

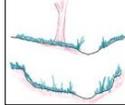
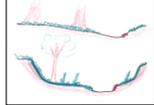
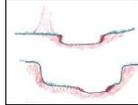
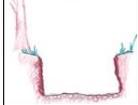
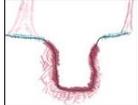
Stream Assessment Form (Form 1)

Unified Stream Methodology for use in Virginia

For use in wadeable channels classified as intermittent or perennial

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
2017-890	Cumberland - Green Ridge Landfill		R3/R4	02080205	10/24/19	2.1	2323	1
Name(s) of Evaluator(s)		Stream Name and Information						
Hannah Miller		Reach 2 - Section 2.1 (GPS name - RCH4 - START)						

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Conditional Category					
	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Condition						
	Very little incision or active erosion; 80-100% stable banks. Vegetative surface protection or natural rock, prominent (80-100%). AND/OR Stable point bars/bankfull benches are present. Access to their original floodplain or fully developed wide bankfull benches. Mid-channel bars, and transverse bars few. Transient sediment deposition covers less than 10% of bottom.	Slightly incised, few areas of active erosion or unprotected banks. Majority of banks are stable (60-80%). Vegetative protection or natural rock prominent (60-80%) AND/OR Depositional features contribute to stability. The bankfull and low flow channels are well defined. Stream likely has access to bankfull benches, or newly developed floodplains along portions of the reach. Transient sediment covers 10-40% of the stream bottom.	Often incised, but less than Severe or Poor. Banks more stable than Severe or Poor due to lower bank slopes. Erosion may be present on 40-60% of both banks. Vegetative protection on 40-60% of banks. Streambanks may be vertical or undercut. AND/OR 40-60% of stream is covered by sediment. Sediment may be temporary/transient, contribute instability. Deposition that contribute to stability, may be forming/present. AND/OR V-shaped channels have vegetative protection on > 40% of the banks and depositional features which	Overwidened/incised. Vertically/laterally unstable. Likely to widen further. Majority of both banks are near vertical. Erosion present on 60-80% of banks. Vegetative protection present on 20-40% of banks, and is insufficient to prevent erosion. AND/OR 60-80% of the stream is covered by sediment. Sediment is temporary/transient in nature, and contributing to instability. AND/OR V-shaped channels have vegetative protection is present on > 40% of the banks and stable sediment deposition is absent.	Overwidened/incised, vertical/lateral instability. Severe incision, flow contained within the banks. Streambed below average rooting depth, majority of banks vertical/undercut. Vegetative protection present on less than 20% of banks, is not preventing erosion. Obvious bank sloughing present. Erosion/raw banks on 80-100%. AND/OR Aggrading channel. Greater than 80% of stream bed is covered by deposition, contributing to instability. Multiple thread channels and/or subterranean flow.	CI
Score	3	2.4	2	1.6	1	2.0

NOTES>>

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

	Conditional Category							
	Optimal	Suboptimal	Marginal		Poor			
Riparian Buffers	Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wetlands located within the riparian areas.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.	
Condition Scores	1.5	High	Low	High	Low	High	Low	

1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors.
 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below.
 3. Enter the % Riparian Area and Score for each riparian category in the blocks below.

Right Bank	% Riparian Area>	100%						100%	
	Score >	1.2							
Left Bank	% Riparian Area>	100%						100%	
	Score >	1.2							

3. INSTREAM HABITAT: Varied substrate sizes, water velocity and depths; woody and leafy debris; stable substrate; low embeddedness; shade; undercut banks; root mats; SAV; riffle pools complexes, stable features.

	Conditional Category				
	Optimal	Suboptimal	Marginal	Poor	
Instream Habitat/ Available Cover	Habitat elements are typically present in greater than 50% of the reach.	Stable habitat elements are typically present in 30-50% of the reach and are adequate for maintenance of populations.	Stable habitat elements are typically present in 10-30% of the reach and are adequate for maintenance of populations.	Habitat elements listed above are lacking or are unstable. Habitat elements are typically present in less than 10% of the reach.	
Score	1.5	1.2	0.9	0.5	CI
					1.20

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
2017-890			R3/R4	02080205	10/24/19			

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock							NOTES>>
Conditional Category							
Channel Alteration	Negligible	Minor		Moderate	Severe		
	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	20-40% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	40 - 60% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	60 - 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	Greater than 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines AND/OR 80% of banks shored with gabion, riprap, or cement.	
	SCORE	1.5	1.3	1.1	0.9	0.7	
	1.50						

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.

THE REACH CONDITION INDEX (RCI) >>	1.18
---	-------------

RCI= (Sum of all CI's)/5

COMPENSATION REQUIREMENT (CR) >>	2741
---	-------------

CR = RCI X LF X IF

INSERT PHOTOS:



DESCRIBE PROPOSED IMPACT:

Ephemeral Stream Assessment Form (Form 1a)

Unified Stream Methodology for use in Virginia

For use in ephemeral streams

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
2017-890	Cumberland - Green Ridge Landfill		R4	02080205	10/24/2019	2.2	542	1

Name(s) of Evaluator(s)	Stream Name and Information
Hannah Miller	Reach 2 - Section 2.2 (GPS name - RCH5 - START)

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

Conditional Category								NOTES>>
Optimal	Suboptimal		Marginal		Poor			
Riparian Buffers Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and an non-maintained understory . Wetlands areas.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.		
		High	Low	High	Low	High	Low	
Condition Scores	1.5	1.2	1.1	0.85	0.75	0.6	0.5	
1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors. 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below. 3. Enter the % Riparian Area and Score for each riparian category in the blocks below.						Ensure the sums of % Riparian Blocks equal 100		
Right Bank	% Riparian Area>	100%					100%	
	Score >	1.5						
								CI= (Sum % RA * Scores*0.01)/2
Left Bank	% Riparian Area>	100%					100%	Rt Bank CI > 1.50
	Score >	1.5						Lt Bank CI > 1.50
REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH								

NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.

THE REACH CONDITION INDEX (RCI) >> 0.75

RCI= (Riparian CI)/2

COMPENSATION REQUIREMENT (CR) >> 407

CR = RCI X LF X IF

INSERT PHOTOS:



DESCRIBE PROPOSED IMPACT:

--

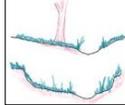
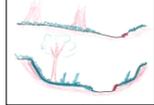
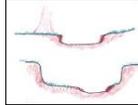
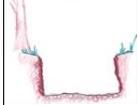
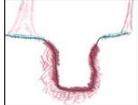
Stream Assessment Form (Form 1)

Unified Stream Methodology for use in Virginia

For use in wadeable channels classified as intermittent or perennial

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
2017-890	Cumberland - Green Ridge Landfill		R3	02080205	1/30/2020	3.1	433	1
Name(s) of Evaluator(s)		Stream Name and Information						
Hannah Miller		Reach 3 - Section 3.1						

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Conditional Category					
	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Condition						
	Very little incision or active erosion; 80-100% stable banks. Vegetative surface protection or natural rock, prominent (80-100%). AND/OR Stable point bars/bankfull benches are present. Access to their original floodplain or fully developed wide bankfull benches. Mid-channel bars, and transverse bars few. Transient sediment deposition covers less than 10% of bottom.	Slightly incised, few areas of active erosion or unprotected banks. Majority of banks are stable (60-80%). Vegetative protection or natural rock prominent (60-80%) AND/OR Depositional features contribute to stability. The bankfull and low flow channels are well defined. Stream likely has access to bankfull benches, or newly developed floodplains along portions of the reach. Transient sediment covers 10-40% of the stream bottom.	Often incised, but less than Severe or Poor. Banks more stable than Severe or Poor due to lower bank slopes. Erosion may be present on 40-60% of both banks. Vegetative protection on 40-60% of stream. Streambanks may be vertical or undercut. AND/OR 40-60% of stream is covered by sediment. Sediment may be temporary/transient, contribute instability. Deposition that contribute to stability, may be forming/present. AND/OR V-shaped channels have vegetative protection on > 40% of the banks and depositional features which	Overwidened/incised. Vertically/laterally unstable. Likely to widen further. Majority of both banks are near vertical. Erosion present on 60-80% of banks. Vegetative protection present on 20-40% of banks, and is insufficient to prevent erosion. AND/OR 60-80% of the stream is covered by sediment. Sediment is temporary/transient in nature, and contributing to instability. AND/OR V-shaped channels have vegetative protection is present on > 40% of the banks and stable sediment deposition is absent.	Overwidened/incised, vertical/lateral instability. Severe incision, flow contained within the banks. Streambed below average rooting depth, majority of banks vertical/undercut. Vegetative protection present on less than 20% of banks, is not preventing erosion. Obvious bank sloughing present. Erosion/raw banks on 80-100%. AND/OR Aggrading channel. Greater than 80% of stream bed is covered by deposition, contributing to instability. Multiple thread channels and/or subterranean flow.	CI
Score	3	2.4	2	1.6	1	1.6

NOTES>>

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

	Conditional Category							
	Optimal	Suboptimal	Marginal		Poor			
Riparian Buffers	Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wetlands located within the riparian areas.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.	
Condition Scores	1.5	High	Low	High	Low	High	Low	

1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors.
 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below.
 3. Enter the % Riparian Area and Score for each riparian category in the blocks below.

Right Bank	% Riparian Area>	100%						100%	
	Score >	1.5							
Left Bank	% Riparian Area>	100%						100%	
	Score >	1.5							

3. INSTREAM HABITAT: Varied substrate sizes, water velocity and depths; woody and leafy debris; stable substrate; low embeddedness; shade; undercut banks; root mats; SAV; riffle poole complexes, stable features.

	Conditional Category				
	Optimal	Suboptimal	Marginal	Poor	
Instream Habitat/ Available Cover	Habitat elements are typically present in greater than 50% of the reach.	Stable habitat elements are typically present in 30-50% of the reach and are adequate for maintenance of populations.	Stable habitat elements are typically present in 10-30% of the reach and are adequate for maintenance of populations.	Habitat elements listed above are lacking or are unstable. Habitat elements are typically present in less than 10% of the reach.	
Score	1.5	1.2	0.9	0.5	CI
					0.90

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
2017-890			R3/R4	02080205	10/24/19			

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock							NOTES>>	
Conditional Category								
Channel Alteration	Negligible	Minor	Moderate	Severe				
	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	20-40% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	40 - 60% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	60 - 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	Greater than 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines AND/OR 80% of banks shored with gabion, riprap, or cement.		
	SCORE	1.5	1.3	1.1	0.9	0.7		0.5
	REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH							
							1.50	

NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.

THE REACH CONDITION INDEX (RCI) >>	1.10
---	-------------

RCI= (Sum of all CI's)/5

COMPENSATION REQUIREMENT (CR) >>	476
---	------------

CR = RCI X LF X IF

INSERT PHOTOS:



DESCRIBE PROPOSED IMPACT:

Ephemeral Stream Assessment Form (Form 1a)

Unified Stream Methodology for use in Virginia

For use in ephemeral streams

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
2017-890	Cumberland - Green Ridge Landfill		R4	02080205	1/30/2020	3.2	1382	1

Name(s) of Evaluator(s)	Stream Name and Information
Hannah Miller	Reach 3 - Section 3.2

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

Conditional Category								NOTES>>
Optimal	Suboptimal		Marginal		Poor			
Riparian Buffers Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and an non-maintained understory. Wetlands areas.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.		
		High	Low	High	Low	High	Low	
Condition Scores	1.5	1.2	1.1	0.85	0.75	0.6	0.5	
1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors. 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below. 3. Enter the % Riparian Area and Score for each riparian category in the blocks below.						Ensure the sums of % Riparian Blocks equal 100		
Right Bank	% Riparian Area>	100%					100%	
	Score >	1.5						
								CI= (Sum % RA * Scores*0.01)/2
Left Bank	% Riparian Area>	100%					100%	Rt Bank CI > 1.50
	Score >	1.5						Lt Bank CI > 1.50
REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH								

NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.

THE REACH CONDITION INDEX (RCI) >>	0.75
---	-------------

RCI= (Riparian CI)/2

COMPENSATION REQUIREMENT (CR) >>	1037
---	-------------

CR = RCI X LF X IF

INSERT PHOTOS:



DESCRIBE PROPOSED IMPACT:

--

Stream Assessment Form (Form 1)

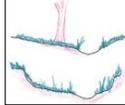
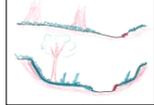
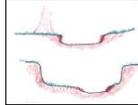
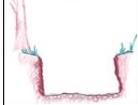
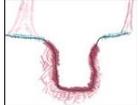
Unified Stream Methodology for use in Virginia

For use in wadeable channels classified as intermittent or perennial

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
2017-890	Cumberland - Green Ridge Landfill		R3	02080205	1/30/2020	4.1	820	1

Name(s) of Evaluator(s)	Stream Name and Information
Hannah Miller	Reach 4 - Section 4.1

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Conditional Category					
	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Condition						
	Very little incision or active erosion; 80-100% stable banks. Vegetative surface protection or natural rock, prominent (80-100%). AND/OR Stable point bars/bankfull benches are present. Access to their original floodplain or fully developed wide bankfull benches. Mid-channel bars, and transverse bars few. Transient sediment deposition covers less than 10% of bottom.	Slightly incised, few areas of active erosion or unprotected banks. Majority of banks are stable (60-80%). Vegetative protection or natural rock prominent (60-80%) AND/OR Depositional features contribute to stability. The bankfull and low flow channels are well defined. Stream likely has access to bankfull benches, or newly developed floodplains along portions of the reach. Transient sediment covers 10-40% of the stream bottom.	Often incised, but less than Severe or Poor. Banks more stable than Severe or Poor due to lower bank slopes. Erosion may be present on 40-60% of both banks. Vegetative protection on 40-60% of stream. Streambanks may be vertical or undercut. AND/OR 40-60% of stream is covered by sediment. Sediment may be temporary/transient, contribute instability. Deposition that contribute to stability, may be forming/present. AND/OR V-shaped channels have vegetative protection on > 40% of the banks and depositional features which	Overwidened/incised. Vertically/laterally unstable. Likely to widen further. Majority of both banks are near vertical. Erosion present on 60-80% of banks. Vegetative protection present on 20-40% of banks, and is insufficient to prevent erosion. AND/OR 60-80% of the stream is covered by sediment. Sediment is temporary/transient in nature, and contributing to instability. AND/OR V-shaped channels have vegetative protection is present on > 40% of the banks and stable sediment deposition is absent.	Overwidened/incised, vertical/lateral instability. Severe incision, flow contained within the banks. Streambed below average rooting depth, majority of banks vertical/undercut. Vegetative protection present on less than 20% of banks, is not preventing erosion. Obvious bank sloughing present. Erosion/raw banks on 80-100%. AND/OR Aggrading channel. Greater than 80% of stream bed is covered by deposition, contributing to instability. Multiple thread channels and/or subterranean flow.	CI
Score	3	2.4	2	1.6	1	1.6

NOTES>>

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

	Conditional Category							
	Optimal	Suboptimal	Marginal		Poor			
Riparian Buffers	Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wetlands located within the riparian areas.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.	
Condition Scores	1.5	High	Low	High	Low	High	Low	

1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors.
 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below.
 3. Enter the % Riparian Area and Score for each riparian category in the blocks below.

Right Bank		% Riparian Area >	100%						100%	
		Score >	1.5							
Left Bank		% Riparian Area >	100%						100%	
		Score >	1.5							
									E	
									Rt Bank CI >	1.50
									Lt Bank CI >	1.50

3. INSTREAM HABITAT: Varied substrate sizes, water velocity and depths; woody and leafy debris; stable substrate; low embeddedness; shade; undercut banks; root mats; SAV; riffle poole complexes, stable features.

	Conditional Category				
	Optimal	Suboptimal	Marginal	Poor	
Instream Habitat/ Available Cover	Habitat elements are typically present in greater than 50% of the reach.	Stable habitat elements are typically present in 30-50% of the reach and are adequate for maintenance of populations.	Stable habitat elements are typically present in 10-30% of the reach and are adequate for maintenance of populations.	Habitat elements listed above are lacking or are unstable. Habitat elements are typically present in less than 10% of the reach.	
Score	1.5	1.2	0.9	0.5	CI
					0.90

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
2017-890			R3/R4	02080205	10/24/19			

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock							NOTES>>	
Conditional Category								
Channel Alteration	Negligible	Minor	Moderate	Severe				
	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	20-40% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	40 - 60% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	60 - 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	Greater than 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines AND/OR 80% of banks shored with gabion, riprap, or cement.		
	SCORE	1.5	1.3	1.1	0.9	0.7		0.5
	REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH							
							1.50	

NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.

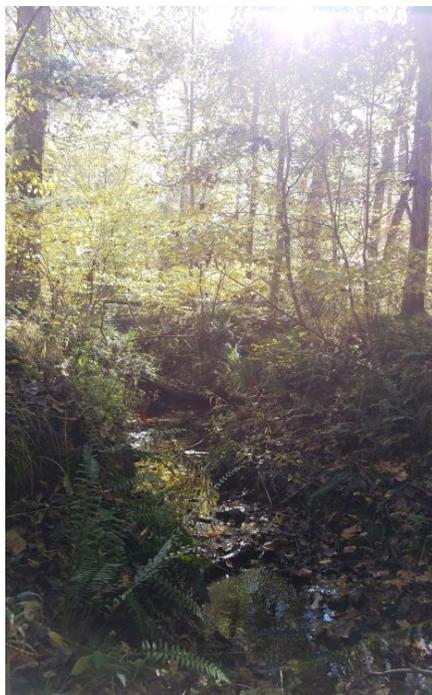
THE REACH CONDITION INDEX (RCI) >>	1.10
---	-------------

RCI= (Sum of all CI's)/5

COMPENSATION REQUIREMENT (CR) >>	902
---	------------

CR = RCI X LF X IF

INSERT PHOTOS:



DESCRIBE PROPOSED IMPACT:

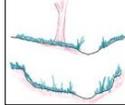
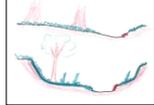
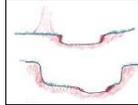
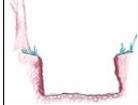
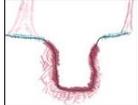
Stream Assessment Form (Form 1)

Unified Stream Methodology for use in Virginia

For use in wadeable channels classified as intermittent or perennial

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
2017-890	Cumberland - Green Ridge Landfill		R3	02080205	1/30/2020	5.1	300	1
Name(s) of Evaluator(s)		Stream Name and Information						
Hannah Miller		Reach 5 - Section 5.1						

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Conditional Category					
	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Condition						
	Very little incision or active erosion; 80-100% stable banks. Vegetative surface protection or natural rock, prominent (80-100%). AND/OR Stable point bars/bankfull benches are present. Access to their original floodplain or fully developed wide bankfull benches. Mid-channel bars, and transverse bars few. Transient sediment deposition covers less than 10% of bottom.	Slightly incised, few areas of active erosion or unprotected banks. Majority of banks are stable (60-80%). Vegetative protection or natural rock prominent (60-80%) AND/OR Depositional features contribute to stability. The bankfull and low flow channels are well defined. Stream likely has access to bankfull benches, or newly developed floodplains along portions of the reach. Transient sediment covers 10-40% of the stream bottom.	Often incised, but less than Severe or Poor. Banks more stable than Severe or Poor due to lower bank slopes. Erosion may be present on 40-60% of both banks. Vegetative protection on 40-60% of banks. Streambanks may be vertical or undercut. AND/OR 40-60% of stream is covered by sediment. Sediment may be temporary/transient, contribute instability. Deposition that contribute to stability, may be forming/present. AND/OR V-shaped channels have vegetative protection on > 40% of the banks and depositional features which	Overwidened/incised. Vertically/laterally unstable. Likely to widen further. Majority of both banks are near vertical. Erosion present on 60-80% of banks. Vegetative protection present on 20-40% of banks, and is insufficient to prevent erosion. AND/OR 60-80% of the stream is covered by sediment. Sediment is temporary/transient in nature, and contributing to instability. AND/OR V-shaped channels have vegetative protection is present on > 40% of the banks and stable sediment deposition is absent.	Overwidened/incised, vertical/lateral instability. Severe incision, flow contained within the banks. Streambed below average rooting depth, majority of banks vertical/undercut. Vegetative protection present on less than 20% of banks, is not preventing erosion. Obvious bank sloughing present. Erosion/raw banks on 80-100%. AND/OR Aggrading channel. Greater than 80% of stream bed is covered by deposition, contributing to instability. Multiple thread channels and/or subterranean flow.	CI
Score	3	2.4	2	1.6	1	1.6

NOTES>>

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

	Conditional Category							
	Optimal	Suboptimal	Marginal		Poor			
Riparian Buffers	Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wetlands located within the riparian areas.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.	
Condition Scores	1.5	High	Low	High	Low	High	Low	

1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors.
 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below.
 3. Enter the % Riparian Area and Score for each riparian category in the blocks below.

		Ensure the sums of % Riparian Blocks equal 100						
Right Bank	% Riparian Area >	100%					100%	
	Score >	1.5						
Left Bank	% Riparian Area >	100%					100%	
	Score >	1.5						

3. INSTREAM HABITAT: Varied substrate sizes, water velocity and depths; woody and leafy debris; stable substrate; low embeddedness; shade; undercut banks; root mats; SAV; riffle poole complexes, stable features.

	Conditional Category				
	Optimal	Suboptimal	Marginal	Poor	
Instream Habitat/ Available Cover	Habitat elements are typically present in greater than 50% of the reach.	Stable habitat elements are typically present in 30-50% of the reach and are adequate for maintenance of populations.	Stable habitat elements are typically present in 10-30% of the reach and are adequate for maintenance of populations.	Habitat elements listed above are lacking or are unstable. Habitat elements are typically present in less than 10% of the reach.	
Score	1.5	1.2	0.9	0.5	CI
					0.90

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
2017-890			R3/R4	02080205	10/24/19			

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock							NOTES>>	
Channel Alteration	Conditional Category							
	Negligible	Minor	Moderate	Severe				
	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	20-40% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	40 - 60% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	60 - 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	Greater than 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines AND/OR 80% of banks shored with gabion, riprap, or cement.		
	SCORE	1.5	1.3	1.1	0.9	0.7		0.5

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.

THE REACH CONDITION INDEX (RCI) >>	1.10
---	-------------

RCI= (Sum of all CI's)/5

COMPENSATION REQUIREMENT (CR) >>	330
---	------------

CR = RCI X LF X IF

INSERT PHOTOS:



Example of portion of 5.1

DESCRIBE PROPOSED IMPACT:

Ephemeral Stream Assessment Form (Form 1a)

Unified Stream Methodology for use in Virginia

For use in ephemeral streams

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
2017-890	Cumberland - Green Ridge Landfill		R4	02080205	1/30/2020	5.2	814	1

Name(s) of Evaluator(s)	Stream Name and Information
Hannah Miller	Reach 5 - Section 5.2

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

Conditional Category								NOTES>>
Optimal	Suboptimal		Marginal		Poor			
Riparian Buffers Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and an non-maintained understory . Wetlands areas.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.		
		High	Low	High	Low	High		Low
	Condition Scores	1.5	1.2	1.1	0.85	0.75		0.6
1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors. 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below. 3. Enter the % Riparian Area and Score for each riparian category in the blocks below.						Ensure the sums of % Riparian Blocks equal 100		
Right Bank	% Riparian Area>	100%					100%	
	Score >	1.5						
							CI= (Sum % RA * Scores*0.01)/2	
Left Bank	% Riparian Area>	100%					100%	
	Score >	1.5						
							Rt Bank CI > 1.50 CI	
							Lt Bank CI > 1.50 1.50	
REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH								

NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.

THE REACH CONDITION INDEX (RCI) >>	0.75
---	-------------

RCI= (Riparian CI)/2

COMPENSATION REQUIREMENT (CR) >>	611
---	------------

CR = RCI X LF X IF

INSERT PHOTOS:



Example of Reach 5.2



DESCRIBE PROPOSED IMPACT:

--

Ephemeral Stream Assessment Form (Form 1a)

Unified Stream Methodology for use in Virginia

For use in ephemeral streams

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
2017-890	Cumberland - Green Ridge Landfill		R4	02080205	1/30/2020	6.1	239	1

Name(s) of Evaluator(s)	Stream Name and Information
Hannah Miller	Reach 6 - Section 6.1

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

Conditional Category								NOTES>>
Optimal	Suboptimal		Marginal		Poor			
Riparian Buffers Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and an non-maintained understory. Wetlands areas.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.		
	High	Low	High	Low	High	Low		
Condition Scores	1.5	1.2	1.1	0.85	0.75	0.6	0.5	
1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors. 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below. 3. Enter the % Riparian Area and Score for each riparian category in the blocks below.						Ensure the sums of % Riparian Blocks equal 100		
Right Bank	% Riparian Area>	75%	25%				100%	
	Score >	1.5	0.75					
							CI= (Sum % RA * Scores*0.01)/2	
Left Bank	% Riparian Area>	75%	25%				100%	
	Score >	1.5	0.75					
							Rt Bank CI > 1.31	CI
							Lt Bank CI > 1.31	1.31
REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH								

NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.

THE REACH CONDITION INDEX (RCI) >>	0.66
---	-------------

RCI= (Riparian CI)/2

COMPENSATION REQUIREMENT (CR) >>	158
---	------------

CR = RCI X LF X IF

INSERT PHOTOS:



Example of Reach 6.1

DESCRIBE PROPOSED IMPACT:

--

Ephemeral Stream Assessment Form (Form 1a)

Unified Stream Methodology for use in Virginia

For use in ephemeral streams

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
2017-890	Cumberland - Green Ridge Landfill		R4	02080205	1/30/2020	7.1	408	1

Name(s) of Evaluator(s)	Stream Name and Information
Hannah Miller	Reach 7 - Section 7.1

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

Conditional Category								NOTES>>
Optimal	Suboptimal		Marginal		Poor			
Riparian Buffers	Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and an non-maintained understory. Wetlands areas.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.	
		High	Low	High	Low	High	Low	
Condition Scores	1.5	1.2	1.1	0.85	0.75	0.6	0.5	
1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors. 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below. 3. Enter the % Riparian Area and Score for each riparian category in the blocks below.							Ensure the sums of % Riparian Blocks equal 100	
Right Bank	% Riparian Area>	100%					100%	
	Score >	1.5						
								CI= (Sum % RA * Scores*0.01)/2
Left Bank	% Riparian Area>	100%					100%	Rt Bank CI > 1.50
	Score >	1.5						Lt Bank CI > 1.50
REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH								

NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.

THE REACH CONDITION INDEX (RCI) >>	0.75
---	-------------

RCI= (Riparian CI)/2

COMPENSATION REQUIREMENT (CR) >>	306
---	------------

CR = RCI X LF X IF

INSERT PHOTOS:



Example of Reach 7.1

DESCRIBE PROPOSED IMPACT:

--

Ephemeral Stream Assessment Form (Form 1a)

Unified Stream Methodology for use in Virginia

For use in ephemeral streams

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
2017-890	Cumberland - Green Ridge Landfill		R4	02080205	1/30/2020	8.1	131	1

Name(s) of Evaluator(s)	Stream Name and Information
Hannah Miller	Reach 8 - Section 8.1

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

Conditional Category								NOTES>>		
Optimal	Suboptimal		Marginal		Poor					
Riparian Buffers Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and an non-maintained understory . Wetlands areas.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.				
	1.5	High	Low	High	Low	High		Low		
Condition Scores	1.5	1.2	1.1	0.85	0.75	0.6	0.5			
1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors. 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below. 3. Enter the % Riparian Area and Score for each riparian category in the blocks below.						Ensure the sums of % Riparian Blocks equal 100				
Right Bank	% Riparian Area>	100%					100%			
	Score >	1.5								
CI= (Sum % RA * Scores*0.01)/2										
Left Bank	% Riparian Area>	100%					100%	Rt Bank CI >	1.50	CI
	Score >	1.5						Lt Bank CI >	1.50	1.50
REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH										

NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.

THE REACH CONDITION INDEX (RCI) >>	0.75
---	-------------

RCI= (Riparian CI)/2

COMPENSATION REQUIREMENT (CR) >>	98
---	-----------

CR = RCI X LF X IF

INSERT PHOTOS:



Example of top of Reach 8

DESCRIBE PROPOSED IMPACT:

--

Ephemeral Stream Assessment Form (Form 1a)

Unified Stream Methodology for use in Virginia

For use in ephemeral streams

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
2017-890	Cumberland - Green Ridge Landfill		R4	02080205	1/30/2020	9.1	513	1

Name(s) of Evaluator(s)	Stream Name and Information
Hannah Miller	Reach 9 - Section 9.1

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

Conditional Category								NOTES>>
Optimal	Suboptimal		Marginal		Poor			
Riparian Buffers	Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and an non-maintained understory . Wetlands areas.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.	
		High	Low	High	Low	High	Low	
	Condition Scores	1.5	1.2	1.1	0.85	0.75	0.6	0.5
1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors. 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below. 3. Enter the % Riparian Area and Score for each riparian category in the blocks below.							Ensure the sums of % Riparian Blocks equal 100	
Right Bank	% Riparian Area>	100%					100%	
	Score >	1.5						
								CI= (Sum % RA * Scores*0.01)/2
Left Bank	% Riparian Area>	100%					100%	Rt Bank CI > 1.50
	Score >	1.5						Lt Bank CI > 1.50
REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH								

NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.

THE REACH CONDITION INDEX (RCI) >>	0.75
---	-------------

RCI= (Riparian CI)/2

COMPENSATION REQUIREMENT (CR) >>	385
---	------------

CR = RCI X LF X IF

INSERT PHOTOS:



Example of Reach 9.1

DESCRIBE PROPOSED IMPACT:

--

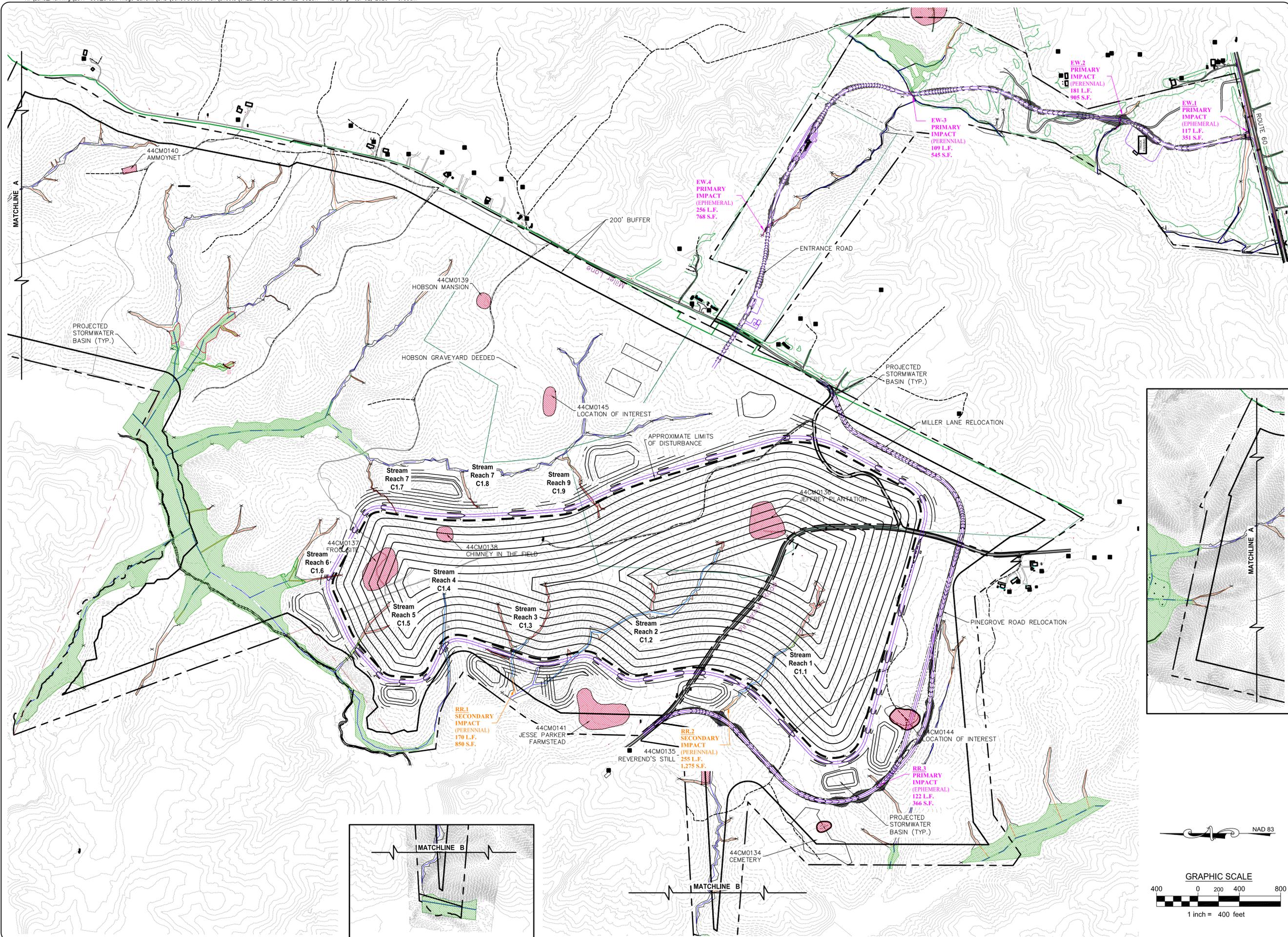
Stream Assessment Summary Form (Form 2)

Unified Stream Methodology for use in Virginia

Project #	Applicant	Date
2017-890	Green Ridge Recycling and Disposal	6/19/2020
Evaluators		HUC
Hannah Miller, Brent E. Johnson		02080205
		Locality

Stream Name	Reach ID	Length of Impact (L _I) (feet)	Reach Condition Index (RCI)	Impact Factor (IF)	Compensation Requirement (CR) (L _I × RCI × IF)
Reach 1	1.1	700	1.18	1.00	826
Reach 1	1.2	184	1.04	1.00	191
Reach 1	1.3	952	0.75	1.00	714
Reach 2	2.1	2,323	1.18	1.00	2,741
Reach 2	2.2	542	0.75	1.00	407
Reach 3	3.1	433	1.10	1.00	476
Reach 3	3.2	1,382	0.75	1.00	1,037
Reach 4	4.1	820	1.10	1.00	902
Reach 5	5.1	300	1.10	1.00	330
Reach 5	5.2	814	0.75	1.00	611
Reach 6	6.1	239	1.24	1.00	296
Reach 7	7.1	408	0.75	1.00	306
Reach 8	8.1	131	0.75	1.00	98
Reach 9	9.1	513	0.75	1.00	385
Reach 10	EW1 (includes EW.2 and EW.3)	290	1.24	1.00	360
Reach 11	EW2 (includes EW.1 and EW.4)	373	0.75	1.00	280
Reach 12	RR1 (includes RR.1 and RR.2)	425	1.32	1.00	561
Reach 13	RR2 (includes RR.3)	122	0.75	1.00	92
Total L_I		10,951		Total CR	10,613

Note: Round all feet & CR's to the nearest whole number.



**KOONTZ BRYANT
JOHNSON WILLIAMS**
1703 N. Parham Rd, Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com

COMMONWEALTH OF VIRGINIA
BRENT E. JOHNSON
Lic No. 33465
PROFESSIONAL ENGINEER

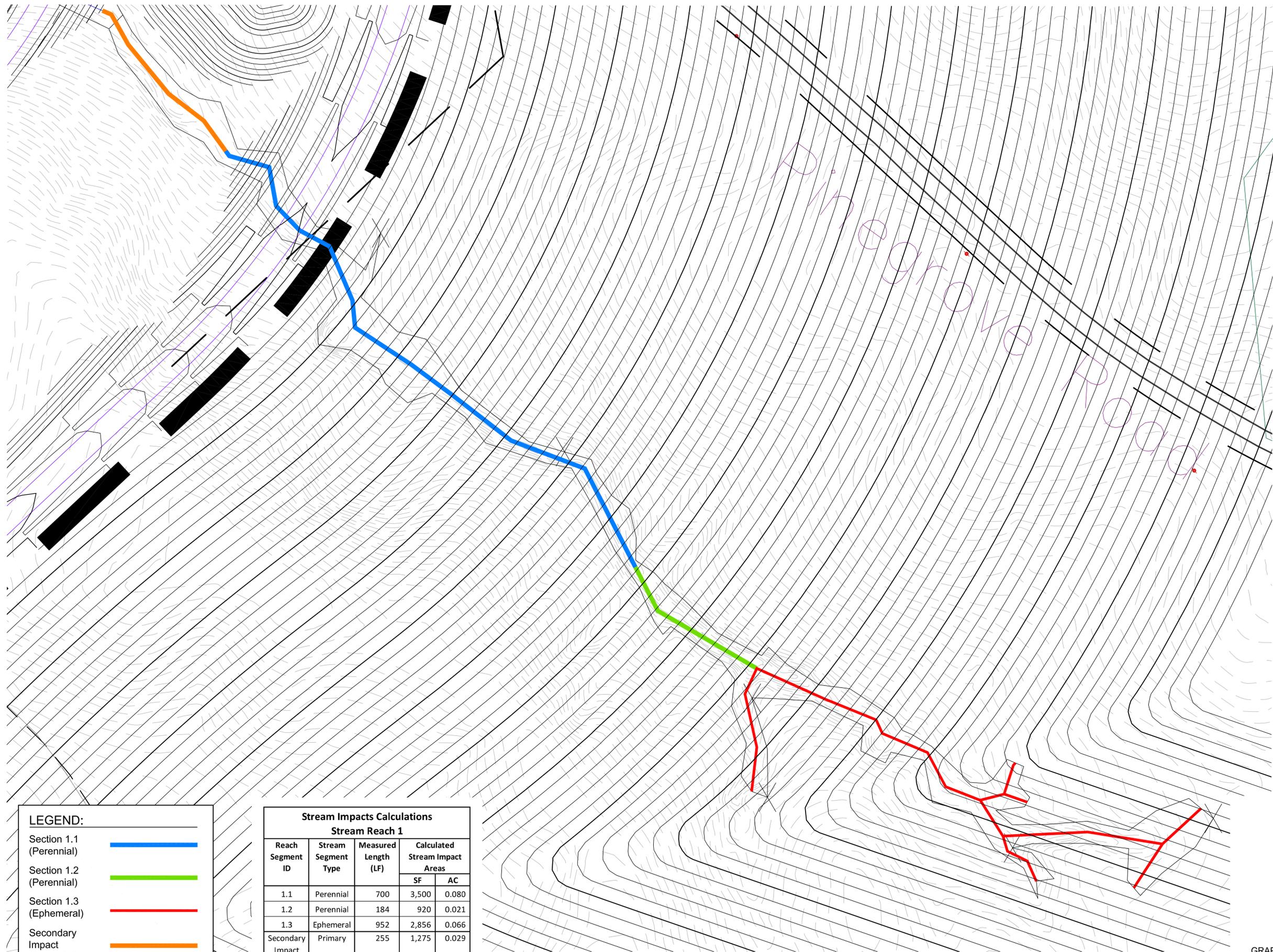
NO.	DATE	REVISIONS	DESCRIPTION

DESIGNED BEJ	DRAWN RWM	CHECKED
-----------------	--------------	---------

**GREEN RIDGE RECYCLING AND
DISPOSAL CENTER**
CUMBERLAND COUNTY, VIRGINIA
OVERALL PLAN

SCALE: 1" = 400'
DATE: JULY 2, 2020
PROJECT: 19033-004

C1.0



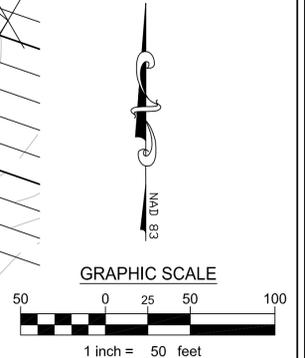
LEGEND:

Section 1.1 (Perennial)	
Section 1.2 (Perennial)	
Section 1.3 (Ephemeral)	
Secondary Impact (Perennial)	

Stream Impacts Calculations
Stream Reach 1

Reach Segment ID	Stream Segment Type	Measured Length (LF)	Calculated Stream Impact Areas	
			SF	AC
1.1	Perennial	700	3,500	0.080
1.2	Perennial	184	920	0.021
1.3	Ephemeral	952	2,856	0.066
Secondary Impact	Primary	255	1,275	0.029
Totals =		2,091	8,551	0.196

Date Inserted: 6/18/2020 11:29



**KOONTZ BRYANT
JOHNSON WILLIAMS**
1703 N. Parham Rd, Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com

COMMONWEALTH OF VIRGINIA
BRENT E. JOHNSON
Lic No. 33465
PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	DESCRIPTION
			POST APPROVAL

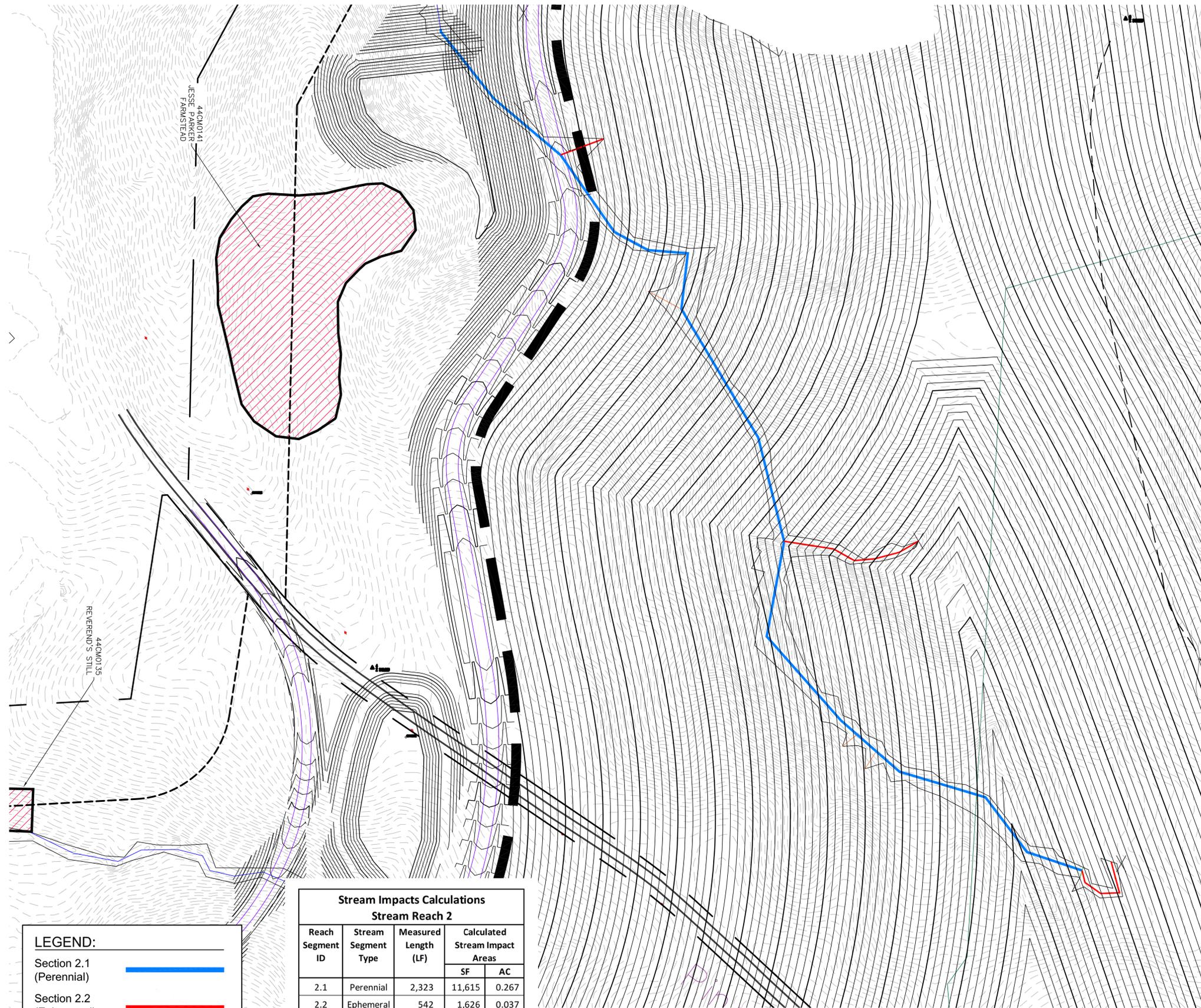
DESIGNED	DRAWN	CHECKED
BEJ	RWM	

**GREEN RIDGE RECYCLING AND
DISPOSAL CENTER**
CUMBERLAND COUNTY, VIRGINIA

STREAM REACH 1 IMPACTS

SCALE: 1" = 50'
DATE: JULY 2, 2020
PROJECT: 19033-004

C1.1



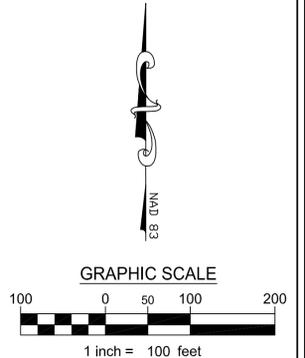
LEGEND:

Section 2.1 (Perennial)	
Section 2.2 (Ephemeral)	

Stream Impacts Calculations
Stream Reach 2

Reach Segment ID	Stream Segment Type	Measured Length (LF)	Calculated Stream Impact Areas	
			SF	AC
2.1	Perennial	2,323	11,615	0.267
2.2	Ephemeral	542	1,626	0.037
Totals =		2,865	13,241	0.304

Date Inserted: 6/10/2020 14:43



**KOONTZ BRYANT
JOHNSON WILLIAMS**
1703 N. Parham Rd, Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com



NO.	DATE	REVISIONS	DESCRIPTION
			POST APPROVAL

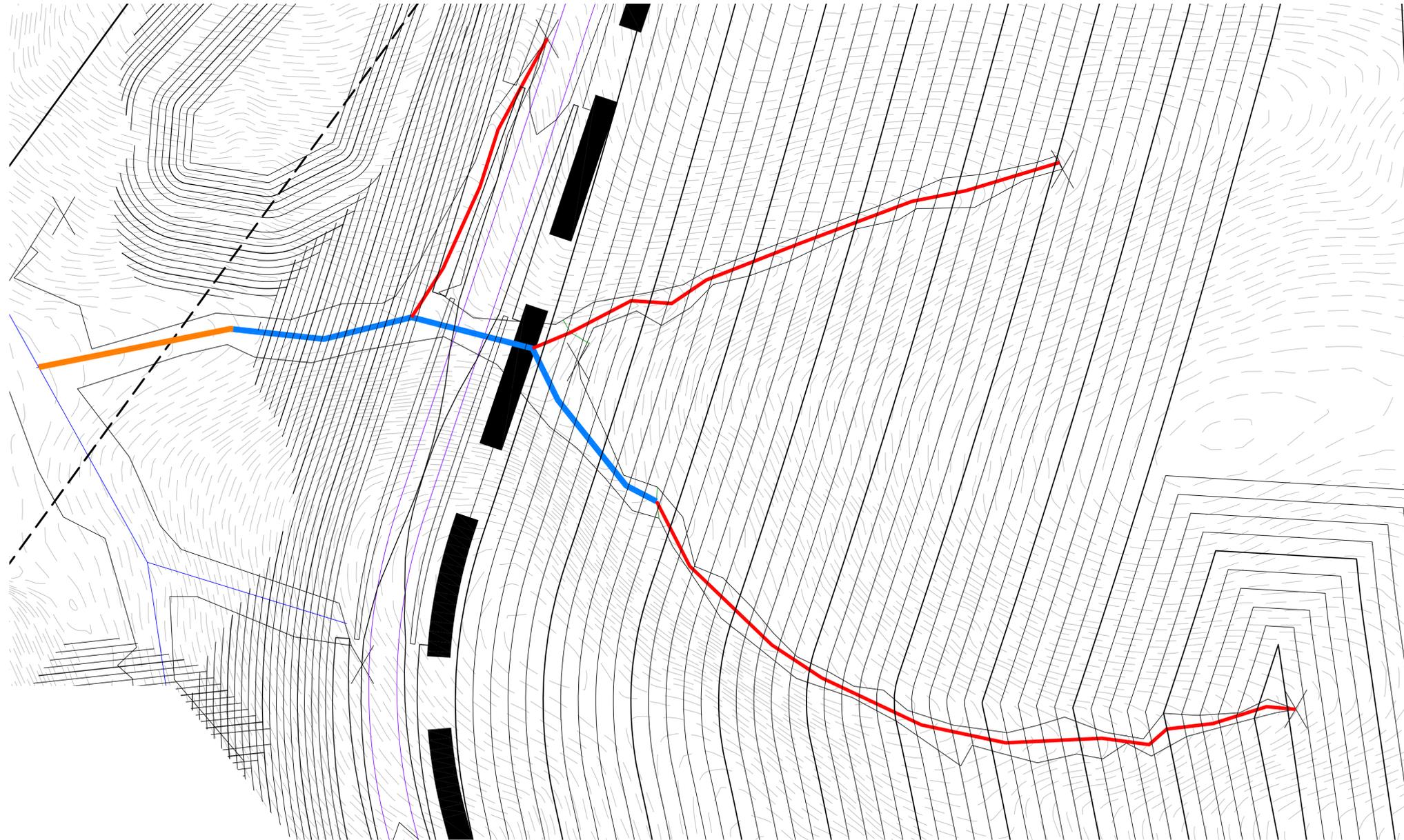
DESIGNED	DRAWN	CHECKED
BEJ	RWM	

**GREEN RIDGE RECYCLING AND
DISPOSAL CENTER**
CUMBERLAND COUNTY, VIRGINIA

STREAM REACH 2 IMPACTS

SCALE: 1"=100'
DATE: JULY 2, 2020
PROJECT: 19033-004

C1.2



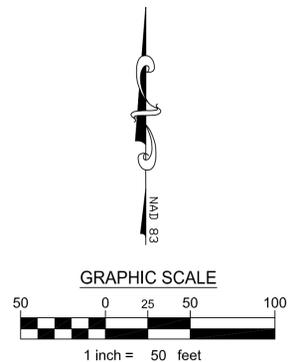
LEGEND:

Section 3.1 (Perennial)	
Section 3.2 (Perennial) (Ephemeral)	
Secondary Impact (Perennial)	

Stream Impacts Calculations
Stream Reach 3

Reach Segment ID	Stream Segment Type	Measured Length (LF)	Calculated Stream Impact Areas	
			SF	AC
3.1	Perennial	433	2,165	0.050
3.2	Ephemeral	1,382	4,146	0.095
Secondary Impact	Perennial	255	1,275	0.029
Totals =		2,070	7,586	0.174

Date Inserted: 6/18/2020 11:33



**KOONTZ BRYANT
JOHNSON WILLIAMS**
1703 N. Parham Rd, Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com



NO.	DATE	REVISIONS	DESCRIPTION
			POST APPROVAL

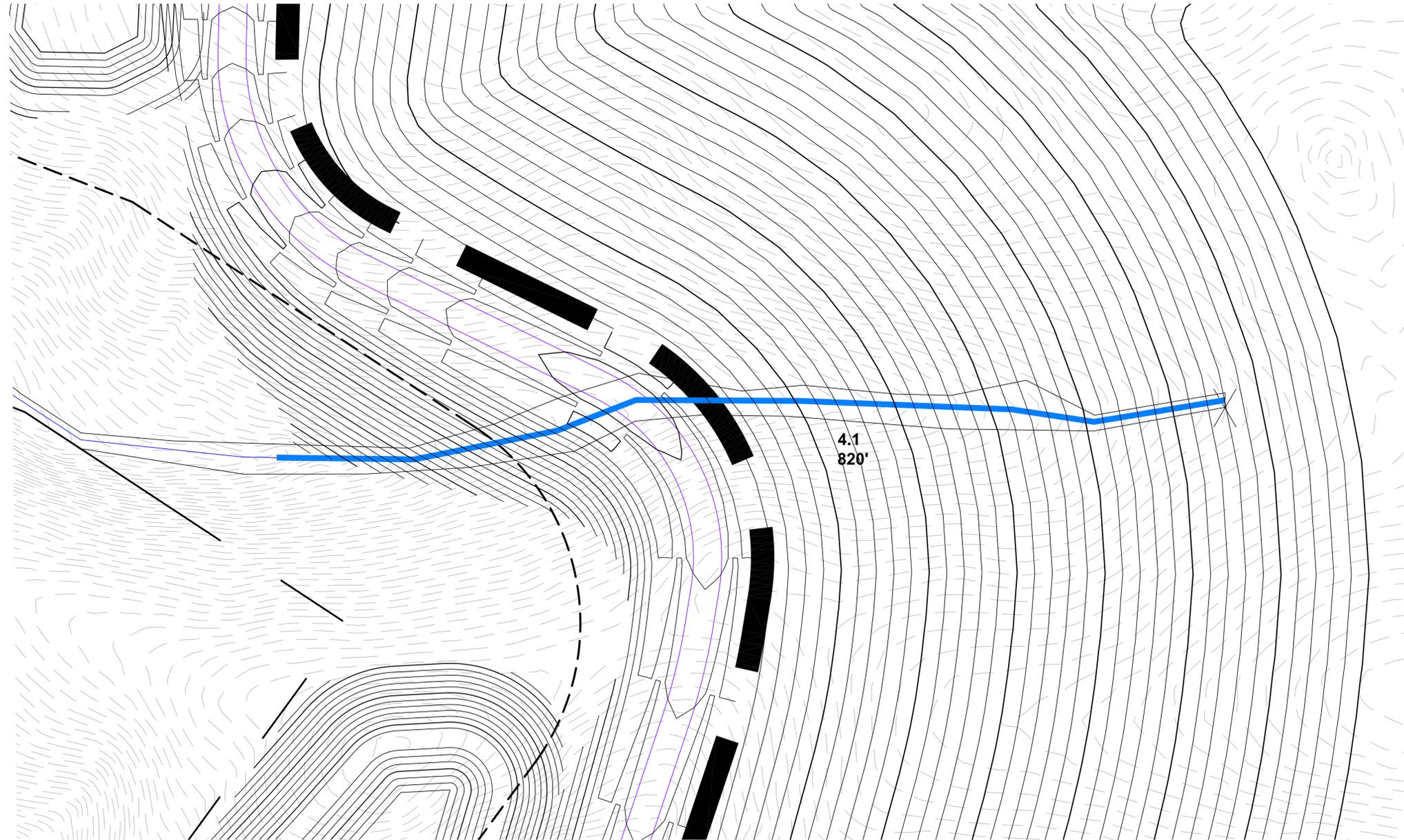
DESIGNED BEJ	DRAWN RWM	CHECKED
-----------------	--------------	---------

**GREEN RIDGE RECYCLING AND
DISPOSAL CENTER**
CUMBERLAND COUNTY, VIRGINIA

STREAM REACH 3 IMPACTS

SCALE: 1" = 50'
DATE: JULY 2, 2020
PROJECT: 19033-004

C1.3

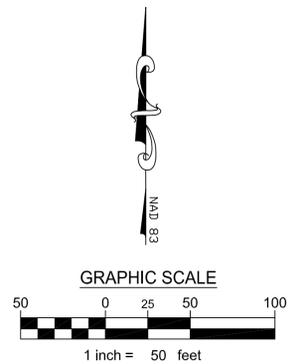


4.1
820'

LEGEND:
Section 4.1 (Perennial) —————

Stream Impacts Calculations Stream Reach 4				
Reach Segment ID	Stream Segment Type	Measured Length (LF)	Calculated Stream Impact Areas	
			SF	AC
4.1	Perennial	820	4,100	0.094
Totals =		820	4,100	0.094

Date Inserted: 6/15/2020 8:39



**KOONTZ BRYANT
JOHNSON WILLIAMS**
1703 N. Parham Rd. Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com



NO.	DATE	REVISIONS DESCRIPTION	POST APPROVAL

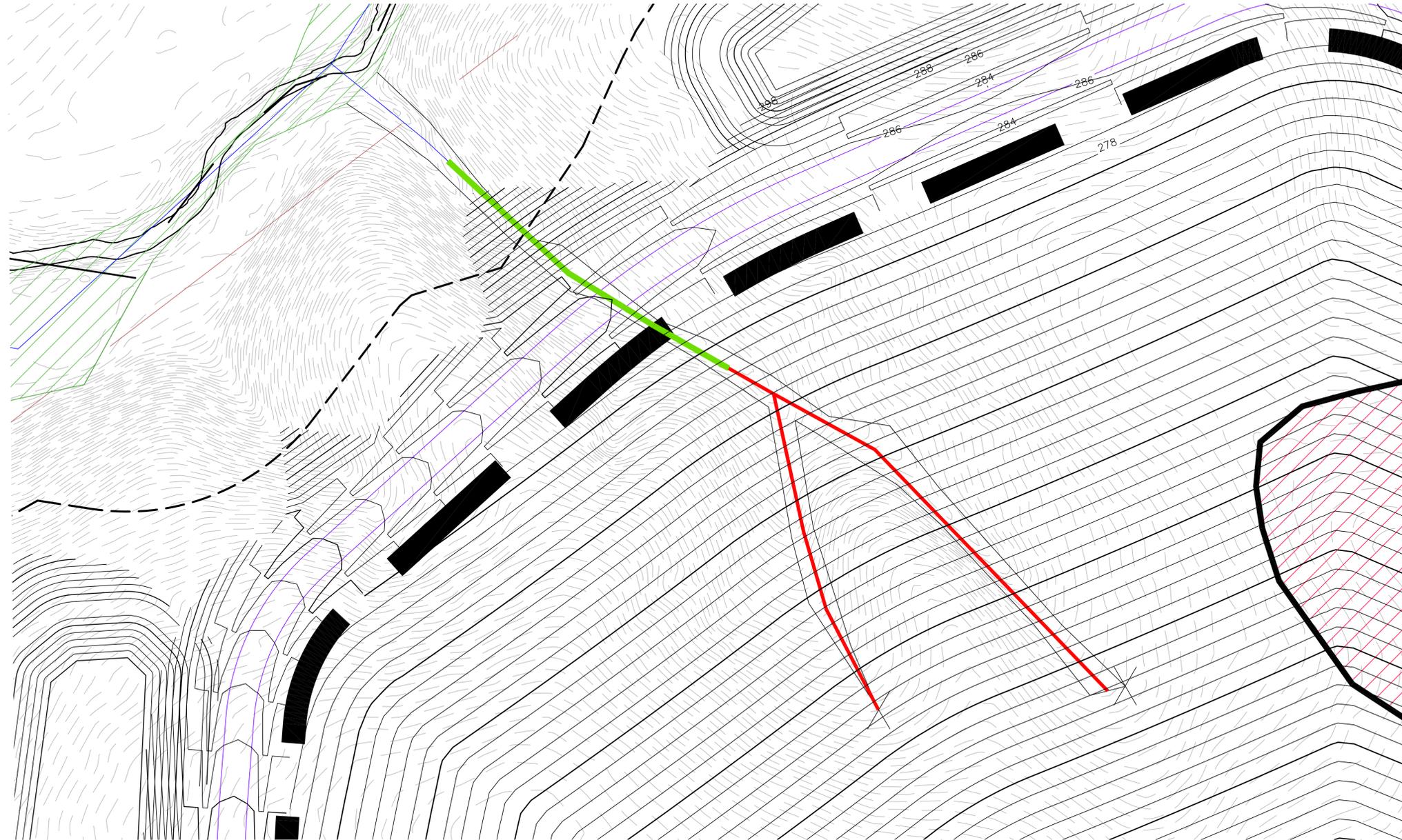
DESIGNED	DRAWN	CHECKED
BEJ	RWM	

**GREEN RIDGE RECYCLING AND
DISPOSAL CENTER**
CUMBERLAND COUNTY, VIRGINIA

STREAM REACH 4 IMPACTS

SCALE: 1" = 50'
DATE: JULY 2, 2020
PROJECT: 19033-004

C1.4

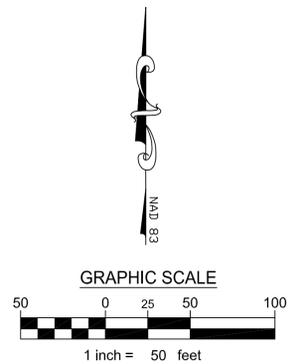


LEGEND:

Section 5.1 (Perennial)	
Section 5.2 (Ephemeral)	

Stream Impacts Calculations Stream Reach 5				
Reach Segment ID	Stream Segment Type	Measured Length (LF)	Calculated Stream Impact Areas	
			SF	AC
5.1	Perennial	300	1,500	0.034
5.2	Ephemeral	814	2,442	0.056
Totals =		1,114	3,942	0.090

Date Inserted: 6/15/2020 14:54



**KOONTZ BRYANT
JOHNSON WILLIAMS**
1703 N. Parham Rd, Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com



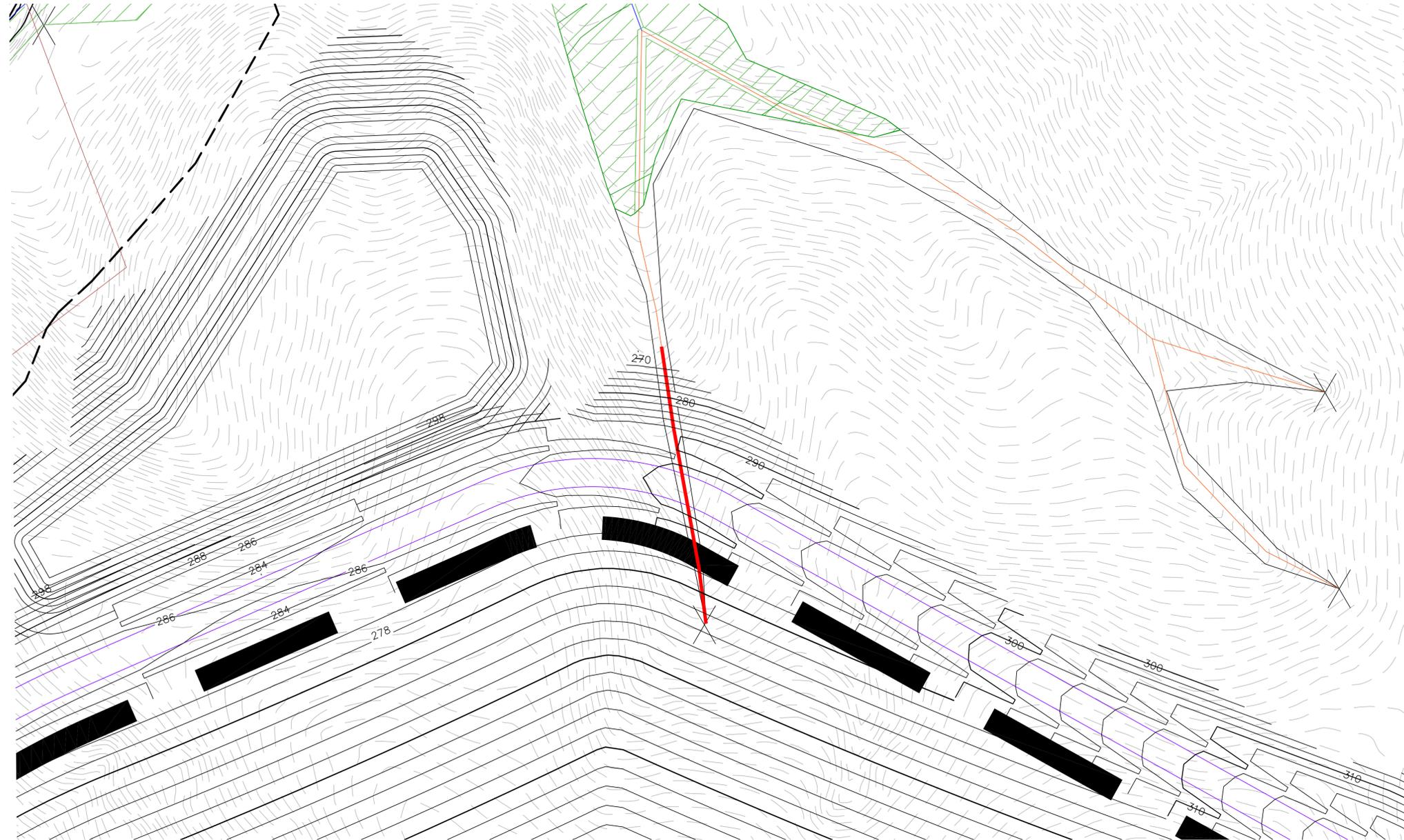
NO.	DATE	REVISIONS	DESCRIPTION
			POST APPROVAL

DESIGNED	DRAWN	CHECKED
BEJ	FRW	

**GREEN RIDGE RECYCLING AND
DISPOSAL CENTER**
CUMBERLAND COUNTY, VIRGINIA
STREAM REACH 5 IMPACTS

SCALE: 1" = 50'
DATE: JULY 2, 2020
PROJECT: 19033-004

C1.5

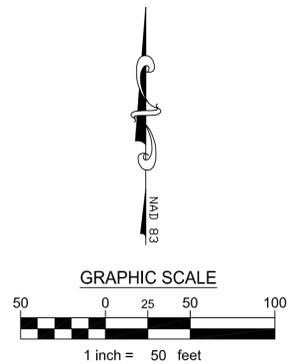


LEGEND:

Section 6.1 (Ephemeral)	
-------------------------	--

Stream Impacts Calculations				
Stream Reach 6				
Reach Segment ID	Stream Segment Type	Measured Length (LF)	Calculated Stream Impact Areas	
			SF	AC
6.1	Ephemeral	239	717	0.016
Totals =		239	717	0.016

Date Inserted: 6/18/2020 16:31



KOONTZ BRYANT JOHNSON WILLIAMS
 1703 N. Parham Rd, Suite 202
 Henrico, Va 23229
 (804) 740-9200
 FAX (804) 740-7338
 www.KBJWgroup.com



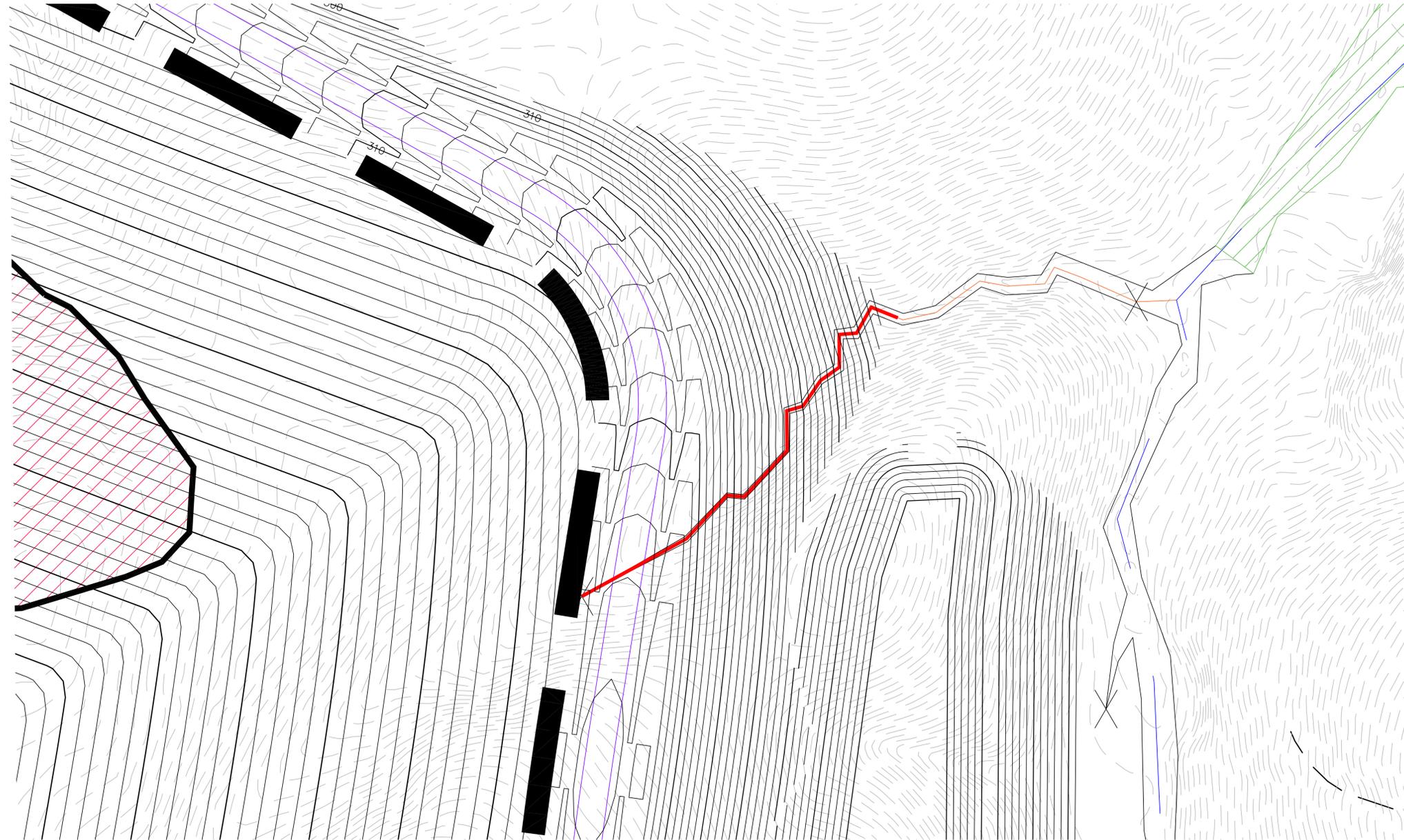
NO.	DATE	REVISIONS	DESCRIPTION
			POST APPROVAL

DESIGNED	DRAWN	CHECKED
BEJ	FRM	

GREEN RIDGE RECYCLING AND DISPOSAL CENTER
 CUMBERLAND COUNTY, VIRGINIA
STREAM REACH 6 IMPACTS

SCALE: 1" = 50'
 DATE: JULY 2, 2020
 PROJECT: 19033-004

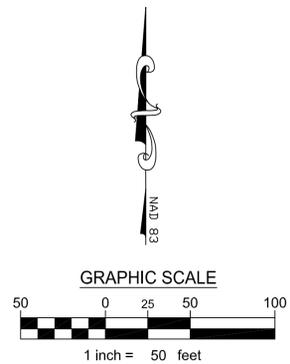
C1.6



LEGEND:
 Section 7.1 (Ephemeral) ———

Stream Impacts Calculations Stream Reach 7				
Reach Segment ID	Stream Segment Type	Measured Length (LF)	Calculated Stream Impact Areas	
			SF	AC
7.1	Ephemeral	408	1,224	0.028
Totals =		408	1,224	0.028

Date Inserted: 6/18/2020 13:17



**KOONTZ BRYANT
JOHNSON WILLIAMS**
 1703 N. Parham Rd, Suite 202
 Henrico, Va 23229
 (804) 740-9200
 FAX (804) 740-7338
 www.KBJWgroup.com



NO.	DATE	REVISIONS DESCRIPTION
		POST APPROVAL

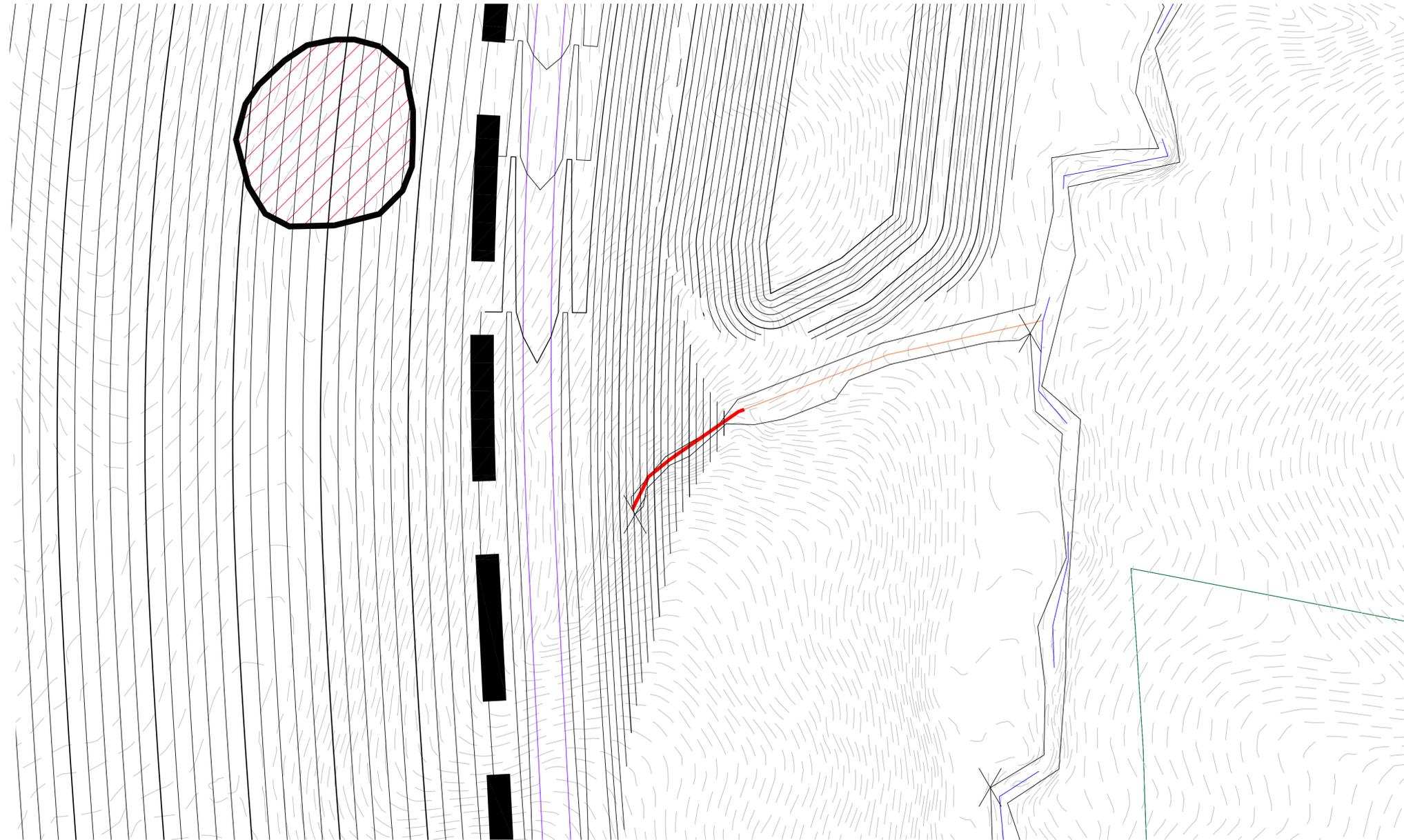
DESIGNED	DRAWN	CHECKED
BEJ	RWM	

**GREEN RIDGE RECYCLING AND
DISPOSAL CENTER**
 CUMBERLAND COUNTY, VIRGINIA

STREAM REACH 7 IMPACTS

SCALE: 1" = 50'
 DATE: JULY 2, 2020
 PROJECT: 19033-004

C1.7

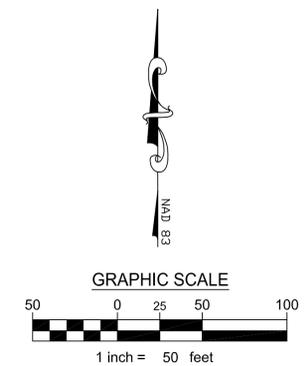


LEGEND:

Section 8.1 (Ephemeral) ———

Stream Impacts Calculations Stream Reach 8				
Reach Segment ID	Stream Segment Type	Measured Length (LF)	Calculated Stream Impact Areas	
			SF	AC
8.1	Ephemeral	131	393	0.009
Totals =		131	393	0.009

Date Inserted: 6/18/2020 16:34



**KOONTZ BRYANT
JOHNSON WILLIAMS**
1703 N. Parham Rd, Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com



REVISIONS		DESCRIPTION	POST APPROVAL
NO.	DATE		

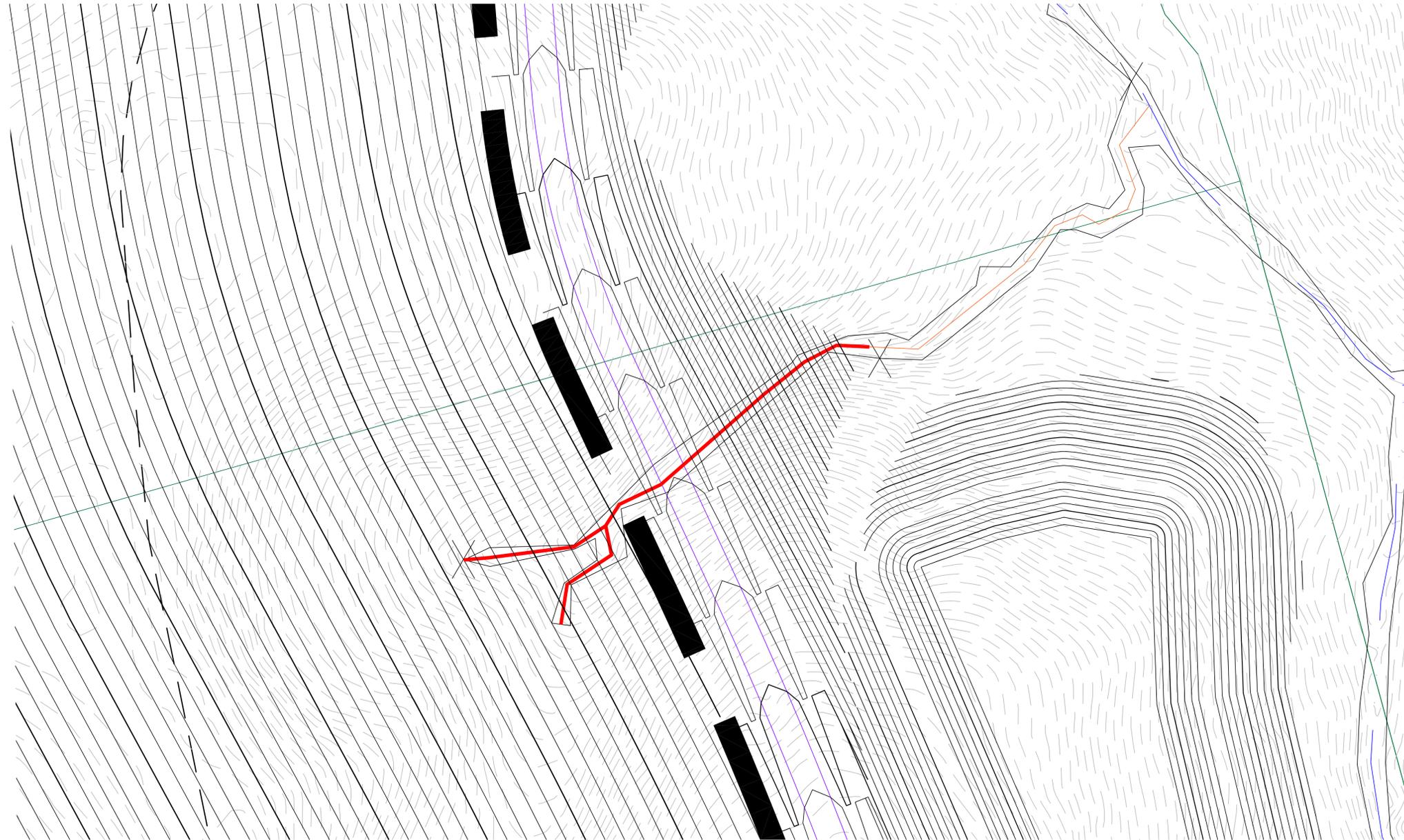
DESIGNED	DRAWN	CHECKED
BEJ	RWM	

**GREEN RIDGE RECYCLING AND
DISPOSAL CENTER**
CUMBERLAND COUNTY, VIRGINIA

STREAM REACH 8 IMPACTS

SCALE: 1" = 50'
DATE: JULY 2, 2020
PROJECT: 19033-004

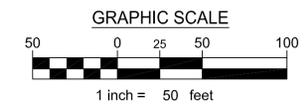
C1.8



LEGEND:
 Section 9.1 (Ephemeral) ———

Stream Impacts Calculations Stream Reach 9				
Reach Segment ID	Stream Segment Type	Measured Length (LF)	Calculated Stream Impact Areas	
			SF	AC
9.1	Ephemeral	513	2,565	0.059
Totals =		513	2,565	0.059

Date Inserted: 6/16/2020 6:43



KOONTZ BRYANT JOHNSON WILLIAMS
 1703 N. Parham Rd, Suite 202
 Henrico, Va 23229
 (804) 740-9200
 FAX (804) 740-7338
 www.KBJWgroup.com



REVISIONS	DESCRIPTION
No.	DATE
	POST APPROVAL

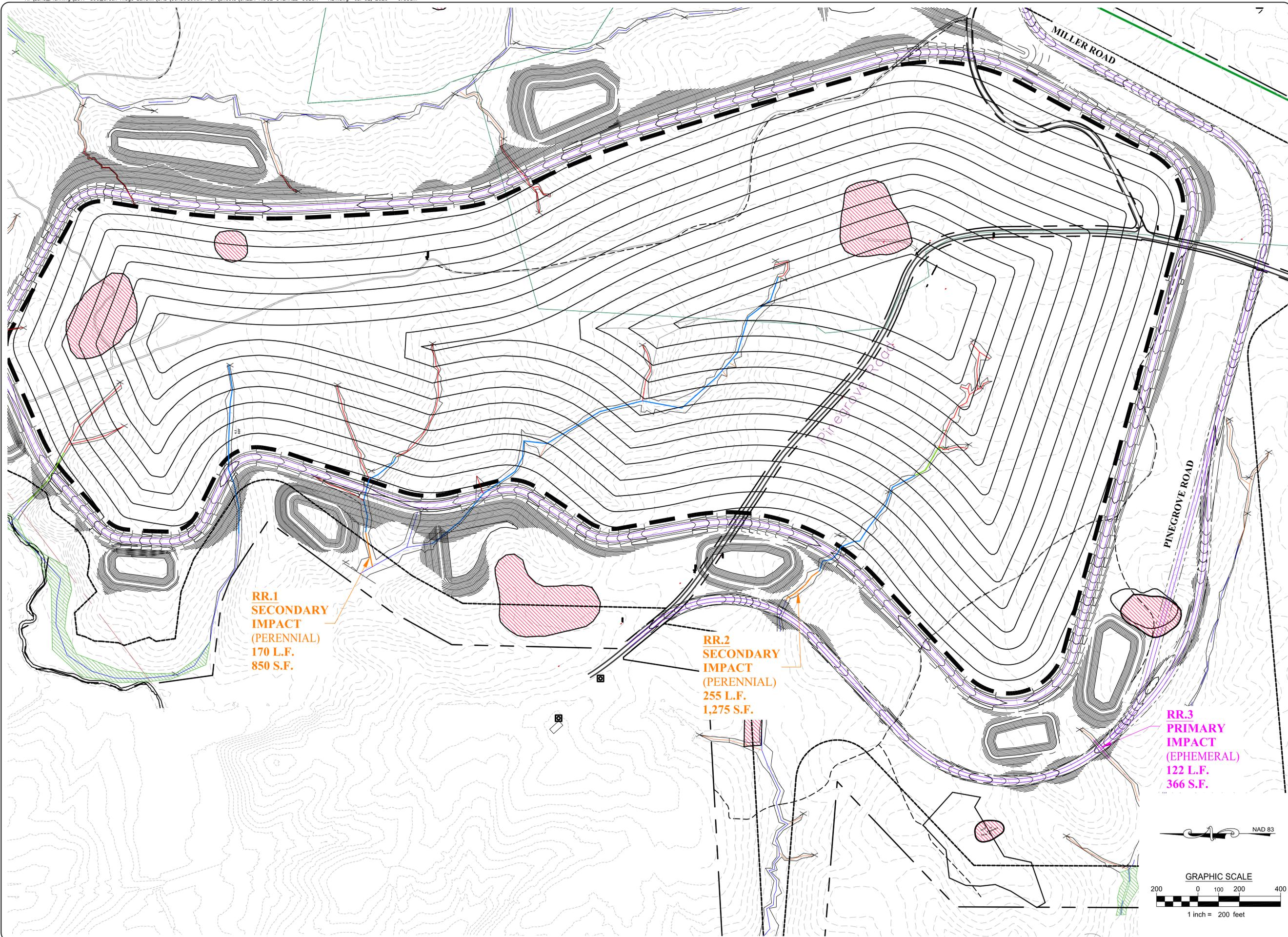
DESIGNED	DRAWN	CHECKED
BEJ	FWM	

GREEN RIDGE RECYCLING AND DISPOSAL CENTER
 CUMBERLAND COUNTY, VIRGINIA

STREAM REACH 9 IMPACTS

SCALE: 1" = 50'
 DATE: JULY 2, 2020
 PROJECT: 19033-004

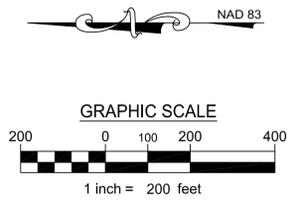
C1.9



**RR.1
SECONDARY
IMPACT
(PERENNIAL)
170 L.F.
850 S.F.**

**RR.2
SECONDARY
IMPACT
(PERENNIAL)
255 L.F.
1,275 S.F.**

**RR.3
PRIMARY
IMPACT
(EPHEMERAL)
122 L.F.
366 S.F.**



**KOONTZ BRYANT
JOHNSON WILLIAMS**
1703 N. Parham Rd, Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com



NO.	DATE	REVISIONS	DESCRIPTION

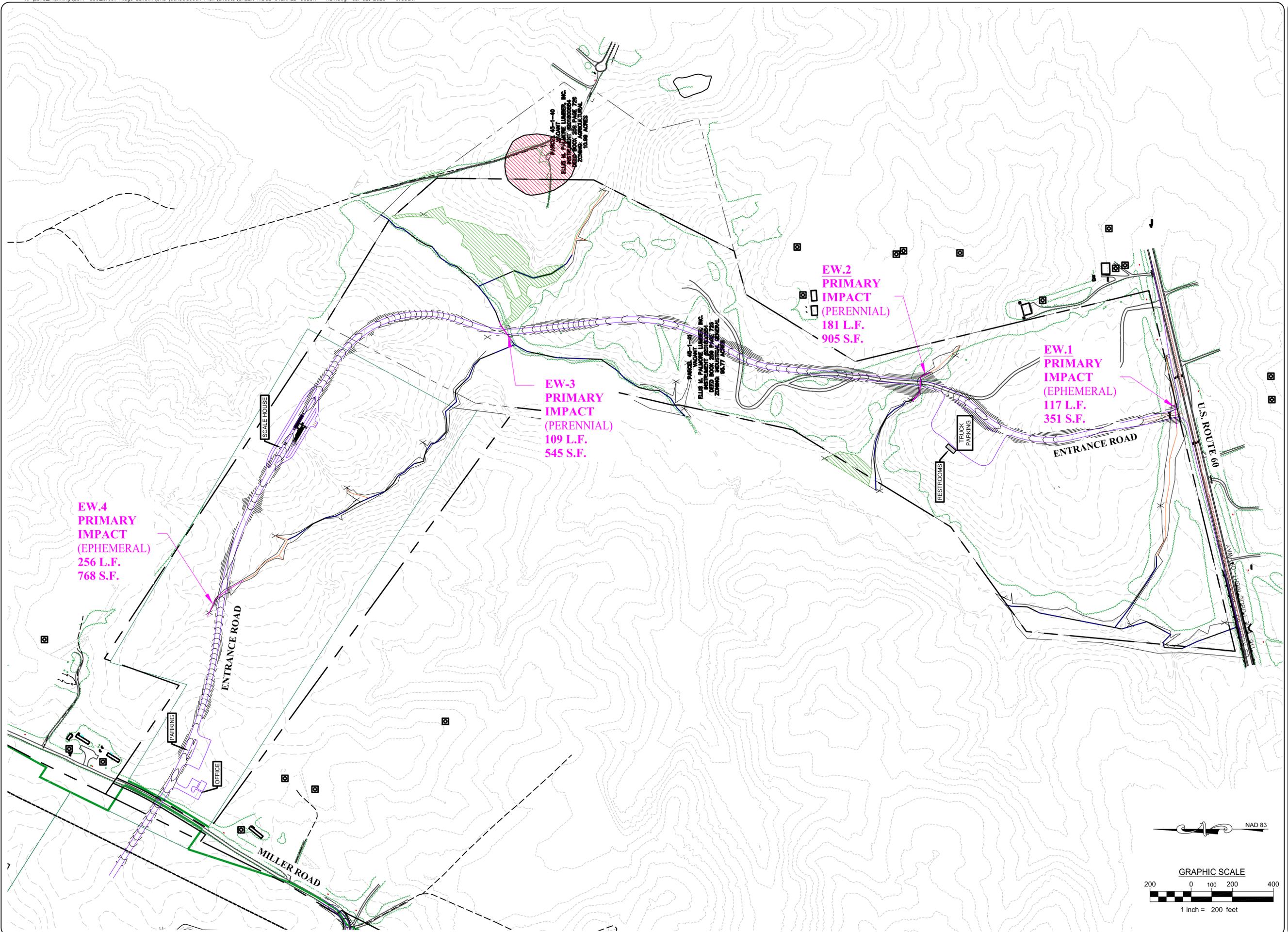
DESIGNED BEJ	DRAWN RJM	CHECKED
-----------------	--------------	---------

**GREEN RIDGE RECYCLING AND
DISPOSAL CENTER**
CUMBERLAND COUNTY, VIRGINIA

PINEGROVE ROAD IMPACTS MAP

SCALE: 1" = 200'
DATE: JULY 2, 2020
PROJECT: 19033-004

C1.10



**KOONTZ BRYANT
JOHNSON WILLIAMS**
1703 N. Parham Rd, Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com

COMMONWEALTH OF VIRGINIA
BRENT E. JOHNSON
Lic No. 33465
PROFESSIONAL ENGINEER

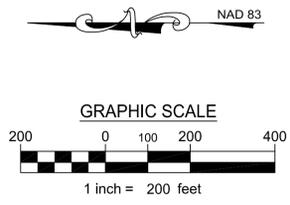
NO.	DATE	REVISIONS	DESCRIPTION

DESIGNED BEJ	DRAWN RWM	CHECKED
-----------------	--------------	---------

**GREEN RIDGE RECYCLING AND
DISPOSAL CENTER**
CUMBERLAND COUNTY, VIRGINIA
ENTRANCE ROAD IMPACTS MAP

SCALE: 1" = 200'
DATE: JULY 2, 2020
PROJECT: 19033-004

C1.11



IX. IMPACT MITIGATION REPORT

The subsequent report was prepared by RES for the Green Ridge Facility and includes a mitigation plan designed specifically for the needs of the project site. This plan focuses primarily on preservation and restoration of streams that exist onsite along with the restoration of sites that are adjacent to the north of the project area.

Concept Mitigation Plan
for the Proposed Green Ridge Recycling and Disposal
Facility

Cumberland County, Virginia

Prepared for:

Green Ridge Recycling and Disposal Facility, LLC
12230 Deerhill Road
Midlothian, VA 23112

Submitted to:

United States Army Corps of Engineers Norfolk District
Regulatory Branch
Richmond Field Office
9100 Arboretum Parkway
Suite 235
Richmond, VA 23236

Virginia Department of Environmental Quality
Central Office
1111 East Main Street, Suite 1400
Richmond, VA 23219

August 2020

Prepared by:



1408 B Roseneath Rd.
Richmond, VA 23230

Table of Contents

1.0	Introduction.....	2
1.1	Mitigation Banks.....	2
1.2	In-Lieu Fee Fund.....	3
1.3	Permittee Responsible Mitigation.....	3
2.0	Mitigation Plan.....	4
2.1	Goals and Objectives	4
2.2	Site Selection	4
2.3	Site Protection Instrument.....	5
2.4	Baseline Site Information.....	5
2.5	Determination of Credits.....	5
2.6	Conceptual Mitigation Work Plan	6

1.0 Introduction

Green Ridge Recycling and Disposal Facility, LLC (Applicant) presents this Concept Mitigation Plan (Plan) for compensatory mitigation for unavoidable stream impacts associated with the proposed Green Ridge Recycling and Disposal Facility (Project) in the following Hydrologic Unit Code (HUC): 02080205 Middle James – Willis.

This Plan is prepared in accordance with the Compensatory Mitigation for Losses of Aquatic Resources; Final Rule issued on April 10, 2008, as detailed in §332.4 (c) of the Federal Register (Volume 73 Number 70).

The Applicant has completed field surveys, analyzed and confirmed impacts, and will secure appropriate compensatory mitigation in accordance with the approach outlined below. As such, the Applicant has prepared this Plan with precise details on compensatory mitigation for the affected HUC, in accordance with the requirements of an Individual Permit (IP) for the proposed Project within the Norfolk District.

Unavoidable permanent impacts to streams will occur to accommodate fill and grading for the proposed landfill cell, stormwater management facilities, construction of an entrance road and relocation of Miller Lane and Pine Grove Road.

The Applicant will compensate for the permanent loss of streams for the Project through the use of the most environmentally preferable options consistent with the 2008 Mitigation Rule (33 CFR 332.1 et. seq.), the Virginia Code Wetland and Stream Mitigation section (VA Code § 62.1-44.15:23, the Virginia Water Protection Permit Program Regulations (9VAC25-210-116), and current availability.

Permanent losses of streams are proposed to be evaluated using the United Stream Methodology (USM) in order to assess what the stream compensation requirements are for the permitted stream impacts. Additionally, USM will be used to decide the amount of credits obtainable through the implementation of stream compensation practices.

The cumulative permanent impacts associated with the Project and compensation requirements are provided in Table 1 below.

Table 1: Project Impact Summary

Resource Type	Amount	Compensation Ratio	Mitigation Requirement
Stream	10,951 LF	USM Forms	10,613 SCUs

1.1 Mitigation Banks

The Applicant looked to purchase commercially available mitigation credits from an IRT-approved mitigation bank as a first option. Where available in sufficient quantity to satisfy the respective mitigation need, in-kind mitigation bank credits would be purchased from mitigation banks with released credits servicing the impact areas where the permanent loss of streams would occur.

The Applicant has completed research to identify mitigation banks with available stream credits that are able to service the permanent impacts associated with the Project. Based on that research and as provided

in the Joint Permit Application (JPA), it was determined that stream credits from mitigation banking were not sufficient at the time of submittal to serve the needs of this project. The Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS) was reviewed to determine credit availability. At the time of review, RIBITS showed that there were 19,003.9 stream credits available to serve this project. However, further communications with the Lone Oak Stream Mitigation Bank showed that the existing 9,492 stream credits from this mitigation bank were under contract and not available for purchase. With these credits unavailable to purchase, there are not enough stream credits available for purchase to support this Project. Additionally, scheduled releases are not enough to provide this Project with the needed credits to achieve the no net loss for the anticipated stream impacts. Accordingly, additional mitigation options detailed below were evaluated.

1.2 In-Lieu Fee Fund

In addition to contacting approved mitigation banks for available credits, the Applicant coordinated with The Nature Conservancy (TNC) for availability of advance stream credits through the Virginia Aquatic Resource Trust Fund (VARTF) in-lieu fee fund. TNC indicated through correspondence that while advanced stream credits were available within the Middle James, there are not enough to service the entire need for this project.

1.3 Permittee Responsible Mitigation

Through the above-mentioned credit availability research and anticipation of depleting availability of stream credits in the watershed, it was documented that while stream credits from banks currently appear show availability to support the project need, purchases that are under contract will diminish the credits available to point that there will not be enough stream credits available within the service area to provide for the needs of this project. Additionally, while advance stream credits are available through the VARTF ILF, there are not enough credits to serve the need of this proposed project.

Under these circumstances, and pursuant to Virginia Regulations (VA Code § 62.1-44.15:23 and 9VAC25-210-116), Permittee Responsible Mitigation (PRM) represents the most ecologically preferable option, and potentially the only mitigation alternative capable of ensuring no net loss of aquatic resources given the ILF and bank credit supply limitations addressed above. As such, instead of purchasing credits through both mitigation banks and ILF, the Applicant's proposed mitigation plan for the Project will be to secure appropriate stream mitigation via implementation of PRM in accordance with an approved PRM plan. Permittee Responsible Mitigation allows for on-site and in-kind mitigation, that will allow for the credits to come from one source, as opposed to two different mitigation types and multiple banks.

After a thorough search of the surrounding watershed, the proposed Project site was identified as an excellent candidate PRM site due to the presence of residual stream preservation opportunities on the Project site, and the restoration and enhancement of viable stream reaches that are present on the adjacent parcels. Additionally, the available restoration, enhancement, and preservation opportunities on this site will provide more mitigation crediting than is needed for this project. The proposed PRM plan can provide up to 16,172 credits which is 5,559 more than what is required to achieve no net loss. More information on the crediting provision of this PRM plan are detailed in further sections below.

The Final Rule (72 FR 19601) states that in general, in-kind mitigation is preferable to out-of-kind mitigation because it is more likely to compensate for the functions and services lost at the impact site. In addition, the District Engineer (DE) must use a watershed approach to establish compensatory mitigation requirements in permits to the extent appropriate and practicable. A watershed approach considers the importance of landscape position and resource type of compensatory mitigation projects for the sustainability of aquatic resource functions within the watershed. The main objective of this approach is to maintain and improve the quantity and quality of wetlands and other aquatic resources in watersheds through strategic selection of compensatory mitigation project sites. The DE may authorize the use of compensatory mitigation projects when an applicant has proposed to create, enhance or restore an outstanding resource and has provided sufficient scientific and technical analysis to demonstrate that such a project will be successful.

The proposed PRM for the Project will provide an opportunity to enhance, restore, and preserve stream channels in the immediate vicinity of the proposed Project impacts in the Muddy Creek watershed, essentially providing on-site mitigation for the Project. Furthermore, the location of the proposed PRM site relative to the Project's impacts will ensure compensation for the lost functions and services and further restore and protect the drainage area of Muddy Creek. As such, due to the large scale of the proposed impacts, the estimated surplus of credits that can be provided in the drainage area along with anticipated shortage of commercially available stream credits in the larger watershed, the proposed PRM should be ecologically preferable over Bank credits and to limit risks with temporal loss of ecosystem functions with VARTF advanced credits.

2.0 Mitigation Plan

2.1 Goals and Objectives

The objective of the proposed PRM is to provide compensatory mitigation for proposed impacts in HUC 02080205 associated with the Project. The goal of the PRM is to restore, enhance, and preserve the streams and riparian buffers within the Green Ridge Recycling and Disposal Facility project area and on the adjacent properties. The proposed restoration design will create a more ecologically functional channel pattern, profile, and cross section. This will include channel realignment, in stream bed structures, bank stabilization methods, and native vegetation planting. Enhancement reaches will be restored using minimally invasive techniques, working with the existing alignment and adding biotic (living and dead wood) structures within the channel to re-establish a bed profile that facilitates overbank flooding in larger storm events combined with selective bank grading. Aggradational processes are predicted to raise the bed elevation, ultimately reconnecting the stream to its floodplain over time. Preservation streams will remain unaltered, except for bolstering the riparian plantings where needed.

2.2 Site Selection

During the feasibility review on the Green Ridge Recycling and Disposal Facility project area and adjacent properties, streams were assessed and sorted by mitigation type. The proposed stream restoration reaches were chosen based on the level of degradation and the potential ecological lift forecasted with three parameter natural channel design. Restoration reaches are typically moderately incised streams that lack bed form diversity and are disconnected from their floodplains. The proposed stream enhancement reaches

include streams that were moderately degraded in need of adjustments in one or two of the natural channel design parameters (pattern, dimension, and profile). Degradation may be localized and distributed in selected areas throughout the corridor versus a more systemwide degradation as found in the restoration streams. The proposed preservation streams are either in good condition or are in fair condition but located within an intact riparian buffer and therefore the temporal loss of construction impacts is not justification for the limited ecological lift that would be associated with mechanized work in these areas.

2.3 Site Protection Instrument

The site will be protected in perpetuity by recordation of a Declaration of Restrictions (DOR). Draft DOR documents, are provided in Attachment A. The final DOR exhibits will be prepared upon final design and provided in the Final PRM plan.

2.4 Baseline Site Information

The PRM site is located on various parcels, with varying land uses and cover. The project is situated along and east of Pinegrove Road (State Route 654), approximately 2 miles north of the town of Clinton, Virginia (HUC 02080205). The proposed PRM site is a broad, flat to gently sloping sections of mostly undeveloped land. Most of the project area is forested, while some sections have been cleared of trees and are maintained as fields or for various agricultural uses. Evidence of recent timbering was noted in areas across the project. There are several streams and wetlands located within the project area, which are shown in the Conceptual Mitigation Plan. Surrounding land-use is similarly a mix of agricultural use and forested habitat.

The streams within the proposed PRM project area are impacted by historic land clearing and agriculture practices, resulting in reduced infiltration and increased overland runoff entering the stream channels. The amplified flow and shear stress accelerated the rate of incision in the channel bed, resulting in floodplain disconnection. Incision progressed until bedrock was hit, then the erosive flows began impacting the margins, widening the channels and eroding the banks. Sections of riparian buffer have reforested, but many channels have been left in a state of arrested degradation. Recent timbering has exacerbated headcutting within the headwater tributaries, dumping sediment into the larger reaches downstream. By a combination of stream restoration, light touch enhancement, riparian plantings, and preservation, the overall system can be guided along the channel evolution cycle to a more stable and ecologically functioning stage.

2.5 Determination of Credits

Proposed stream mitigation credits were determined using the Unified Stream Methodology. The Preliminary USM forms used for crediting calculations can be found in Attachment C. This project has the ability to provide up to 16,172 stream credits (5,765 credits of stream restoration, 5,565 credits of stream enhancement, and 4,842 credits of stream preservation). A breakdown of the stream mitigation crediting is summarized below in Table 2. The proposed credit requirement for the Green Ridge Disposal and Recycling Facility project is 10,613 stream credits, and as such should be fully serviced by this PRM.

Table 2: Stream Mitigation Crediting

Reach ID	Mitigation Type	Total Compensation Credit
ST1R1	Enhancement	685

ST1R2	Enhancement	1270
ST1T1	Enhancement	67
ST1T2	Enhancement	283
ST1T3	Enhancement	503
ST2R1	Preservation	82
ST2R2	Restoration	1897
ST2T1	Preservation	88
ST3R1	Enhancement	657
ST3R2	Restoration	1310
ST3R3	Enhancement	854
ST3T1	Enhancement	94
ST3T2R1	Enhancement	299
ST3T2R2	Preservation	21
ST3T2R3	Restoration	516
ST3T3	Enhancement	108
ST3T4	Enhancement	113
ST3T5	Restoration	2042
ST3T6	Preservation	40
ST4R1	Enhancement	336
ST4R2	Enhancement	296
ST4R3	Preservation	132
Muddy Creek	Preservation	716
Landfill	Preservation	3763
Total Credits:		16,172

Final credit determinations will be provided upon construction and as-built survey to verify that the total stream mitigation constructed provides sufficient credits to fulfill the credit requirement and will be further verified based on the areas meeting the required success criteria as approved as part of the Final Mitigation Plan.

2.6 Conceptual Mitigation Work Plan

The Conceptual Mitigation Plan Set is provided in Attachment B and the Preliminary USM Forms are provided in Attachment C.

Attachment A
Draft Declaration of Restriction Documents

DRAFT
DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

SUNNY MARTIN AGEE & EDWARD RAY MARTIN

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this ____ day of _____, 2020, by SUNNY MARTIN AGEE and EDWARD RAY MARTIN (the “**Owner**”).

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the “**Property**”); it being a portion of the Property conveyed to Owner, by deed from Roberts Samuel Martin, Jr., dated June 6, 2018, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Number 201800599 on 293.254 acres, thereby resting ½ undivided interest in SUNNY MARTIN AGEE and ½ undivided interest in EDWARD RAY MARTIN;

WHEREAS, by one or more agreements (together the “_____ **Agreement**”) by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, (“**Green Ridge Landfill**” – the “**Developer**”): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____ Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner’s intent to preserve 63.5 acres, more or less, of said Property as shown on Exhibit B and as described as the “**Conservation Easement Area**” (the “**Mitigation Area**”) in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers (“**Corps**” or “**USACE**”) Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality (“**DEQ**”) Permit Number _____ issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions (“Declaration”).

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

- i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;
- ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:
 - 1. any such structures permit, and do not impede, the natural movement of water, and
 - 2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;
 - iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;
 - iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:
 1. Removal of noxious or invasive plants; or
 2. Public safety purposes
 - v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and
 - vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.
2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;
 3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);
 4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.
 5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.
 6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the “**Authorized Parties**”), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the “**Access Roads**”), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

*[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK;
SIGNATURES APPEAR ON THE FOLLOWING PAGE]*

WITNESS the following signature the day and year first above written.

OWNER:

SUNNY MARTIN AGEE

EDWARD RAY MARTIN

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201___, by _____, as _____ of _____, a _____, on behalf of the Owner.

My commission expires: _____

My registration number is: _____

Notary Public

DRAFT
DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

BLAKE AUBRE MARTIN AND DEIDRE D. MARTIN

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this ____ day of _____, 2020, by BLAKE AUBRE MARTIN and DEIBRE D. MARTIN (the “**Owner**”).

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the “**Property**”); it being a portion of the Properties conveyed to Owner, by Deed of Gift from Edward Ray Martin, dated October 13, 2009, and duly recorded in the Clerk's Office of the County of Cumberland as Instrument Number 20091240 on the 16.426 acres, and by Deed of Gift from Edward Ray Martin, dated June 18, 2018 and duly recorded in the Clerk's Office of the County of Cumberland as Instrument Number 201800452 on the 61.028 acres;

WHEREAS, by one or more agreements (together the “_____ **Agreement**”) by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, (“**Green Ridge Landfill**” – the “**Developer**”): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____ Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner’s intent to preserve 11.3 acres, more or less, of said Property as shown on Exhibit B and as described as the “**Conservation Easement Area**” (the “**Mitigation Area**”) in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers (“**Corps**” or “**USACE**”) Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality (“**DEQ**”) Permit Number _____, issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions (“Declaration”).

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

- i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;
- ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:
 - 1. any such structures permit, and do not impede, the natural movement of water, and
 - 2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;
 - iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;
 - iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:
 1. Removal of noxious or invasive plants; or
 2. Public safety purposes
 - v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and
 - vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.
2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;
 3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);
 4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.
 5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.
 6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the “**Authorized Parties**”), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the “**Access Roads**”), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

*[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK;
SIGNATURES APPEAR ON THE FOLLOWING PAGE]*

WITNESS the following signature the day and year first above written.

OWNER:

BLAKE AUBRE MARTIN

DEIDRE D. MARTIN

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201___, by _____, as _____ of _____, a _____, on behalf of the Owner.

My commission expires: _____

My registration number is: _____

Notary Public

DRAFT
DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this ____ day of _____, 2020, by GREEN RIDGE RECYCLING AND DISPOSAL FACILITY LLC (the “**Owner**”).

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the “**Property**”); it being a portion of the Property conveyed to Owner, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Book ____, at page ____ on the 78 acres;

WHEREAS, by one or more agreements (together the “_____ **Agreement**”) by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, (“**Green Ridge Landfill**” – the “**Developer**”): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____ Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner’s intent to preserve 30.2 acres, more or less, of said Property as shown on Exhibit B and as described as the “Conservation Easement Area” (the “**Mitigation Area**”) in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers (“**Corps**” or “**USACE**”) Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality (“**DEQ**”) Permit Number _____, issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-

referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions (“Declaration”).

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

- i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;
- ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:
 - 1. any such structures permit, and do not impede, the natural movement of water, and
 - 2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;
 - iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;
 - iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:
 1. Removal of noxious or invasive plants; or
 2. Public safety purposes
 - v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and
 - vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.
2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;
 3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);
 4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.
 5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.
 6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the “**Authorized Parties**”), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the “**Access Roads**”), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

*[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK;
SIGNATURES APPEAR ON THE FOLLOWING PAGE]*

WITNESS the following signature the day and year first above written.

OWNER:

**GREEN RIDGE RECYCLING AND
DISPOSAL FACILITY, LLC**

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201___,
by _____, as _____ of _____, a _____, on
behalf of the Owner.

My commission expires: _____

My registration number is: _____

Notary Public

DRAFT
DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this ____ day of _____, 2020, by GREEN RIDGE RECYCLING AND DISPOSAL FACILITY LLC (the “**Owner**”).

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the “**Property**”); it being a portion of the Property conveyed to Owner, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Book ____, at page ____ on the 163.746 acres;

WHEREAS, by one or more agreements (together the “_____ **Agreement**”) by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, (“**Green Ridge Landfill**” – the “**Developer**”): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____ Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner’s intent to preserve 41.8 acres, more or less, of said Property as shown on Exhibit B and as described as the “Conservation Easement Area” (the “**Mitigation Area**”) in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers (“**Corps**” or “**USACE**”) Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality (“**DEQ**”) Permit Number _____ issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-

referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions (“Declaration”).

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

- i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;
- ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:
 - 1. any such structures permit, and do not impede, the natural movement of water, and
 - 2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;
 - iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;
 - iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:
 1. Removal of noxious or invasive plants; or
 2. Public safety purposes
 - v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and
 - vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.
2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;
 3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);
 4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.
 5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.
 6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the “**Authorized Parties**”), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the “**Access Roads**”), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

*[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK;
SIGNATURES APPEAR ON THE FOLLOWING PAGE]*

WITNESS the following signature the day and year first above written.

OWNER:

**GREEN RIDGE RECYCLING AND
DISPOSAL FACILITY, LLC**

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201___,
by _____, as _____ of _____, a _____, on
behalf of the Owner.

My commission expires: _____

My registration number is: _____

Notary Public

DRAFT
DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this ____ day of _____, 2020, by GREEN RIDGE RECYCLING AND DISPOSAL FACILITY LLC (the “**Owner**”).

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the “**Property**”); it being a portion of the Property conveyed to Owner, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Book ____, at page ____ on the 58.18 acres;

WHEREAS, by one or more agreements (together the “_____ **Agreement**”) by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, (“**Green Ridge Landfill**” – the “**Developer**”): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____ Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner’s intent to preserve 12.02 acres, more or less, of said Property as shown on Exhibit B and as described as the “Conservation Easement Area” (the “**Mitigation Area**”) in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers (“**Corps**” or “**USACE**”) Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality (“**DEQ**”) Permit Number _____, issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-

referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions (“Declaration”).

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

- i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;
- ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:
 - 1. any such structures permit, and do not impede, the natural movement of water, and
 - 2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;
 - iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;
 - iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:
 1. Removal of noxious or invasive plants; or
 2. Public safety purposes
 - v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and
 - vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.
2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;
 3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);
 4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.
 5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.
 6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the “**Authorized Parties**”), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the “**Access Roads**”), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

*[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK;
SIGNATURES APPEAR ON THE FOLLOWING PAGE]*

WITNESS the following signature the day and year first above written.

OWNER:

**GREEN RIDGE RECYCLING AND
DISPOSAL FACILITY, LLC**

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ____ day of _____, 201__,
by _____, as _____ of _____, a _____, on
behalf of the Owner.

My commission expires: _____

My registration number is: _____

Notary Public

DRAFT
DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this ____ day of _____, 2020, by GREEN RIDGE RECYCLING AND DISPOSAL FACILITY LLC (the “**Owner**”).

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the “**Property**”); it being a portion of the Property conveyed to Owner, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Book _____, at page _____ on the 133.18 acres;

WHEREAS, by one or more agreements (together the “_____ **Agreement**”) by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, (“**Green Ridge Landfill**” – the “**Developer**”): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____ Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner’s intent to preserve 5.34 acres, more or less, of said Property as shown on Exhibit B and as described as the “Conservation Easement Area” (the “**Mitigation Area**”) in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers (“**Corps**” or “**USACE**”) Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality (“**DEQ**”) Permit Number _____, issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-

referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions (“Declaration”).

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

- i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;
- ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:
 - 1. any such structures permit, and do not impede, the natural movement of water, and
 - 2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;
 - iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;
 - iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:
 1. Removal of noxious or invasive plants; or
 2. Public safety purposes
 - v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and
 - vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.
2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;
 3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);
 4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.
 5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.
 6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the “**Authorized Parties**”), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the “**Access Roads**”), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

*[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK;
SIGNATURES APPEAR ON THE FOLLOWING PAGE]*

WITNESS the following signature the day and year first above written.

OWNER:

**GREEN RIDGE RECYCLING AND
DISPOSAL FACILITY, LLC**

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201___,
by _____, as _____ of _____, a _____, on
behalf of the Owner.

My commission expires: _____

My registration number is: _____

Notary Public

DRAFT
DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this ____ day of _____, 2020, by GREEN RIDGE RECYCLING AND DISPOSAL FACILITY LLC (the “**Owner**”).

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the “**Property**”); it being a portion of the Property conveyed to Owner, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Book ____, at page ____ on the 171 acres;

WHEREAS, by one or more agreements (together the “_____ **Agreement**”) by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, (“**Green Ridge Landfill**” – the “**Developer**”): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____ Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner’s intent to preserve 53.45 acres, more or less, of said Property as shown on Exhibit B and as described as the “Conservation Easement Area” (the “**Mitigation Area**”) in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers (“**Corps**” or “**USACE**”) Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality (“**DEQ**”) Permit Number _____, issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-

referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions (“Declaration”).

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

- i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;
- ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:
 - 1. any such structures permit, and do not impede, the natural movement of water, and
 - 2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;
 - iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;
 - iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:
 1. Removal of noxious or invasive plants; or
 2. Public safety purposes
 - v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and
 - vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.
2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;
 3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);
 4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.
 5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.
 6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the “**Authorized Parties**”), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the “**Access Roads**”), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____ shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

*[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK;
SIGNATURES APPEAR ON THE FOLLOWING PAGE]*

WITNESS the following signature the day and year first above written.

OWNER:

**GREEN RIDGE RECYCLING AND
DISPOSAL FACILITY, LLC**

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201___,
by _____, as _____ of _____, a _____, on
behalf of the Owner.

My commission expires: _____

My registration number is: _____

Notary Public

DRAFT
DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this ____ day of _____, 2020, by GREEN RIDGE RECYCLING AND DISPOSAL FACILITY LLC (the “**Owner**”).

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the “**Property**”); it being a portion of the Property conveyed to Owner, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Book _____, at page _____ on the 82 acres;

WHEREAS, by one or more agreements (together the “_____ **Agreement**”) by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, (“**Green Ridge Landfill**” – the “**Developer**”): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____ Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner’s intent to preserve 8.33 acres, more or less, of said Property as shown on Exhibit B and as described as the “Conservation Easement Area” (the “**Mitigation Area**”) in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers (“**Corps**” or “**USACE**”) **Permit No.** _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality (“**DEQ**”) Permit Number _____, issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-

referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions (“Declaration”).

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

- i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;
- ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:
 - 1. any such structures permit, and do not impede, the natural movement of water, and
 - 2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;
 - iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;
 - iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:
 1. Removal of noxious or invasive plants; or
 2. Public safety purposes
 - v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and
 - vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.
2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;
 3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);
 4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.
 5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.
 6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the “**Authorized Parties**”), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the “**Access Roads**”), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

*[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK;
SIGNATURES APPEAR ON THE FOLLOWING PAGE]*

WITNESS the following signature the day and year first above written.

OWNER:

**GREEN RIDGE RECYCLING AND
DISPOSAL FACILITY, LLC**

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201___,
by _____, as _____ of _____, a _____, on
behalf of the Owner.

My commission expires: _____

My registration number is: _____

Notary Public

Attachment B
Concept Permittee Responsible Mitigation Plan

Green Ridge Landfill Stream Mitigation Conceptual Mitigation Plan Cumberland County, Virginia

Property Owners:
Green Ridge Recycling and Disposal Facility, LLC
12230 Deerhill Road
Midlothian, VA 23112

Sunny Martin Agee & Edward Martin
3679 Ellisville Drive
Louisa, VA 23093

Blake A Martin & Diedre A.
448 Pinegrove Road
Cartersville, VA 23027

Client/Applicant:
Green Ridge Recycling and Disposal Facility, LLC
12230 Deerhill Road
Midlothian, VA 23112

Prepared By:
RES, LLC
1408 B Roseneath Rd
Richmond, VA 23230

Property Info:
Green Ridge Recycling & Disposal
SITE ADDRESS:
Pinegrove Road/Miller Lane
Cumberland, VA 23040
Parcel IDs:
038-00-0A-00-0007
Acreage: 163.746 acres
Zoning: M2
045-00-0A-00-0001
Acreage: 171 acres
Zoning: M2
045-00-0A-00-0007
Acreage: 82 acres
Zoning: M2
044-00-0A-00-0021
Acreage: 133.18 acres
Zoning: M2
044-00-0A-00-0020
Acreage: 58.18 acres
Zoning: M2
037-00-0A-00-0069
Acreage: 78 acres
Zoning: M2

Sunny Martin Agee & Edward Ray Martin
SITE ADDRESS:
530 Pinegrove Road
Cartersville, VA 23027
Parcel ID: 037-00-0A-00-0070
Acreage: 293.254 acres
Zoning: A2

Blake A Martin & Diedre A.
SITE ADDRESS:
448 Pinegrove Road
Cartersville, VA 23027
Parcel ID: 037-00-0A-00-0063
Acreage: 77.454 acres
Zoning: A2

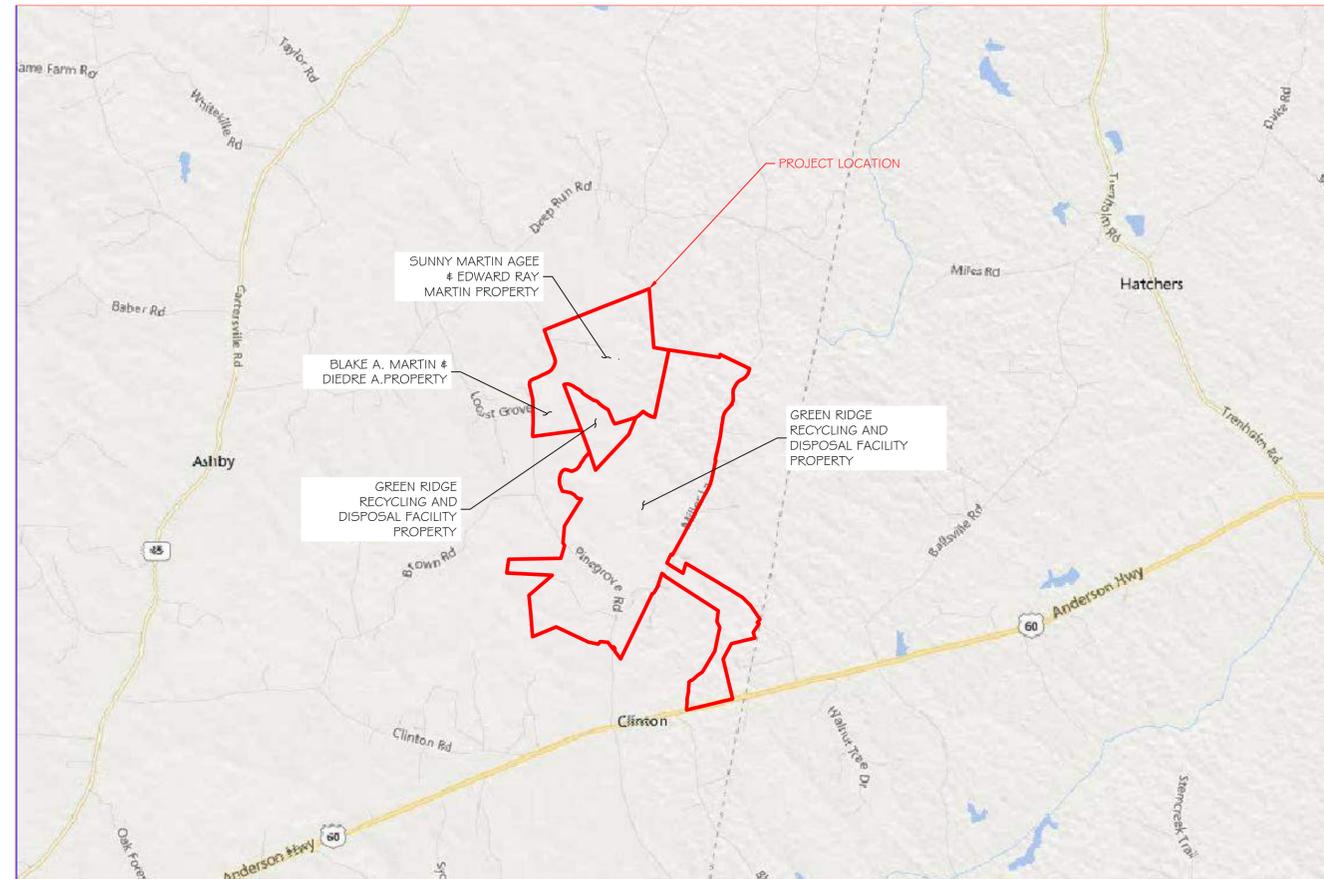


Table of Contents	
-	Cover
1	Martin Property Existing Conditions
2	Martin Property Mitigation Map
3	Green Ridge Recycling & Disposal Facility Property Mitigation
4	Martin Property Concept Plan
5	Enhancement Details
6	Restoration Details

Crediting		
Mitigation Type	Linear Feet	Projected Credits
Restoration	5,024	5,765
Enhancement	10,863	5,565
Preservation (Martin)	8,077	1,079
Preservation (Landfill)	29,093	3,782
Total	53,057	16,191

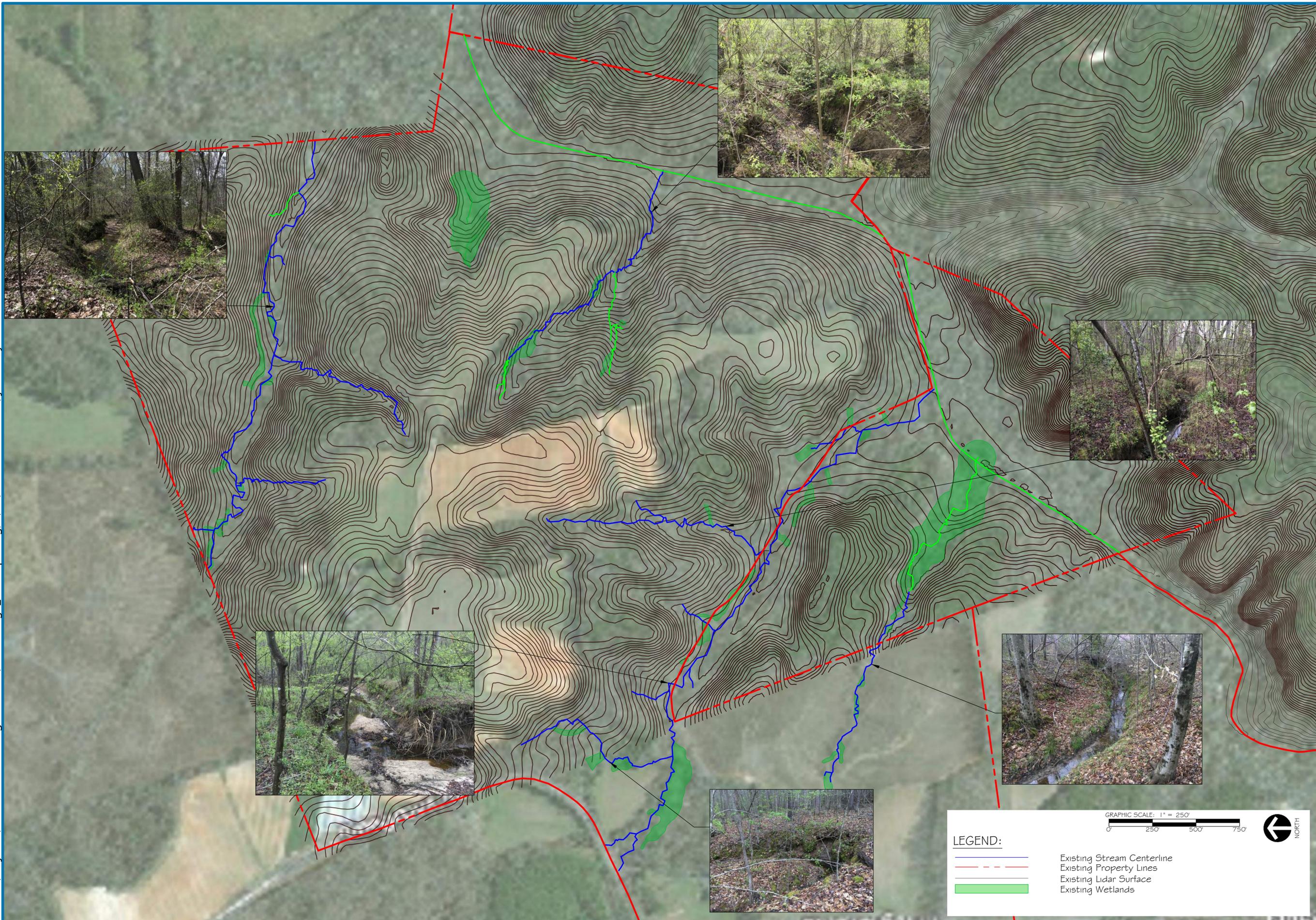
DATA SOURCES:

MARTIN PROPERTY: WETLAND WALKOVER OCCURED ON APRIL 14, 2020. STREAMS WERE DELINEATED ON APRIL 8 AND 9, 2020 IN ACCORDANCE WITH PROCEDURES OUTLINED IN THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL. PROPERTY BOUNDARY CAME FROM CUMBERLAND COUNTY PARCEL DATA. CONTOURS CAME FROM NRCS NED DATA.

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY PROPERTY: CONTOURS ARE FROM NRCS NED DATA. SURVEY DATA FROM KOONTZ, BRYANT, JOHNSON, AND WILLIAMS.

Green Ridge Landfill Stream Mitigation	
PROJECT MANAGER: RA	JOB NUMBER: 102528
DESIGNED: JK	DESIGN TYPE: Concept
DRAWN: JK	INITIAL PLAN DATE: June 2020
	
1408 Roseneath Road, Ste. B Richmond, Virginia 23230 WWW.RES.US	

Green Ridge Landfill Stream Mitigation
JOB NUMBER: 102528

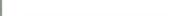


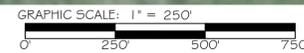
REVISIONS:
 ▲

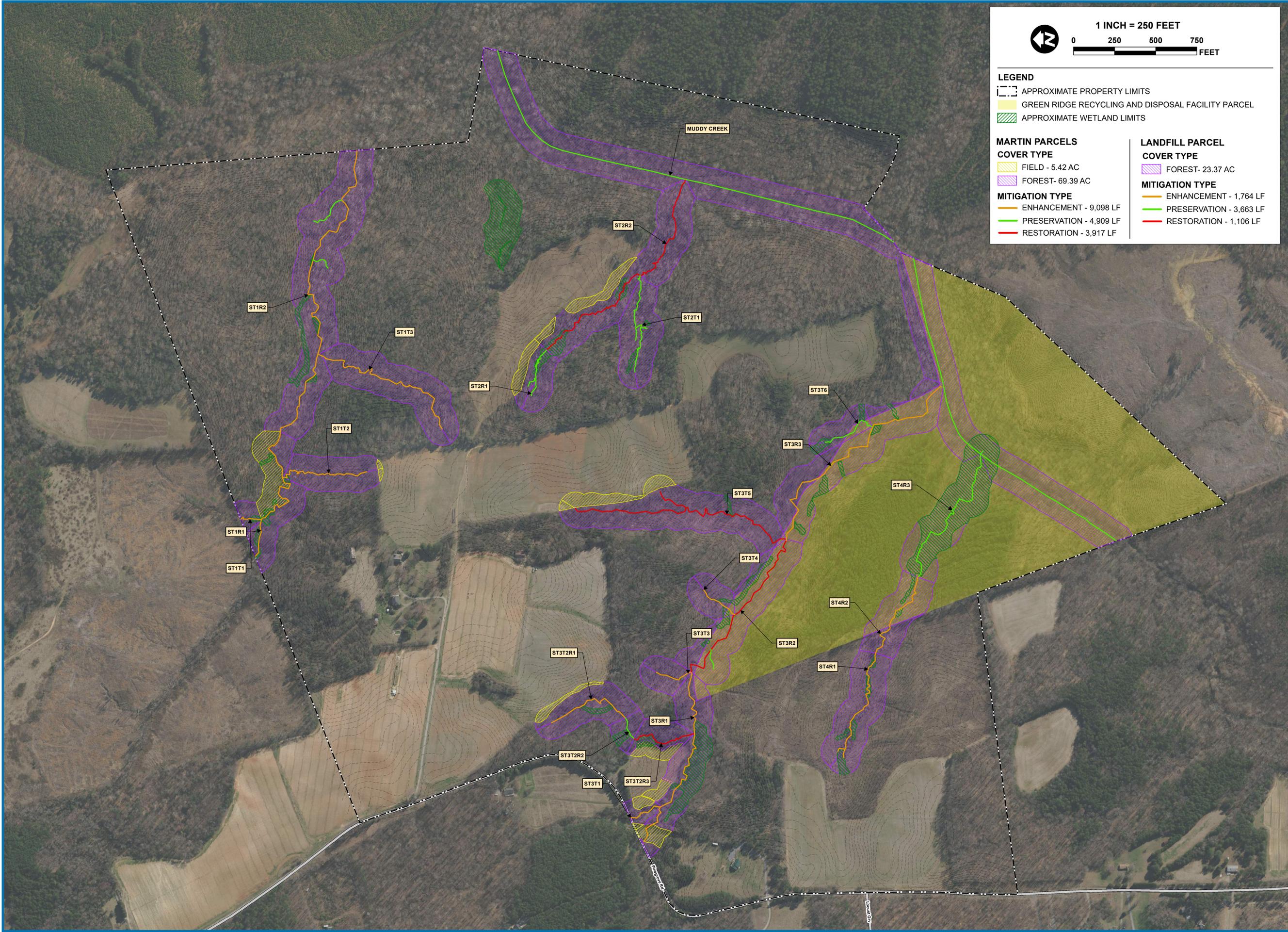
PROJECT STATUS:
 CONCEPT

PROJECT MANAGER: RA
 DESIGNED: JK
 DRAWN: JK
 JOB NUMBER: 102528
 DESIGN TYPE: CONCEPT
 DATE: June 2020
 SHEET NO:

LEGEND:

-  Existing Stream Centerline
-  Existing Property Lines
-  Existing Lidar Surface
-  Existing Wetlands





1 INCH = 250 FEET
 0 250 500 750 FEET

LEGEND

- APPROXIMATE PROPERTY LIMITS
- GREEN RIDGE RECYCLING AND DISPOSAL FACILITY PARCEL
- APPROXIMATE WETLAND LIMITS

MARTIN PARCELS COVER TYPE	LANDFILL PARCEL COVER TYPE
FIELD - 5.42 AC	FOREST - 23.37 AC
FOREST - 69.39 AC	

MITIGATION TYPE	MITIGATION TYPE
ENHANCEMENT - 9,098 LF	ENHANCEMENT - 1,764 LF
PRESERVATION - 4,909 LF	PRESERVATION - 3,663 LF
RESTORATION - 3,917 LF	RESTORATION - 1,106 LF



Green Ridge Recycling and Disposal Facility

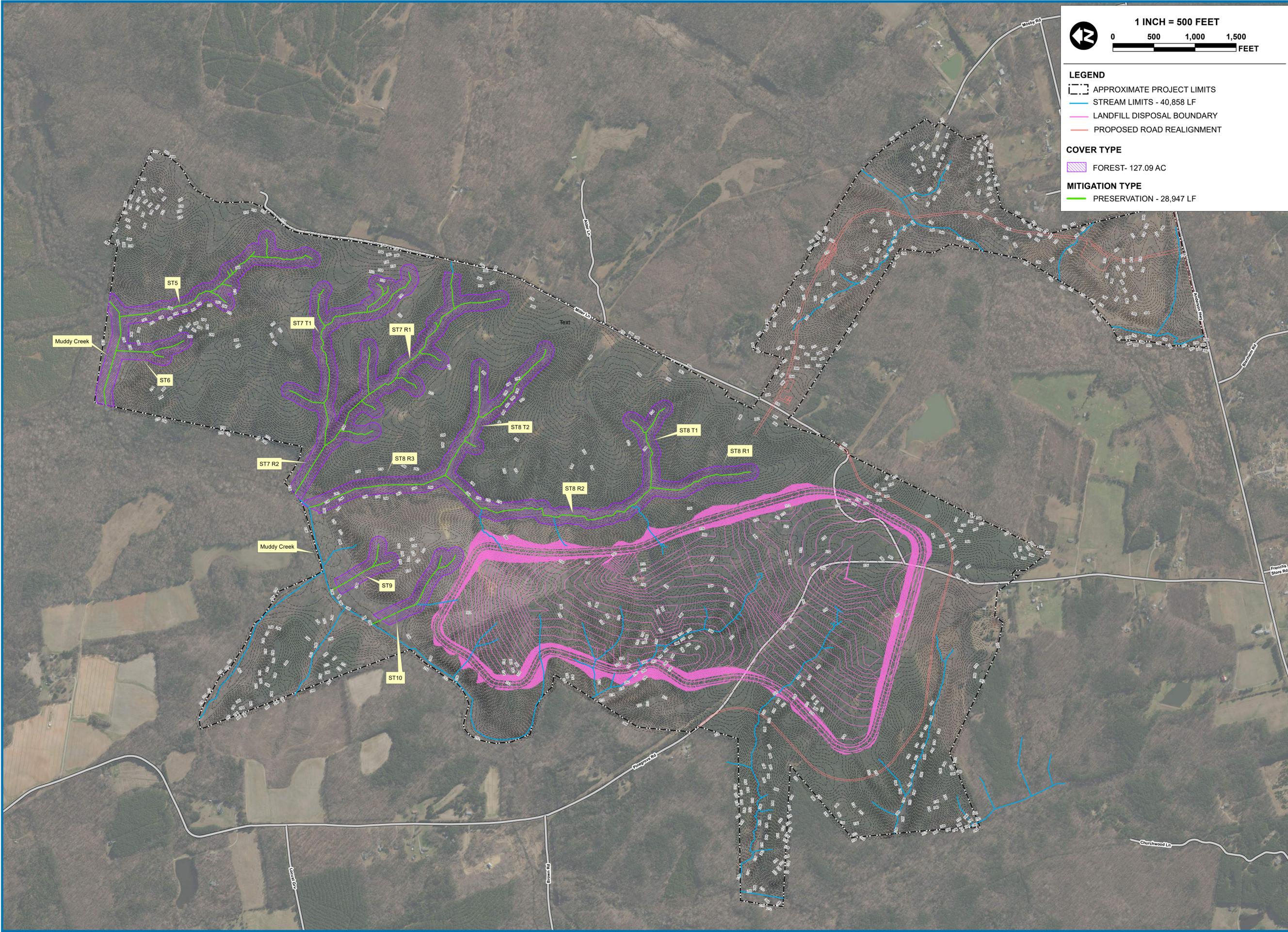
Martin Property Mitigation Map

Cumberland County, Virginia

REVISIONS:
 △

PROJECT STATUS:
 CONCEPT

PROJECT MANAGER:	RA
DESIGNED:	JK
DRAWN:	JK
JOB NUMBER:	102528
DESIGN TYPE:	CONCEPT
DATE:	June 2020
SHEET NO:	2 of 6



1 INCH = 500 FEET

0 500 1,000 1,500 FEET

LEGEND

- APPROXIMATE PROJECT LIMITS
- STREAM LIMITS - 40,858 LF
- LANDFILL DISPOSAL BOUNDARY
- PROPOSED ROAD REALIGNMENT

COVER TYPE

- FOREST - 127.09 AC

MITIGATION TYPE

- PRESERVATION - 28,947 LF

Green Ridge Recycling and Disposal Facility
Recycling & Disposal Facility Property Mitigation
Cumberland County, Virginia

REVISIONS:
△

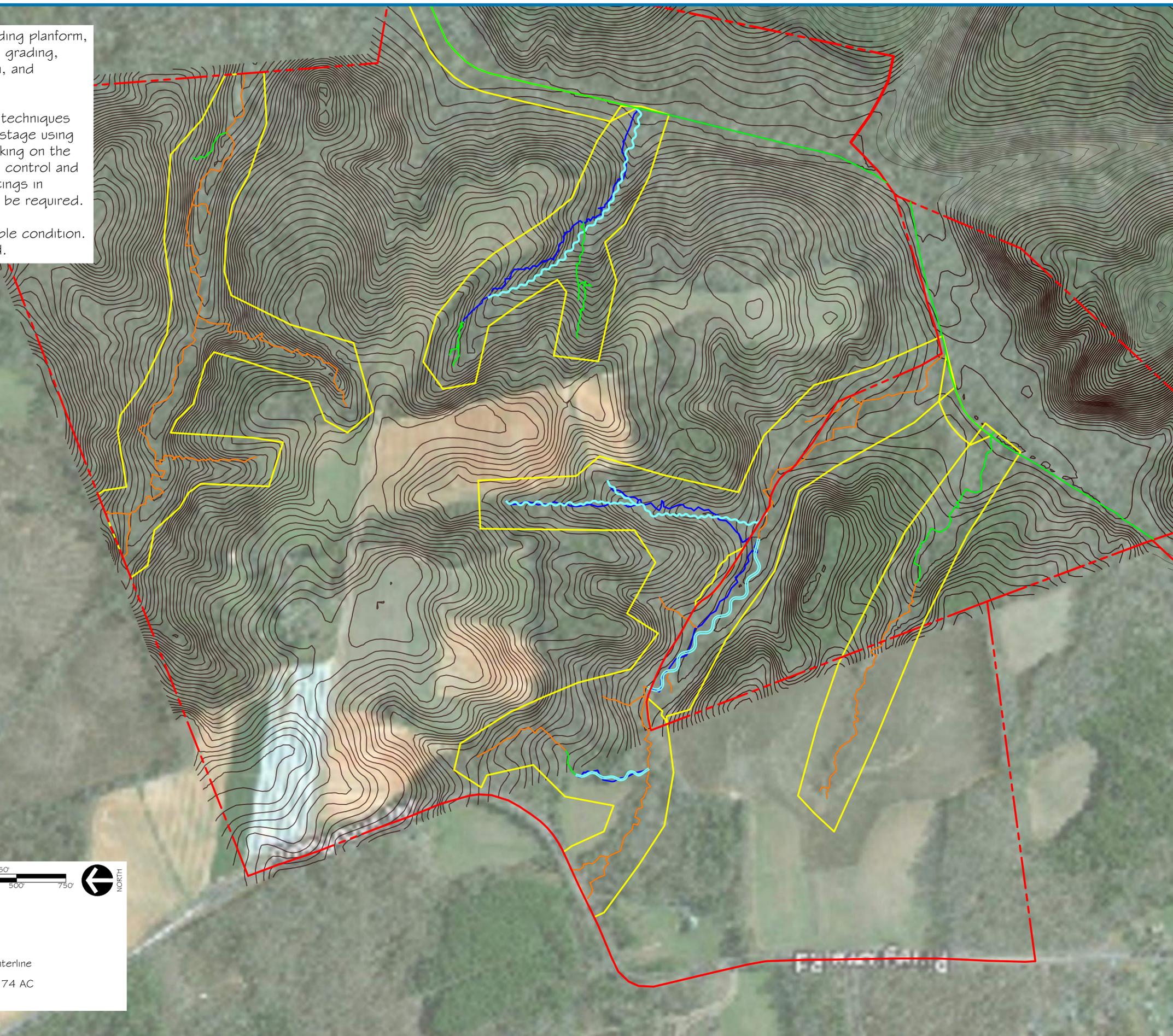
PROJECT STATUS:
CONCEPT

PROJECT MANAGER:	RA
DESIGNED:	JK
DRAWN:	JK
JOB NUMBER:	102528
DESIGN TYPE:	CONCEPT
DATE:	JUNE 2020
SHEET NO:	3 of 7

Restoration: Natural channel design, including planform, profile, and dimension alterations. Utilizes grading, grade control structures, bank protection, and plantings to achieve a stable channel.

Enhancement: Process based restoration techniques to push the channel evolution to a stable stage using minimally invasive restoration tactics. Working on the existing alignment and constructing grade control and habitat structures. Bank grading and plantings in sections of significant bank instability may be required.

Preservation: Channels in pre-existing stable condition. Buffer planting will be done where needed.



LEGEND:

- Proposed Stream Centerline
- Proposed Enhancement Reach
- Proposed Preservation Reach
- Proposed Top of Bank
- Existing Restoration Stream Centerline
- - - Existing Property Lines
- Approximate Easement Limits ~ 74 AC
- Existing Lidar Surface



1408 Rosemeath Rd., Ste. B Richmond, VA 23230
WWW.RES.US

Green Ridge Recycling and Disposal Facility

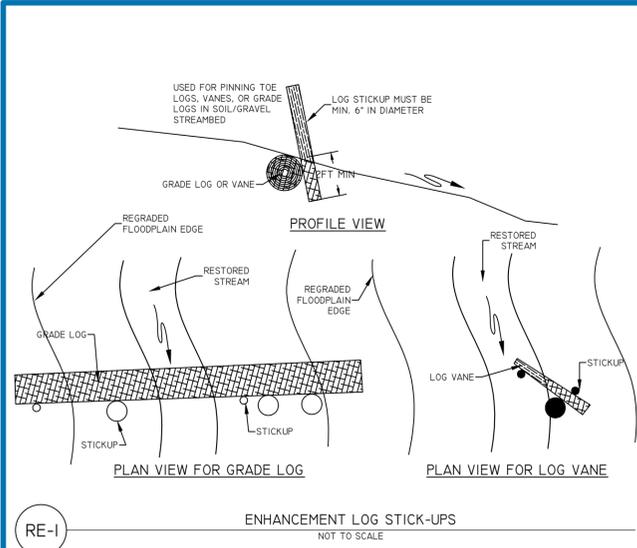
Martin Property Concept Plan

Cumberland County, Virginia

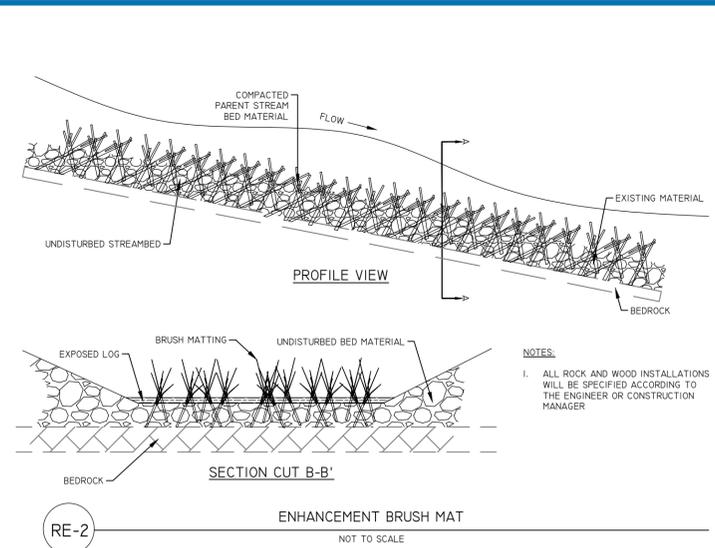
REVISIONS:
▲

PROJECT STATUS:
CONCEPT

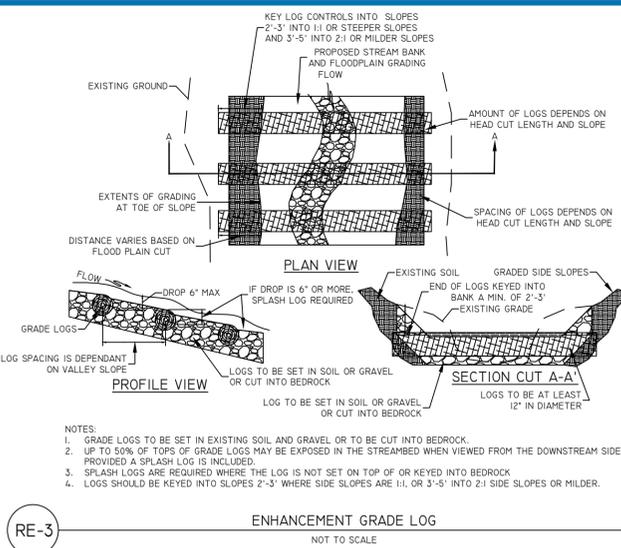
PROJECT MANAGER: RA
DESIGNED: JK
DRAWN: JK
JOB NUMBER: 102528
DESIGN TYPE: CONCEPT
DATE: June 2020
SHEET NO:



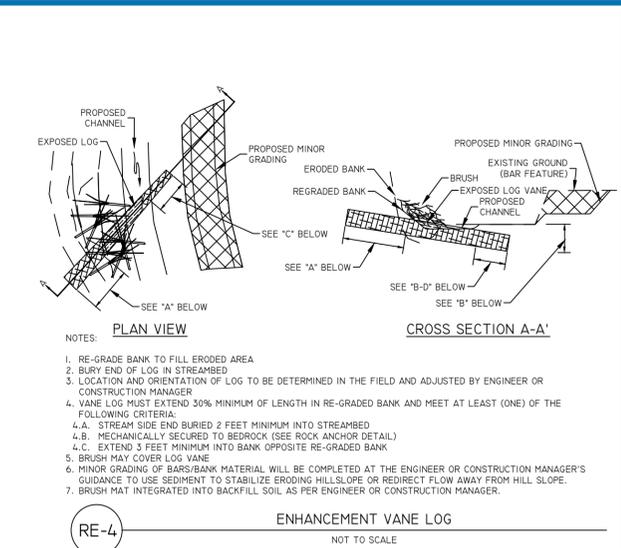
RE-1 ENHANCEMENT LOG STICK-UPS NOT TO SCALE



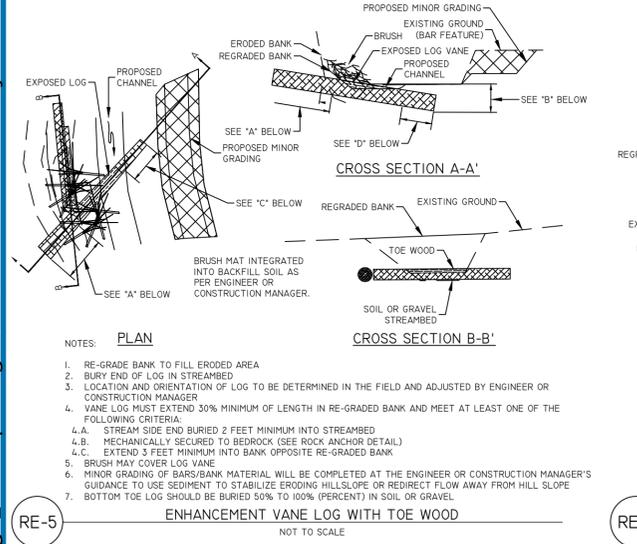
RE-2 ENHANCEMENT BRUSH MAT NOT TO SCALE



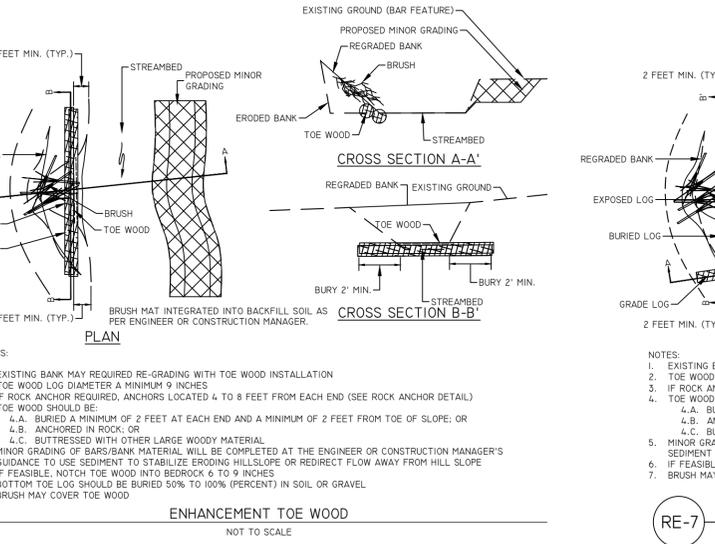
RE-3 ENHANCEMENT GRADE LOG NOT TO SCALE



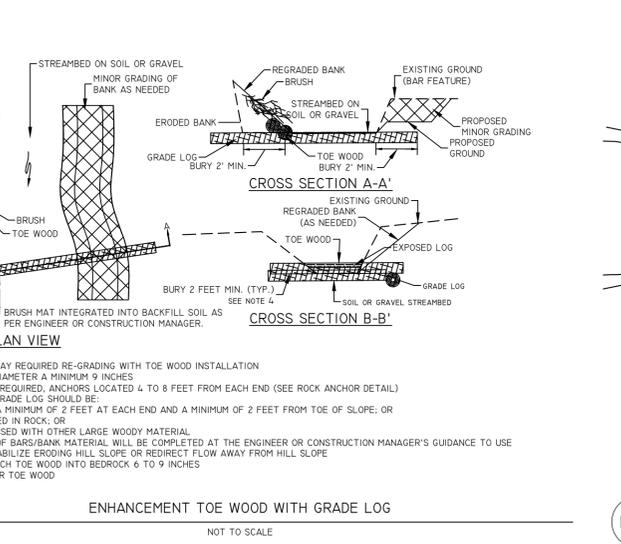
RE-4 ENHANCEMENT VANE LOG NOT TO SCALE



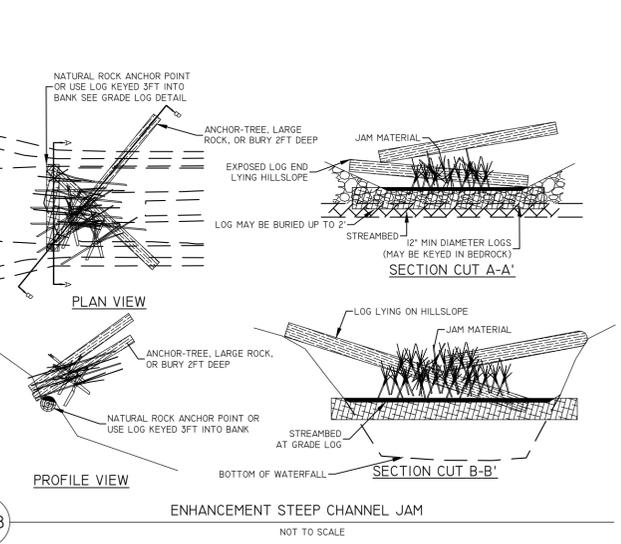
RE-5 ENHANCEMENT VANE LOG WITH TOE WOOD NOT TO SCALE



RE-6 ENHANCEMENT TOE WOOD NOT TO SCALE



RE-7 ENHANCEMENT TOE WOOD WITH GRADE LOG NOT TO SCALE



RE-8 ENHANCEMENT STEEP CHANNEL JAM NOT TO SCALE



POST-ASSISTED LOG STRUCTURE



1408 Rosemeath Rd., Ste. B Richmond, VA 23230
WWW.ORES.US

Green Ridge Recycling and Disposal Facility

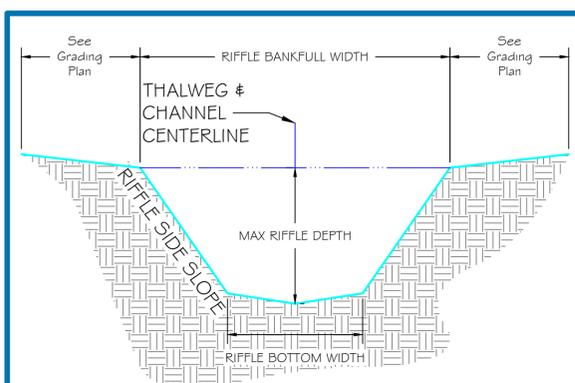
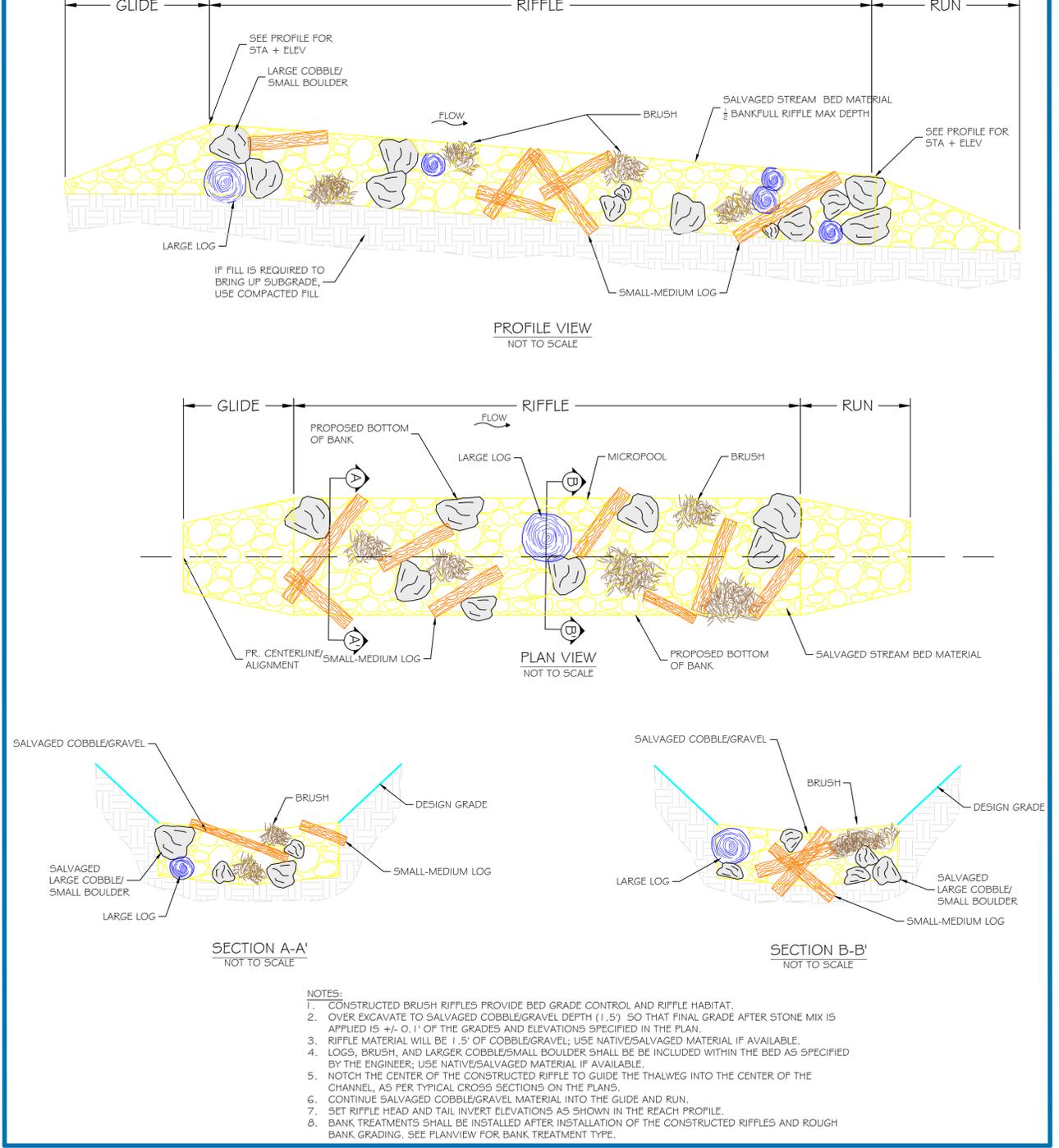
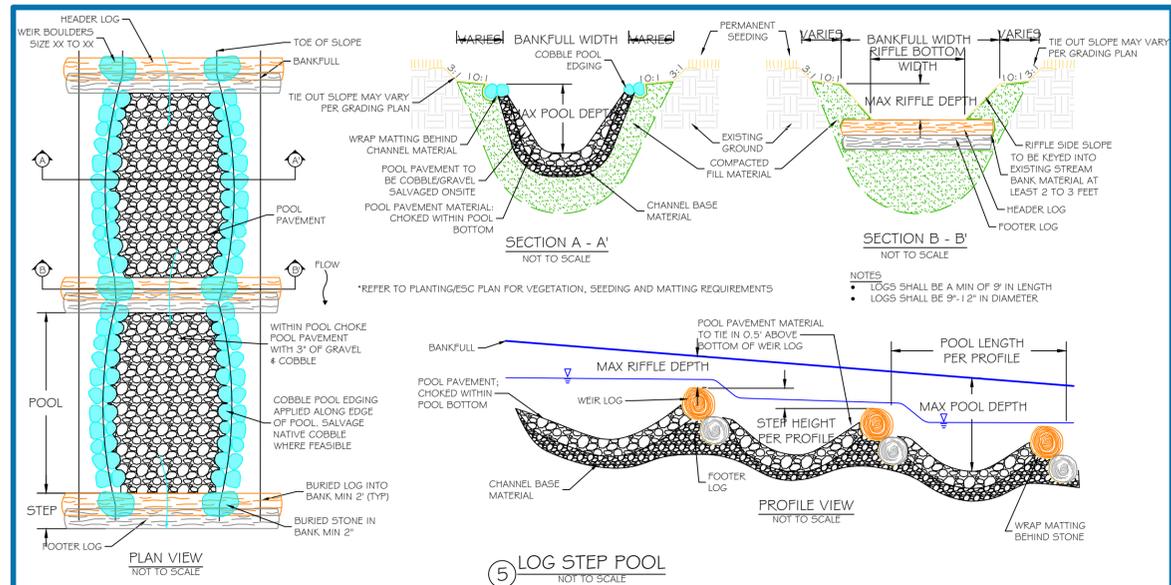
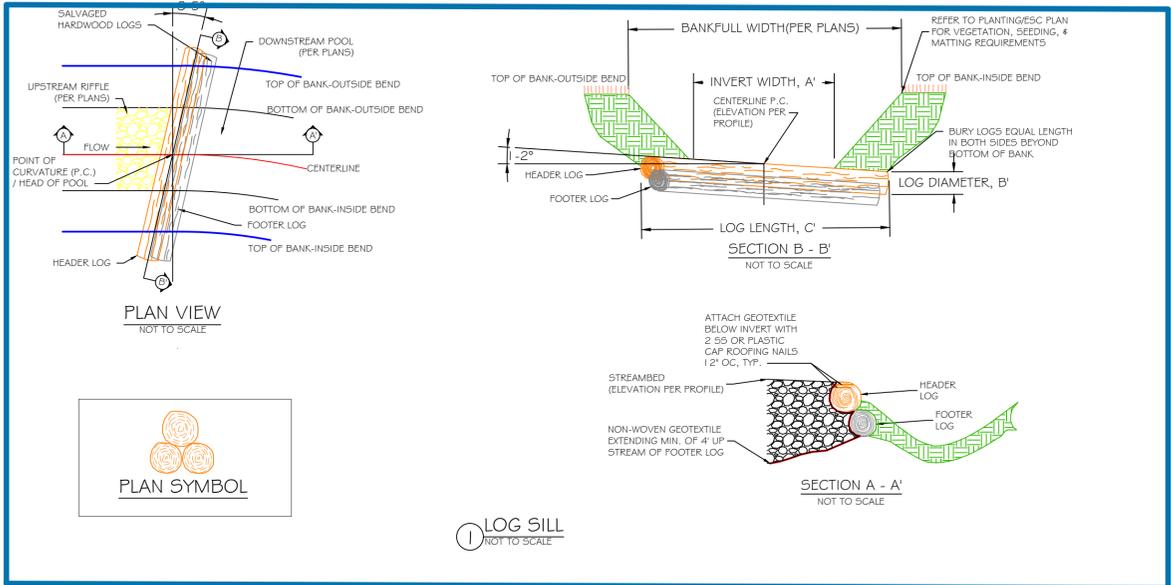
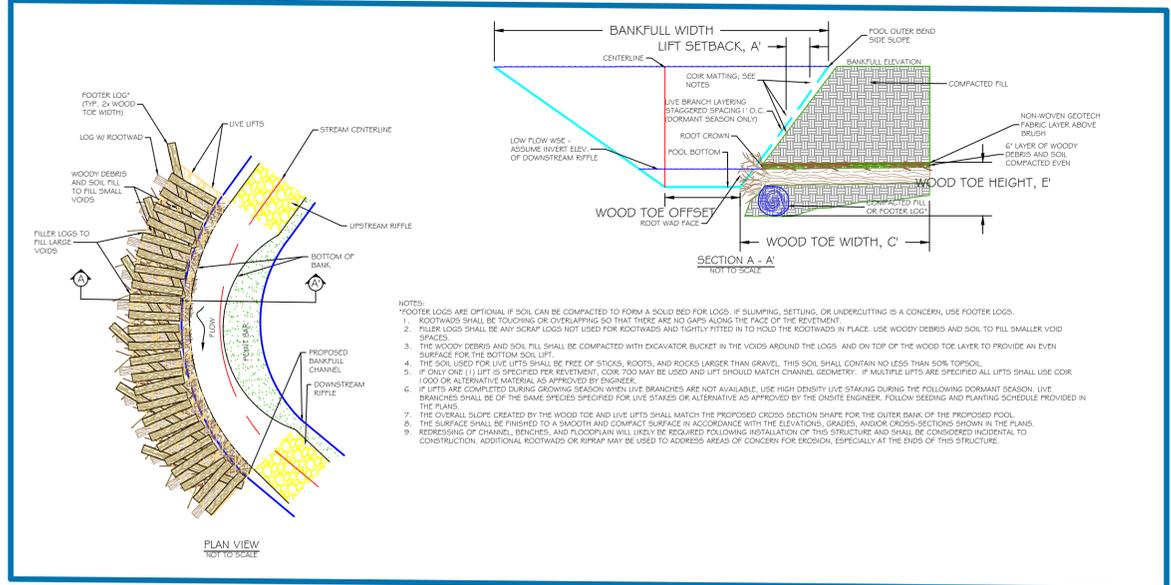
Enhancement Structures

Cumberland County, Virginia

REVISIONS:
▲

PROJECT STATUS:
CONCEPT

PROJECT MANAGER:	RA
DESIGNED:	JK
DRAWN:	JK
JOB NUMBER:	102528
DESIGN TYPE:	CONCEPT
DATE:	June 2020
SHEET NO:	5 of 6



Reach	Bankfull Width (ft)	Max Riffle Depth (ft)	Riffle Bottom Width (ft)	Riffle Side Slope (x:1)
Reach 1	8.0	0.8	6.0	2.0
Reach 2	10.0	1.0	7.2	2.0
Reach 3	4.0	0.5	3.0	1.7
Reach 3-A	4.0	0.5	3.0	1.7
Reach 4	4.0	0.5	3.0	1.7



1408 Rosemeath Rd., Ste. B Richmond, VA 23230
WWW.ORES.US

Green Ridge Recycling and Disposal Facility

Restoration Structures

Cumberland County, Virginia

REVISIONS:
▲

PROJECT STATUS:
CONCEPT

PROJECT MANAGER: RA
 DESIGNED: JK
 DRAWN: JK
 JOB NUMBER: 102528
 DESIGN TYPE: CONCEPT
 DATE: June 2020
 SHEET NO: 6 of 6

Attachment C
Preliminary United Stream Methodology (USM)
Forms

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length		
102528	Green Ridge Landfill - Martin Property				4/20/2020		1120		
Name(s) of Evaluator(s)		Stream Name and Information							
BCLS		ST1R1							
								Enhancement	Project Credits
Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.								Credit per foot	0
List Reaches that will receive full Restoration:						Total length of Full Restoration		0	1
						<small>Credits = Stream Length X 1.0</small>			
Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles								Credit per foot	
Discuss Length Affected by Instream Structures (justify length):						Length Affected by Instream Structures		550	0.3
						<small>Credits = Stream Length X 0.3</small>		165	
Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain									
Mitigation Categories									
Mechanical Bank Work					Biological Bank Work				
Credit Per Length					Pick One Per Length				
May Be Cumulative Per Length									
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings				
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09				
Right Bank	Length	200	0	500	500	500	1700		
	Credit>	0.1	0.15	0.1	0.1	0.09			
		Habitat Struct bench		lay back bank		bio-remediation		plantings	
Left Bank	Length	200	0	500	500	500	1700		
	Credit >	0.1	0.15	0.1	0.1	0.09			
							Rt Bank >	165.00	Credit
							Lt Bank >	165.00	SUM of banks
							<small>Σ(Length X Credit) for all areas (banks done separately)</small>		330
Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100 will be determined below)									
Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation High Quality, Restoration, Enhancement	Preservation Low Quality	Buffer area not within preservation width			
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0			
Credit for beyond 100'	0.2	0.19	0.15	0.07		0			
Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>							112,000 square feet		
WITHIN FIRST 100' - Mitigation Categories									
One vegetative community maintained				Subtract 0.03		Ensure the sums of % Riparian Blocks equal 100			
Two vegetative communities maintained				Subtract 0.06					
Right Bank	Area #	1	2						
	Sq. Footage		86259						
	% Area	0%	77%	0%	0%	0%	77%		
	Credit>	0.38	0.14	0.4					
		Heavy Plant		Pres/Replant		Invasives			
Left Bank	Area #	1	2						
	Sq. Footage	62506	10080						
	% Area	56%	9%	0%	0%	0%	65%		
	Credit>	0.38	0.14	0.4					
							Rt Bank >	0.11	Credit
							Lt Bank >	0.22	0.17
							<small>Σ(% Area X Credit) for all areas (banks done separately)</small>		190
							<small>AVE of credit for banks X length of project</small>		
Outside First 100' - Mitigation Categories									
One vegetative community maintained				Subtract 0.03		Ensure the sums of % Riparian Blocks equal 100			
Two vegetative communities maintained				Subtract 0.06					
Right Bank	Area #	1	2						
	Sq. Footage								
	% Area	0%	0%	0%	0%	0%	0%		
	Credit>	0.19	0.07	0.2					
		Heavy Plant		Pres/Replant		Invasives			
Left Bank	Area #	1	2						
	Sq. Footage								
	% Area	0%	0%	0	0	0	0%		
	Credit >	0.19	0.07	0.2					
							Rt Bank >	0.00	Credit
							Lt Bank >	0.00	0.00
							<small>Σ(% Area X Credit) for all areas (banks done separately)</small>		0
							<small>AVE of credit for banks X length of project</small>		
Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply									
Adjustment Factor Categories									
Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation						
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3						
Stream Length Affected									
Credit>									
<small>Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors</small>									
							<small>Σ(Length X Credit) for all areas</small>		0
Total Compensation Credit Provided by Project								685	

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length		
102528	Green Ridge Landfill - Martin Property				4/20/2020		2136		
Name(s) of Evaluator(s)		Stream Name and Information							
BCLS		ST1R2							
								Enhancement	Project Credits
Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.								Credit per foot	0
List Reaches that will receive full Restoration:						Total length of Full Restoration		0	1
						<small>Credits = Stream Length X 1.0</small>			
Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vaness, Weirs, Step-Pools), Constructed Riffles								Credit per foot	
Discuss Length Affected by Instream Structures (justify length):						Length Affected by Instream Structures		1000	0.3
						<small>Credits = Stream Length X 0.3</small>		300	
Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain									
Mitigation Categories									
Mechanical Bank Work			Biological Bank Work						
Credit Per Length			Pick One Per Length				May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings				
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09				
Right Bank	Length	500	1000	400	1500				
	Credit>	0.1	0.15	0.1	0.09				
		Habitat Struct	bench	lay back bank	bio-remediation	plantings			
Left Bank	Length	500	1000	400	1500				
	Credit >	0.1	0.15	0.1	0.09				
						CREDITS			
						Rt Bank >	325.00	Credit	
						Lt Bank >	325.00	SUM of banks	
						<small>Σ (Length X Credit) for all areas (banks done separately)</small>		650	
Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)									
Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation High Quality, Restoration, Enhancement	Preservation Low Quality	Buffer area not within preservation width			
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0			
Credit for beyond 100'	0.2	0.19	0.15	0.07	0				
<small>Calculation of "Goal" riparian buffer for each side (SAR length times 100) >>></small>						213,600 square feet			
WITHIN FIRST 100' - Mitigation Categories									
One vegetative community maintained				Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100				
Two vegetative communities maintained				Subtract 0.06					
Right Bank	Area #	1	2						
	Sq. Footage	210711							
	% Area	0%	99%	0%	0%	0%	99%		
	Credit>	0.38	0.14	0.4					
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage	224926							
	% Area	0%	105%	0%	0%	0%	105%		
	Credit>	0.38	0.14	0.4					
						CREDITS			
						Rt Bank >	0.14	Credit	
						Lt Bank >	0.15	0.15	
						<small>Σ (% Area X Credit) for all areas (banks done separately)</small>		320	
						<small>AVE of credit for banks X length of project</small>			
Outside First 100' - Mitigation Categories									
One vegetative community maintained				Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100				
Two vegetative communities maintained				Subtract 0.06					
Right Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0%	0%	0%	0%		
	Credit>	0.019	0.07						
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0	0	0	0%		
	Credit >	0.19	0.07	0.2					
						CREDITS			
						Rt Bank >	0.00	Credit	
						Lt Bank >	0.00	0.00	
						<small>Σ (% Area X Credit) for all areas (banks done separately)</small>		0	
						<small>AVE of credit for banks X length of project</small>			
Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply									
Adjustment Factor Categories									
Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation						
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3						
Stream Length Affected									
Credit>									
<small>Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors</small>						<small>Σ Length X Credit) for all areas</small>			
Total Compensation Credit Provided by Project								1270	

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length			
102528	Green Ridge Landfill - Martin Property				4/20/2020		142			
Name(s) of Evaluator(s)		Stream Name and Information								
BCLS		ST1T1								
								Enhancement	Project Credits	
Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.								Credit per foot	0	
List Reaches that will receive full Restoration:						Total length of Full Restoration		0	1	
						<small>Credits = Stream Length X 1.0</small>				
Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vaness, Weirs, Step-Pools), Constructed Riffles								Credit per foot		
Discuss Length Affected by Instream Structures (justify length):						Length Affected by Instream Structures		50	0.3	
						<small>Credits = Stream Length X 0.3</small>				
Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain										
Mitigation Categories										
Mechanical Bank Work				Biological Bank Work						
Credit Per Length				Pick One Per Length				May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings					
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09					
Right Bank	Length	50	50	100	5					
	Credit >	0.1	0.1	0.1	0.09					
		Habitat Struct bench			lay back bank bio-remediation plantings					
Left Bank	Length	50	50	100	5			Rt Bank >	19.00	
	Credit >	0.1	0.15	0.1	0.1	0.09	Lt Bank >	19.00	SUM of banks	
<small>Σ (Length X Credit) for all areas (banks done separately)</small>								38		
Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)										
Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation High Quality, Restoration, Enhancement	Preservation Low Quality	Buffer area not within preservation width				
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0				
Credit for beyond 100'	0.2	0.19	0.15	0.07		0				
Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>								14,248	square feet	
WITHIN FIRST 100' - Mitigation Categories										
One vegetative community maintained				Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100					
Two vegetative communities maintained				Subtract 0.06						
Right Bank	Area #	1	2							
	Sq. Footage	5686								
	% Area	0%	40%	0%	0%	0%	40%			
	Credit >	0.38	0.14	0.4						
		Heavy Plant Pres/Replant Invasives								
Left Bank	Area #									
	Sq. Footage	13631								
	% Area	0%	96%	0%	0%	0%	96%			
	Credit >	0.38	0.14	0.4			Rt Bank >	0.06	Credit	
<small>Σ (% Area X Credit) for all areas (banks done separately)</small>								0.13	0.10	
<small>AVE of credit for banks X length of project</small>								14		
Outside First 100' - Mitigation Categories										
One vegetative community maintained				Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100					
Two vegetative communities maintained				Subtract 0.06						
Right Bank	Area #									
	Sq. Footage									
	% Area	0%	0%	0%	0%	0%	0%			
	Credit >	0.19	0.07							
		Heavy Plant Pres/Replant Invasives								
Left Bank	Area #									
	Sq. Footage									
	% Area	0%	0%	0	0	0	0%			
	Credit >	0.19	0.07	0.2			Rt Bank >	0.00	Credit	
<small>Σ (% Area X Credit) for all areas (banks done separately)</small>								0.00	0.00	
<small>AVE of credit for banks X length of project</small>								0		
Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply										
Adjustment Factor Categories										
Activity	Rare, Threatened, or Endangered Species or Communities		Livestock Exclusion		Watershed Preservation			Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.		
Credit	0.1 - 0.3		0.1 - 0.3		0.1 - 0.3					
Stream Length Affected										
	Credit >								Credits >	0
<small>Σ Length X Credit) for all areas</small>								Total Compensation Credit Provided by Project		67

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length		
102528	Green Ridge Landfill - Martin Property				4/20/2020		630		
Name(s) of Evaluator(s)		Stream Name and Information							
BCLS		ST1T2							
								Enhancement	Project Credits
Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.								Credit per foot	0
List Reaches that will receive full Restoration:						Total length of Full Restoration		1	
						<small>Credits = Stream Length X 1.0</small>			
Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles								Credit per foot	
Discuss Length Affected by Instream Structures (justify length):						Length Affected by Instream Structures		300	0.3
						<small>Credits = Stream Length X 0.3</small>		90	
Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain									
Mitigation Categories									
Mechanical Bank Work				Biological Bank Work					
Credit Per Length				Pick One Per Length				May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings				
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09				
Right Bank	Length		150	450	600				
	Credit >	0.1	0.15	0.1	0.09				
		Habitat Struct	bench	lay back bank	bio-remediation	plantings			
Left Bank	Length		150	450	600			Rt Bank > 55.50	Credit
	Credit >	0.1	0.15	0.1	0.09			Lt Bank > 55.50	SUM of banks
<small>Σ (Length X Credit) for all areas (banks done separately)</small>								111	
Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)									
Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation High Quality, Restoration, Enhancement	Preservation Low Quality	Buffer area not within preservation width			
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0			
Credit for beyond 100'	0.2	0.19	0.15	0.07		0			
<small>Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>></small>								63,015	square feet
WITHIN FIRST 100' - Mitigation Categories									
One vegetative community maintained				Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100				
Two vegetative communities maintained				Subtract 0.06					
Right Bank	Area #	1	2						
	Sq. Footage	1232	55032						
	% Area	2%	87%	0%	0%	0%	89%		
	Credit >	0.38	0.14	0.4					
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage	1598	53945						
	% Area	3%	86%	0%	0%	0%	88%		
	Credit >	0.38	0.14	0.4			Rt Bank > 0.13	Credit	
<small>Σ (% Area X Credit) for all areas (banks done separately)</small>								0.13	0.13
<small>AVE of credit for banks X length of project</small>								82	
Outside First 100' - Mitigation Categories									
One vegetative community maintained				Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100				
Two vegetative communities maintained				Subtract 0.06					
Right Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0%	0%	0%	0%		
	Credit >	0.19	0.07						
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0	0	0	0%		
	Credit >	0.19	0.07	0.2			Rt Bank > 0.00	Credit	
<small>Σ (% Area X Credit) for all areas (banks done separately)</small>								0.00	0.00
<small>AVE of credit for banks X length of project</small>								0	
Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply									
Adjustment Factor Categories									
Activity	Rare, Threatened, or Endangered Species or Communities		Livestock Exclusion		Watershed Preservation				
Credit	0.1 - 0.3		0.1 - 0.3		0.1 - 0.3				
Stream Length Affected									
Credit >								Credits >	0
<small>Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors</small>								<small>Σ (Length X Credit) for all areas</small>	
Total Compensation Credit Provided by Project								283	

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length		
102528	Green Ridge Landfill - Martin Property				4/20/2020		1143		
Name(s) of Evaluator(s)		Stream Name and Information							
BCLS		ST1T3							
								Enhancement	Project Credits
Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.								Credit per foot	0
List Reaches that will receive full Restoration:						Total length of Full Restoration		0	1
						<small>Credits = Stream Length X 1.0</small>			
Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vaness, Weirs, Step-Pools), Constructed Riffles								Credit per foot	
Discuss Length Affected by Instream Structures (justify length):						Length Affected by Instream Structures		500	0.3
						<small>Credits = Stream Length X 0.3</small>		150	
Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain									
Mitigation Categories									
Mechanical Bank Work				Biological Bank Work					
Credit Per Length				Pick One Per Length				May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings				
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09				
Right Bank	Length		300	800	1100				
	Credit >	0.1	0.15	0.1	0.09				
		Habitat Struct	bench	lay back bank	bio-remediation	plantings			
Left Bank	Length		300	800	1100	Rt Bank >	102.00	Credit	
	Credit >	0.1	0.15	0.1	0.09	Lt Bank >	102.00	SUM of banks	
						<small>Σ (Length X Credit) for all areas (banks done separately)</small>		204	
Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)									
Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation High Quality, Restoration, Enhancement	Preservation Low Quality	Buffer area not within preservation width			
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0			
Credit for beyond 100'	0.2	0.19	0.15	0.07	0				
<small>Calculation of "Goal" riparian buffer for each side (SAR length times 100) >>></small>						114,347 square feet			
WITHIN FIRST 100' - Mitigation Categories									
One vegetative community maintained				Subtract 0.03		Ensure the sums of % Riparian Blocks equal 100			
Two vegetative communities maintained				Subtract 0.06					
Right Bank	Area #	1	2						
	Sq. Footage		110897						
	% Area	0%	97%	0%	0%	0%	0%	97%	
	Credit >	0.38	0.14	0.4					
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage		97023						
	% Area	0%	85%	0%	0%	0%	85%		
	Credit >	0.38	0.14	0.4					
						<small>Σ (Area X Credit) for all areas (banks done separately)</small>		149	
						<small>AVE of credit for banks X length of project</small>			
Outside First 100' - Mitigation Categories									
One vegetative community maintained				Subtract 0.03		Ensure the sums of % Riparian Blocks equal 100			
Two vegetative communities maintained				Subtract 0.06					
Right Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0%	0%	0%	0%	0%	
	Credit >	0.19	0.07						
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0	0	0	0	0%	
	Credit >	0.19	0.07	0.2					
						<small>Σ (Area X Credit) for all areas (banks done separately)</small>		0	
						<small>AVE of credit for banks X length of project</small>			
Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply									
Adjustment Factor Categories									
Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation					Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.	
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3						
Stream Length Affected									
	Credit >							Credits >	0
<small>Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors</small>						<small>Σ (Length X Credit) for all areas</small>			
Total Compensation Credit Provided by Project								503	

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length			
102528	Green Ridge Landfill - Martin Property				4/20/2020		482			
Name(s) of Evaluator(s)		Stream Name and Information								
BCLS		ST2R1								
								Preservation	Project Credits	
Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.								Credit per foot	0	
List Reaches that will receive full Restoration:						Total length of Full Restoration		0	1	
						<small>Credits = Stream Length X 1.0</small>				
Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vaness, Weirs, Step-Pools), Constructed Riffles								Credit per foot		
Discuss Length Affected by Instream Structures (justify length):						Length Affected by Instream Structures		0	0.3	
						<small>Credits = Stream Length X 0.3</small>				
Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain										
Mitigation Categories										
Mechanical Bank Work				Biological Bank Work						
Credit Per Length				Pick One Per Length				May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings					
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09					
Right Bank	Length					0				
	Credit >									
Left Bank	Length					0	Rt Bank >	0.00	Credit	
	Credit >						Lt Bank >	0.00	SUM of banks	
						<small>Σ (Length X Credit) for all areas (banks done separately)</small>		0		
Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)										
Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation High Quality, Restoration, Enhancement	Preservation Low Quality	Buffer area not within preservation width				
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0				
Credit for beyond 100'	0.2	0.19	0.15	0.07		0				
Calculation of "Goal" riparian buffer for each side (SAR length times 100) >>>						48,200 square feet				
WITHIN FIRST 100' - Mitigation Categories										
One vegetative community maintained				Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100					
Two vegetative communities maintained				Subtract 0.06						
Right Bank	Area #	1	2							
	Sq. Footage		41131							
	% Area	0%	85%	0%	0%	0%	0%	0%	85%	
	Credit >	0.38	0.14	0.4						
Heavy Plant Pres/Replant Invasives										
Left Bank	Area #									
	Sq. Footage	18990	22009							
	% Area	39%	46%	0%	0%	0%	0%	85%		
	Credit >	0.38	0.14	0.4						
						CREDITS				
						Rt Bank >	0.12	Credit		
						Lt Bank >	0.21	0.17	82	
						<small>Σ (% Area X Credit) for all areas (banks done separately)</small>		<small>AVE of credit for banks X length of project</small>		
Outside First 100' - Mitigation Categories										
One vegetative community maintained				Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100					
Two vegetative communities maintained				Subtract 0.06						
Right Bank	Area #									
	Sq. Footage									
	% Area	0%	0%	0%	0%	0%	0%	0%	0%	
	Credit >	0.19	0.07							
Heavy Plant Pres/Replant Invasives										
Left Bank	Area #									
	Sq. Footage									
	% Area	0%	0%	0	0	0	0	0%		
	Credit >	0.19	0.07	0.2						
						CREDITS				
						Rt Bank >	0.00	Credit		
						Lt Bank >	0.00	0.00	0	
						<small>Σ (% Area X Credit) for all areas (banks done separately)</small>		<small>AVE of credit for banks X length of project</small>		
Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply										
Adjustment Factor Categories										
Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation					Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.		
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3							
Stream Length Affected										
Credit >								Credits >	0	
<small>Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors</small>								<small>Σ (Length X Credit) for all areas</small>		
Total Compensation Credit Provided by Project								82		

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length			
102528	Green Ridge Landfill - Martin Property				4/20/2020		1664			
Name(s) of Evaluator(s)		Stream Name and Information								
BCLS		ST2R2								
								Restoration	Project Credits	
Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.								Credit per foot	1664	
List Reaches that will receive full Restoration:						Total length of Full Restoration		1664	1	
						<small>Credits = Stream Length X 1.0</small>				
Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vaness, Weirs, Step-Pools), Constructed Riffles								Credit per foot		
Discuss Length Affected by Instream Structures (justify length):						Length Affected by Instream Structures		0	0.3	
						<small>Credits = Stream Length X 0.3</small>				
Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain										
Mitigation Categories										
Mechanical Bank Work				Biological Bank Work						
Credit Per Length				Pick One Per Length				May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings					
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09					
Right Bank	Length						0			
	Credit >									
Left Bank	Length						0	Rt Bank > 0.00	Credit	
	Credit >							Lt Bank > 0.00	SUM of banks	
<small>Σ (Length X Credit) for all areas (banks done separately)</small>								0		
Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)										
Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation High Quality, Restoration, Enhancement	Preservation Low Quality	Buffer area not within preservation width				
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0				
Credit for beyond 100'	0.2	0.19	0.15	0.07		0				
<small>Calculation of "Goal" riparian buffer for each side (SAR length times 100) >>></small>								166,400	square feet	
WITHIN FIRST 100' - Mitigation Categories										
One vegetative community maintained				Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100					
Two vegetative communities maintained				Subtract 0.06						
Right Bank	Area #	1	2							
	Sq. Footage		134344							
	% Area	0%	81%	0%	0%	0%	0%	81%		
	Credit >	0.38	0.14	0.4						
Heavy Plant Pres/Replant Invasives										
Left Bank	Area #									
	Sq. Footage	35059	108703							
	% Area	21%	65%	0%	0%	0%	0%	86%		
	Credit >	0.38	0.14	0.4						
<small>Σ (Area X Credit) for all areas (banks done separately)</small>								0.17	Credit	
<small>AVE of credit for banks X length of project</small>								0.14	233	
Outside First 100' - Mitigation Categories										
One vegetative community maintained				Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100					
Two vegetative communities maintained				Subtract 0.06						
Right Bank	Area #									
	Sq. Footage									
	% Area	0%	0%	0%	0%	0%	0%	0%		
	Credit >	0.19	0.07							
Heavy Plant Pres/Replant Invasives										
Left Bank	Area #									
	Sq. Footage									
	% Area	0%	0%	0	0	0	0	0%		
	Credit >	0.19	0.07	0.2						
<small>Σ (Area X Credit) for all areas (banks done separately)</small>								0.00	Credit	
<small>AVE of credit for banks X length of project</small>								0.00	0	
Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply										
Adjustment Factor Categories										
Activity	Rare, Threatened, or Endangered Species or Communities		Livestock Exclusion		Watershed Preservation			Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.		
Credit	0.1 - 0.3		0.1 - 0.3		0.1 - 0.3					
Stream Length Affected										
	Credit >								Credits >	0
<small>Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors</small>								<small>Σ (Length X Credit) for all areas</small>		
Total Compensation Credit Provided by Project								1897		