

EXHIBIT 4

UNIFIED STREAM METHODOLOGY MAP AND FORM

Stream Assessment Form (Form 1)

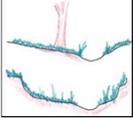
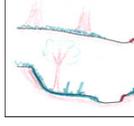
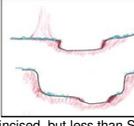
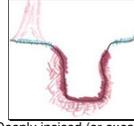
Unified Stream Methodology for use in Virginia

For use in wadeable channels classified as intermittent or perennial

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
34314	Lakota: Phase II	Culpeper	R3SB3	02080103	8/26/2013	Area 1	1501	

Name(s) of Evaluator(s)	Stream Name and Information
R. Napier	Reach 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 to stability. 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 contribute to stability.	 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.	 Deeply incised (or excavated), 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	2.4
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.	NOTES>>	
Condition Scores	1.5	High 1.2	Low 1.1	High 0.85	Low 0.75	High 0.6	Low 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 >	0.6				
Left Bank	% Riparian Area>	100%				100%
	Score >	0.6				
						CI= (Sum % RA * Scores*0.01)/2
						Rt Bank CI > 0.60
						Lt Bank CI > 0.60

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.	CI
Score	1.5	1.2	0.9	0.5	0.50
NOTES>>					

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
34314		Culpeper	R3SB3	02080103	8/26/2013	Area 1	1501	0

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

NOTES>>

	Conditional Category					
	Negligible	Minor	Moderate	Severe		
Channel Alteration	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

0.50

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) >> **0.80**

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

COMPENSATION REQUIREMENT (CR) >> **0**

CR = RCI X LF X IF

INSERT PHOTOS:

DESCRIBE PROPOSED IMPACT:

Stream Assessment Form (Form 1)

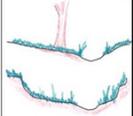
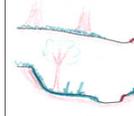
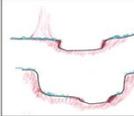
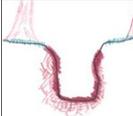
Unified Stream Methodology for use in Virginia

For use in wadeable channels classified as intermittent or perennial

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
34314	Lakota: Phase II	Culpeper	R3SB3	02080103	8/26/2013	Area 2	815	

Name(s) of Evaluator(s)	Stream Name and Information
R. Napier	Reach 2

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 to stability. 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 contribute to stability.	 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.	 Deeply incised (or excavated), 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	1.0
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.	NOTES>>
Condition Scores	1.5	High 1.2	Low 1.1	High 0.85	Low 0.75	High 0.6	Low 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	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">% Riparian Area></td> <td style="width: 15%; text-align: center;">100%</td> <td style="width: 15%;"></td> <td style="width: 15%; text-align: center;">100%</td> </tr> <tr> <td>Score ></td> <td style="text-align: center;">0.6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	% Riparian Area>	100%						100%	Score >	0.6						
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Rt Bank CI >	0.60																
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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	
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Score	1.5	1.2	0.9	0.5	0.50
NOTES>>					

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
34314	0	Culpeper	R3SB3	02080103	8/26/2013	Area 2	815	0

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

NOTES>>

	Conditional Category					
	Negligible	Minor	Moderate	Severe		
Channel Alteration	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

0.50

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) >> 0.52

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

COMPENSATION REQUIREMENT (CR) >> 0

CR = RCI X LF X IF

INSERT PHOTOS:

DESCRIBE PROPOSED IMPACT:

Stream Assessment Form (Form 1)

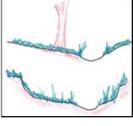
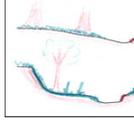
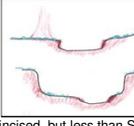
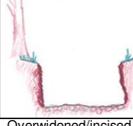
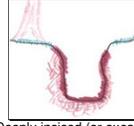
Unified Stream Methodology for use in Virginia

For use in wadeable channels classified as intermittent or perennial

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
34314	Lakota: Phase II	Culpeper	R3SB3	02080103	8/26/2013	Area 1	285	

Name(s) of Evaluator(s)	Stream Name and Information
R. Napier	Reach 2A

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 to stability. 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 contribute to stability.	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.	Deeply incised (or excavated), 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	1.0
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.	NOTES>>
Condition Scores	1.5	High	Low	High	Low	High	Low	
		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.						Ensure the sums of % Riparian Blocks equal 100	
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 >	0.6					
CI= (Sum % RA * Scores*0.01)/2							
Left Bank	% Riparian Area>	100%					100%
	Score >	0.6					
Rt Bank CI >						0.60	CI
Lt Bank CI >						0.60	0.60

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.	CI
Score	1.5	1.2	0.9	0.5	0.50

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
34314	0	Culpeper	R3SB3	02080103	8/26/2013	Area 1	285	0

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

NOTES>>

	Conditional Category					
	Negligible	Minor	Moderate	Severe		
Channel Alteration	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

0.50

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) >> **0.52**

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

COMPENSATION REQUIREMENT (CR) >> **0**

CR = RCI X LF X IF

INSERT PHOTOS:

DESCRIBE PROPOSED IMPACT:

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length		
34314	Lakota: Phase II	Culpeper	R3SB3	02080103	8/29/2013	Area 1	1501		
Name(s) of Evaluator(s)		Steam Name and information						Project Credits	
M. Elander		Northern Trib - Above Culvert							
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		
					Credits = Stream Length X 1.0				
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		0.3	0	
					Credits = Stream Length X 0.3				
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 >							Lt Bank >	0.00
CREDITS									
SUM of banks								0	
Σ (Length X Credit) for all areas (banks done separately)									
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') >>>>								150,100 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							
	Sq. Footage	139181							
	% Area	93%	0%	0%	0%	0%	0%	93%	
	Credit >	0.4							
Left Bank	Area #	2							
	Sq. Footage	161252							
	% Area	107%	0%	0%	0%	0%	0%	107%	
	Credit >	0.4							
CREDITS									
Rt Bank >								0.37	
Credit								0.40	
Lt Bank >								0.43	
Credit								600	
Σ (% Area X Credit) for all areas (banks done separately) AVE of credit for banks X length of project									
Outside First 100' - Mitigation Categories									
One vegetative community maintained				Subtract 0.03					
Two vegetative communities maintained				Subtract 0.06					
Right Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0%	0%	0%	0%	0%	
	Credit >								
Left Bank	Area #	3							
	Sq. Footage	181284							
	% Area	121%	0%	0%	0%	0%	0%	121%	
	Credit >	0.2							
CREDITS									
Rt Bank >								0.00	
Credit								0.12	
Lt Bank >								0.24	
Credit								180.12	
Σ (% Area X Credit) for all areas (banks done separately) AVE of credit for banks X length of project									
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	1501								
Credit >	0.3								
Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors								Σ Length X Credit) for all areas	
Credits >								450	
Total Compensation Credit Provided by Project								1230	

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length			
34314	Lakota: Phase II	Culpeper	R3SB3	02080103	8/29/2013	Area 2	815			
Name(s) of Evaluator(s)		Steam Name and information						Project Credits		
M. Elander		Bee Branch								
Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.								Credit per foot	815	
List Reaches that will receive full Restoration:						Total length of Full Restoration	815	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	0.3	0		
						<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	
						Σ (Length X Credit) for all areas (banks done separately)		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') >>>>						81,489 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 #	4	8							
	Sq. Footage	33666	39739							
	% Area	41%	49%	0%	0%	0%	0%	90%		
	Credit >	0.14	0.38							
Left Bank	Area #	5	9							
	Sq. Footage	44192	44742							
	% Area	54%	55%	0%	0%	0%	100%	Rt Bank >	0.24	Credit
	Credit >	0.14	0.38				Lt Bank >	0.28	0.26	212
						Σ (% Area X Credit) for all areas (banks done separately)		48.89		
						<small>AVE of credit for banks X length of project</small>				
Outside First 100' - Mitigation Categories										
One vegetative community maintained				Subtract 0.03						
Two vegetative communities maintained				Subtract 0.06						
Right Bank	Area #	6								
	Sq. Footage	91106								
	% Area	112%	0%	0%	0%	0%	112%			
	Credit >	0.07								
Left Bank	Area #	7	10							
	Sq. Footage	14992	10827							
	% Area	18%	13%	0%	0%	0%	32%	Rt Bank >	0.08	Credit
	Credit >	0.07	0.19				Lt Bank >	0.04	0.06	48.89
						Σ (% Area X Credit) for all areas (banks done separately)		48.89		
						<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	815									
Credit >	0.3							Credits >	244	
						Σ (Length X Credit) for all areas				
						Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors				
Total Compensation Credit Provided by Project								1320		

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length			
34314	Lakota: Phase II	Culpeper	R3SB3	02080103	8/29/2013	Area 2A	285			
Name(s) of Evaluator(s)		Steam Name and information						Project Credits		
M. Elander		Northern Trib - Below Culvert								
Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.								Credit per foot	285	
List Reaches that will receive full Restoration:					Total length of Full Restoration		285	1		
					Credits = Stream Length X 1.0					
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		0.3	0		
					Credits = Stream Length X 0.3					
Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain										
Mitigation Categories										
Mechanical Bank Work			Pick One Per Length			Biological Bank Work				
Credit 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	
						CREDITS				
						Σ (Length X Credit) for all areas (banks done separately)		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') >>>>						28,535 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 #	11								
	Sq. Footage	14678								
	% Area	51%	0%	0%	0%	0%	0%	51%		
	Credit >	0.14								
Left Bank	Area #	12								
	Sq. Footage	9956								
	% Area	35%	0%	0%	0%	0%	0%	35%		
	Credit >	0.14								
						CREDITS				
						Σ (% Area X Credit) for all areas (banks done separately)		17		
						AVE of credit for banks X length of project				
Outside First 100' - Mitigation Categories										
One vegetative community maintained				Subtract 0.03						
Two vegetative communities maintained				Subtract 0.06						
Right Bank	Area #									
	Sq. Footage									
	% Area	0%	0%	0%	0%	0%	0%	0%		
	Credit >									
Left Bank	Area #									
	Sq. Footage									
	% Area	0%	0%	0%	0%	0%	0%	0%		
	Credit >									
						CREDITS				
						Σ (% Area X Credit) for all areas (banks done separately)		0		
						AVE of credit for banks X length of project				
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	285									
Credit >	0.3									
Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors						Σ (Length X Credit) for all areas				
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.										
						CREDITS >		86		
Total Compensation Credit Provided by Project								388		