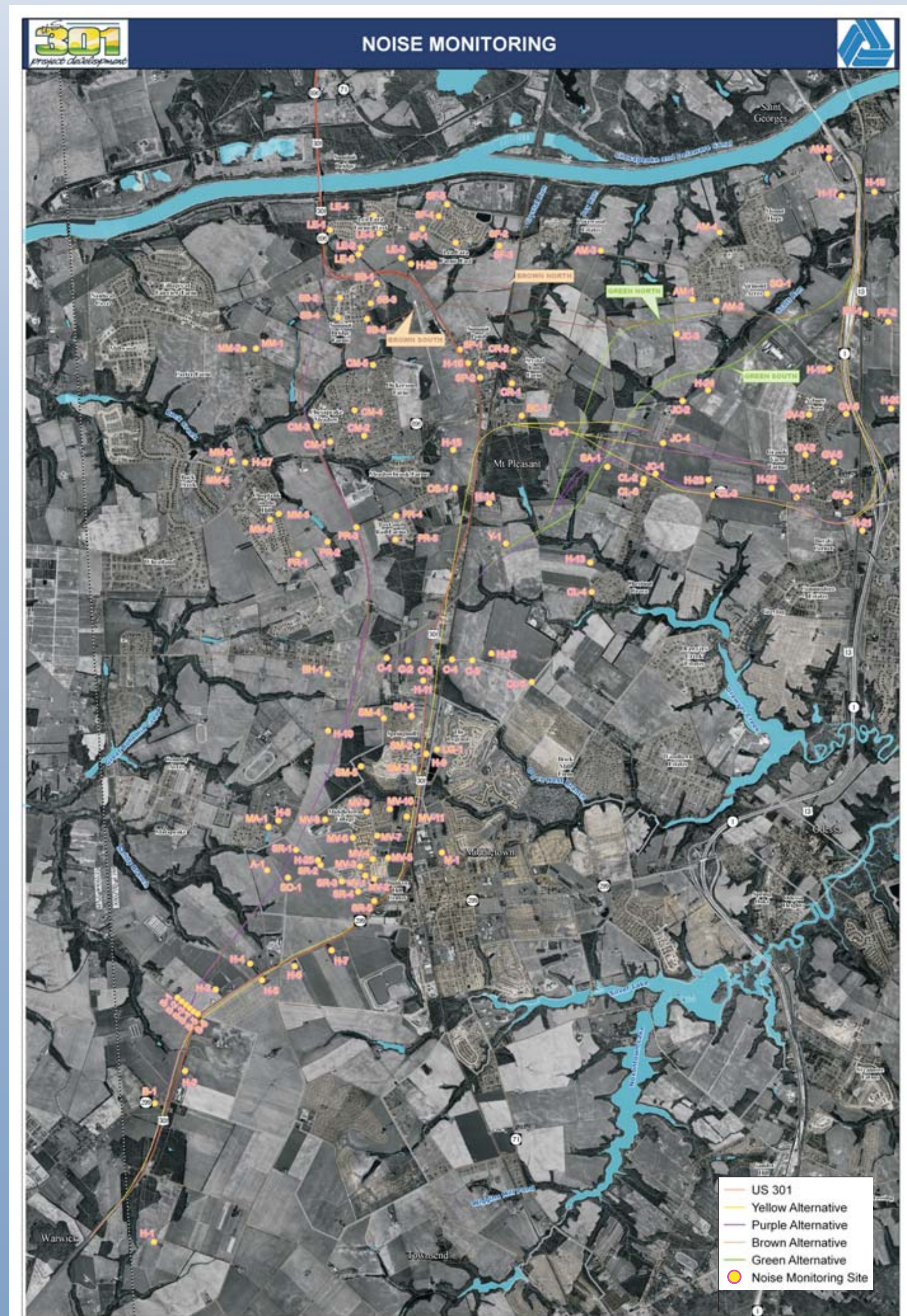
See previous page for
left side of display

NOISE ANALYSIS



Airmont Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
AM-1	502 Davis Ct.	(52)	(52)	--	--	56	56	57–	
AM-2	236 Oak Dr.	(51)	(51)	--	--	59	59	59–	

Airmont Noise Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: both Brown alts, Green-North
Current arterial roadways influential to existing noise environment: Hyetts Corner Road
Existing and no-build levels shown are existing ambient levels from field measurements
No impacts at receptors; design-year noise levels do not exceed FHWA/DelDOT criteria
Community will hear noise increase under Brown and Green North Alternatives. However, earth berm proposed to provide visual screen between new US 301 and Airmont community for Brown and Green North alternatives - would also address noise impacts

Appoquinimink H.S. Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
A-1	120 Silver Lake Road	(46)	(46)	--	57	57	57	57	57

Appoquinimink H.S. Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	1	+10 dBA	berm	12' x 3000'	5 dBA	$453,000	1	$453,000
Brown-N	1	+10 dBA	berm	14' x 3000'	5 dBA	$591,000	1	$591,000
Brown-S	1	+10 dBA	berm	14' x 3000'	5 dBA	$591,000	1	$591,000
Green-N	1	+10 dBA	berm	12' x 3000'	5 dBA	$453,000	1	$453,000
Green-S	1	+10 dBA	berm	12' x 3000'	5 dBA	$453,000	1	$453,000

Proposed alternative(s) potentially influential to noise environment: all except Yellow
Current arterial roadways influential to existing noise environment: SR 15
School grounds appear impacted for all alternatives except Yellow
Further clarification of athletic field layout is required
Further analysis required regarding mitigation

Back Creek Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
MM-3	105 Joshua Ct.	49	56	50	47	48	48	47	47

Back Creek Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: none
Current arterial roadways influential to existing noise environment: SR 15
No impacts; design-year noise levels do not exceed FHWA/DelDOT criteria
Community is greater than 800 feet from roadway (3,700 feet)
Traffic noise levels from Choptank Road reduced with Yellow or Spur alternatives

Bohemia Mill Road West Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
BO-1	Bohemia Mill Road	60	68	61	58	58	58	58	58

Bohemia Mill Road West Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: none
Current arterial roadways influential to existing noise environment: SR 15
No impacts; design-year noise levels do not exceed FHWA/DelDOT criteria
Community is greater than 800 feet from roadway (1,300 feet)
Traffic noise levels from Choptank Road reduced with Yellow or Spur alternatives

Boyds Corner at US 301 Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
BC-1	Boyds Corner Road	68	70	70	--	--	--	--	--

Boyds Corner at US 301 Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	11	66+ dBA	none, mitigation not feasible due to unmitigated SR 896					
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: Yellow
Current arterial roadways influential to existing noise environment: SR 896
Impacts at receptor (66+ dBA) for existing condition, no-build and Yellow alternative
11 impacts to group of residences along Boyds Corner Road just east of Mt. Pleasant
Mitigation not feasible, < 5 dBA reduction (barrier on Yellow alignment does not mitigate SR 896)
Barrier on SR 896 not feasible due to required access to residential properties

Cedar Lane Elementary and Middle Schools Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
SA-1 (W)	Boyds Corner Road	64	64	65	65	--	--	--	65
CL-6 (E)	Cedar Lane Road	60	61	63	63	--	--	--	--

Cedar Lane Elementary and Middle Schools Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: Yellow, Purple, Green-South
Current arterial roadways influential to existing noise environment: SR 896 (Boyds Corner Road)
Yellow & Purple run east-west north of SR 896 and are not expected to impact frequent-use areas
Green-North runs north-south to west of Middle School; no frequent-use area impact expected
No impacts at receptors; design-year noise levels do not exceed FHWA/DelDOT criteria
Appears that mitigation is not required, however final layout of athletic fields to be considered

Chesapeake Meadow Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
CM-1 (SW)	208 Deerfield Drive	(47)	(47)	--	54	58	57	54	54
CM-3 (W)	26 Meadow Lane	(47)	(47)	--	59	62	59	59	59

Chesapeake Meadow Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	11	+10 dBA	berm	8' x 3360'	5 dBA	$299,380	11	$27,216
Brown-N	21	+10 dBA	berm	11' x 4200'	5 dBA	$627,250	21	$29,869
Brown-S	11	+10 dBA	berm	8' x 3360'	5 dBA	$299,380	11	$27,216
Green-N	11	+10 dBA	berm	8' x 3360'	5 dBA	$299,380	11	$27,216
Green-S	11	+10 dBA	berm	8' x 3360'	5 dBA	$299,380	11	$27,216

Proposed alternative(s) potentially influential to noise environment: all except Yellow
Current arterial roadways influential to existing noise environment: Churchtown Road
Impacts at both receptors for Brown alternatives; Purple and Green impact CM-3 only
Brown-North alternative impacts two rows of residences on west side (21)
Purple, Brown-South and Green alternatives impact one row of residences on west side (11)
Mitigation appears feasible, but not reasonable due to cost >$20K per benefited residence
However, earth berm proposed to provide visual screen between new roadways and community - would also address noise impacts

Dickerson Farm Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
CM-5	523 E. Creek Ln.	(49)	(49)	--	--	--	49*	--	--

Dickerson Farm Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: Brown-South
Current arterial roadways influential to existing noise environment: Churchtown Road
No impact at receptor; design-year noise levels do not exceed FHWA/DelDOT criteria
Existing loudest hour level shown (49) is existing ambient level from field measurement
** Design-year traffic noise from alternative will not influence receptor due to 900 feet between new roadway and community*

Fox Hunter Crossing Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
MM-5	116 Senator Dr.	62	69	63	59	60	60	59	59

Fox Hunter Crossing Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: Brown, Green+Spur and Purple+Spur
Current arterial roadways influential to existing noise environment: SR 15
No impacts; design-year noise levels do not exceed FHWA/DelDOT criteria (No-Build > 66 dBA)
Traffic noise levels from Choptank Road reduced with Yellow or Spur alternatives

Grande View Farms and Asbury Chase Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
GV-1	203 Milford Drive	60	61	63	63	--	--	--	--
GV-4	149 Jane Court	57	61	62	62	--	--	--	--
GV-6	864 Bullen Drive	58	64	66	66	--	--	--	--

Grande View Farms and Asbury Chase Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	36	66+ dBA	barrier wall	9' x 7890'	5 dBA	$1,738,225	39	$44,570
Purple	36	66+ dBA	barrier wall	9' x 7890'	5 dBA	$1,738,225	39	$44,570
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: Yellow, Purple
Current arterial roadways influential to existing noise environment: SR 896, US 13, SR 1
Impacts (66+ dBA) at front row receptor GV-6 for Yellow and Purple alternatives
36 impacted residences each for Yellow and Purple alternatives
Barrier wall mitigation appears feasible, but not reasonable due to cost >$20K per benefited residence
Additional 9 residences (outside of GV/Asbury) along SR 896 and US 13 are impacted
- mitigation not feasible for these properties due to unmitigated SR 896 and US 13

Jamison Corner Road North Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
JC-4	Jameson Corner Road	43	43	50	50	--	--	--	50

Jamison Corner Road North Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: Yellow, Purple, Green-South
Current arterial roadways influential to existing noise environment: Jamison Corner Road
Noise assessment currently underway for four options under consideration

Lea Eara Farms Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
LE-1 (W)	323 Jessica Dr.	58	61	61	61	62	61	61	61
LE-2 (S)	106 W. Cedarwood Dr.	48	51	51	51	59	51	51	51
LE-5 (E)	121 W. Cedarwood Dr.	46	49	49	49	54	49	49	49
LE-6 (S)	W. Cedarwood Dr.	50	53	53	53	63	53	53	53

Lea Eara Farms Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	16	10+ dBA	berm	20' x 2760'	5 dBA	$979,618	15	$65,308
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: all
Current arterial roadways influential to existing noise environment: existing US 301
Impacts (+10 dBA) to receptors LE-2 and LE-6 for Brown-North
15 impacted residences within Lea Eara Farms community
Mitigation appears feasible, but not reasonable due to cost >$20K per benefited residence
However, earth berm proposed to provide visual screen between new roadway and community - would also address noise impacts
1 impact to residence south of the community for which mitigation is not feasible

The Legends West Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
LG-1	Couples Court	53	53	58	--	--	--	--	--

The Legends West Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: Yellow
Current arterial roadways influential to existing noise environment: existing US 301
No impact at receptor; design-year noise levels do not exceed FHWA/DelDOT criteria
The community will hear the noise increase under the Yellow altertnative

Matapeake Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
MA-1	Bunker Hill Road	43	51	--	47	47	47	47	47

Matapeake Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: all except Yellow
Current arterial roadways influential to existing noise environment: SR 15
No impact at receptor; design-year noise levels do not exceed FHWA/DelDOT criteria
Traffic noise levels from Choptank Road reduced with addition of Yellow or Spur alternatives

Middletown Village Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
MV-1 (SE)	Liborio Road	47	47	54	--	--	--	--	--
MV-2 (SE)	112 Sandhill Road	50	50	59	--	--	--	--	--
MV-5 (E)	Peterson Road	51	53	57	--	--	--	--	--
MV-8 (W)	828 Woodline Drive	(45)	47 –		57	57	57	57	57
MV-10 (E)	334 E. Harvest Lane	46	46	53	--	--	--	--	--
MV-11 (NE)	Fox Tail Lane	57	58	67	--	--	--	--	--

Middletown Village Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	6	66+ dBA	barrier wall	11' x 650'	5 dBA	$178,750	6	$29,792
Purple	15	+10 dBA	berm	16' x 2000'	6 dBA	$498,800	15	$33,190
Brown-N	15	+10 dBA	berm	16' x 2000'	6 dBA	$498,800	15	$33,190
Brown-S	15	+10 dBA	berm	16' x 2000'	6 dBA	$498,800	15	$33,190
Green-N	15	+10 dBA	berm	16' x 2000'	6 dBA	$498,800	15	$33,190
Green-S	15	+10 dBA	berm	16' x 2000'	6 dBA	$498,800	15	$33,190

Proposed alternative(s) potentially influential to noise environment: Yellow (east), all others (west)
Current arterial roadways influential to existing noise environment: existing US 301, SR 15
Impacts at receptor MV-8 (west side of community) for all alternatives except Yellow (15 residences)
Impacts at receptor MV-11 (northeast side of community) for Yellow
15 impacted residences at west side of community for Purple, Brown and Green alternatives
Mitigation appears feasible, but not reasonable due to cost >$20K per benefited residence
However, earth berm to provide visual screening between the new roadway and west side of Middletown Village - would address noise impacts from Brown, Purple+Spur and Green+Spur alternatives

Old School House Road at US 301 Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
OS-1	Old School House Road	48	48	52	--	--	--	--	--

Old School House Road at US 301 Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: Yellow
Current arterial roadways influential to existing environment: Old School House Rd, existing US 301
No impact at receptor; design-year noise levels do not exceed FHWA/DelDOT criteria

Post and Rail Farms Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
PR-4	102 Saddle Drive	(51)	(51)	--	51*	51*	51*	51*	51*
PR-5	116 Saddle Drive	(47)	(47)	--	47*	47*	47*	47*	47*

Post and Rail Farms Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: all except Yellow
Current arterial roadways influential to existing noise environment: none (with sufficient traffic)
No impacts at receptors; design-year noise levels do not exceed FHWA/DelDOT criteria
Existing loudest hour levels shown, i.e. (51), (47) are existing ambient levels from field measurements
** Design-year traffic noise from alternatives will not influence community due to distance (>1,000 ft)*

Southridge Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
SO-1	Bunker Hill Road	(46)	(46)	--	60	60	60	60	60

Southridge Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	54	+10 dBA	berm	15' x 3400'	5 dBA	$812,280	54	$15,042
Brown-N	54	+10 dBA	berm	15' x 3400'	5 dBA	$812,280	54	$15,042
Brown-S	54	+10 dBA	berm	15' x 3400'	5 dBA	$812,280	54	$15,042
Green-N	54	+10 dBA	berm	15' x 3400'	5 dBA	$812,280	54	$15,042
Green-S	54	+10 dBA	berm	15' x 3400'	5 dBA	$812,280	54	$15,042

Proposed alternative(s) potentially influential to noise environment: all except Yellow
Current arterial roadways influential to existing noise environment: SR 15
Existing and no-build levels were calculated using similar receptors in the study area
Impact at receptor for all alternatives except Yellow - 52 first and second row residences impacted
Mitigation (earth berm) appears feasible and reasonable, cost is under $20K per benefited residence

Springmill Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
SM-1 (NE)	Carter Drive	54	54	56	--	--	--	--	--
SM-2 (E)	Windmill Lane	62	62	63	--	--	--	--	--
SM-3 (SE)	Whispering Trail	55	55	63	--	--	--	--	--
SM-4 (NW)	Daylilly Way	41	41	--	48	48	48	48	48
SM-5 (SW)	Springmill Drive	35	35	--	43	43	43	43	43

Springmill Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: Yellow (east), all others (west)
Current arterial roadways influential to existing noise environment: existing US 301
No impacts at receptors; design-year noise levels do not exceed FHWA/DelDOT criteria
No noise mitigation is required for this community with Yellow and Brown
Analysis to date for Purple and Green was developed for interchange option 1
Noise levels at receptor SM-4 could increase with interchange options 2 and 3, analysis underway

St. George's Vocational and Technical School Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
SG-1	Hyetts Corner Road	(51)	(51)	--	--	58	58	58–	

St. George's Vocational and Technical School Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: both Brown alts, Green-North
Current arterial roadways influential to existing noise environment: Hyetts Corner Road
Existing/no-build levels taken from field measurements (insufficient traffic for modeling)
No impact at receptor; design-year noise levels do not exceed FHWA/DelDOT criteria
However, the noise level increase will be noticeable

Summit Bridge Farms Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
SB-1 (NE)	117 Delaware Canal Ct. E	59	62	62	60	59	54	60	60
SB-2 (NW)	108 Laks Drive	52	55	55	56	58	55	56	56
SB-3 (E)	133 Delaware Canal Ct. E	48	51	51	51	54	55	51	51
SB-4 (SW)	120 Laks Drive	45	48	48	53	54	51	53	53
SB-5 (SE)	138 Delaware Canal Ct. E	44	48	47	48	51	54	48	48

Westside Hunt Noise Levels

Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Yellow Leq (dBA)	DY 2030 Purple Leq (dBA)	DY 2030 Brown-N Leq (dBA)	DY 2030 Brown-S Leq (dBA)	DY 2030 Green-N Leq (dBA)	DY 2030 Green-S Leq (dBA)
BO-1	Bohemia Mill Road	60	68	61	58	58	58	58	58

Westside Hunt Impact and Mitigation Analysis

Alternative	Impacts	Impact Type	Mitigation Type	Mitigation Size	Insertion Loss 1st Row	Mitigation Cost	Benefits	Cost per Benefit
Yellow	0							
Purple	0							
Brown-N	0							
Brown-S	0							
Green-N	0							
Green-S	0							

Proposed alternative(s) potentially influential to noise environment: Brown, Purple+Spur & Green+Spur
Current arterial roadways influential to existing noise environment: SR 15
No impacts; design-year noise levels do not exceed FHWA/DelDOT criteria (No-Build > 66 dBA)
Traffic noise levels from Choptank Road reduced with addition of Yellow or Spur alternatives
**Design-year traffic noise from new US 301 will not influence community due to distance (>1,800 ft)*