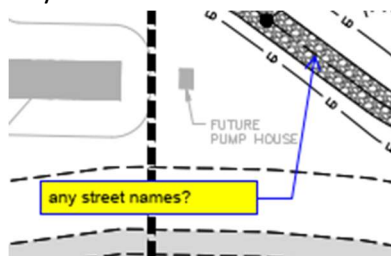
**McAdams Response:** Gravel drive and parking sections have been added to the details sheets. We have also provided a typical cross section of the gravel access road. Awaiting opinion from Town on widening of shoulder, as this affects grading and drainage design.

6. Any street names?



**McAdams Response:** Street names have not been established for Phase 1A of the project. It is our understanding that street names will be designated and signage added during the design and construction of the future park build-out.

7. Any street names?



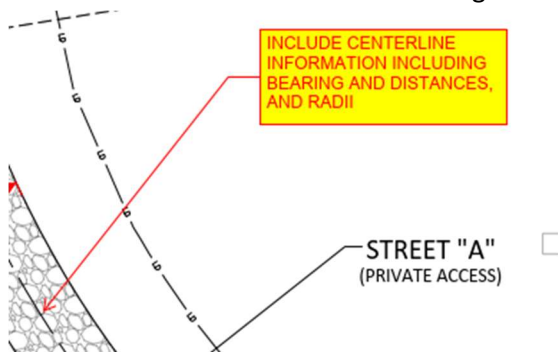
**McAdams Response:** Street names have not been established for Phase 1A of the project. It is our understanding that street names will be designated and signage added during the design and construction of the future park build-out.

8. Will the turn around be at Zebulon intersection to head South?

**McAdams Response:** Yes. As 401/Louisburg Rd is 4-lane divided, vehicles must exit the park northbound and U-turn at the Zebulon Rd intersection to head South (existing condition will remain).

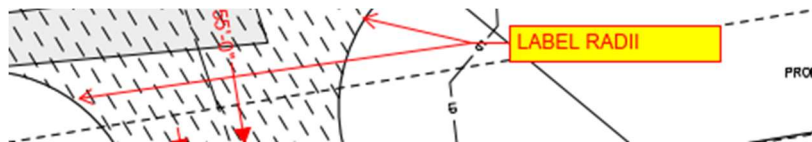
Sheet C2.01 Site Plan: Area 'A'

9. Include centerline information including bearing and distances, and radii.



**McAdams Response:** Alignments with bearing, length, and radii have been added to the site plans.

10. Label radii.

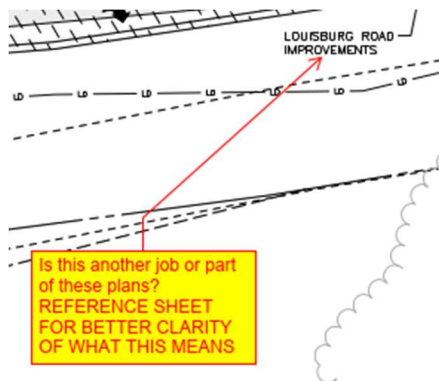


**McAdams Response:** Radii labels have been added to site plan sheets.

11. Label street width on all streets or add typ note.

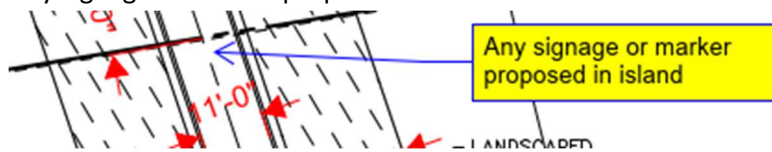
**McAdams Response:** Street dimension labels have been added to the site plan sheets.

12. Is this another job or part of these plans? Reference sheet for better clarity of what this means.



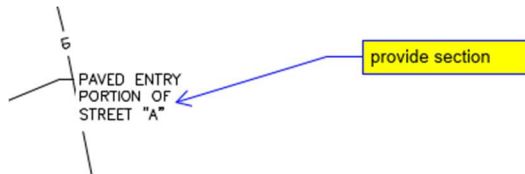
**McAdams Response:** Note has been updated to reference sheet C7.00.

13. Any signage or marker proposed in island.



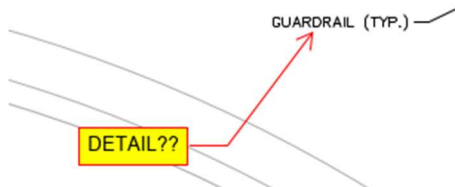
**McAdams Response:** Monument signage will likely be installed during the future park build-out. We have added stop signs at park egress lanes and internal park street intersection.

14. Provide section.



**McAdams Response:** Asphalt pavement section with pavement profile provided in Site Details. Curb and gutter to be constructed per 30" curb and gutter typical detail.

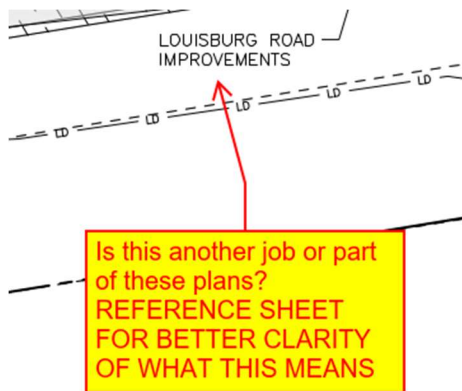
15. Detail??



**McAdams Response:** A NCDOT guardrail detail has been added to the detail sheets.

Sheet C2.02 Site Plan: Area 'B'

16. Is this another job or part of these plans? Reference sheet for better clarity of what this means.

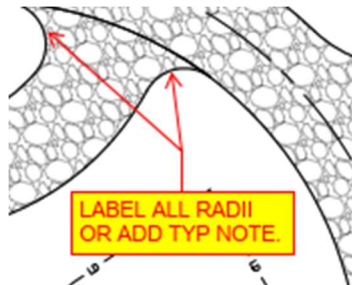


**McAdams Response:** Callout has been updated to reference sheet C7.00.

17. Include centerline information including bearing and distances, and radii.

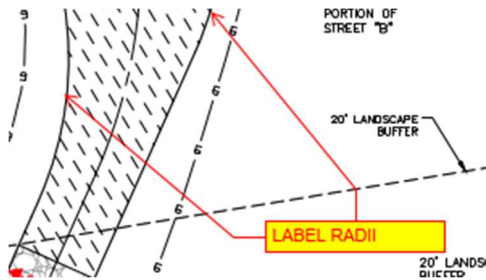
**McAdams Response:** Alignments with bearing, length, and radii have been added to the site plans.

18. Label all radii or add typ note.



**McAdams Response:** All radii have been labeled on the site plan sheets.

19. Label radii.

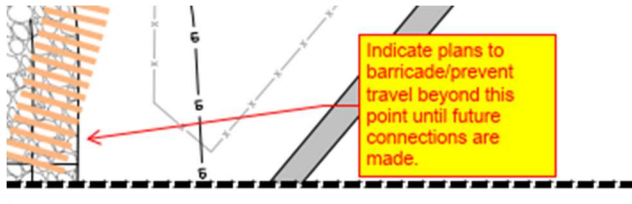


**McAdams Response:** All radii have been labeled on the site plan sheets.

20. Label street width on all streets or add typ note.

**McAdams Response:** Street width dimensions have been added to the site plan sheets.

21. Indicate plans to barricade/prevent travel beyond this point until future connections are made.



**McAdams Response:** A barricade has been added and called out on sheet C2.02.

22. Any signage or marker proposed in island.

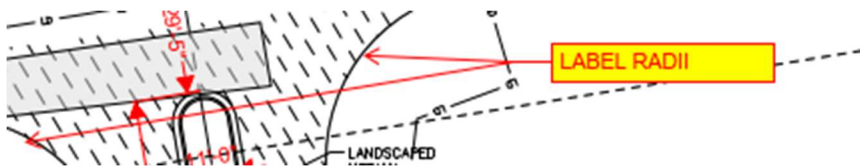
**McAdams Response:** Monument signage will likely be installed during the future park build-out. We have added stop signs at park egress lanes and internal park street intersection.

23. Noticed that the layouts for both Entrances off of Louisburg Road are different in size and island location in ROW.

Neither are as detail(s) 01 or 02 on sheet C8.00.

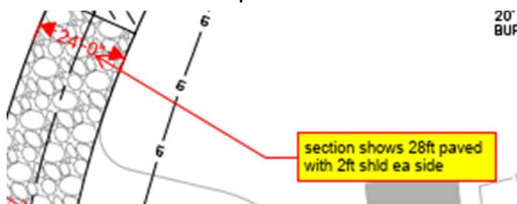
**McAdams Response:** Detail has been removed and entrances have been dimensioned.

24. Label radii.



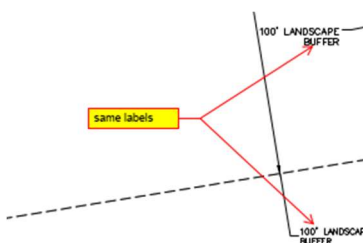
**McAdams Response:** All radii have been labeled on the site plan sheets.

25. Section shows 28ft paved with 2ft shld ea side.



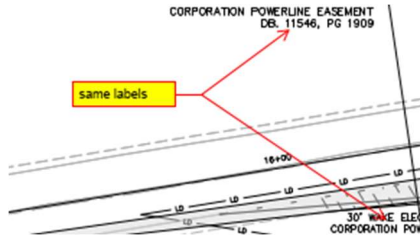
**McAdams Response:** Labels and typical road section have been added for clarification.

26. Same labels.



**McAdams Response:** Duplicated labels have now been removed.

27. Same labels.



**McAdams Response: Duplicated labels have now been removed.**

28. Label all radii or add typ note.



**McAdams Response: All radii have been labeled on the site plan sheets.**

29. Standard curb in parking area, (at min wheel stops).

**McAdams Response: Wheel stops have been added to the parking area.**

30. 6ft walk along parking.

**McAdams Response: The design intent was to provide gravel parking, with paved parking, curb and gutter, and concrete sidewalks installed during the future full build-out.**

31. What is the thought behind having this intersection be primary and secondary (with Street A and B) (flow of roads verse having one primary (Street A connect both entrances, and Road B (future )

Or small round about for flow, do not like the smaller radius on Street A in this area with "T".

**McAdams Response: The design intent here is to have Street A be the future primary road through the park when the full project is complete, with Street B intersecting it as a secondary entrance/exit road. We'd like to keep the T intersection to minimize re-work of grading and drainage in this area when the future phase is designed and constructed.**

Sheet C2.03 Site Plan: Area 'C'

32. Include centerline information including bearing and distances, and radii.

**McAdams Response: Alignments with bearing, length, and radii have been added to the site plans.**

33. Label street width on all streets or add typ note.

**McAdams Response: All street widths are now dimensioned on the site plan sheets.**



34. Label line.



**McAdams Response: Line has been labeled.**

Sheet C2.04 Site Plan: Area 'D'

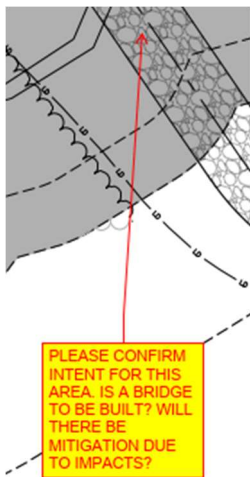
35. Label street width on all streets or add typ note.

**McAdams Response: All street widths are now dimensioned on the site plan sheets.**

36. Include centerline information including bearing and distances, and radii.

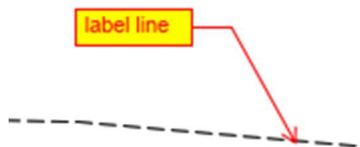
**McAdams Response: Alignments with bearing, length, and radii have been added to the site plans.**

37. Please confirm intent for this area. Is a bridge to be built? Will there be mitigation due to impacts?



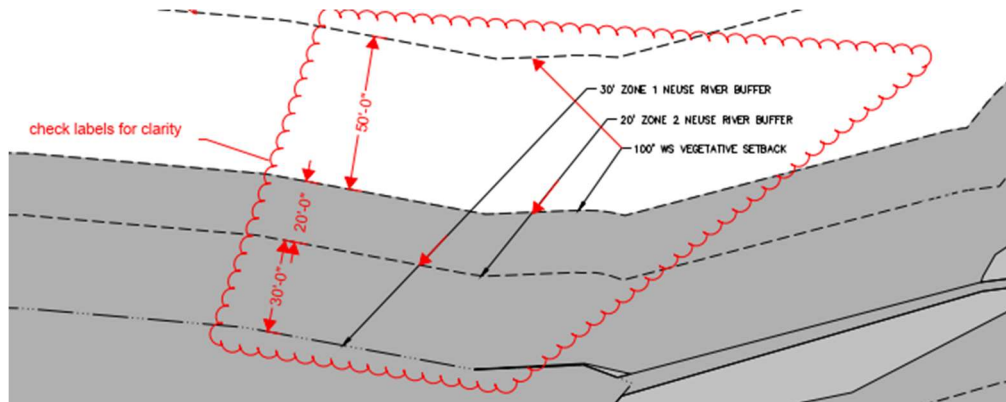
**McAdams Response: Development in this area is no longer included per this plan submittal.**

38. Label line.



**McAdams Response: Line has now been labeled.**

39. Check labels for clarity.

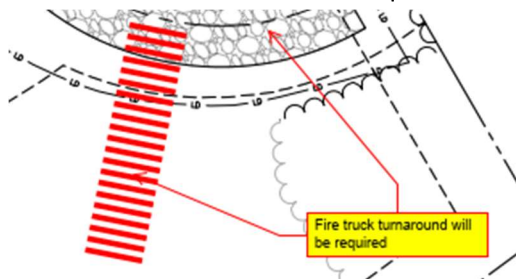


**McAdams Response:** Labels have now been updated.

40. Are you proposing an xx access ROW width?

**McAdams Response:** We are not proposing ROW for the internal park roads. We understand that they are to remain as private roads.

41. Fire truck turnaround will be required.



**McAdams Response:** Turn around is now provided at the new roadway cutoff.

Sheet C3.00 Overall Grading & Drainage Plan

42. We were unable to complete a full review of this portion of the road, as it was not included in the storm package submittal. If this is intended to be included in the submittal, please include calculations and it will be reviewed during the 2<sup>nd</sup> submittal.

**McAdams Response:** Comment Noted. These items are no longer included per this plan submittal.

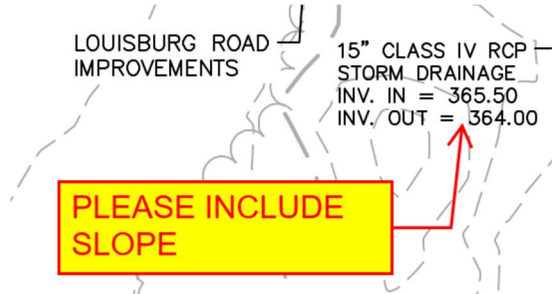
Sheet C3.01 Grading & Drainage Plan: Area 'A'

43. Adjust leader for better legibility.



**McAdams Response:** Leader has now been adjusted.

44. Please include slope.



McAdams Response: Labels have now been updated to include slope.

45. Label or add to legend.



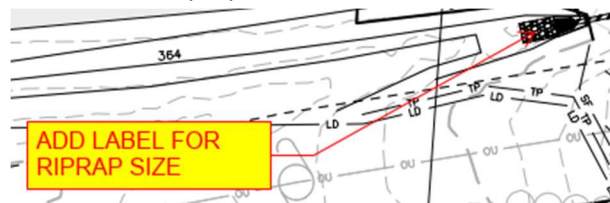
McAdams Response: Block has been frozen to display only on phase 2 erosion sheets.

46. Label erosion control or add to legend.



McAdams Response: Block has been frozen to display only on phase 2 erosion sheets.

47. Add label for riprap size.



McAdams Response: Riprap label has now been added.

48. Include slope.

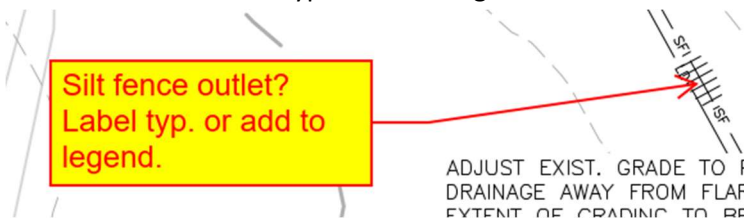


**McAdams Response:** Labels have now been updated to include slope.

49. Add additional existing contour labels for clarity.

**McAdams Response:** Additional contour labels have now been added.

50. Silt fence outlet? Label typ. or add to legend.



**McAdams Response:** Block has been frozen to display only on erosion sheets.

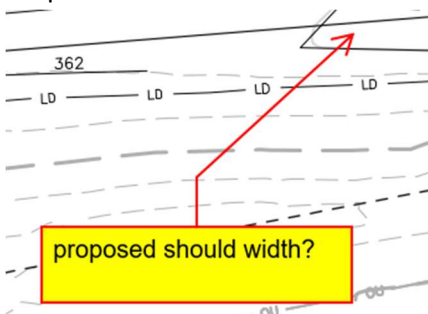
51. Reference elevations are not entirely clear, however adding labels to future proposed contours would be confusing. Can proposed grade be adjusted to meet requirements to avoid any confusion?

**McAdams Response:** Reference contours are shown to illustrate future conditions, but can be turned off if desired. Phase 1A grading has been designed in an effort to minimize grading and storm drainage re-work during design and construction of future phase.

52. RCP pipe, ToR requires that the last section of storm be RCP so it can easily connect into a FES structure.

**McAdams Response:** Pipe material has been updated to RCP.

53. Proposed shoulder width?



**McAdams Response:** Our section has been updated to show 24 ft. gravel road with 4 ft. shoulders.

54. Future Road C

Make sure the radii are correct for future connection.

**McAdams Response:** Radii have been labeled on the site plan sheets, C2.00s.

55. Seems close to edge of gravel for design, (slope?).

**McAdams Response: Grading has been updated to provide larger shoulder before 3:1 slope.**

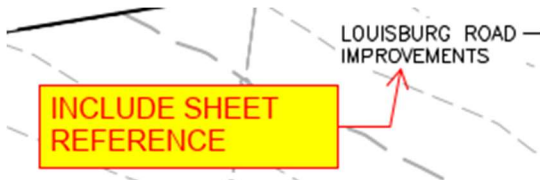
Sheet C3.02 Grading & Drainage Plan: Area 'B'

56. Label riprap size.



**McAdams Response: Riprap pad has been labeled.**

57. Include sheet reference.



**McAdams Response: Callout has now been updated.**

58. Label or add to legend.



**McAdams Response: Block has been frozen to display only on phase 2 erosion sheets.**

59. Include slope.

**McAdams Response: Labels have now been updated to include slope.**

60. Text overlapping; adjust for legibility.

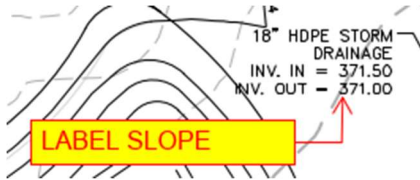
**McAdams Response: Text has now been updated.**

61. Label riprap size, (design calcs).



**McAdams Response: Riprap pad has now been labeled per design calculations.**

62. Label slope.



**McAdams Response:** Labels have now been updated to include slope.

63. Label or add to legend.



**McAdams Response:** Block has been frozen to display only on phase 2 erosion sheets.

64. Silt fence outlet? Label typ. or add to legend.

**McAdams Response:** Block has been frozen to display only on erosion sheets.

65. Add additional existing contour labels for clarity.

**McAdams Response:** More labels have been added.

66. Proposed should width? Contours are not showing (look to overlap).

**McAdams Response:** Proposed shoulder is 4' with 24' travel surface. Typical section has been added for clarification.

67. RCP pipe, ToR requires that the last section of storm be RCP so it can easily connect into a FES structure.

**McAdams Response:** Pipe material has been updated to RCP.

68. How are you grading from parking,

Would be nice to see a buffer/shoulder (grade for landing for walk and then grade to tie-in).

**McAdams Response:** Area south of parking lot has been graded to flatten our existing contours and provide gathering space. Sidewalks are not shown in this early phase.

Sheet C3.03 Grading + Drainage Plan: Area 'C'

69. Include slope.



**McAdams Response:** This culvert is no longer included in the scope of this submittal.

70. 25-year storm calcs will be needed for culverts; 10-year storm for all other storm.

**McAdams Response: All culverts have been removed. Calculations package utilizes 10-year storm for pipe sizing.**

71. Confirm minimum cover is provided along length of culvert.

**McAdams Response: This culvert is no longer included in the scope of this submittal.**

72. Silt fence outlet? Label typ. or add to legend.

**McAdams Response: Block has been frozen to display only on erosion sheets.**

73. Reference elevations are not entirely clear, however adding labels to future proposed contours would be confusing. Can proposed grade/boundaries be shown to meet requirements and avoid any confusion?

**McAdams Response: See response above (Comment No. 51).**

74. Add additional existing and proposed contour labels for clarity.

**McAdams Response: More labels have been added to the grading sheets.**

75. Verify intent of grading and/or culvert location. It looks like contours slope away from culvert inv. In? Is inv. In elevation correct?

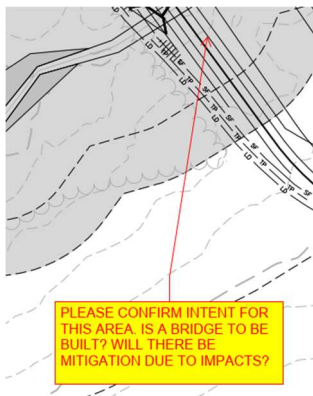
**McAdams Response: Culvert is no longer part of the scope for this plan submittal.**

76. Please label contours. It looks like there is a low point that is not being collected.

**McAdams Response: More labels have been added to the grading sheets.**

Sheet C3.04 Grading + Drainage Plan: Area 'D'

77. Please confirm intent for this area. Is a bridge to be built? Will there be mitigation due to impacts?



**McAdams Response: Development in this area is no longer included in the scope of this plan submittal.**

78. Silt fence outlet? Label typ. Or add to legend.

**McAdams Response: Block has been frozen to display only on erosion sheets.**

79. Include slope.



**McAdams Response: Development in this area is no longer included in the scope of this plan submittal.**

80. Add additional existing and proposed contour labels for clarity.

**McAdams Response: Additional contour labels have been provided.**

81. Verify intent of grading and/or culvert location. It looks like contours slope away from culvert inv. In? Is inv. In elevation correct?

**McAdams Response: Culvert is no longer part of the scope for this plan submittal.**

82. 25-year storm calcs will be needed for culverts; 10-year storm for all other storm.

**McAdams Response: All culverts have been removed. Calculations package utilizes 10-year storm for pipe sizing.**

83. Fire truck turnaround will be required.

**McAdams Response: Hammerhead fire truck turnaround has been added at new end of roadway.**

Sheet C5.00 Plan + Profile Street 'A', STA. 10+00 thru STA. 22+00

84. Show storm crossing road.

**McAdams Response: Storm crossing is now shown.**

85. Label minimum bury depth (24" for storm).

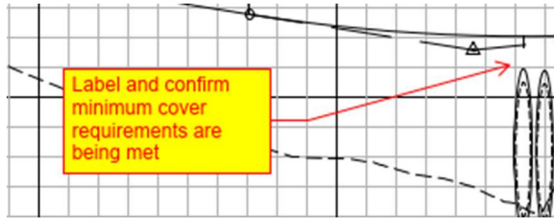
**McAdams Response: Cover has been confirmed and minimum depth callouts have been added.**

86. Can K value of 30 be met?

**McAdams Response: K value has been updated to greater than 30.**

87. Label and confirm minimum cover requirements are being met.





**McAdams Response: Cover has now been labeled and confirmed.**

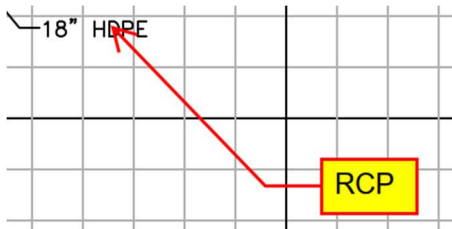
88. NCDOT review, looks to be missing check dams, wattles for SEC.

**McAdams Response: Erosion control review currently underway. These items will be added with revisions resulting from Erosion and Sedimentation Control review.**

89. Sight distance triangle, label/dim. Proposed EOP hard to define between existing and contours.

**McAdams Response: Sight triangles have been labeled and dimensioned on the site plan sheets, C2.00s.**

90. RCP.



**McAdams Response: Pipe material has now been updated.**

91. Seems close to edge of gravel for design (what is slope here?).

**McAdams Response: Grading has been updated to provide larger shoulder before 3:1 slope.**

Sheet C5.01 Plan + Profile Street 'A', STA. 22+00 thru STA. 33+00

92. Label storm minimum cover.

**McAdams Response: This sheet has been removed as it is no longer included in the scope of the submittal.**

93. It appears as if this is extending beyond project boundary. Verify this is correct.

**McAdams Response: End of roadway has now been updated on sheet C5.00.**

94. Profile shows extents of road/grading going to this point. Verify if this is correct or adjust plans.

**McAdams Response: End of roadway has now been updated on sheet C5.00.**

95. Show property line?

**McAdams Response: This sheet has been removed as it is no longer included in the scope of the submittal.**

Sheet C5.02 Plan + Profile Street 'B', STA. 10+00 thru STA. 16+35

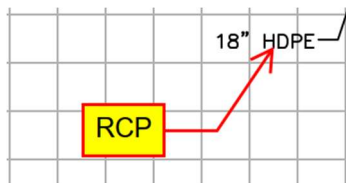
96. Show and label storm crossing.

**McAdams Response: Storm crossing has been added and annotated.**

97. Confirm and label minimum cover.

**McAdams Response: Cover has been confirmed and callouts have been added.**

98. RCP.



**McAdams Response: Pipe material is now updated.**

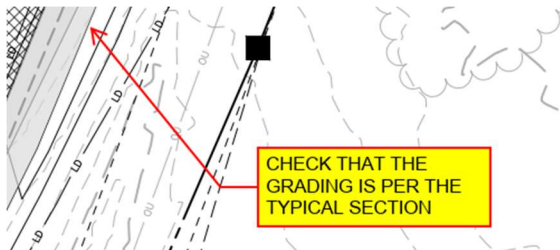
Sheet C6.00 Erosion Control Notes

99. Upchurch Lane does not appear on plans. There is also no sanitary sewer replacement shown.

**McAdams Response: The traffic control notes have been updated.**

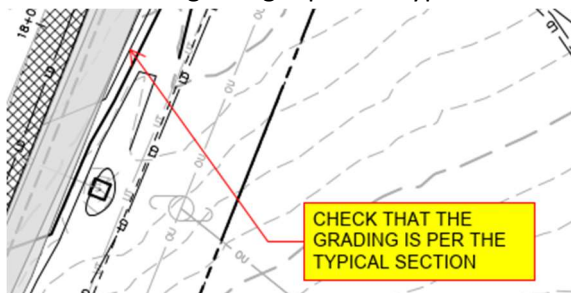
Sheet C7.00 Louisburg Road Widening Plan

100. Check that the grading is per the typical section.



**McAdams Response: Plans have been updated.**

101. Check that the grading is per the typical section.



**McAdams Response: Plans have been updated.**

Sheet C7.02 Louisburg Road Widening Cross Sections

102. Is this correct? This seems steep and there does not appear to be curb where a jump would occur?

**McAdams Response: Grading has been updated.**

103. Doesn't appear to be tying in to existing?

**McAdams Response: Grading has been updated.**

Sheet C7.03 Louisburg Road Widening Cross Sections

104. Verify minimum cover for storm is being met.

**McAdams Response: Minimum cover has been verified.**

Sheet C8.00 Site Details

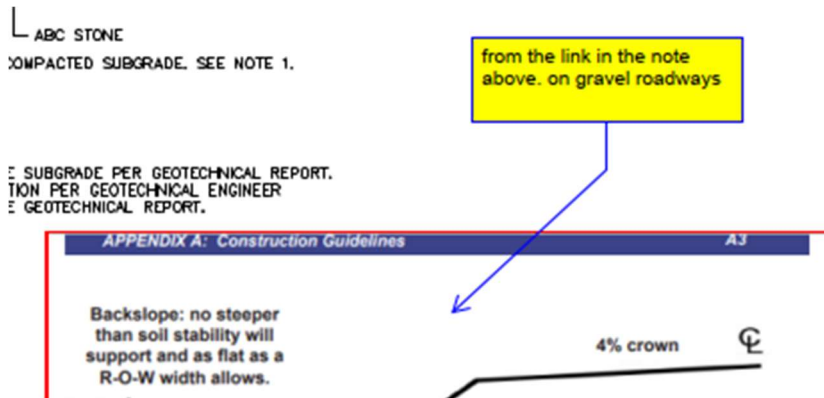
105. Good drainage will be important for a gravel section roadway. The FHWA recommends minimum 4% cross slope on the travel lanes (1/2" ft) and 1% cross slope on the shoulders (1"/ft). See

<https://www.fhwa.dot.gov/construction/pubs/ots15002.pdf>.

The gravel section should consist of a minimum 6" compacted ABC. This is consistent with the referenced FHWA publication for low volume truck traffic (0-5 trucks per day) and moderate subgrade bearing capacity (CBR > 10).

**McAdams Response: Gravel section has been updated.**

106. From the link in the note above. On gravel roadways.



**McAdams Response: Gravel section has been updated.**

107. Presuming that the gravel is maintain, it should form a sufficient base to pave over in the future. The 2' minimum cover requirement will still apply to any buried pipes unless Class IV RCP is specified.

**McAdams Response: Comment Noted. Depths for pipes will be designed to this requirement.**

108. The (2) entrances are not shown as these, label and dim your design for constructability.

**McAdams Response: Detail has been removed. Design has been labeled and dimensioned.**

Sheet C8.01 Site Details

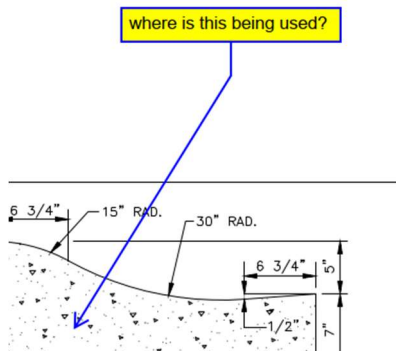
109. Are you doing a row? Public/private?

**McAdams Response: No ROW to be dedicated with the scope of this plan submittal.**

110. With these posted speeds and design speeds (the lane(s) need handle the design).

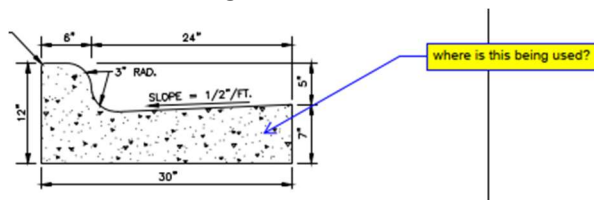
**McAdams Response: Detail has been removed.**

111. Where is this being used?



**McAdams Response: Detail has been removed.**

112. Where is this being used?



**McAdams Response: Curb call outs have been added on the site plan sheets, C2.00s.**

Sheet C8.03 Storm Drainage + Utility Details

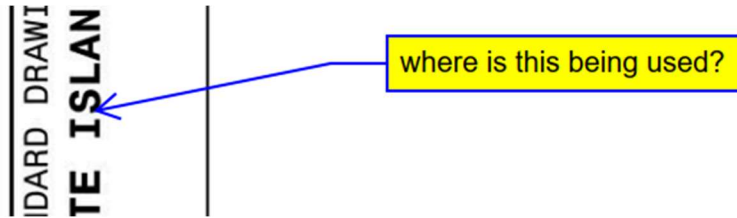
113. Please include details for erosion control measures, such as silt fence, silt fence outlet, tree protection fence, and inlet protection. For the storm system, RCP to be use within the influence of the gravel road (future paved) Town Public Works Director to review and approve if HDPE will be allowed in area not with in the influence of the road/parking areas.

**McAdams Response: Pipe material has been updated to RCP. Erosion control details are located on sheets C6.10 through C6.12.**

114. RCP to be used within the influenced areas of the road/driveway and parking areas.

**McAdams Response: Pipe material has been updated to RCP.**

115. Where is this being used?



**McAdams Response: Detail has been removed.**

Storm Drainage Calculations – Page 1

116. A full storm review cannot be completed until all required documents are provided. Please be sure to include the following as part of the next submittal:

- a. Pre- and Post-Development Drainage Area Maps
- b. Soil Map
- c. HGL Calculations
- d. Gutter Spread Calculations (if applicable)
- e. Culvert Calculations if applicable

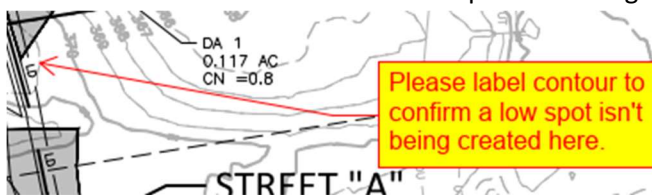
**McAdams Response: SIA package has been included with the resubmittal.**

Storm Drainage Calculations – Page 7

117. CID drawings include the portion of the road beyond this point. We are unable to complete a full review of this portion of the road until it is included in the storm package submittal. If this is intended to be included in this submittal, please include calculations and it will be reviewed during the 2<sup>nd</sup> submittal.

**McAdams Response: This portion of the roadway is no longer included in the scope of this plan submittal.**

118. Please label contour to confirm a low spot isn't being created here.



**McAdams Response: Contour has been labeled.**

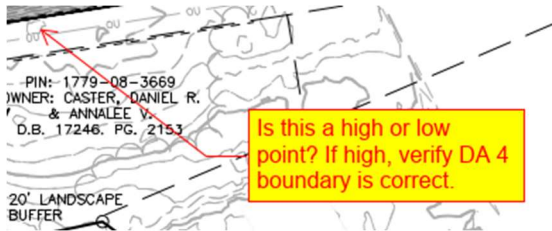
119. Confirm the boundary of DA 2 is correct. It appears to be following existing rather than proposed contours.

**McAdams Response: Boundary of DA 2 has been updated.**

120. Please label contour to verify if this is a high or low point. If high point, DA 2 should be adjusted to collect the water that will be running towards the ditch based on existing and proposed contours.

**McAdams Response: More contour labels have been added. Boundary of DA 2 has been updated.**

121. Is this a high point or a low point? If high, verify DA 4 boundary is correct.



**McAdams Response: DA 4 has been updated.**

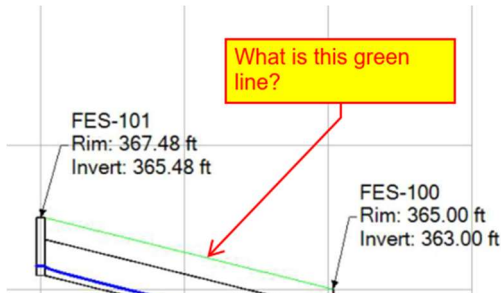
122. Please label all structures/FES's. We cannot match profiles to the plan without proper labeling.  
**McAdams Response: The post drainage area map now includes labels for matching profiles to the plans.**

Storm Drainage Calculations - Page 8

123. Please make sure plan view includes labels so we can match profiles to the plans.  
**McAdams Response: The post drainage map and grading sheets C3.01 and C3.02 now include labels for matching profiles to the plans.**

124. What design storm is the designed for?  
 Please ensure outlet velocity is defined and calculations shown.  
**McAdams Response: Pipe are designed for the 10-year storm. Outlet velocity calculations utilize the highest velocity condition on site for all riprap pads.**

125. What is this green line?



**McAdams Response: Green line has been removed from HGL profiles.**

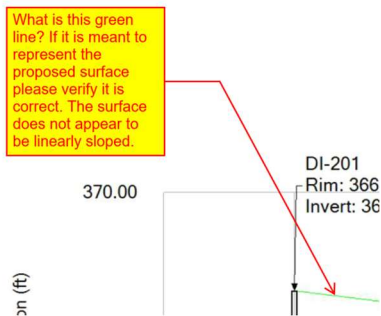
Storm Drainage Calculations – Page 9

126. Please make sure plan view includes labels so we can match profiles to the plans.  
**McAdams Response: Grading sheets C3.01 and C3.02 now include labels for matching profiles to the plans.**

127. What design storm is the designed for?  
 Please ensure outlet velocity is defined and calculations shown.

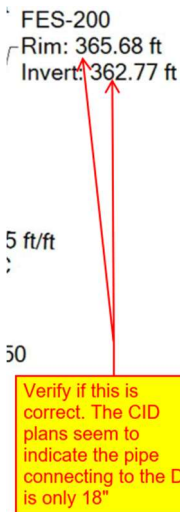
**McAdams Response: Pipe are designed for the 10-year storm. Outlet velocity calculations utilize the highest velocity condition on site for all riprap pads.**

128. What is this green line? If it is meant to represent the proposed surface please verify it is correct. The surface does not appear to be linearly sloped.



**McAdams Response: Green line has been removed and call out informing of surface profile locations has been added.**

129. Verify if this is correct. The CID plans seem to indicate the pipe connecting to the DI is only 18".



**McAdams Response: Structure information has been updated.**

Storm Drainage Calculations – Page 10

130. Please make sure plan view includes labels so we can match profiles to the plans.

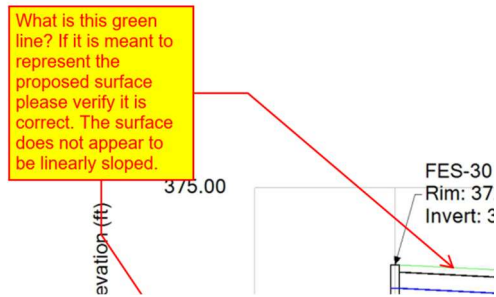
**McAdams Response: Grading sheets C3.01 and C3.02 now include labels for matching profiles to the plans.**

131. What design storm is the designed for?

Please ensure outlet velocity is defined and calculations shown.

**McAdams Response: Pipes are designed for the 10-year storm. Outlet velocity calculations utilize the highest velocity condition on site for all riprap pads.**

132. What is this green line? If it is meant to represent the proposed surface please verify it is correct. The surface does not appear to be linearly sloped.



**McAdams Response: Green line has been removed and call out informing of surface profile locations has been added.**

**WAKE COUNTY WATERSHED MANAGEMENT**

**Janet Boyer**

1. Projects with public funding obtain erosion and sediment control permits from NC DEQ. Stormwater permit is required from Wake County.

**McAdams Response: Comment Noted.**

**NCDOT**

**Trevor Darnell**

1. This site will need NCDOT encroachment and driveway permits. This will involve further / more in-depth review of the plans.

**McAdams Response: Comment Noted. Team is working to submit encroachment and driveway permits now.**

2. May need to provide timeline estimate for opening of proposed accesses and closure of existing access. When the new C/A breaks were approved, the existing C/A break at the existing access was removed. May need further discussion.

**McAdams Response: Comment Noted. McAdams to reach out for further discussion.**

3. Pavement structure for the widening section on US-401 should be:

- a. 3" S9.5C
- b. 4" I19.01C
- c. 10" ABC or 5" B25.05



**McAdams Response: Comment Noted. Detail 2 on C8.00 has been updated to reflect requested pavement section.**

Consideration of this response is greatly appreciated. If you should have any questions or require additional information, please do not hesitate to contact me at 919. 361. 5000.

Sincerely,

**MCADAMS**

Eric Domonell, PE  
Assistant Project Manager

ED/mp/ee