



# Constructability Review from the Quality Assurance Branch (QAB) of Highway Design

Item #:	0200310.21
ReviewDate:	7/31/2015
Reviewer:	Spain, Mike
District:	2
County:	UNION
Project Type:	MINOR WIDENING(O)

ReviewType:	Roadway
Design Phase:	Final Joint Inspection
Route Name:	KY
Route Number:	56
Structure Number:	
Designer:	STANTEC

## Comments from Review

## Category

R001-What is design speed for this project?	
R002-May want to discuss with D2 Construction how best way to handle Filter Fabric wrapping @ tie-ins. Not very practical to have Fabric exposed . Recommend shortening wrapped section and cover with 6" earth or CSB.	Earthwork, Geotechnical
R002d-Many pipes on project call for pipe removal and are not included in this quantity.	Existing Drainage
R002d-Crown Vetch not used in District 2.	Erosion Control
R002d-Pipeline video Inspection showing more pipe than is on project.	Permanent Drainage
R002d-Combine white and Yellow Pavement Stripping into 1 pay item of Temp Paint and 1 item of Perm Paint.	Pavement Markings
R002d-Add Item # 2555 Class B Concrete (Retaining Wall Lt STA 103+50)	Structural NonBridge
R002d-Add Item # 2203 Structure Excavation - Unclassified (Retaining Wall Lt STA 103+50)	Structural NonBridge
R002d-Add Item # 2562 Temporary Signs.	MOT
R002D-Recommend combining Bid Items Crushed Agg Size #2 & Crushed Agg Size #23 into one Bid Item. Use Item #78 Crushed Aggregate Size No. 2 for Bid Item. Add Note on R2 that bid Item is Crushed Agg Size #2 but may use 2's, 3's or 23's.	Pavement, Typical Section
R002D-Add Bid Item 6600 Remove Pavement Markers Type V Each	Pavement Markings
R002f-Consider increasing Font Size to be more legible on half size sheet.	Permanent Drainage
R002f-Pipe Anchor Item is for utility work. Change this to Item # 8100 Concrete - Class A and change description where referenced to INTERMEDIATE ANCHORS. ( See Standard Drawing RDX-060-03 for quantities for each size and pipe slope)	Permanent Drainage
R002f-Will need a headwall of some type set up for STA 74+07.41	Permanent Drainage
R002f-Add 2 Pipe Culvert Headwalls - 24" for entrance at STA 108+00	Permanent Drainage
R002f-Add column for pipeline video inspection listing pipes that are to be inspected. (All pipes under roadway and 1/2 of LF of total of pipes that are not under roadway. Entrance pipes do not get inspected)	Permanent Drainage
R002f-Considere adding stations and quantities to safeloading from plan sheets and pipe sheets. STA 76+00 - 2 CY, STA 103+94 - 7 CY, STA 122+05 - 3 CY, STA 128+42 6 CY, 168+90 - 1.9 CY, 194+20 - 2.0 CY, 235+35 - ? CY , 239+00 - 3.4 CY, 284+85 - 2.6 CY.	Existing Drainage
R002f-Add Item #21541NN Cored Hole Drainage Box Conn-18" (243+36.20)	Permanent Drainage

R002g-Add Mainline STA 207+30, 274+20 and 277+49 and Rd Approach at Woodland Church Rd STA 128+95 for Perforated pipe subgrade sag drainage as shown in Geotechnical note 19.	Permanent Drainage
R002g-If perforated pipes added in Transverse benches as shown in Geotechnical notes add those STA here. (STA 257+40, 258+90, 291+15 and 292+95)	Geotechnical, Permanent Drainage
R002g-Areas with Embankment Benching as to have perforated pipe drains as shown in Geotechnical Notes. These are not shown anywhere in plans. If added show the pipe headwalls etc on this sheet.	Geotechnical, Permanent Drainage
R003-Add R/W Monuments STA 22+96.66 LT and 23+02.10 LT.	ROW/Fence
R005-Label Parcel LT STA 27+00	ROW/Fence
R005-Add R/W Monument STA 28+70.67 - 31.16 Lt & 28+86.87 - 62.88 Lt.	ROW/Fence
R005-Add R/W Monument STA 32+54.55 - 49.72 Lt & 32+54.59 - 31.92 Lt.	ROW/Fence
R005-No access to Parcel 18. Is this correct?	ROW/Fence
R005-Add R/W Monument STA 36+51.11 - 46.94 Lt & 36+51.98 - 30.22 Lt	ROW/Fence
R007-Check Pipe length, appears to be approx 2.5 feet deep and would require 42 LF to get 6:1 slope as called for in Standard Drawings.	Permanent Drainage
R007-Pipe removal or safeloading should be added at STA 47+35. Existing pipe below excavation limits of new pipe.	Existing Drainage
R011-No access to parcel 22. Is this correct?	
R011-No access to Parcel 30. Is this correct? (Access may be on Old Shawneetown Rd and not shown on plan sheets)	
R011-If Paving entrance on CC Buckman Rd. recommend paving to Station 18+50 or beyond entrance radius & moving edge key.	Pavement
R015-Is this a Gravity Type retaining wall or a Special Design? Appears on X-section to be over height limit of Gravity type wall.	Structural NonBridge
R015-Consider adding note for Referring to Geotechnical Note #16 for fill materials to be used Lt STA 102+00 - 105+00	Earthwork
R015-Appears that retaining wall is being constructed to keep out of pond if so recommend removing Note 16 from Geotech Notes on R 121. Also if wall is Special Designed as should be per Std. Drawing add note see Structure plans to wall. Add note DND to pond.	Earthwork, Structural NonBridge, ROW/Fence
R017-No access to Parcel 7. Is this correct? Appears to have an existing entrance approx STA 42+25 Old Shawneetown Rd.	ROW/Fence
R021-Add Perforated pipe in sag as shown in Geotechnical note 19. (STA 135+70)	Geotechnical, Permanent Drainage
R029-Add Perforated Pipe as shown in note 19 of Geotechnical notes. (STA 207+30)	Geotechnical, Permanent Drainage
R033-Consider safeloading existing pipe at Approx STA 135+40. (Under existing roadway and calls for removal)	Existing Drainage
R035-No access to Parcel 51. Is this correct?	ROW/Fence
R035-Add note for safeloading pipe STA 243+36.20 (9.3 CY). Shows on pipe sheet but consider adding note here also.	Existing Drainage
R035-Check Pipe length, appears to be approx 4 feet deep and would require approx 60 LF to get 6:1 slope as called for in Standard Drawings. (STA 242+50, 243+83 and 251+60 LT)	Permanent Drainage

R035-Note says to remove sign & reset either add bid item or make incidental to Clearing & Grubbing	ROW/Fence
R035-Entrance RT 241+27 appears that water is designed to sheet flow across entrance ensure enough of a swag to carry water if not add entrance pipe.	Permanent Drainage
R035-RT 243+36.20 Pipe sheets show existing pipe outletting out of Existing DBI if possible show pipe on plan sheet in case it is needed for future drainage problems if they occur.	Existing Drainage
R038-Add Transverse benching and perforated pipe as shown in Geotechnical note 20 (STA 257+40 and 258+90)	Earthwork, Geotechnical
R039-Check Pipe length, appears to be approx 3.5 feet deep and would require approx 54 LF to get 6:1 slope as called for in Standard Drawings. (STA 270+48)	Permanent Drainage
R039-Add Perforated pipe drain in sag as shown in note 19 of Geotechnical notes. (STA 274+00)	Geotechnical, Permanent Drainage
R039-Add note for safeloading existing pipe as shown on pipe sheet. (2.6 CY on pipe sheet) (STA 284+85)	Existing Drainage
R039-Is a guardrail barricade needed at end of Woodland Church Road LT 280+00?	Guardrail/Barrier
R041-No access to parcel 66. Is this correct?	ROW/Fence
R041-Add Perforated Pipe in sag as shown in Geotechnical note 19. (STA 128+95)	Geotechnical, Permanent Drainage
R042-Vertical faces of benches should be kept in the vicinity of 4-5 feet deep. (This will make more constructable and save yardage)	Earthwork
R042-Show perforated pipe in for transverse bench as shown in Geotechnical note 20.	Geotechnical, Permanent Drainage
R088-Consider adding temp g-rail and sheeting next to existing pavement, construct 1 phase of culverts on Left side, adding temp. widening and temp. guardrail to left side then moving traffic on temp. widened section to complete culvert @ 39+42 & 60+85.	MOT
R088-Consider adding temp g-rail and sheeting next to existing pavement, construct 1 phase of culvert on Left side, add temp. guardrail to left side, move traffic on new section to complete culvert @ 160+95. Eliminating road closures to install culverts.	MOT
R088-It appears that if initial widening is split into sections from working on Lt side first to working on Rt side first the widening done on final side could be done utilizing 2 lane traffic with exception of some short areas.	MOT
R088-Add sheet for temporary signs and signing quantities.	MOT
R088-Precast Box Culvert Installation note states that contractor can close road for 14 days. Recommend adding Disincentives for closures longer than 14 days. Also will need Detour map shown.	Coordination, MOT, Part-Width, Structural Bridge
R089-Will this existing drainage channel be ran through a temporary pipe across diversion or redirected to Left side of diversion into existing stream?	MOT
R163-Pipe removal or safeloading should be added at STA 47+35. Existing pipe below excavation limits of new pipe.	Existing Drainage
R166-Change to INTERMEDIATE ANCHOR. (1.59 CY Class "A" Concrete each)	Permanent Drainage
R166-Change to INTERMEDIATE ANCHOR. (1.07 CY Class "A" Concrete Lt Side, 1.13 CY Class "A" Concrete Rt side)	Permanent Drainage
R167-Change to INTERMEDIATE ANCHOR. (1.07 CY Class "A" Concrete Lt Side, 1.19 CY Class "A" Concrete Rt side)	Permanent Drainage

R168-Change to INTERMEDIATE ANCHOR. (1.13 CY Class "A" Concrete Lt Side, 1.13 CY Class "A" Concrete Rt side)	Permanent Drainage
R170-Add Intermediate Anchors. 3.06 CY Class "A" Concrete Lt & 3.06 Cy Class "A" Concrete Rt side. (When a metal pipe is cut it can not be tied onto by banding pipe together due to corrugations are spiral except on factory ends)	Existing Drainage, Permanent Drainage
R170-Add Intermediate Anchors. 3.06 CY Class "A" Concrete Lt & 3.06 Cy Class "A" Concrete Rt side. (When a metal pipe is cut it can not be tied onto by banding pipe together due to corrugations are spiral except on factory ends)	Existing Drainage, Permanent Drainage
R176-Will need to add Bid Item to R2F & R176 21541NN Cored Hole Drainage Box Conn-18" for Pipe @ 243+36.20 RT to tie into existing DBI.	Existing Drainage, Permanent Drainage
R178-Consider adding intermediate anchor or noting that this pipe to be extended in like kind.	Permanent Drainage
R178-Consider adding intermediate anchor or noting that this pipe to be extended in like kind.	Permanent Drainage
R180-Add pipe sheet for Goose Pond Road STA 69+55, Spring Grove Blvd. STA 89+68.05 and Woodland Church Road STA 119+69.	Permanent Drainage
R88-Precast Box Culvert Installation Note- is this for all other culverts other than c\ulvert @ 186+72.8? If so do they have 14 days for each culvert or a total of 14 days to comple all precast culverts?	Coordination, MOT, Part-Width, Structural Bridge
X251-Reduce height of vertical face of bench to be 4-5 foot to make more constructable and save yardage.	Earthwork
X252-Reduce height of vertical face of bench to be 4-5 foot to make more constructable and save yardage.	Earthwork
X255-Reduce height of vertical face of bench to be 4-5 foot to make more constructable and save yardage.	Earthwork
X257-Reduce height of vertical face of bench to be 4-5 foot to make more constructable and save yardage.	Earthwork
X263-Reduce height of vertical face of bench to be 4-5 foot to make more constructable and save yardage.	Earthwork
X264-Reduce height of vertical face of bench to be 4-5 foot to make more constructable and save yardage.	Earthwork
X276-Reduce height of vertical face of bench to be 4-5 foot to make more constructable and save yardage.	Earthwork
X286-Consider adding embankment benching to STA 295+50 -296+00.	Earthwork