SUPPLY HEADER PROJECT ENVIRONMENTAL SURVEY

Waterbody Datasheets and Photo Pages

TL-635

Tyler County

West Virginia

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT to Indian Creek	STYG001	4-30-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Tyler	DOMEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
32-001-C002	22.6	22.6	NONE

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [X] Intermittent [ ] Perennial

Waterbody Type: *(check one)* [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale[a] [ ] Other: _____

OHWM
Width: 5 ft.
Height: 1 ft.

OHWM Indicator: *(check all that apply)*
[ ] Clear line on bank [ ] Shelving [ ] Wrested vegetation [X] Scouring [ ] Water staining
[X] Bent, matted, or missing vegetation [X] Wrack line [ ] Litter and debris [ ] Abrupt plant community change [ ] Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
10 ft.	0 ft.	0 ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
[ ] Straight [X] Meandering	<1 fps	Right: 3 ft. Left: 3 ft.	Right: 60 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* [X] No water [ ] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [X] Bedrock [X] Gravel [ ] Sand [ ] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate:	60 %	35 %	3 %	2 %	____ %	____ %

Width of Riparian Zone: >100 ft.

Vegetative Layers: *(check all that apply)* [X] Trees: [X] Shrubs: [X] Herbs

Avg. DBH of Dominants: *(approx.)* ____ in. ____ in.

Dominant Bank Vegetation: *(list)* Quercus rubra, Carpinus caroliniana, Rosa multiflora, Polystichum acrostichoides

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora

Tributary is: *(check one)* [X] Natural [ ] Artificial, man-made [ ] Manipulated

Disturbances: *(check all that apply)* [ ] Livestock access [ ] Manure in waterbody [ ] Waste discharge pipes [ ] Other: NONE

Stream Quality[b]: *(check one)* [ ] High [X] Moderate [ ] Low

Waterbody ID: ST46001

[a] ***Connecting swales*** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

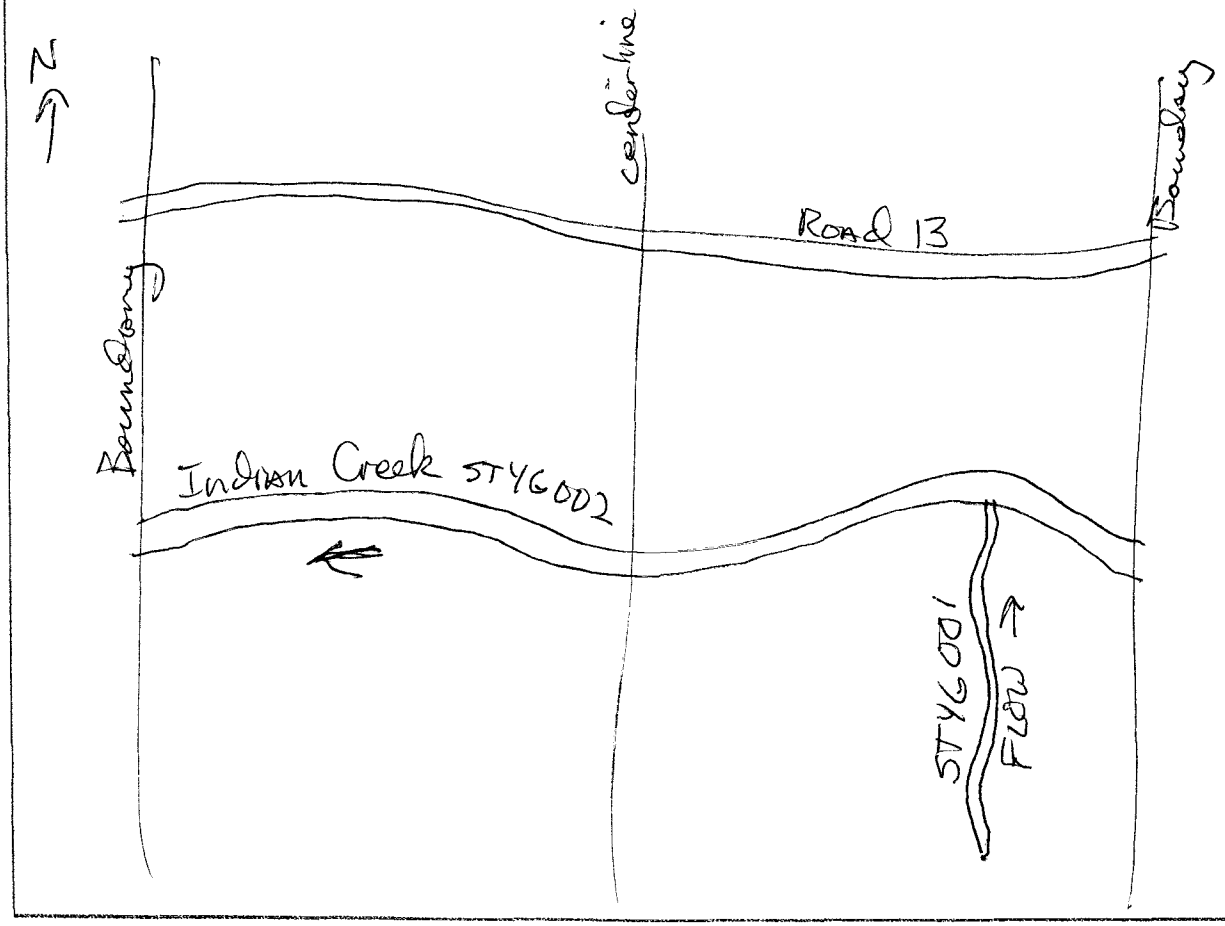
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



styg001

Waterbody styg001 facing upstream

Waterbody styg001 facing downstream

Styg001

Waterbody styg001 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	Indian Creek	~~ST~~ST46002	4/30/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Tyler	DD WEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
32-001-C002	2.7	2.7	NONE

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [ ] Intermittent [X] Perennial

Waterbody Type: *(check one)* [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale[a] [ ] Other: _____

OHWM	OHWM Indicator: *(check all that apply)*					
Width: 15 ft.	[X] Clear line on bank	[X] Shelving	[X] Wrested vegetation	[X] Scouring	[ ] Water staining	
Height: _____ ft.	[X] Bent, matted, or missing vegetation	[X] Wrack line	[ ] Litter and debris	[ ] Abrupt plant community change	[ ] Soil characteristic change	

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
18 ft.	6 ft.	2" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
[ ] Straight [X] Meandering	>2 fps	Right: 2 ft. Left: 2 ft.	Right: 50 degrees Left: 70 degrees

Qualitative Attributes

Water Appearance: *(check one)* [ ] No water [X] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [X] Bedrock [X] Gravel [X] Sand [X] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate:	20 %	60 %	10 %	10 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
20 ft.	[X] Trees:	[X] Shrubs:	[X] Herbs	
	Avg. DBH of Dominants: *(approx.)*	____ in.	____ in.	

Dominant Bank Vegetation: *(list)* Quercus rubra, Carpinus caroliniana, Polystichum acrostoides, Rosa multiflora

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffle, pools, overhanging vegetation

Aquatic Organisms Observed: *(list)* small invertebrates

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora

Tributary is: *(check one)* [X] Natural [ ] Artificial, man-made [ ] Manipulated

Disturbances: *(check all that apply)* [ ] Livestock access [ ] Manure in waterbody [X] Waste discharge pipes [ ] Other: _____

Stream Quality[b]: *(check one)* [ ] High [X] Moderate [ ] Low

Waterbody ID: ST4G002

[a] **Connecting swales** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

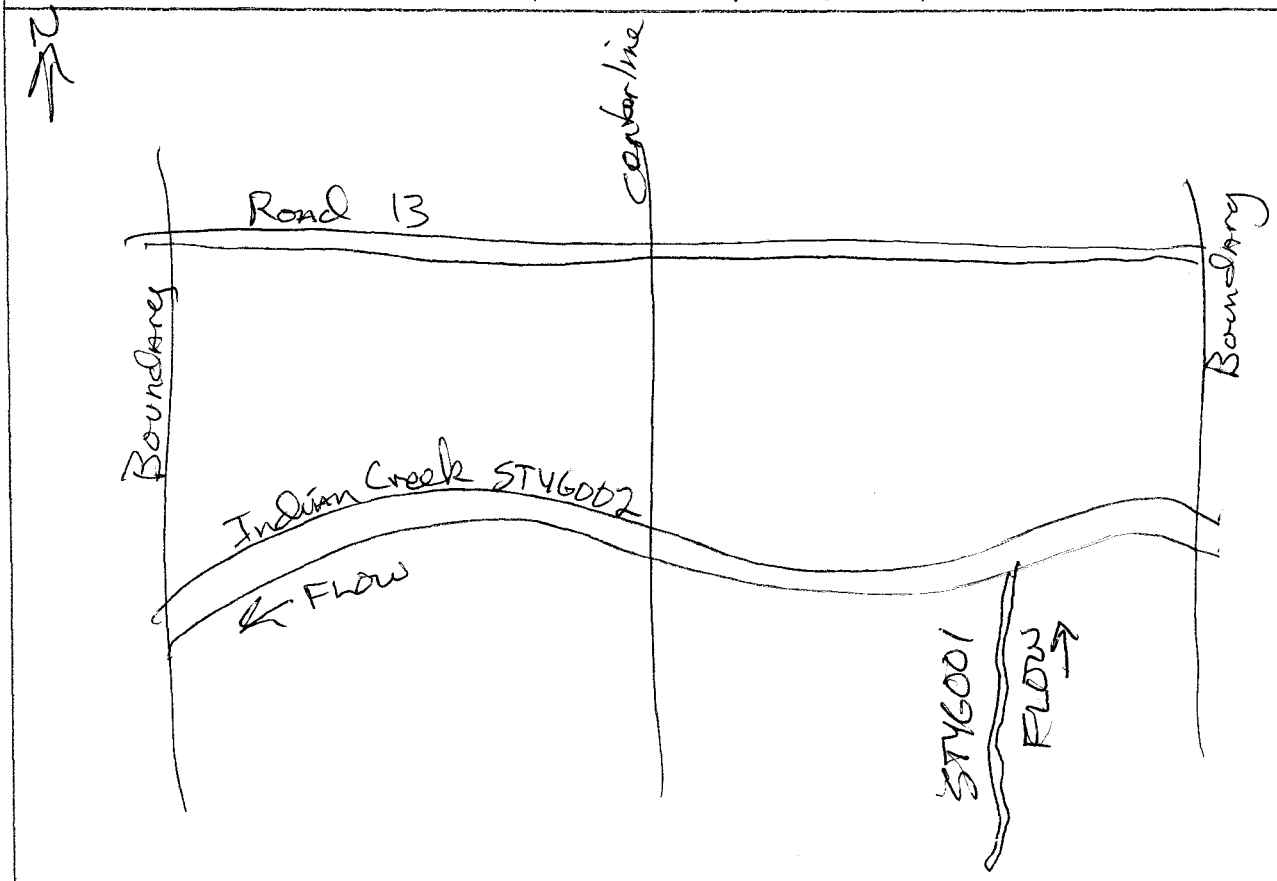
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



styg002

Waterbody styg002 facing upstream

Waterbody styg002 facing downstream

styg002

Waterbody styg002 facing upline cross stream

SUPPLY HEADER PROJECT ENVIRONMENTAL SURVEY

Waterbody Datasheets and Photo Pages

TL-635

Wetzel County

West Virginia

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO Buffalo Run	SWZ60Z4	5-13-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DAWEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	24.3	24.3	WWZ6003 & W

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [ ] Intermittent [X] Perennial

Waterbody Type: *(check one)* [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale[a] [ ] Other: _____

OHWM
Width: 15 ft.
Height: 6" ft.

OHWM Indicator: *(check all that apply)*
[X] Clear line on bank [X] Shelving [X] Wrested vegetation [ ] Scouring [ ] Water staining
[X] Bent, matted, or missing vegetation [X] Wrack line [ ] Litter and debris [ ] Abrupt plant community change [ ] Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
20 ft.	_____ ft.	_____ ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
[ ] Straight [X] Meandering	<1 fps	Right: 3 ft. Left: 2 ft.	Right: 30 degrees Left: 15 degrees

Qualitative Attributes

Water Appearance: *(check one)* [ ] No water [X] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [X] Bedrock [X] Gravel [X] Sand [X] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate:	10 %	60 %	10 %	20 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*	Avg. DBH of Dominants: *(approx.)*
_____ ft.	[X] Trees: [X] Shrubs: [X] Herbs	10 in. _____ in.

Dominant Bank Vegetation: *(list)*
Acer barbatum, Platanus occidentalis, Fagus grandifolia, Athyrium felix-femina

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)*
Pools, Riffles

Aquatic Organisms Observed: *(list)*
small frogs + small fish

Invasive and/or T&E Species Observed: *(list)*
None

Tributary is: *(check one)* [X] Natural [ ] Artificial, man-made [ ] Manipulated

Disturbances: *(check all that apply)* [ ] Livestock access [ ] Manure in waterbody [ ] Waste discharge pipes [ ] Other: NONE

Stream Quality[b]: *(check one)* [ ] High [X] Moderate [ ] Low

Waterbody ID:
SW26024

[a] ***Connecting swales*** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

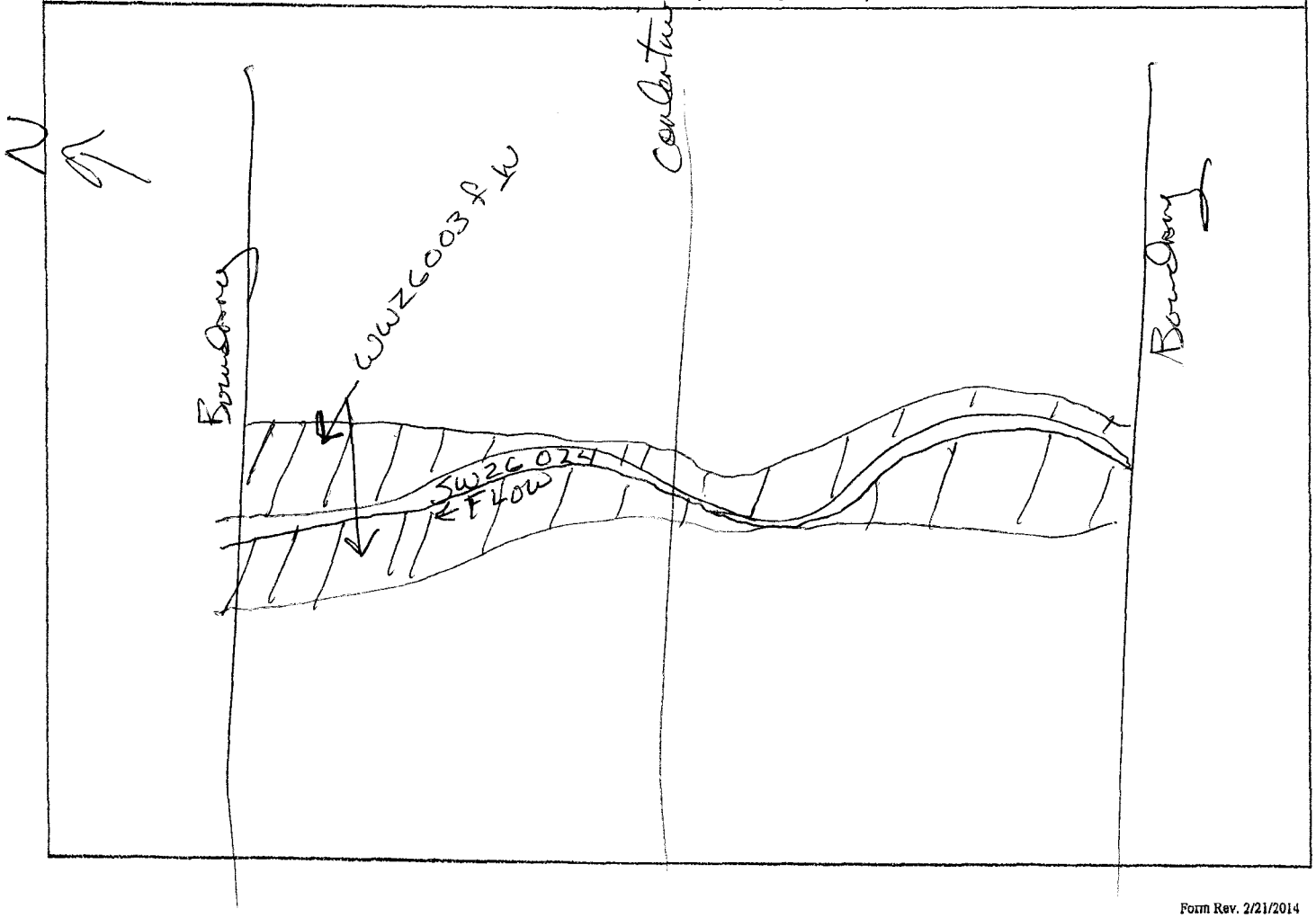
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg024

Waterbody swzg024 facing upstream

Waterbody swzg024 facing downstream

Swzg024

Waterbody swzg024 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT. TO ~~SWZH025~~ BUFFALO RUN	SWZH025	7-24-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 8 ft.
Height: 4" ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
12 ft.	0 ft.	0 ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	<1 fps	Right: 1½ ft. Left: 2 ft.	Right: 30 degrees Left: 30 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☒ No water ☐ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☐ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	____ %	20 %	10 %	20 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*	Avg. DBH of Dominants: *(approx.)*
750 ft.	☒ Trees: ☒ Shrubs: ☒ Herbs	____ in. ____ in.

Dominant Bank Vegetation: *(list)* Liriodendron tulipifera, Platanus occidentalis, Carpinus caroliniva, Microstegium vimenea

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* pools

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Microstegium vimenea

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☐ Other: NONE

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SW24025

[a] *Connecting swales* are water features that *do not meet* the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

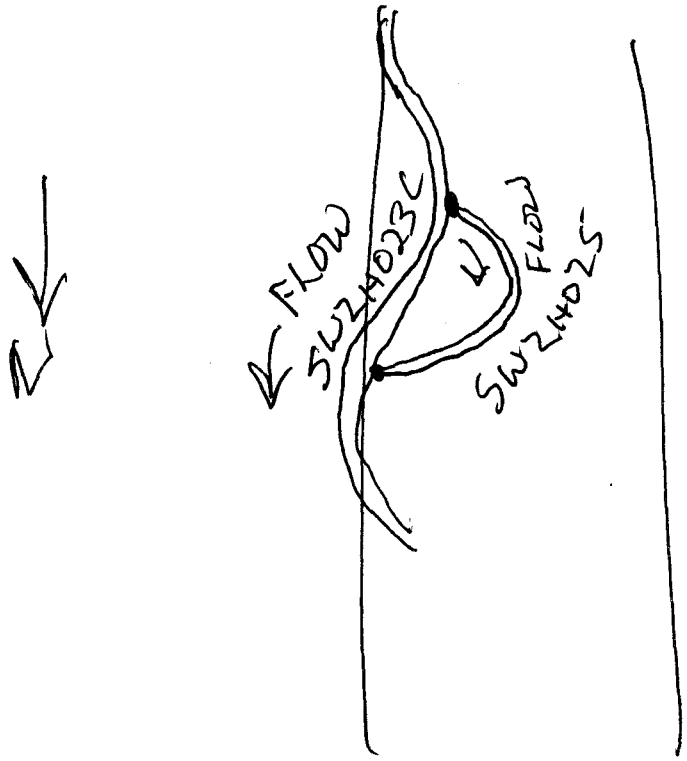
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzh025

Waterbody swzh025 facing upstream

Waterbody swzh025 facing downstream

Swzh025

Waterbody swzh025 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO Buffalo Run	SWZH023	7-21-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: (check one) ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: (check one) ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: (check one) ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 15 ft.
Height: _____ ft.

OHWM Indicator: (check all that apply)
☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☒ Scouring ☒ Water staining
☐ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: (Approx.)
25 ft.	6 ft.	6" ft.

Sinuosity: (check one)	Water velocity: (Approx.)	Bank height	Bank slope
☐ Straight ☒ Meandering	<3 fps	Right: 4 ft. Left: 6 ft.	Right: 30 degrees Left: 70 degrees

Qualitative Attributes

Water Appearance: (check one) ☐ No water ☐ Clear ☒ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: (check all that apply) ☐ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	____ %	70 %	10 %	20 %	____ %	____ %

Width of Riparian Zone: 750 ft.

Vegetative Layers: (check all that apply) ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: (approx.) 12 in. ____ in.

Dominant Bank Vegetation: (list) Platanus occidentalis, Rosa multiflora, Microstegium vimineum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): (list) Pools, Riffles, overhanging banks & veg.

Aquatic Organisms Observed: (list) small fish, frogs, invertebrates

Invasive and/or T&E Species Observed: (list) Rosa multiflora, Microstegium vimineum

Tributary is: (check one) ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: (check all that apply) ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Access road, two 24" culverts

Stream Quality[b]: (check one) ☐ High ☒ Moderate ☐ Low Pipes

Waterbody ID: SW2H023

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

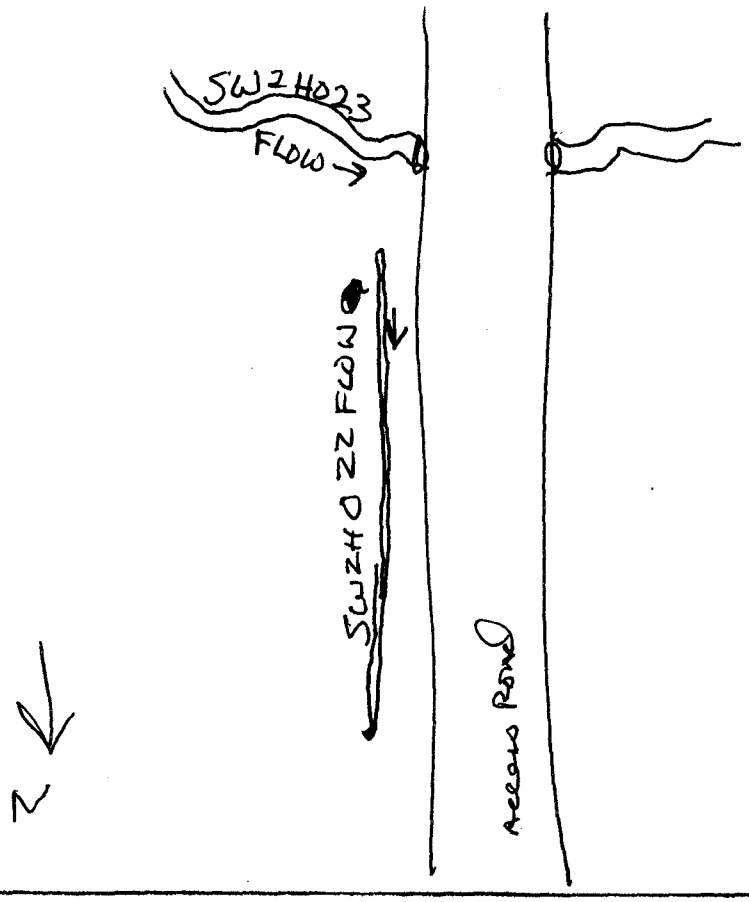
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzh023

Waterbody swzh023 facing upstream

Waterbody swzh023 facing downstream

Swzh023

Waterbody swzh023 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNTTO BUFFALO RUN	SWZH024	7-24-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: (check one) ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: (check one) ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: (check one) ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 4 ft.
Height: 6 ft.

OHWM Indicator: (check all that apply)
☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: (Approx.)
16" ft.	10 ft.	1" ft.

Sinuosity: (check one) ☐ Straight ☒ Meandering

Water velocity: (Approx.) <1 fps

Bank height
Right: 3 ft.
Left: 1 ft.

Bank slope
Right: 90 degrees
Left: 20 degrees

Qualitative Attributes

Water Appearance: (check one) ☐ No water ☒ Clear ☐ Turbid ☒ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: (check all that apply) ☒ Bedrock ☒ Gravel ☐ Sand ☐ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:					
	10 %	15 %	75 %	____ %	____ %

Width of Riparian Zone: 750 ft.

Vegetative Layers: (check all that apply) ☒ Trees: ☒ Shrubs: ☒ Herbs
Avg. DBH of Dominants: (approx.) 12 in. ____ in.

Dominant Bank Vegetation: (list) Liriodendron tulipifera, Platanus occidentalis, Carpinus caroliniana, Microstegium Vimineum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): (list) Riffles, Pools, overhanging banks + veg

Aquatic Organisms Observed: (list) small fish, frogs, invertebrates

Invasive and/or T&E Species Observed: (list) Microstegium-Vimineum

Tributary is: (check one) ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: (check all that apply) ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☐ Other: [illegible]

Stream Quality[b]: (check one) ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SW2H024

[a] *Connecting swales* are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

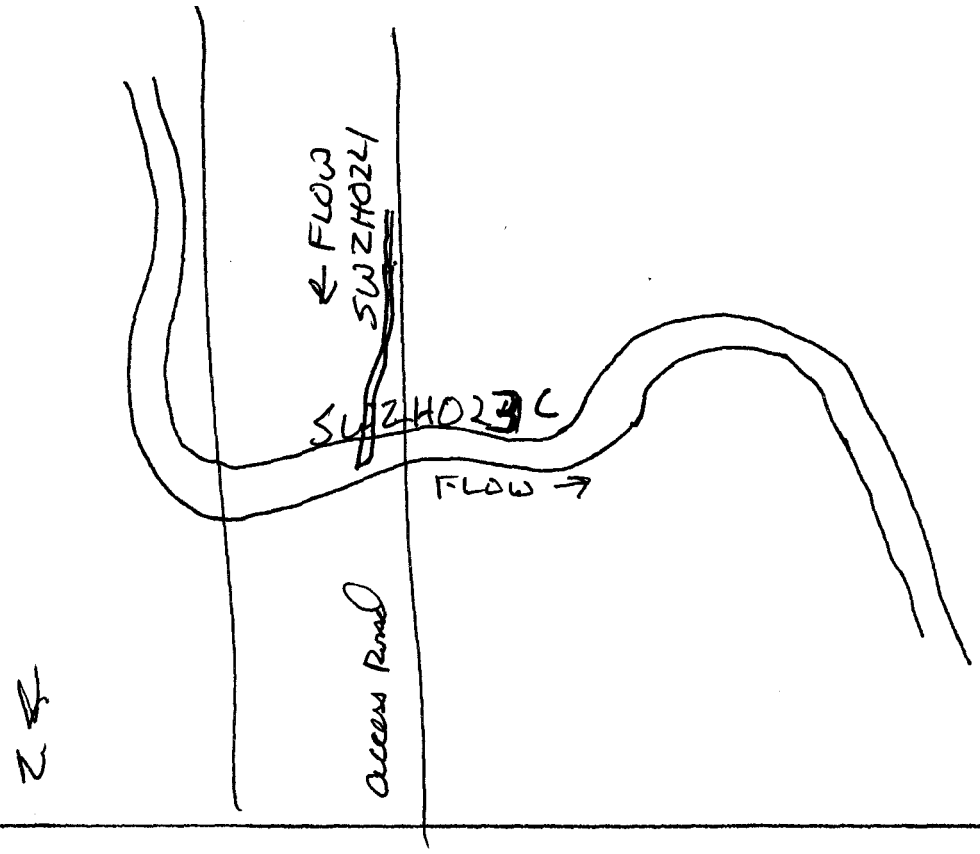
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzh024

Waterbody swzh024 facing upstream

Waterbody swzh024 facing downstream

Swzh024

Waterbody swzh024 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO BUFFALO RUN	SWZH022	7-24-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	SD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☐ Stream ☐ River ☒ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 3 ft.
Height: 6" ft.

OHWM Indicator: *(check all that apply)*
☐ Clear line on bank ☐ Shelving ☐ Wrested vegetation ☐ Scouring ☒ Water staining
☐ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☒ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
5 ft.	1 ft.	2" ft.

Sinuosity: *(check one)* ☒ Straight ☐ Meandering

Water velocity: *(Approx.)* <1 fps

Bank height
Right: 2 ft.
Left: 2 ft.

Bank slope
Right: 30 degrees
Left: 30 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☒ Turbid ☒ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☐ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	___ %	20 %	20 %	60 %	___ %	___ %

Width of Riparian Zone: 0 ft.

Vegetative Layers: *(check all that apply)* ☐ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* ___ in. ___ in.

Dominant Bank Vegetation: *(list)* Microstegium vimenea, Salix nigra, Typha angustifolia, Juncus coriaceus

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools

Aquatic Organisms Observed: *(list)* small invertebrates, and frogs

Invasive and/or T&E Species Observed: *(list)* Microstegium vimenea

Tributary is: *(check one)* ☐ Natural ☒ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent road & gas line yard.

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SW2H022

[a] ***Connecting swales*** are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

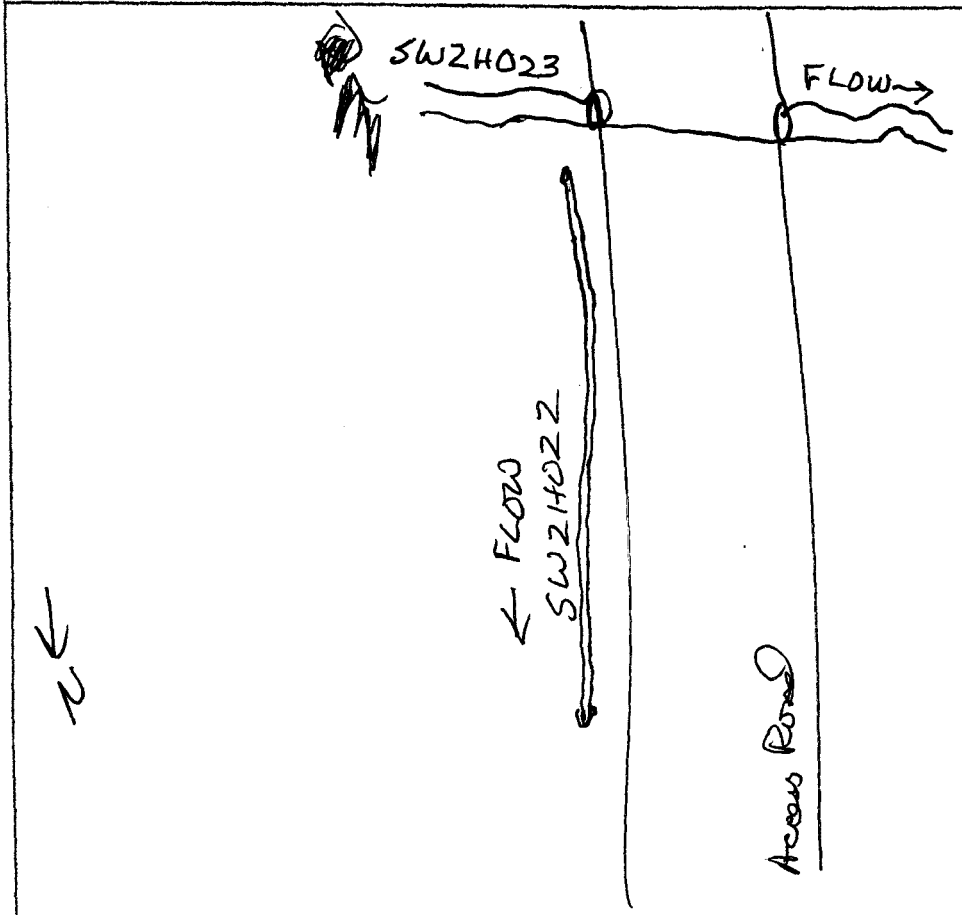
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzh022

Waterbody swzh022 facing upstream

Waterbody swzh022 facing downstream

Swzh022

Waterbody swzh022 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO Buffalo Run	SW2H026	7-24-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzell	EDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☐ Stream ☐ River ☒ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM Width: 3 ft. Height: 6" ft.

OHWM Indicator: *(check all that apply)* ☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining ☐ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
5 ft.	1 ft.	1" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒ Straight ☐ Meandering	<1 fps	Right: 6 ft. Left: 6 ft.	Right: 60 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☒ Turbid ☒ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☐ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	____ %	20 %	20 %	60 %	____ %	____ %

Width of Riparian Zone: 0 ft.

Vegetative Layers: *(check all that apply)* ☐ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* ____ in. ____ in.

Dominant Bank Vegetation: *(list)* Viburnum dentatum, Microstegium vimenea, Impatiens capensis, Rosa multiflora

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools

Aquatic Organisms Observed: *(list)* ~~Amphibians~~ Invertebrates

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum Rosa multiflora

Tributary is: *(check one)* ☐ Natural ☒ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☐ Other: Adjacent Road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low Culvert Pipe

Waterbody ID: SW2H025

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

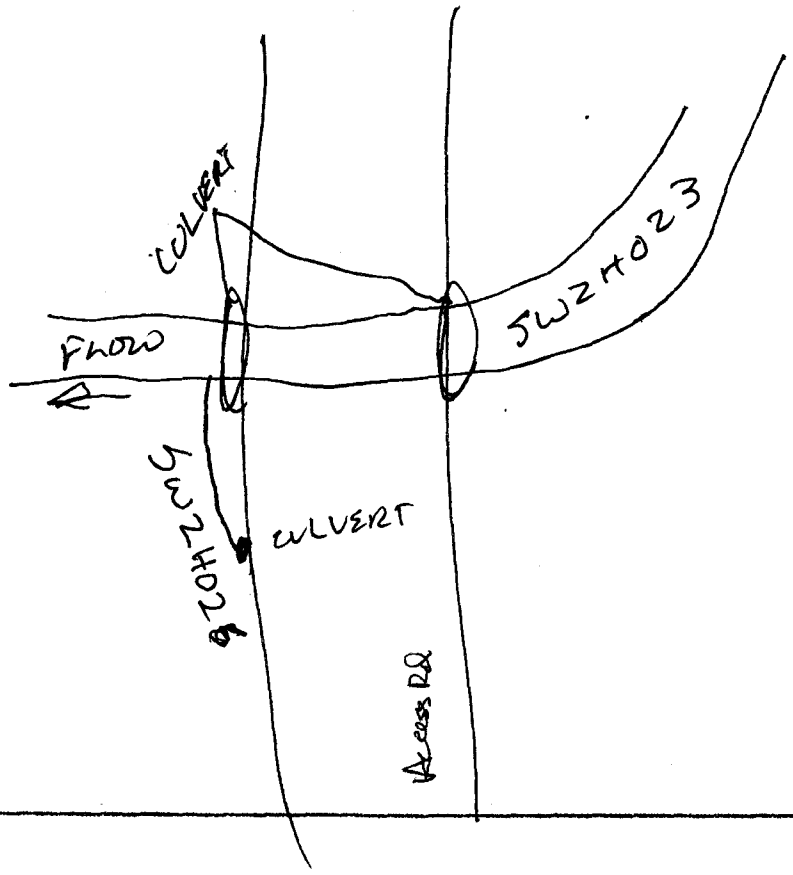
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzh026

Waterbody swzh026 facing upstream

Waterbody swzh026 facing downstream

Swzh026

Waterbody swzh026 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO Buffalo Run	SWZH012	7-23-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	ADWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☐ Stream ☐ River ☒ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 6 ft.
Height: 3" ft.

OHWM Indicator: *(check all that apply)*
☐ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☐ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
8 ft.	1 ft.	1/4" ft.

Sinuosity: *(check one)* ☒ Straight ☐ Meandering

Water velocity: *(Approx.)* <1 fps

Bank height
Right: 1 ft.
Left: 1 ft.

Bank slope
Right: 80 degrees
Left: 90 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☐ Sand ☐ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	20 %	70 %	____ %	10 %	____ %	____ %

Width of Riparian Zone: 0 ft.

Vegetative Layers: *(check all that apply)* ☐ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* ____ in. ____ in.

Dominant Bank Vegetation: *(list)* Impatiens capensis, Boehmeria cylindrica, Fagus grandifolia

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* R. Apos

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☐ Natural ☒ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: roadside ditch

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZH012

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

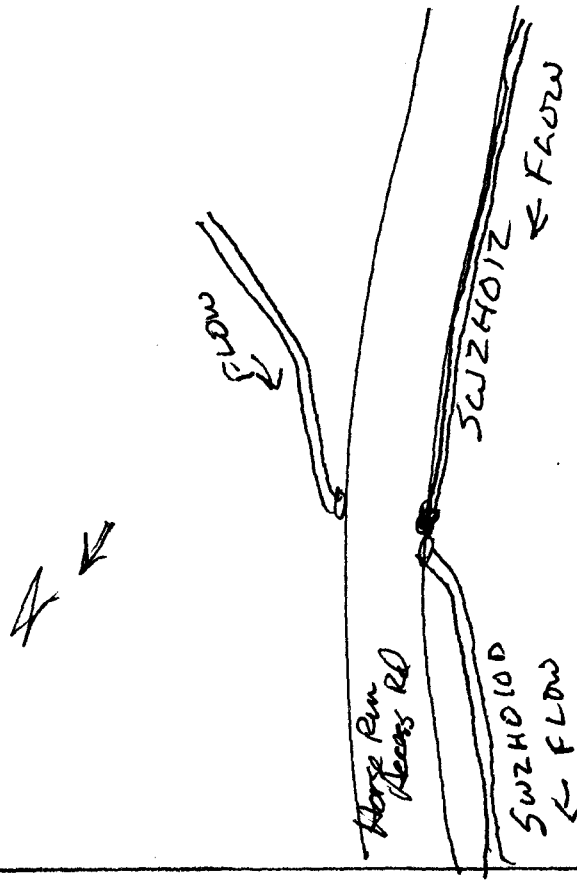
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh012 facing upstream

Waterbody swzh012 facing downstream

Swzh012

Waterbody swzh012 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO BUFFALO RUN	SW26025	5-13-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DOWEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	24.9	24.9	NONE

Survey Type: *(check one)* ☒ Centerline ☒ Re-Route ☐ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM Width: 4 ft. Height: _____ ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☐ Scouring ☐ Water staining
☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
8 ft.	2.5 ft.	1" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	<1 fps	Right: 1 ft. Left: 1 ft.	Right: 20 degrees Left: 30 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☐ Sand ☐ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	60 %	10 %	20 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
725 ft.	☒ Trees:	☒ Shrubs:	☒ Herbs	
	Avg. DBH of Dominants: *(approx.)*	10 in.	____ in.	

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Liriodendron tulipifera, Fraxinus pennsylvanica, Equisetum hymale, Eulalia viminea

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles, pools

Aquatic Organisms Observed: *(list)* small invertebrate, small frogs

Invasive and/or T&E Species Observed: *(list)* Eulalia viminea

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Easement

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SW26025

[a] ***Connecting swales*** are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

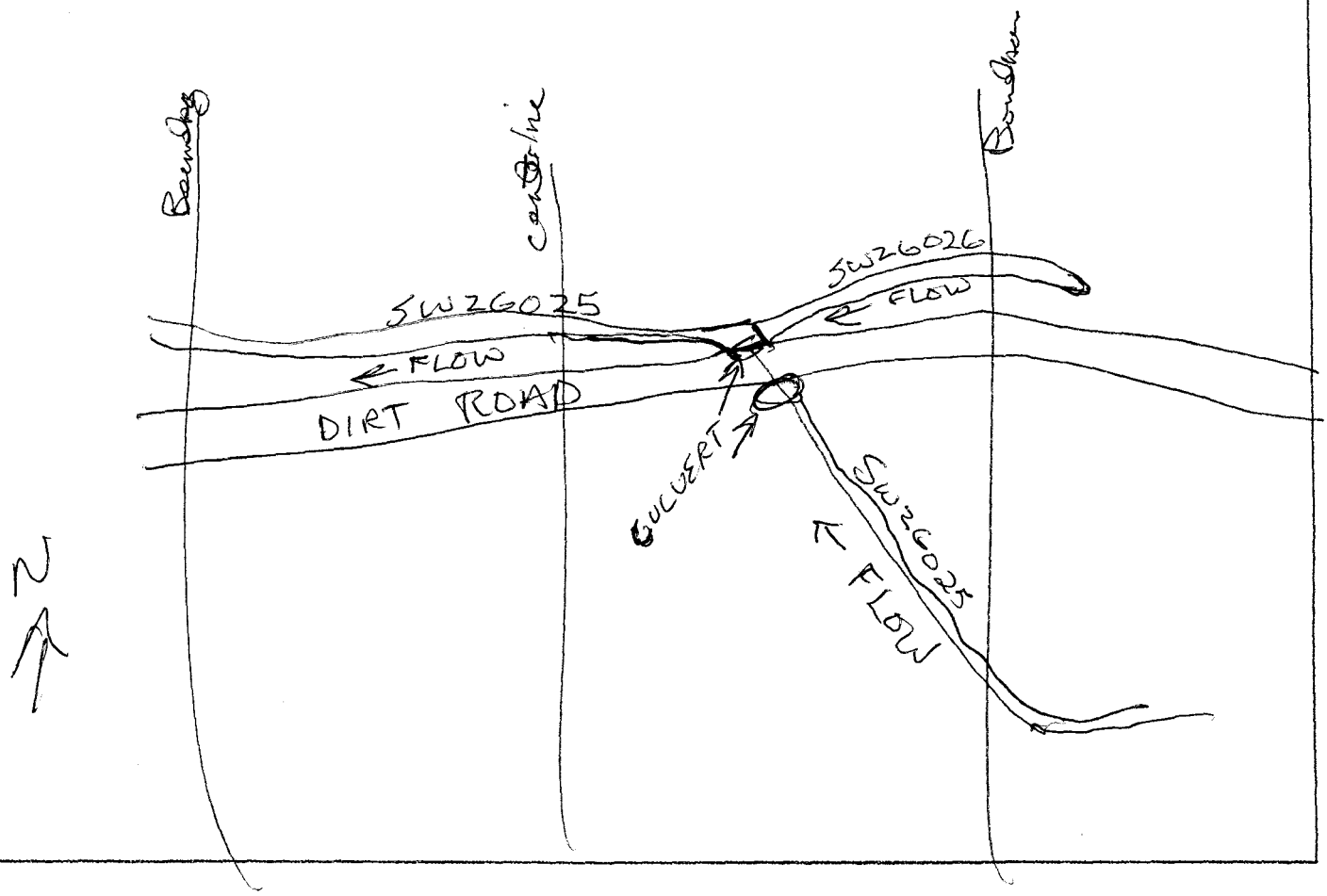
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg025

Waterbody swzg025 facing upstream

Waterbody swzg025 facing downstream

Swzg025

Waterbody swzg025 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Hendor	UNT TO Buffalo Run	SWZ6026	5-13-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	24.9	24.9	NONE

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [ ] Intermittent [X] Perennial

Waterbody Type: *(check one)* [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale [a] [ ] Other: _____

OHWM
Width: 12 ft.
Height: _____ ft.

OHWM Indicator: *(check all that apply)*
[X] Clear line on bank [X] Shelving [X] Wrested vegetation [X] Scouring [ ] Water staining
[X] Bent, matted, or missing vegetation [X] Wrack line [ ] Litter and debris [ ] Abrupt plant community change [ ] Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
18 ft.	3 ft.	2 11 ft.

Sinuosity: *(check one)* [ ] Straight [X] Meandering

Water velocity: *(Approx.)* <1 fps

Bank height Right: 10 ft. Left: 12 ft.

Bank slope Right: 70 degrees Left: 70 degrees

Qualitative Attributes

Water Appearance: *(check one)* [ ] No water [X] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [X] Bedrock [X] Gravel [X] Sand [X] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate:	10 %	60 %	10 %	20 %	____ %	____ %

Width of Riparian Zone: >25 ft.

Vegetative Layers: *(check all that apply)* [X] Trees: [X] Shrubs: [X] Herbs

Avg. DBH of Dominants: *(approx.)* _____ in. _____ in.

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Fraxinus pensylvanica, Liriodendron tulipifera, Fagus grandifolia, Polystichum acrostoides

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffle, pools

Aquatic Organisms Observed: *(list)* small invertebrates, small frogs

Invasive and/or T&E Species Observed: *(list)* Eulalia viminea

Tributary is: *(check one)* [X] Natural [ ] Artificial, man-made [X] Manipulated

Disturbances: *(check all that apply)* [ ] Livestock access [ ] Manure in waterbody [ ] Waste discharge pipes [X] Other: Easement

Stream Quality[b]: *(check one)* [ ] High [X] Moderate [ ] Low

Waterbody ID:
SW26026

[a] ***Connecting swales*** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

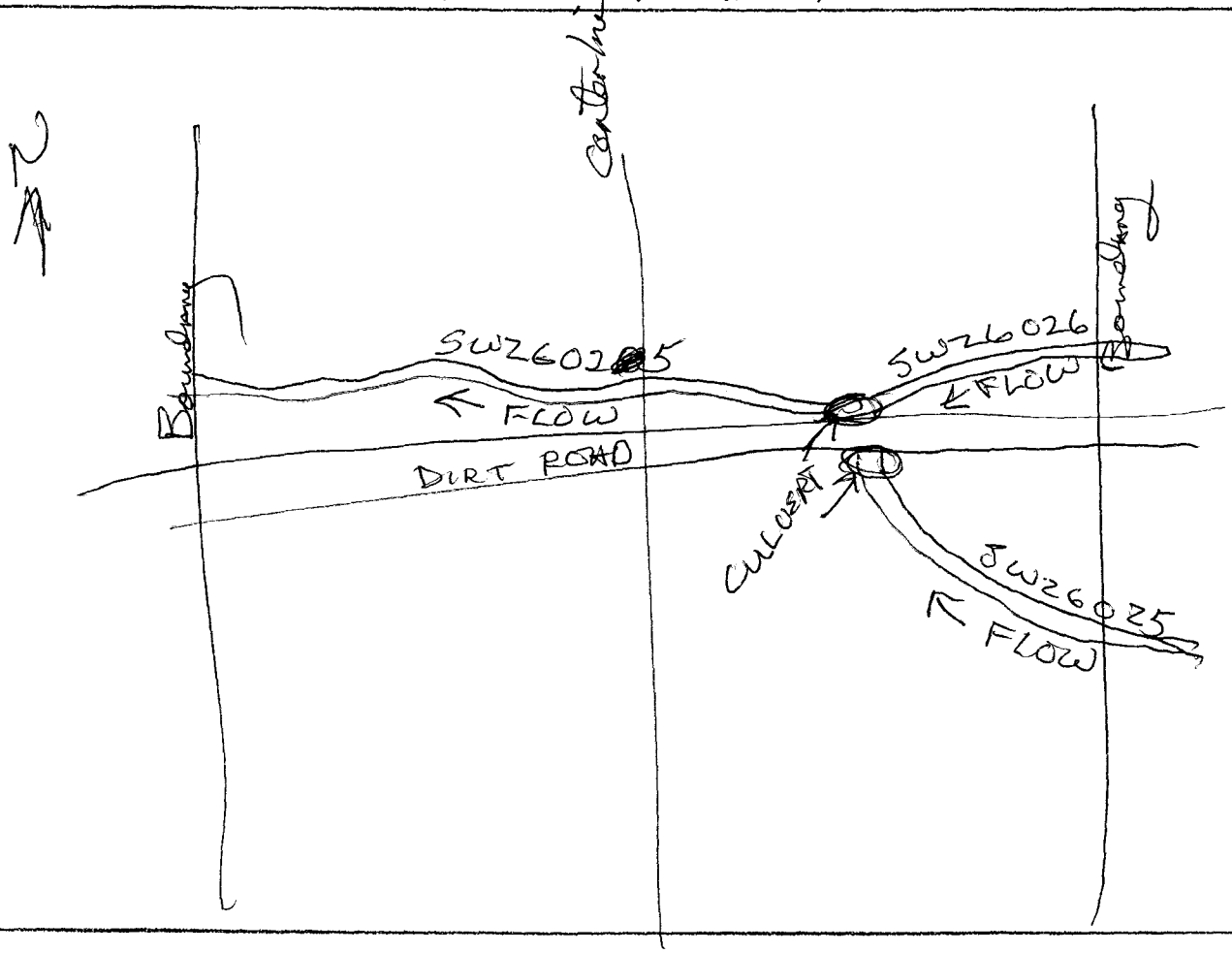
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg026

Waterbody swzg026 facing upstream

Waterbody swzg026 facing downstream

Swzg026

Waterbody swzg026 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Headlor	UNT TO BUFFALO RUN	SWZH010	7/23/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 9 ft.
Height: 1 ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
15 ft.	_____ ft.	_____ ft.

Sinuosity: *(check one)* ☐ Straight ☒ Meandering

Water velocity: *(Approx.)* < 2 fps

Bank height
Right: 1½ ft.
Left: 1½ ft.

Bank slope
Right: 70 degrees
Left: 45 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate: 10 % 70 % 5 % 15 % ____ % ____ %

Width of Riparian Zone: 25 ft. on one side

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs
Avg. DBH of Dominants: *(approx.)* _____ in. _____ in.

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Juglans nigra, Carpinus, Microstegium vimineum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Riffles, Pools, Overhanging roots

Aquatic Organisms Observed: *(list)* small invertebrates

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent Road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZH010

[a] *Connecting swales* are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

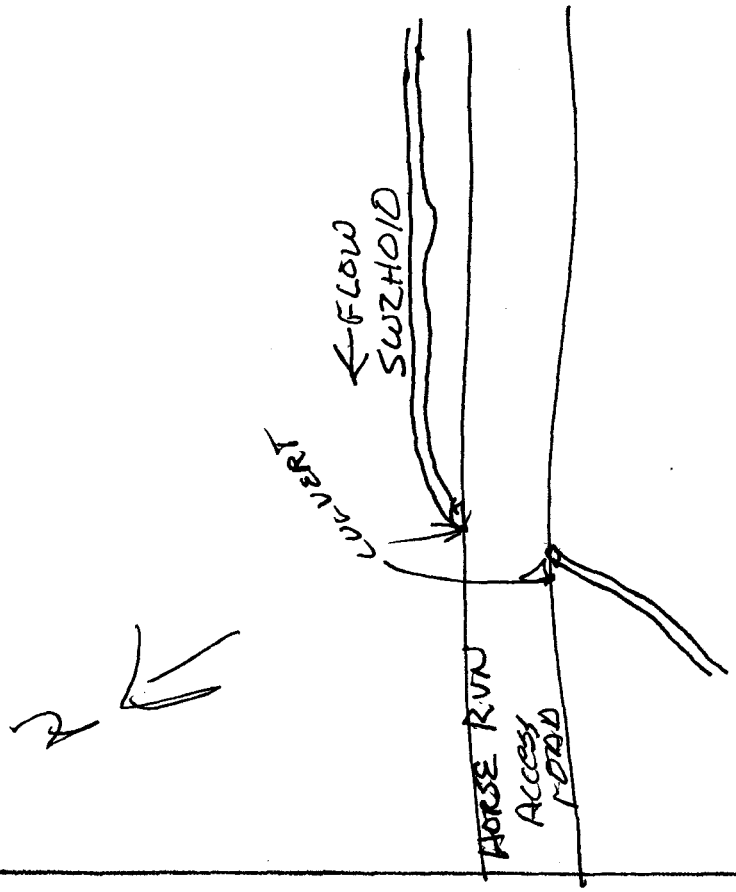
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh010 facing upstream

Waterbody swzh010 facing downstream

Waterbody swzh010 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO BUFFALO RUN	SWZH011	7-23-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: (check one) ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: (check one) ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: (check one) ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 6 ft.
Height: 8" ft.

OHWM Indicator: (check all that apply)
☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☐ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: (Approx.)
10 ft.	0 ft.	1/4" ft.

Sinuosity: (check one) ☐ Straight ☒ Meandering

Water velocity: (Approx.) <1 fps

Bank height
Right: _____ ft.
Left: _____ ft.

Bank slope
Right: _____ degrees
Left: _____ degrees

Qualitative Attributes

Water Appearance: (check one) ☒ No water ☐ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: (check all that apply) ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	20 %	70 %	5 %	5 %	_____ %	_____ %

Width of Riparian Zone: 725 ft.

Vegetative Layers: (check all that apply) ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: (approx.) _____ in. _____ in.

Dominant Bank Vegetation: (list) Liriodendron tulipifera, Acer Barbatum, Fagus grandifolia, Bochmeria cylindrica, Microstegium

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): (list) pools, riffles

Aquatic Organisms Observed: (list) None

Invasive and/or T&E Species Observed: (list) Microstegium vimineum

Tributary is: (check one) ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: (check all that apply) ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent Road + culvert

Stream Quality[b]: (check one) ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZH011

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

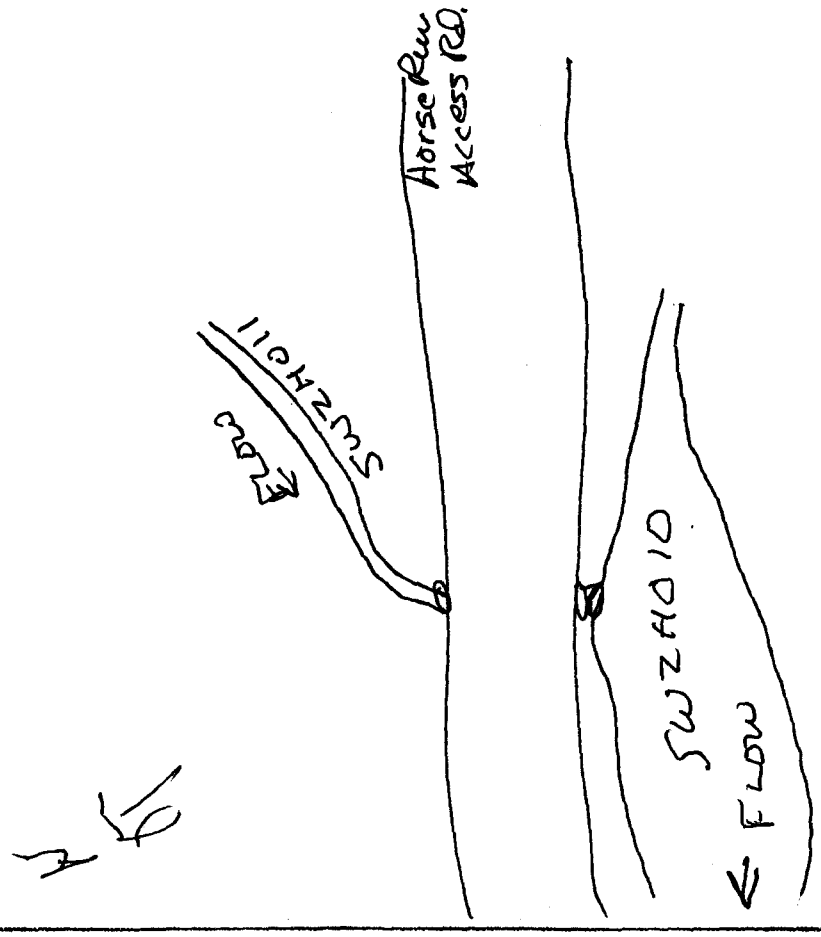
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh011 facing upstream

Waterbody swzh011 facing downstream

Waterbody swzh011 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO	SW2H008	7-22-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
NO PARCEL ID NUMBER	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☐ Stream ☐ River ☒ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 4 ft.
Height: 6" ft.

OHWM Indicator: *(check all that apply)*
☐ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☒ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
6 ft.	1 ft.	____ ft.

Sinuosity: *(check one)* ☒ Straight ☐ Meandering

Water velocity: *(Approx.)* <1 fps

Bank height
Right: 4 ft.
Left: 2 ft.

Bank slope
Right: 80 degrees
Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☒ No water ☐ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate: 20 % | 70 % | ____ % | 10 % | ____ % | ____ %

Width of Riparian Zone: 0 ft.

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 8 in. ____ in.

Dominant Bank Vegetation: *(list)* Elaeagnus pungens, Liriodendron tulipifera, Microstegium vimineum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Riffles

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum, Rosa multiflora

Tributary is: *(check one)* ☐ Natural ☒ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: roadside ditch

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZH008

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

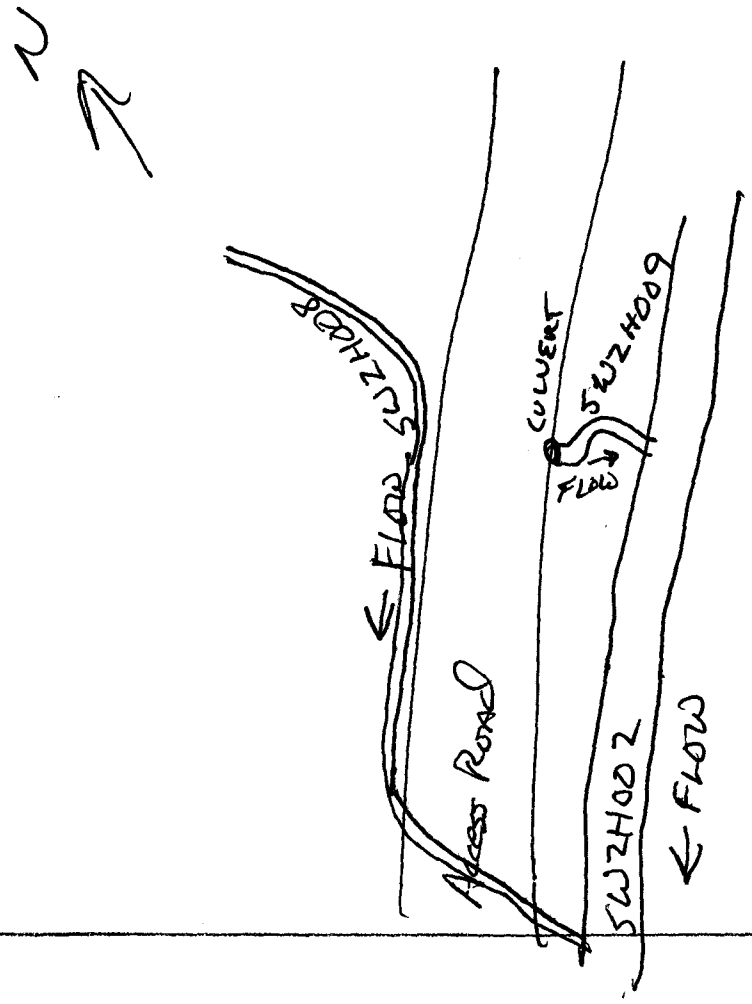
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh008 facing upstream

Waterbody swzh008 facing downstream

Waterbody swzh008 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO	SW2H009	7-22-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DOMEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
NO PARCEL ID NUMBER	N/A	N/A	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM Width: 2 ft. Height: 4" ft.

OHWM Indicator: *(check all that apply)* ☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining ☒ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
4 ft.	1 ft.	1/2" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	<1 fps	Right: 1 ft. Left: 1 ft.	Right: 60 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☐ Sand ☐ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	70 %	____ %	20 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*	Avg. DBH of Dominants: *(approx.)*
10 ft.	☒ Trees: ☒ Shrubs: ☒ Herbs	15 in. ____ in.

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Ulmus americana, Rosa multiflora, Microstegium vimineum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora, Microstegium vimineum

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: ADJACENT FOREST ROAD

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZH009

[a] ***Connecting swales*** are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

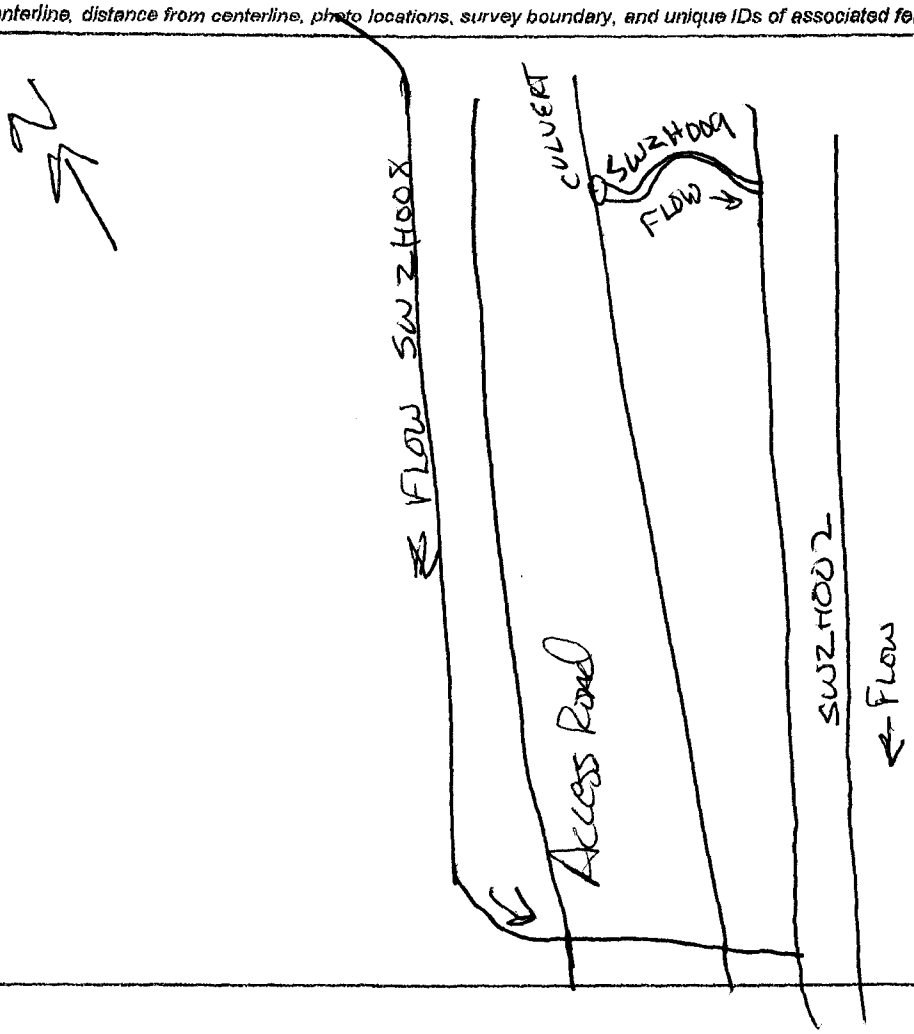
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh009 facing upstream

Waterbody swzh009 facing downstream

Swzh009

Waterbody swzh009 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO Arches Fork	SWZH013	7-23-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	ADWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☐ Stream ☐ River ☒ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 3 ft.
Height: 8" ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☒ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
5 ft.	_____ ft.	_____ ft.

Sinuosity: *(check one)* ☒ Straight ☐ Meandering

Water velocity: *(Approx.)* <1 fps

Bank height
Right: 3 ft.
Left: 1 ft.

Bank slope
Right: 80 degrees
Left: 70 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☒ No water ☐ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	70 %	5 %	15 %	_____ %	_____ %

Width of Riparian Zone: 0 ft.

Vegetative Layers: *(check all that apply)* ☐ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* _____ in. _____ in.

Dominant Bank Vegetation: *(list)* [redacted], Carpinus caroliniana, Microstegium vimineum, Fagus grandifolia

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* POOLS

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☐ Natural ☒ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: roadside ditch

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID: SWZH013

[a] *Connecting swales* are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

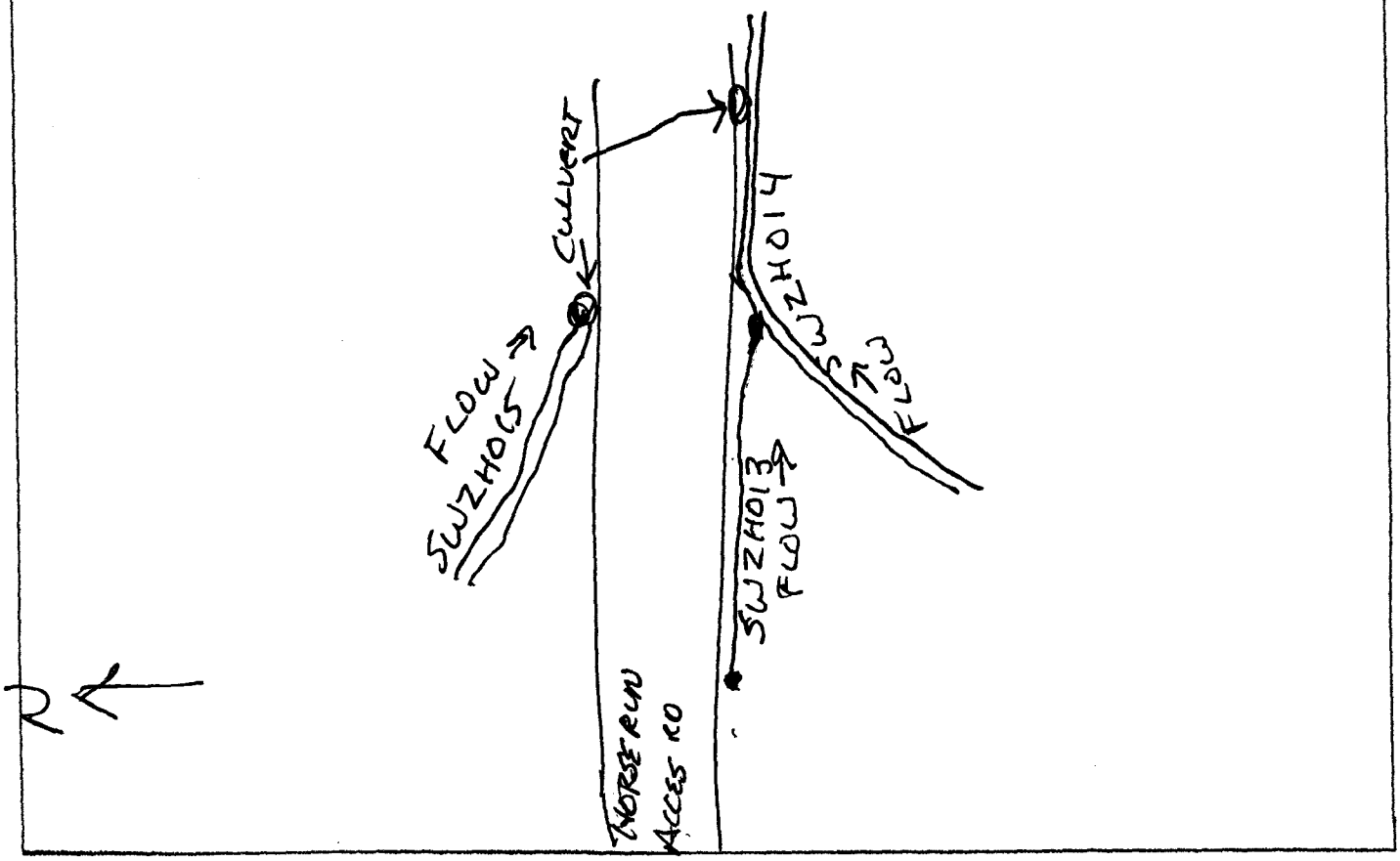
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh013 facing upstream

Waterbody swzh013 facing downstream

Swzh013

Waterbody swzh013 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO Arches Fork	SWZH015	7-23-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	EQUITY	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 8 ft.
Height: _____ ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☒ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
10 ft.	_____ ft.	_____ ft.

Sinuosity: *(check one)* ☐ Straight ☒ Meandering

Water velocity: *(Approx.)* <2 fps

Bank height
Right: 5 ft.
Left: 4 ft.

Bank slope
Right: 80 degrees
Left: 80 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	20 %	60 %	5 %	15 %	_____ %	_____ %

Width of Riparian Zone: >25 ft.

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 8 in. _____ in.

Dominant Bank Vegetation: *(list)* Tilia americana, Hammelis virginea, Verbesina occidentalis

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles, pools

Aquatic Organisms Observed: *(list)* small invertebrates

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent Rd culvert pipe

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZH015

[a] *Connecting swales* are water features that *do not meet* the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

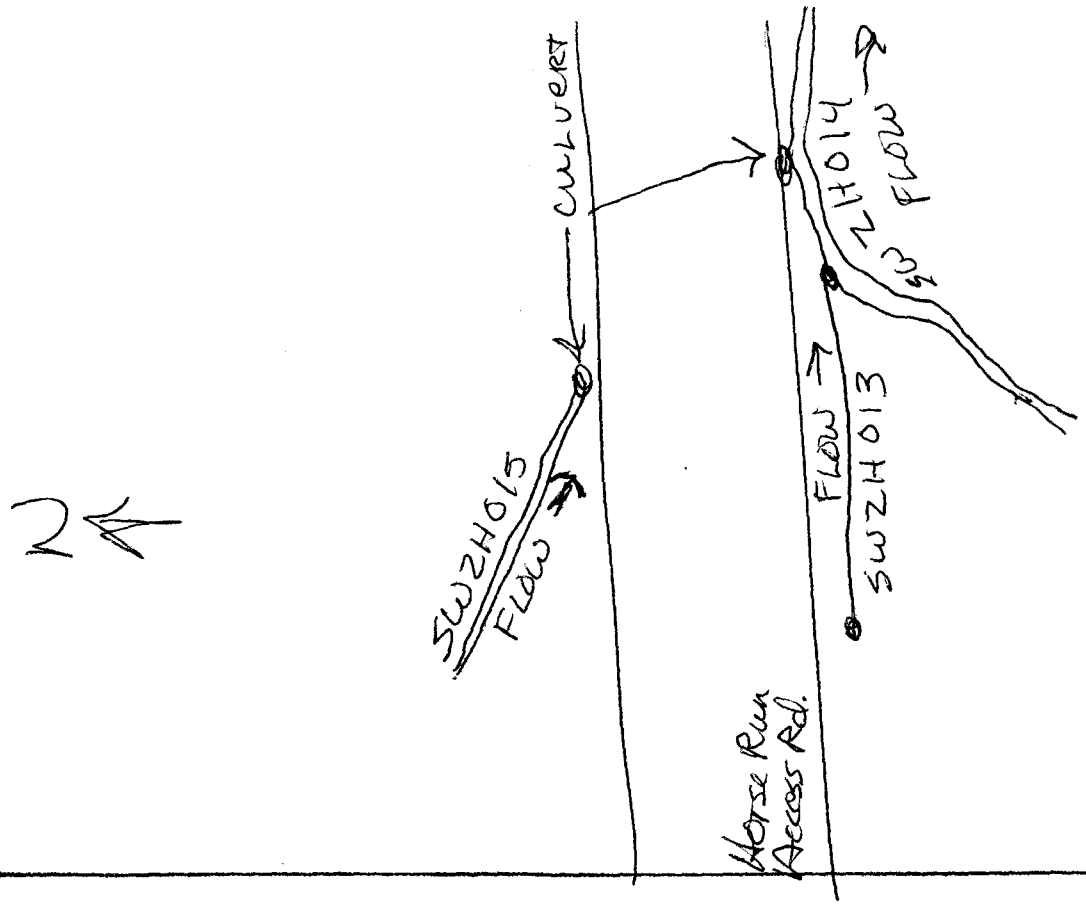
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh015 facing upstream

Waterbody swzh015 facing downstream

Waterbody swzh015 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT to Arch Fork	SWZH016	7-23-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 6 ft.
Height: 4" ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☐ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
8 ft.	2 ft.	2" ft.

Sinuosity: *(check one)* ☐ Straight ☒ Meandering

Water velocity: *(Approx.)* <2 fps

Bank height
Right: 2 ft.
Left: 2 ft.

Bank slope
Right: 70 degrees
Left: 30 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☐ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate: ____ % 70 % 10 % 20 % ____ % ____ %

Width of Riparian Zone: >25 ft.

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* ____ in. ____ in.

Dominant Bank Vegetation: *(list)* Liriodendron tulipifera, Polystichum acrostichoides, Crataegus sp.

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* pools, riffles

Aquatic Organisms Observed: *(list)* small invertebrates

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent Road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZH016

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

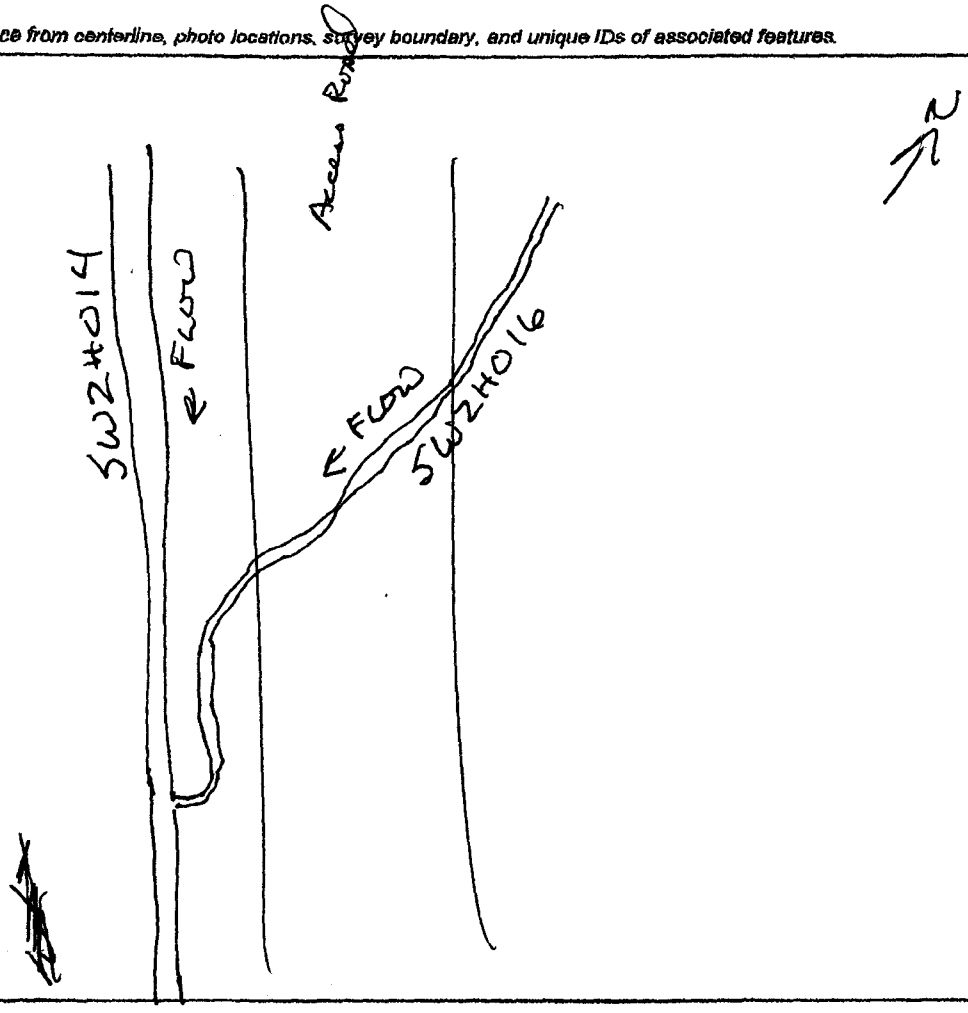
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh016 facing upstream

Waterbody swzh016 facing downstream

Waterbody swzh016 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO Arches Fork	SW2H014	7-23-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DD WEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 6 ft.
Height: 1 ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
10 ft.	1 ft.	½" ft.

Sinuosity: *(check one)* ☐ Straight ☒ Meandering

Water velocity: *(Approx.)* <2 fps

Bank height
Right: 2 ft.
Left: 2 ft.

Bank slope
Right: 35 degrees
Left: 35 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	70 %	5 %	15 %	____ %	____ %

Width of Riparian Zone: 725 ft.

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* ____ in. ____ in.

Dominant Bank Vegetation: *(list)* Fagus grandifolia, Carpinus caroliniana, Polystichum acrostichoides

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles, pools

Aquatic Organisms Observed: *(list)* small invertebrates

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: adjacent road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID: SWZH014

[a] *Connecting swales* are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

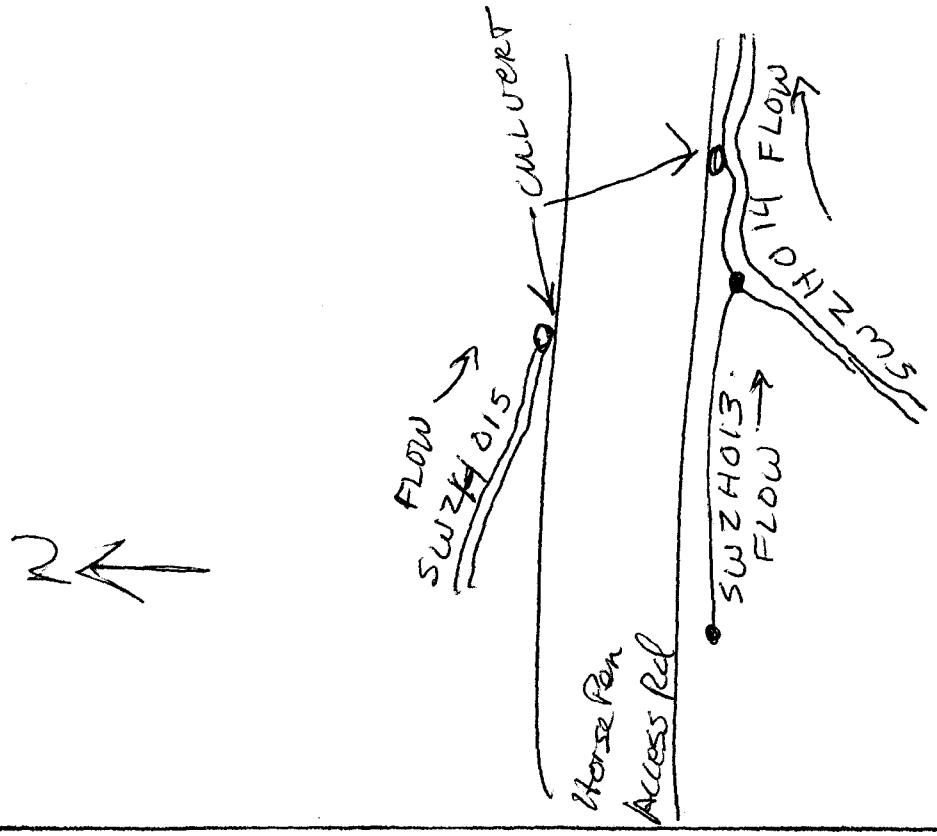
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh014 facing upstream

Waterbody swzh014 facing downstream

Waterbody swzh014 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO Arches Fork	SWZH017	7-23-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DPWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	WWZH022eW

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☐ Stream ☐ River ☒ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 3 ft.
Height: _____ ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☐ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
5 ft.	1 ft.	2" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒ Straight ☐ Meandering	<1 fps	Right: 1 ft. Left: 1 ft.	Right: 70 degrees Left: 70 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☐ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	____ %	30 %	20 %	50 %	____ %	____ %

Width of Riparian Zone: 0 ft.

Vegetative Layers: *(check all that apply)* ☐ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* _____ in. _____ in.

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Liriodendron tulipifera, Microstegium vimineum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools

Aquatic Organisms Observed: *(list)* Small invertebrates

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☐ Natural ☒ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent road + ~~Culvert~~ Pipe Culvert

Stream Quality[b]: *(check one)* ☐ High ☐ Moderate ☐ Low

Waterbody ID: SW2H017

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

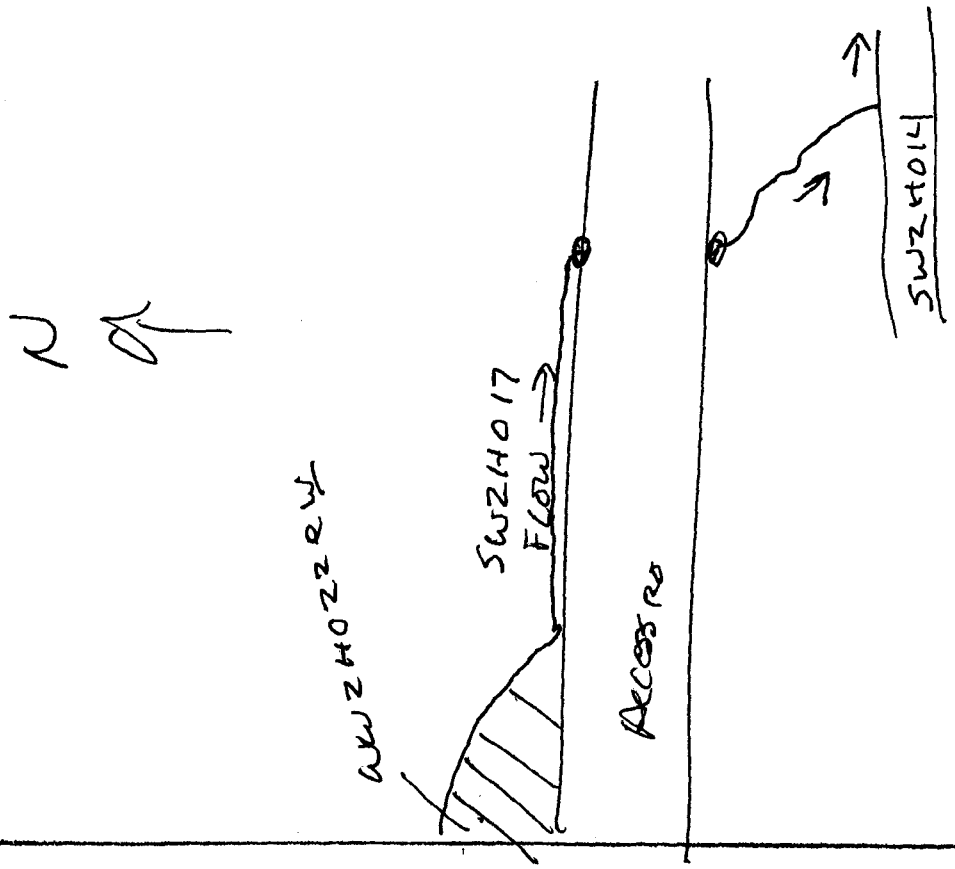
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh017 facing upstream

Waterbody swzh017 facing downstream

Waterbody swzh017 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO Arches Fork	SWZH018	7-23-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-AU02	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 24 ft.
Height: 1 ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☒ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
6 ft.	0 ft.	0 ft.

Sinuosity: *(check one)* ☒ Straight ☐ Meandering

Water velocity: *(Approx.)* <1 fps

Bank height Right: 3 ft. Left: 2 ft.

Bank slope Right: 45 degrees Left: 30 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☒ No water ☐ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	70 %	5 %	15 %	____ %	____ %

Width of Riparian Zone: >25 ft. one side

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* ____ in. ____ in.

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Lindera benzoin, Impatiens capensis, Polygonum virginianum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* pools,

Aquatic Organisms Observed: *(list)* small invertebrates

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent Road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID: SWZH018

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.

Waterbody swzh018 facing upstream

Waterbody swzh018 facing downstream

Waterbody swzh018 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO Arches Fork	SWZHOA	7-23-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A009	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 8 ft.
Height: _____ ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☒ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
10 ft.	2 ft.	_____ ft.

Sinuosity: *(check one)* ☐ Straight ☐ Meandering

Water velocity: *(Approx.)* <1 fps

Bank height
Right: 1 ft.
Left: 1 ft.

Bank slope
Right: 20 degrees
Left: 20 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☐ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	15 %	80 %	____ %	5 %	____ %	____ %

Width of Riparian Zone: >25 ft.

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(epprox.)* _____ in. _____ in.

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Robinia spseudoacacia, Impatiens capensis, Lindera benzoin Microstegium vimina

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Riffles, pools

Aquatic Organisms Observed: *(list)* small invertebrates, small fish

Invasive and/or T&E Species Observed: *(list)* Microstegium vimina

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent Road & culvert pipe

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZHD19

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

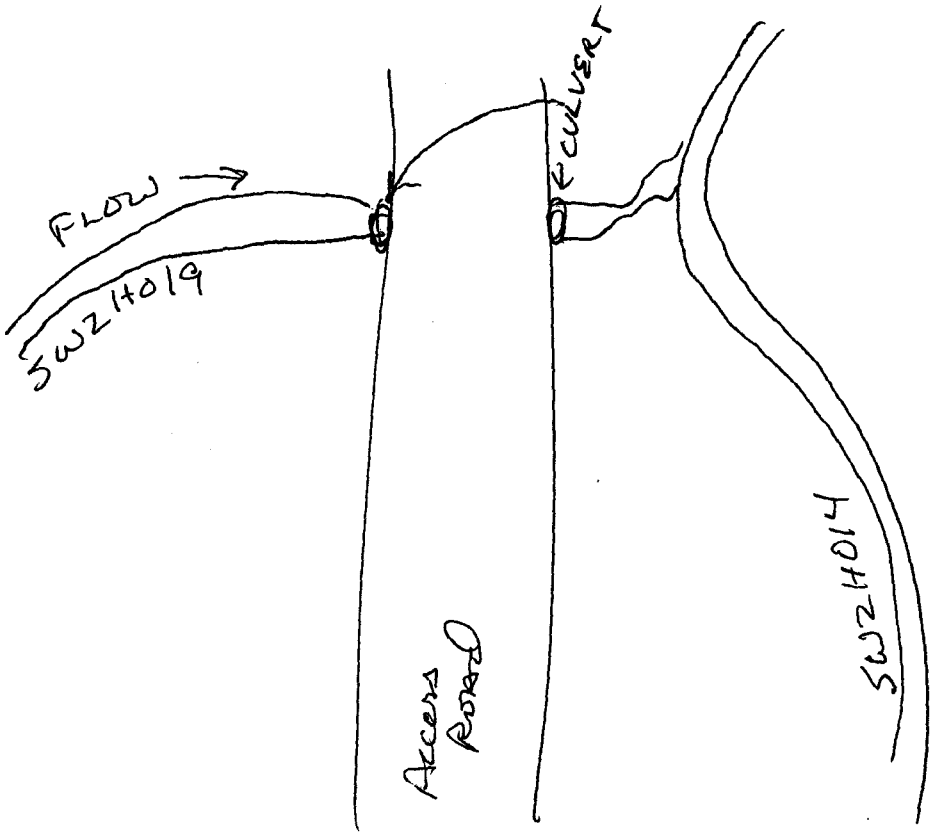
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh019 facing upstream

Waterbody swzh019 facing downstream

Swzh019

Waterbody swzh019 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Wonder	UNT TO Arches Fork	SW2H020	7-23-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
No parcel number listed	N/A	N/A	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 8 ft.
Height: 1 ft.

OHWM Indicator: *(check all that apply)*
☐ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☒ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
10 ft.	5 ft.	4/11 ft.

Sinuosity: *(check one)* ☐ Straight ☒ Meandering

Water velocity: *(Approx.)* < 2 fps

Bank height
Right: 2 ft.
Left: 1 ft.

Bank slope
Right: 35 degrees
Left: 20 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	60 %	10 %	20 %	____ %	____ %

Width of Riparian Zone: 725 ft. one side

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* ____ in. ____ in.

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Lindera benzoin, Verbesina occidentalis, [redacted]

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools

Aquatic Organisms Observed: *(list)* Small fish, invertebrates

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SW2H020

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

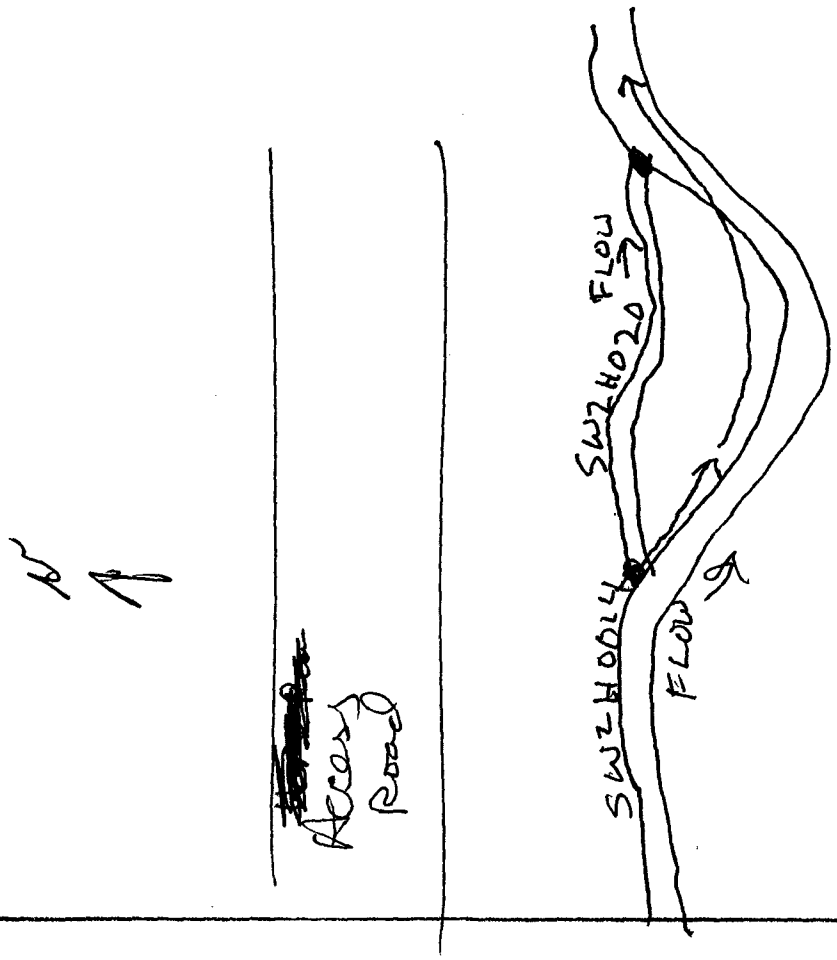
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh020 facing upstream

Waterbody swzh020 facing downstream

Waterbody swzh020 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO RICHWOOD RUN	SW2GO20	5-1-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DOWEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
	30.2	30.2	NONE

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [ ] Intermittent [X] Perennial

Waterbody Type: *(check one)* [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale[a] [ ] Other: _____

OHWM Width: 3 ft. Height: 1 ft.

OHWM Indicator: *(check all that apply)* [X] Clear line on bank [ ] Shelving [X] Wrested vegetation [X] Scouring [ ] Water staining [ ] Bent, matted, or missing vegetation [ ] Wrack line [ ] Litter and debris [ ] Abrupt plant community change [ ] Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
5 ft.	____ ft.	____ ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
[X] Straight [X] Meandering	<1 fps	Right: 1½ ft. Left: 1½ ft.	Right: 30 degrees Left: 30 degrees

Qualitative Attributes

Water Appearance: *(check one)* [ ] No water [X] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [X] Bedrock [X] Gravel [ ] Sand [X] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate: 10 % 70 % ____ % 20 % ____ % ____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
0 ft.	[ ] Trees:	[ ] Shrubs:	[X] Herbs	
	Avg. DBH of Dominants: *(approx.)*	____ in.	____ in.	

Dominant Bank Vegetation: *(list)* Dactylis glomerata, Festuca pratense, Taraxacum officinale

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles pools

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* NONE

Tributary is: *(check one)* [ ] Natural [ ] Artificial, man-made [X] Manipulated

Disturbances: *(check all that apply)* [ ] Livestock access [ ] Manure in waterbody [ ] Waste discharge pipes [X] Other: Roadside run off

Stream Quality[b]: *(check one)* [ ] High [X] Moderate [ ] Low

Waterbody ID:
SWZG020

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

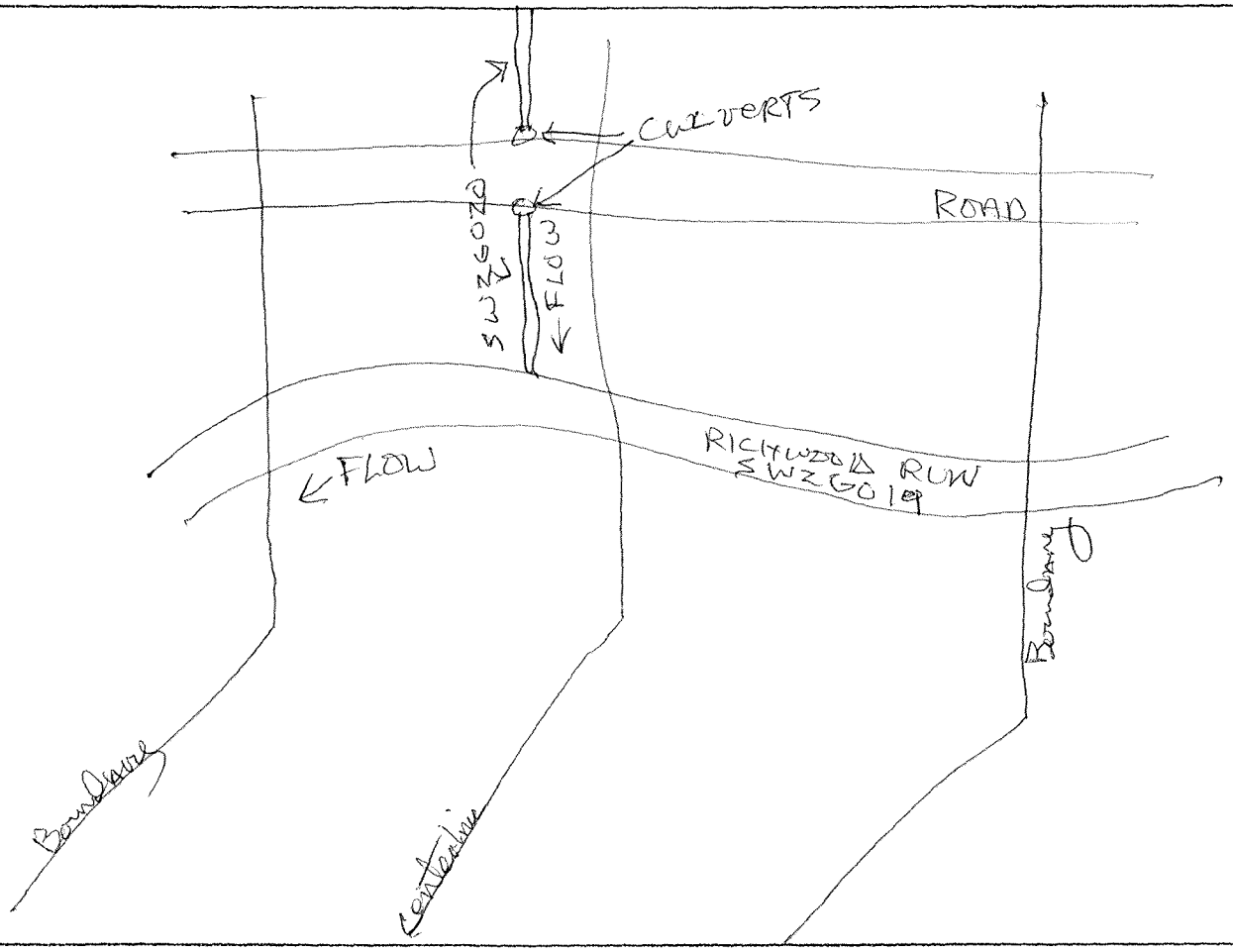
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg020

Waterbody swzg020 facing upstream

Waterbody swzg020 facing downstream

Swzg020

Waterbody swzg020 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Wetzler	[redacted] Arches Fork	[redacted]WSW2H021	7-23-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzell	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
No parcel number listed	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM Width: 25 ft. Height: 3 ft.

OHWM Indicator: *(check all that apply)* ☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining ☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
35 ft.	8 ft.	8" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	<5 fps	Right: 5 ft. Left: 5 ft.	Right: 80 degrees Left: 90 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☒ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)*	☒ Bedrock	☒ Gravel	☒ Sand	☒ Silt/clay	☐ Organic	☐ Other:
% of Substrate:	10 %	70 %	5 %	15 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*				
15 ft.	Avg. DBH of Dominants: *(approx.)*	☒ Trees: 10" in.	☒ Shrubs: ____ in.	☒ Herbs	

Dominant Bank Vegetation: *(list)* Acer negundo, Platanus occidentalis, Microstegium vimineum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools, riffles, overhanging veg

Aquatic Organisms Observed: *(list)* small fish, small invertebrates

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent Road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID: SWZH021

[a] *Connecting swales* are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

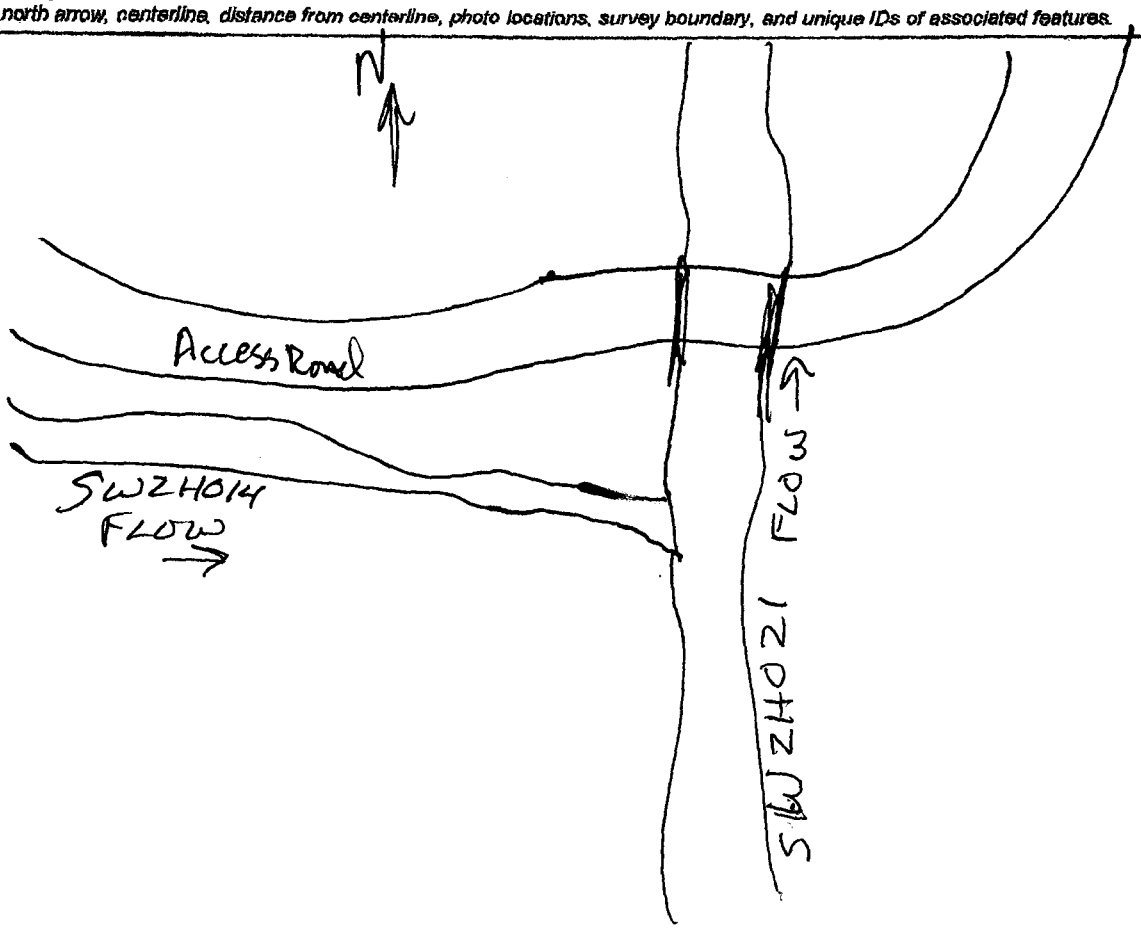
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh021 facing upstream

Waterbody swzh021 facing downstream

Swzh021

Waterbody swzh021 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO Buffalo Run	SWZH012	7-23-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	ADWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A002	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☐ Stream ☐ River ☒ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 6 ft.
Height: 3" ft.

OHWM Indicator: *(check all that apply)*
☐ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☐ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
8 ft.	1 ft.	1/4" ft.

Sinuosity: *(check one)* ☒ Straight ☐ Meandering

Water velocity: *(Approx.)* <1 fps

Bank height
Right: 1 ft.
Left: 1 ft.

Bank slope
Right: 80 degrees
Left: 90 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☐ Sand ☐ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	20 %	70 %	____ %	10 %	____ %	____ %

Width of Riparian Zone: 0 ft.

Vegetative Layers: *(check all that apply)* ☐ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* ____ in. ____ in.

Dominant Bank Vegetation: *(list)* Impatiens capensis, Boehmeria cylindrica, Fagus grandifolia

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* R. Apos

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☐ Natural ☒ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: roadside ditch

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZH012

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

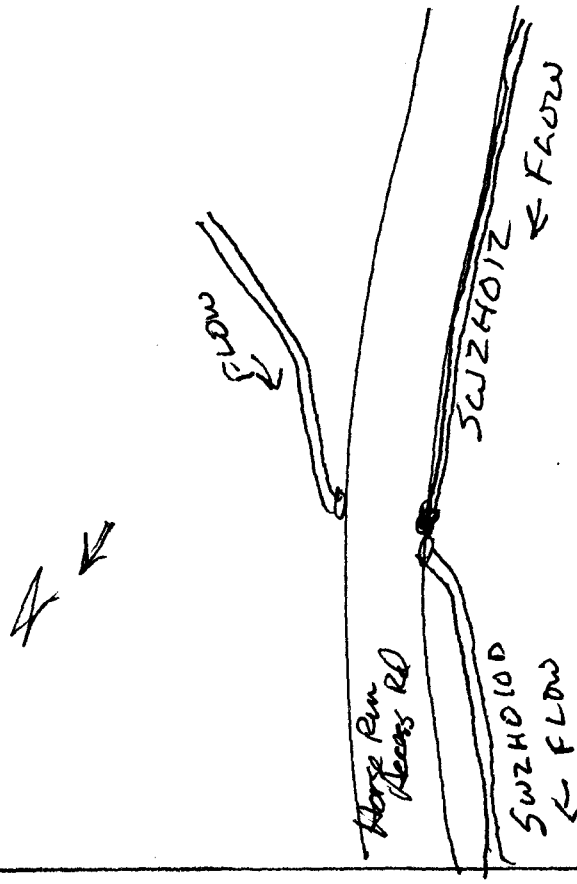
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh012 facing upstream

Waterbody swzh012 facing downstream

Swzh012

Waterbody swzh012 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO BUFFALO RUN	SW2H002	7-22-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
NO NUMBER LISTED (PARCEL)	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale [a] ☐ Other: _____

OHWM Width: 8 ft. Height: _____ ft.

OHWM Indicator: *(check all that apply)* ☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining ☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
12 ft.	5 ft.	2" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	< 2 fps	Right: 2 ft. Left: 2 ft.	Right: 60 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	30 %	60 %	5 %	5 %	____ %	____ %

Width of Riparian Zone: 225 ft. on one side

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 8 in. _____ in.

Dominant Bank Vegetation: *(list)* Juglans nigra, Ulmus americana, Rosa multiflora, Microstegium vimineum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* R. ffles, pools

Aquatic Organisms Observed: *(list)* small invertebrates

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: adjacent Road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID: SWZH002

[a] ***Connecting swales*** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

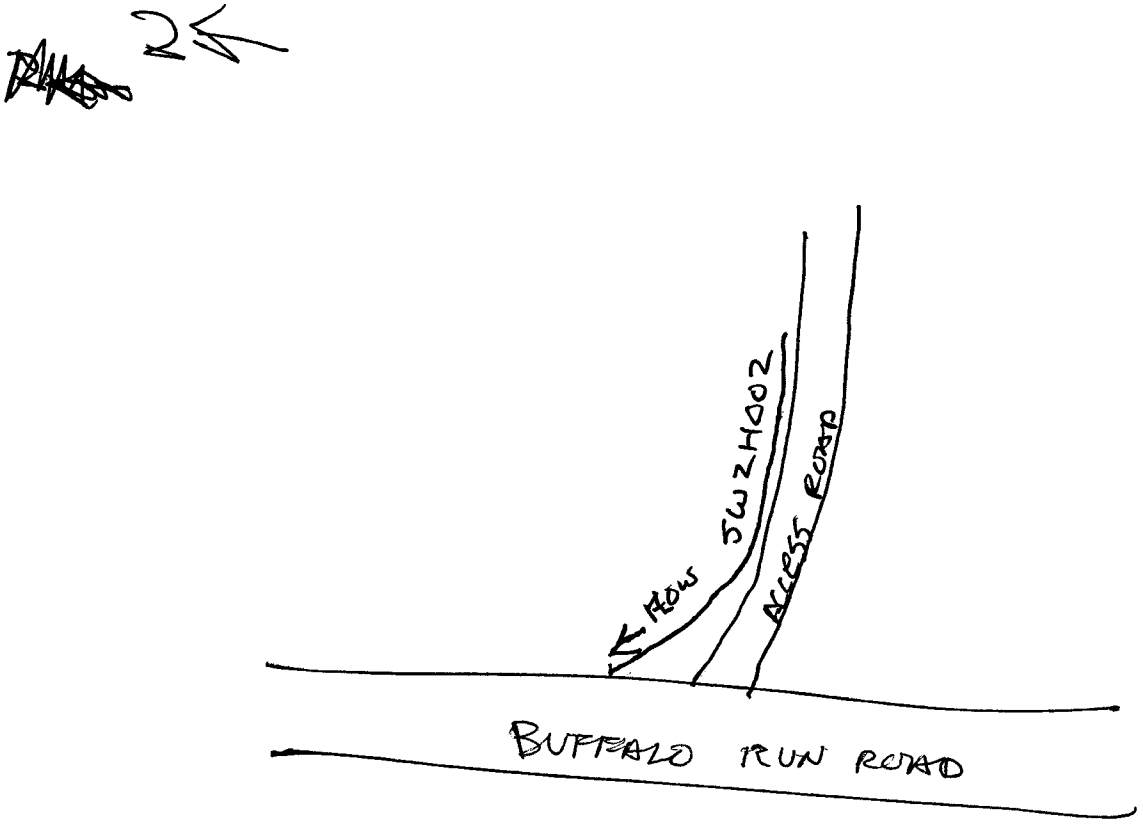
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh002 facing upstream

Waterbody swzh002 facing downstream

Waterbody swzh002 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO	SW2H003	7-22-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	EDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A004	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale [a] ☐ Other: _____

OHWM Width: 2 ft. Height: 6" ft.

OHWM Indicator: *(check all that apply)* ☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☐ Water staining ☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
5 ft.	1 ft.	½" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒ Straight ☐ Meandering	1 fps	Right: 2 ft. Left: 1 ft.	Right: 60 degrees Left: 30 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	70 %	10 %	10 %	____ %	____ %

Width of Riparian Zone: 725 ft. on one side

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 10 in. ____ in.

Dominant Bank Vegetation: *(list)* Liriodendron tulipifera, Fagus grandifolia, Microstegium vimineum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Riffles pools

Aquatic Organisms Observed: *(list)* small invertebrates

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent forest road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZH003

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

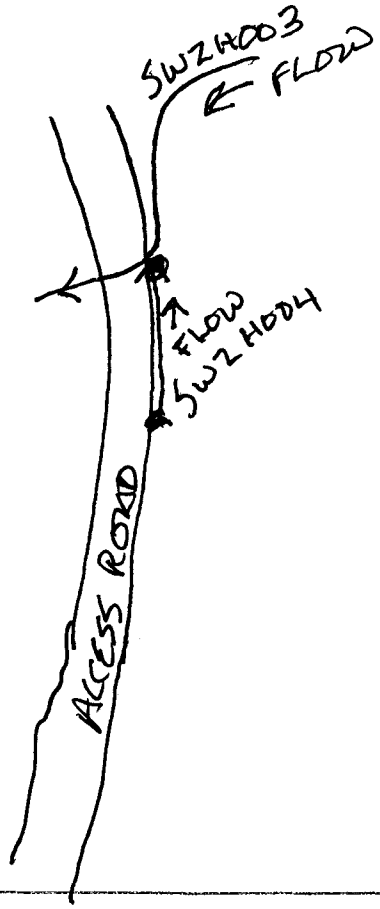
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh003 facing upstream

Waterbody swzh003 facing downstream

Swzh003

Waterbody swzh003 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT JD	SWZH004	7-22-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A004	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☒ Ditch ☐ Pond ☐ Lake ☐ Connecting swale [a] ☐ Other: _____

OHWM Width: 2 ft. Height: 4" ft.

OHWM Indicator: *(check all that apply)* ☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☒ Scouring ☒ Water staining ☒ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
4 ft.	1 ft.	½" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒ Straight ☐ Meandering	<1 fps	Right: ____ ft. Left: ____ ft.	Right: ____ degrees Left: ____ degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☐ Turbid ☒ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☐ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	____ %	30 %	20 %	50 %	____ %	____ %

Width of Riparian Zone: 725 ft. on one side

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 10 in. ____ in.

Dominant Bank Vegetation: *(list)* Liriodendron tulipifera, Microstegium vimineum, Boehneria cylindrica

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools

Aquatic Organisms Observed: *(list)* small invertebrates

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☐ Natural ☒ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent forest road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID: SW2H004

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

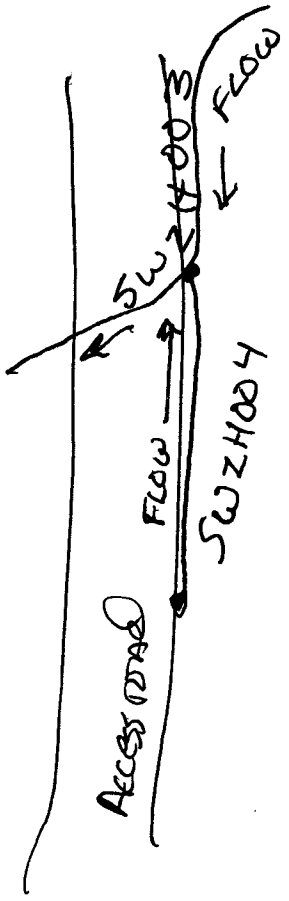
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh004 facing upstream

Waterbody swzh004 facing downstream

Waterbody swzh004 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO	SWZH005	7-22-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A004	NA	NA	WWZH020

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM Width: 5 ft. Height: 6" ft.

OHWM Indicator: *(check all that apply)* ☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☒ Scouring ☒ Water staining ☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
10 ft.	2 ft.	½" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	<1 fps	Right: 2 ft. Left: 2 ft.	Right: 40 degrees Left: 40 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	60 %	10 %	20 %	____ %	____ %

Width of Riparian Zone: ____ ft.

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* ____ in. ____ in.

Dominant Bank Vegetation: *(list)* Carpinus caroliniana, Liriodendron tulipifera, Boehmeria cylindrica

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Riffles pools

Aquatic Organisms Observed: *(list)* Small invertebrates

Invasive and/or T&E Species Observed: *(list)* M. crostegia vaninea

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent forest road + pipeline

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID: SWZH005

[a] ***Connecting swales*** are water features that *do not meet* the definition of a waterbody (*not* an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

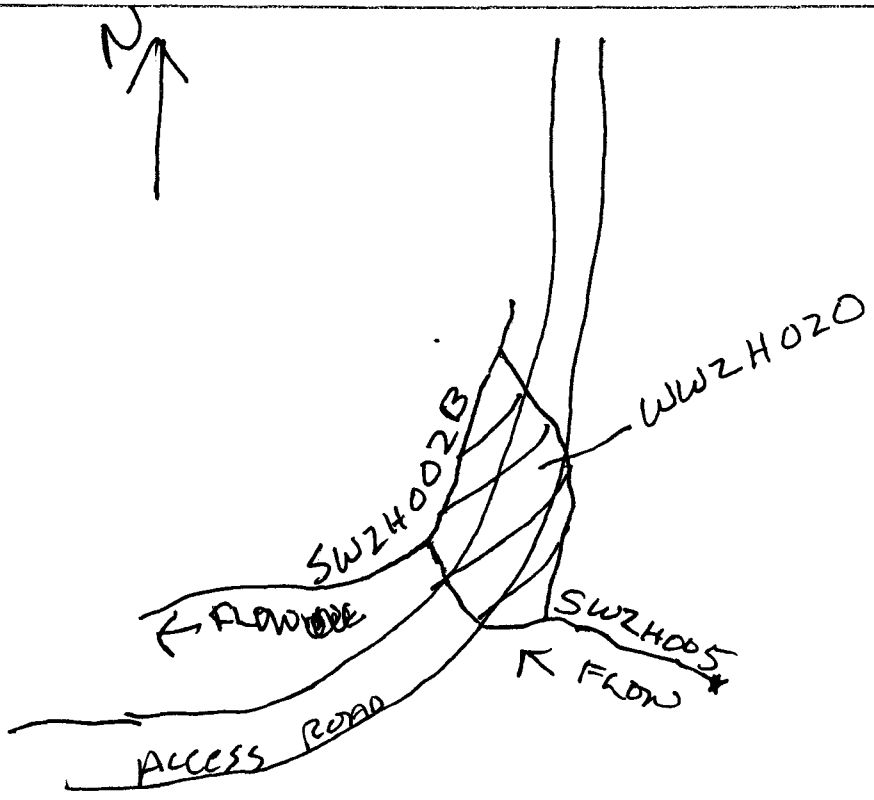
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh005 facing upstream

Waterbody swzh005 facing downstream

Swzh005

Waterbody swzh005 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO	SWZH006	7-22-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzell	ODWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A004	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 3 ft.
Height: 3" ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☐ Water staining
☒ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
6 ft.	6" ft.	NONE ft.

Sinuosity: *(check one)* ☒ Straight ☐ Meandering

Water velocity: *(Approx.)* <1 fps

Bank height
Right: 1 ft.
Left: 1 ft.

Bank slope
Right: 30 degrees
Left: 30 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☒ No water ☐ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	20 %	60 %	5 %	15 %	____ %	____ %

Width of Riparian Zone: >25 ft.

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 10 in. ____ in.

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Asimina triloba, Lindera benzoin, Athyrium felix-femina

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Riffles

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* NONE

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: old forest road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID: SWZH006

[a] ***Connecting swales*** are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

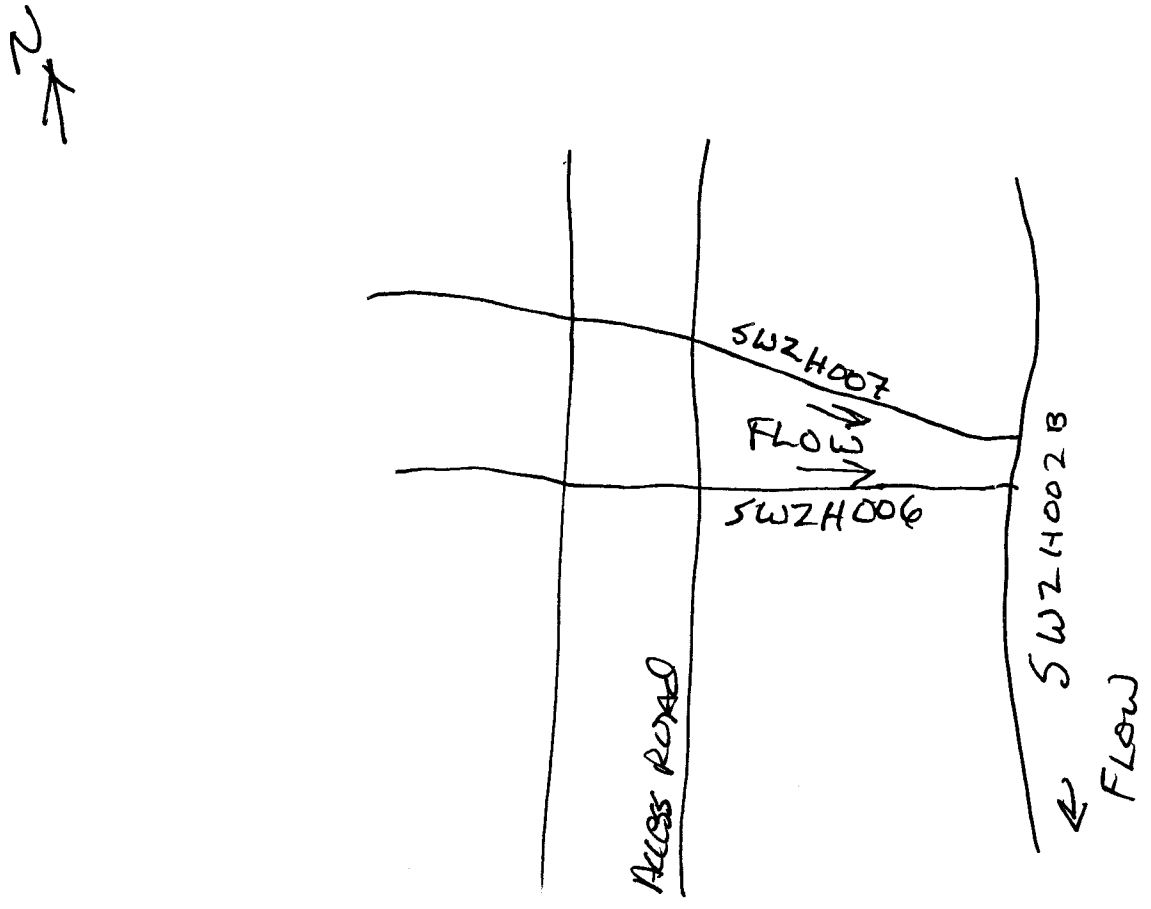
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh006 facing upstream

Waterbody swzh006 facing downstream

Waterbody swzh006 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT 10	SWZH007	7-22-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DDWEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-001-A004	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM Width: 2 ft. Height: 3" ft.

OHWM Indicator: *(check all that apply)* ☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining ☐ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
4 ft.	_____ ft.	_____ ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	<1 fps	Right: 6" ft. Left: 6" ft.	Right: 20 degrees Left: 20 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☒ No water ☐ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate: 10 % 60 % 10 % 20 % _____ % _____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*	Avg. DBH of Dominants: *(approx.)*
725 ft.	☒ Trees: ☒ Shrubs: ☒ Herbs	_____ in. _____ in.

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Fagus grandifolia, Athyrium felix femina

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Microstegium vimineum

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent Forest Road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID: SWZH007

[a] ***Connecting swales*** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

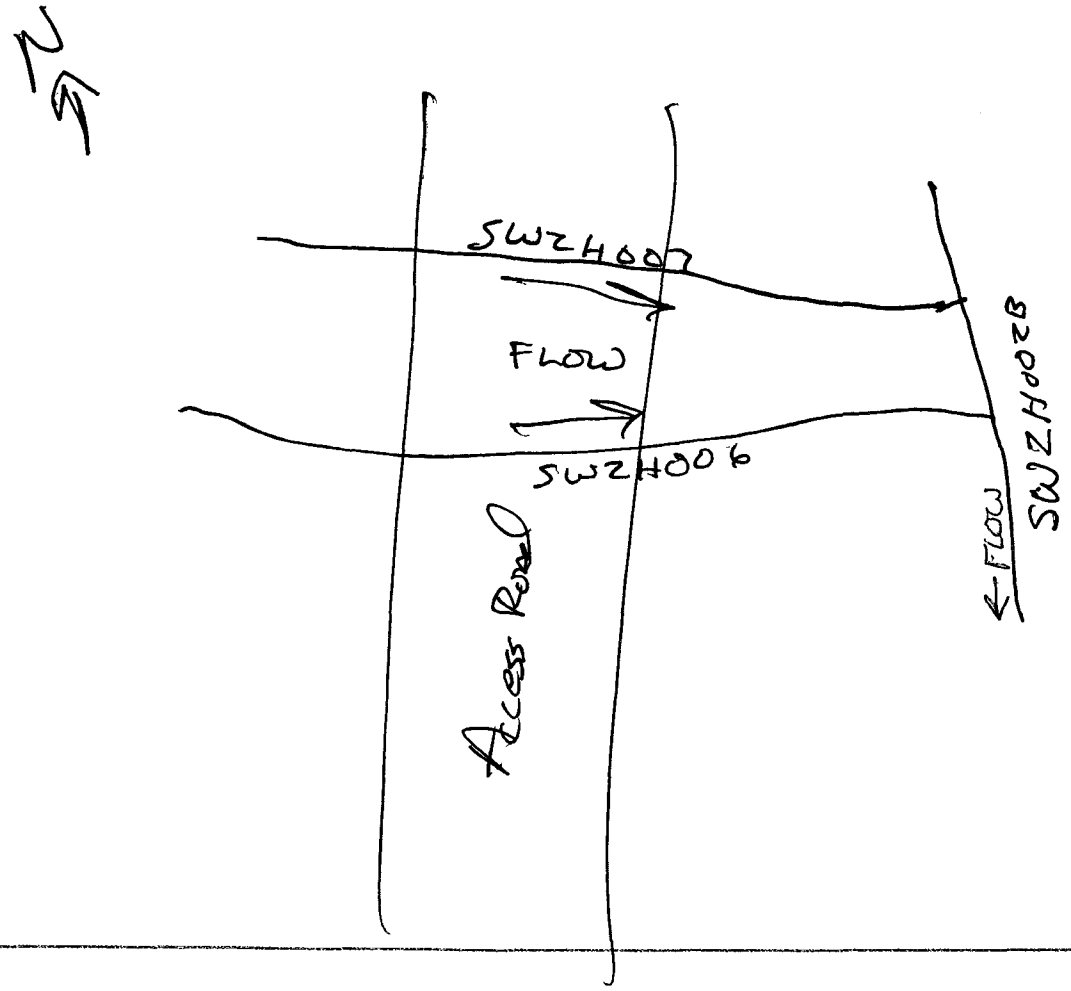
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh007 facing upstream

Waterbody swzh007 facing downstream

Waterbody swzh007 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
MTI Supply Header	UNT to Carpenters Run	SW26028	5-13-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DOWEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-A001	26.3	26.3	WW26004 A W

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [ ] Intermittent [X] Perennial

Waterbody Type: *(check one)* [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale [a] [ ] Other: _____

OHWM
Width: 8 ft.
Height: _____ ft.

OHWM Indicator: *(check all that apply)*
[X] Clear line on bank [ ] Shelving [X] Wrested vegetation [ ] Scouring [ ] Water staining
[X] Bent, matted, or missing vegetation [X] Wrack line [ ] Litter and debris [ ] Abrupt plant community change [ ] Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
12 ft.	3 ft.	1" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
[ ] Straight [X] Meandering	<1 fps	Right: 9 ft. Left: 10 ft.	Right: 80 degrees Left: 80 degrees

Qualitative Attributes

Water Appearance: *(check one)* [ ] No water [X] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [X] Bedrock [X] Gravel [X] Sand [X] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate:	20 %	70 %	5 %	5 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
>100 ft.	[X] Trees:	[X] Shrubs:	[X] Herbs	
	Avg. DBH of Dominants: *(approx.)*	____ in.	____ in.	

Dominant Bank Vegetation: *(list)* Carpinus caroliniana, Acer rubrum, Fagus grandifolia, Polystichum acrostoides

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles, pools

Aquatic Organisms Observed: *(list)* small invertebrates

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora

Tributary is: *(check one)* [X] Natural [ ] Artificial, man-made [ ] Manipulated

Disturbances: *(check all that apply)* [ ] Livestock access [ ] Manure in waterbody [ ] Waste discharge pipes [ ] Other: NONE

Stream Quality[b]: *(check one)* [ ] High [X] Moderate [ ] Low

Waterbody ID:
SWZ6028

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

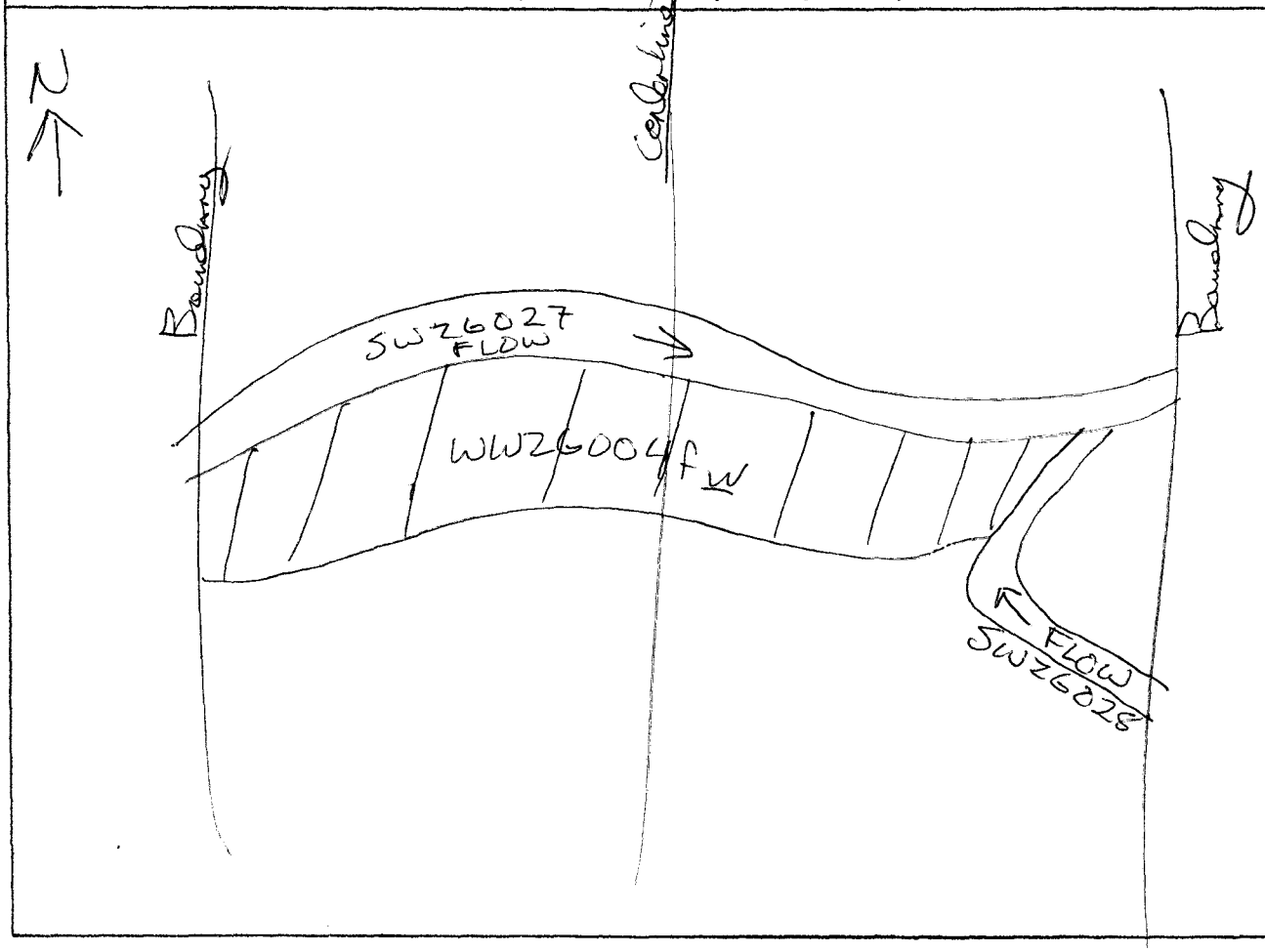
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg028

Waterbody swzg028 facing upstream

Waterbody swzg028 facing downstream

Swzg028

Waterbody swzg028 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	Carpenters Run	SWZ6027	5-13-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-A001	26.3	26.3	WWZG004fW

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [ ] Intermittent [X] Perennial

Waterbody Type: *(check one)* [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale[a] [ ] Other: _____

OHWM Width: 15 ft. Height: _____ ft.

OHWM Indicator: *(check all that apply)* [X] Clear line on bank [X] Shelving [X] Wrested vegetation [ ] Scouring [ ] Water staining [X] Bent, matted, or missing vegetation [X] Wrack line [ ] Litter and debris [ ] Abrupt plant community change [ ] Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
18 ft.	6 ft.	2 ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
[ ] Straight [X] Meandering	<2 fps	Right: 2 ft. Left: 1 ft.	Right: 60 degrees Left: 10 degrees

Qualitative Attributes

Water Appearance: *(check one)* [ ] No water [X] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [X] Bedrock [X] Gravel [X] Sand [X] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate:	50 %	40 %	5 %	5 %	____ %	____ %

Width of Riparian Zone: >100 ft.

Vegetative Layers: *(check all that apply)* [X] Trees: [X] Shrubs: [X] Herbs

Avg. DBH of Dominants: *(approx.)* 10 in. _____ in.

Dominant Bank Vegetation: *(list)* Carpinus virginiana, Acer rubrum, Fagus grandifolia, Rosa multiflora, Carex crinita

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles, pools, overhanging bank

Aquatic Organisms Observed: *(list)* small invertebrates

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora

Tributary is: *(check one)* [X] Natural [ ] Artificial, man-made [ ] Manipulated

Disturbances: *(check all that apply)* [ ] Livestock access [ ] Manure in waterbody [ ] Waste discharge pipes [X] Other: NONE

Stream Quality[b]: *(check one)* [ ] High [X] Moderate [ ] Low

Waterbody ID:
SWZG027

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

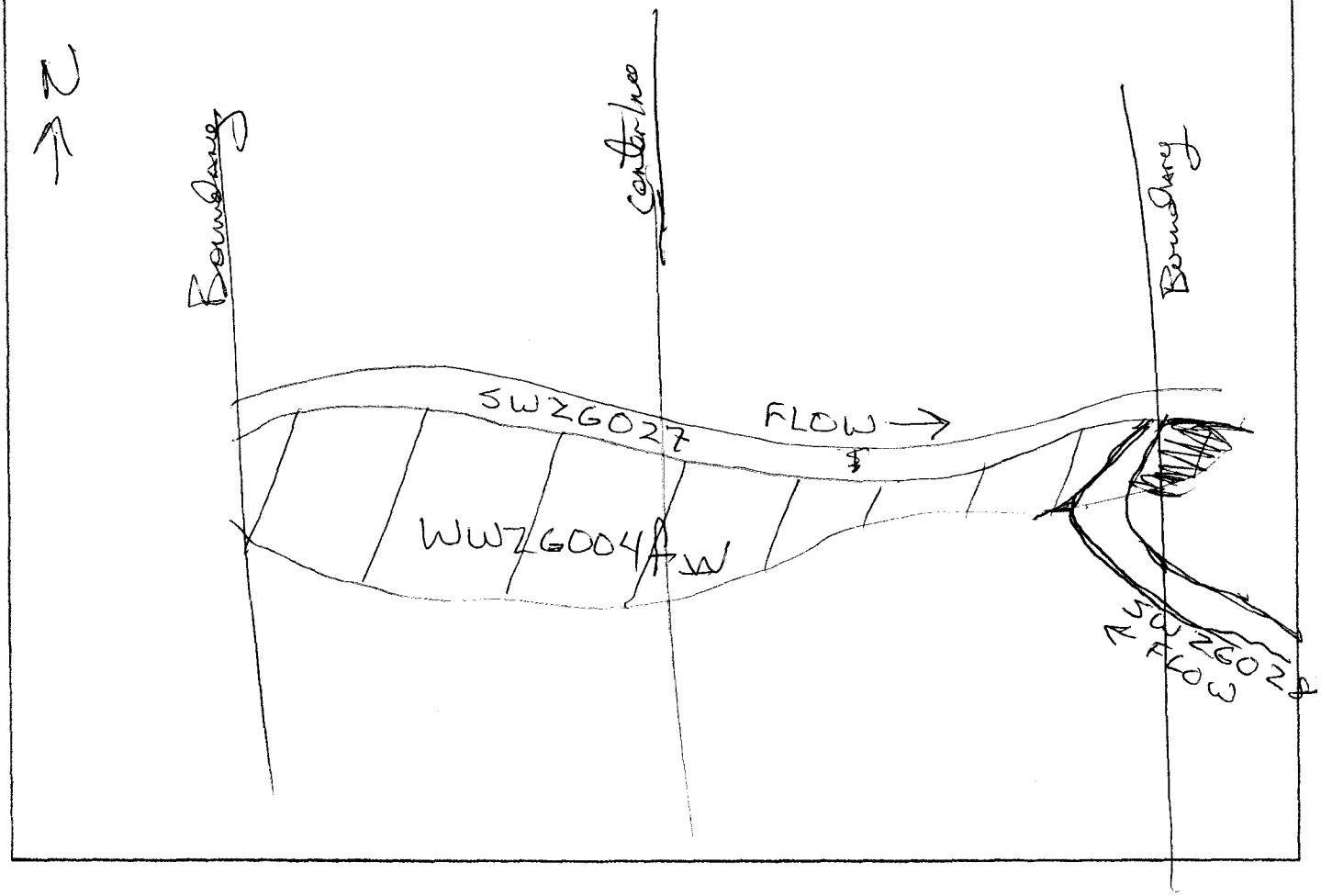
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg027

Waterbody swzg027 facing upstream

Waterbody swzg027 facing downstream

Swzg027

Waterbody swzg027 facing upline cross stream

Waterbody Data Sheet

Description

Project Name:		Date:	Waterbody Survey ID:
Supply Header Project		06/02/2016	swza002
State:	**County/Parish:**	**USGS Waterbody Name**:	
WV	Wetzel	Ash Camp Run	
Company:	**Crew Member Initials:**	**Latitude:**	**Longitude:**
Dominion Transmission, Inc.	KTC, LCE		

Survey Type: *(check one)* ☑ Centerline ☐ Re-Route ☐Access Road ☐Facility ☐Other

Waterbody Type: *(check one)* ☐ River ☑ Stream ☐ Ditch ☐ Swale ☐ Canal ☐ Other

Water Appearance: *(check one)* ☐ No Water ☑ Clear ☐Turbid ☐Sheen on Surface ☐Surface Scum ☐Algal Mats ☐Other

Feature Quality[a]**:** *(check one)* ☑ High ☐ Moderate ☐ Low

Feature Description: *(check one)* ☑ Natural ☐ Artificial, man-made ☐ Manipulated

Flow Regime: *(check one)* ☐ Ephemeral ☐ Intermittent ☑ Perennial ☐ Connecting Swale

Sinuosity within Survey Corridor: *(check one)* ☐ Straight ☑ Meandering

Description Notes:

High quality perennial stream adjacent to a lightly used dirt two-track access road.

Measurements

Depth of Water: 0.2 ft. N/A☐ Unknown☐	Water Edge to Water Edge: 7 ft. N/A☐	OHWM Width: 9 ft.

OHWM Indicator: *(check all that apply)*

☑ Clear line on bank ☐Shelving ☐Wrested vegetation ☐Scouring ☐Water staining

☑Bent, matted, or missing vegetation ☐Wrack line ☑Litter and debris ☐Abrupt plant community change ☑Soil characteristic change

Dominant Substrate: *(check all that apply)* ☐ Bedrock ☑ Boulder ☑ Cobble ☑ Gravel ☑ Sand ☐ Silt/ clay ☐ Organic

Observations

Riparian Zone Present: *(check one)* ☑ Yes ☐ No

Vegetation Layers: *(check all that apply)* ☑ Trees ☑ Saplings/Shrubs ☑ Herbs

Dominant Bank Vegetation *(list)***:**

grass, forbs, ferns, moss; spicebush, hop-hornbeam, hornbeam, black walnut; basswood, hemlock, box elder, sycamore, elm

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.)**:**

riffles, overhanging banks/roots, leaf packs, runs, bars, pools

Aquatic Organisms Observed *(list)***:**

fish, insects

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes)**:**

Adjacent two-track.

Observation Notes:

Riparian area with diverse flora and fauna.

swaa002

Waterbody swza002 facing upstream

Waterbody swza002 facing downstream

swza002

Waterbody swza002 cross stream

Waterbody Data Sheet

Description

Project Name:		Date:	Waterbody Survey ID:
Supply Header Project		06/02/2016	swza001
State: WV	**County/Parish:** Wetzel	**USGS Waterbody Name**: Unnamed tributary	
Company: Dominion Transmission, Inc.	**Crew Member Initials:** KTC, LCE	**Latitude:**	**Longitude:**

Survey Type: *(check one)*	☑ Centerline	☐ Re-Route	☐Access Road	☐Facility	☐Other		
Waterbody Type: *(check one)*	☐ River	☑ Stream	☐ Ditch	☐ Swale	☐ Canal	☐ Other	
Water Appearance: *(check one)*	☑ No Water	☐ Clear	☐Turbid	☐Sheen on Surface	☐Surface Scum	☐Algal Mats	☐Other
Feature Quality[a]**:** *(check one)*	☐ High	☑ Moderate	☐ Low				
Feature Description: *(check one)*	☑ Natural	☐ Artificial, man-made	☐ Manipulated				
Flow Regime: *(check one)*	☑ Ephemeral	☐ Intermittent	☐ Perennial	☐ Connecting Swale			
Sinuosity within Survey Corridor: *(check one)*	☑ Straight	☐ Meandering					

Description Notes:

Ephemeral stream that flows into perennial stream swza002.

Measurements

Depth of Water: _____ ft. N/A☑ Unknown☐	**Water Edge to Water Edge:** _____ ft. N/A☑	**OHWM Width:** 1 ft.

OHWM Indicator: *(check all that apply)*	☐ Clear line on bank	☐Shelving	☐Wrested vegetation	☐Scouring		☐Water staining
	☐Bent, matted, or missing vegetation	☐Wrack line	☑Litter and debris	☐Abrupt plant community change		☑Soil characteristic change
Dominant Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☑ Cobble	☑ Gravel	☐ Sand	☑ Silt/ clay	☑ Organic

Observations

Riparian Zone Present: *(check one)*	☐ Yes	☑ No	
Vegetation Layers: *(check all that apply)*	☑ Trees	☑ Saplings/Shrubs	☑ Herbs

Dominant Bank Vegetation *(list)***:**

grass, forbs, ferns, moss; spicebush, beech; maple, oak, beech

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.)**:**

n/a

Aquatic Organisms Observed *(list)***:**

n/a

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes)**:**

n/a

Observation Notes:

steep slope; flow appears rare

swza001

Waterbody swza001 facing upstream

Waterbody swza001 facing downstream

swza001

Waterbody swza001 cross stream

Waterbody Data Sheet

Description

Project Name:		Date:	Waterbody Survey ID:
Supply Header Project		06/02/2016	swza003
State:	**County/Parish:**	**USGS Waterbody Name**:	
WV	Wetzel	unnamed tributary	
Company:	**Crew Member Initials:**	**Latitude:**	**Longitude:**
Dominion Transmission, Inc.	KTC, LCE		

Survey Type: *(check one)*	☑ Centerline	☐ Re-Route	☐Access Road	☐Facility	☐Other	
Waterbody Type: *(check one)*	☐ River	☑ Stream	☐ Ditch	☐ Swale	☐ Canal	☐ Other
Water Appearance: *(check one)*	☐ No Water	☑ Clear	☐Turbid	☐Sheen on Surface	☐Surface Scum	☐Algal Mats ☐Other
Feature Quality[a]**:** *(check one)*	☑ High	☐ Moderate	☐ Low			
Feature Description: *(check one)*	☑ Natural	☐ Artificial, man-made	☐ Manipulated			
Flow Regime: *(check one)*	☐ Ephemeral	☑ Intermittent	☐ Perennial	☐ Connecting Swale		
Sinuosity within Survey Corridor: *(check one)*	☑ Straight	☐ Meandering				

Description Notes:

High quality intermittent stream confluences with swza002

.

Measurements

Depth of Water: 0.1 ft. N/A☐ Unknown☐	**Water Edge to Water Edge:** 2 ft. N/A☐	**OHWM Width:** 3 ft.

OHWM Indicator: *(check all that apply)*	☑ Clear line on bank	☐Shelving	☐Wrested vegetation	☐Scouring	☐Water staining
	☑Bent, matted, or missing vegetation	☐Wrack line	☑Litter and debris	☐Abrupt plant community change	☑Soil characteristic change

Dominant Substrate: *(check all that apply)*	☑ Bedrock	☑ Boulder	☑ Cobble	☑ Gravel	☑ Sand	☐ Silt/ clay	☐ Organic

Observations

Riparian Zone Present: *(check one)*	☐ Yes	☐ No	
Vegetation Layers: *(check all that apply)*	☑ Trees	☑ Saplings/Shrubs	☑ Herbs

Dominant Bank Vegetation *(list)***:**

grass, forbs, ferns, moss; spicebush, maple; maple, hemlock, sycamore, elm

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.)**:**

riffles, overhanging banks/roots, leaf packs, bars, step-pools

Aquatic Organisms Observed *(list)***:**

insects, salamander, crawfish

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes)**:**

Observation Notes:

Very nice intermittent stream with cascading pools and seeping rocky banks.

swza003

Waterbody swza003 facing upstream

Waterbody swza003 facing downstream

swza003

Waterbody swza003 cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO BUFFALO RUN	SWZWH001	7-22-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DOMEST	JD, PP	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 3 ft.
Height: _____ ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☐ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
5 ft.	6" ft.	4" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒ Straight ☐ Meandering	<1 fps	Right: 3 ft. Left: 2 ft.	Right: 70 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☐ Turbid ☒ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☐ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	80 %	15 %	____ %	5 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
5 ft.	☐ Trees:	☒ Shrubs:	☒ Herbs	
	Avg. DBH of Dominants: *(approx.)*	____ in.	____ in.	

Dominant Bank Vegetation: *(list)* Rosa multiflora, microstegium, Daucus carota

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora, Microstegium vimineum, Ailanthus altissima

Tributary is: *(check one)* ☐ Natural ☒ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID: SWZH001

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

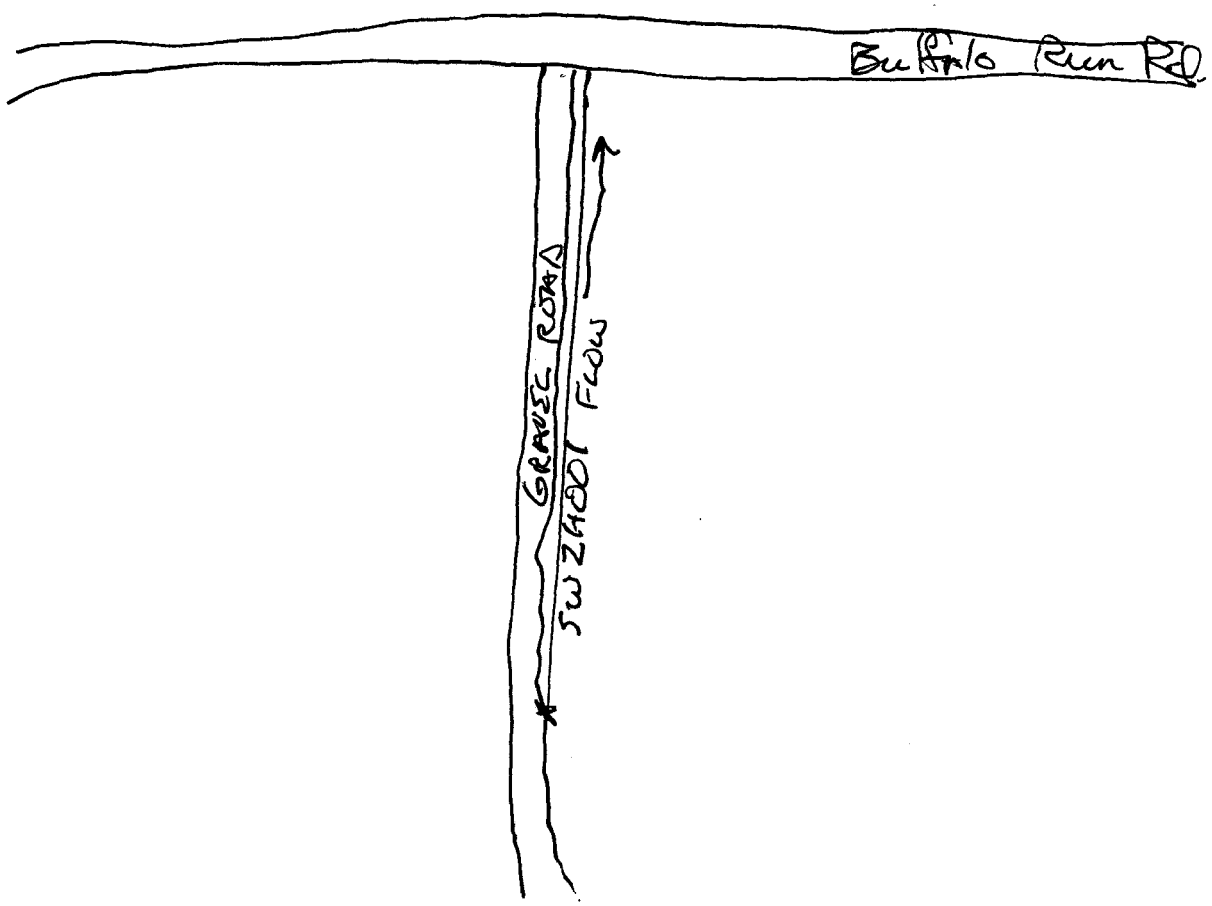
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody swzh001 facing upstream

Waterbody swzh001 facing downstream

Swzh001

Waterbody swzh001 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	Fishing Creek	SWZH028	7-29-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, DB	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-C002 33-009-A008 33-009-C001	29.4	29.4	NONE

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [ ] Intermittent [X] Perennial

Waterbody Type: *(check one)* [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale[a] [ ] Other: _____

OHWM
Width: 70 ft.
Height: _____ ft.

OHWM Indicator: *(check all that apply)*
[X] Clear line on bank [X] Shelving [X] Wrested vegetation [ ] Scouring [X] Water staining
[ ] Bent, matted, or missing vegetation [ ] Wrack line [ ] Litter and debris [X] Abrupt plant community change [ ] Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
90 ft.	60 ft.	3 ft.

Sinuosity: *(check one)* [ ] Straight [X] Meandering

Water velocity: *(Approx.)* >5 fps

Bank height
Right: 3 ft.
Left: 4 ft.

Bank slope
Right: 30 degrees
Left: 40 degrees

Qualitative Attributes

Water Appearance: *(check one)* [ ] No water [X] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [X] Bedrock [X] Gravel [X] Sand [X] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate:	20 %	60 %	5 %	15 %	____ %	____ %

Width of Riparian Zone: _____ ft.

Vegetative Layers: *(check all that apply)* [X] Trees: [X] Shrubs: [X] Herbs
Avg. DBH of Dominants: *(approx.)* 10 in. _____ in.

Dominant Bank Vegetation: *(list)* Acer negundo, Rolygonum cuspidatum, Elaeagnus umbellata, Rosa multiflora

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Riffles, pools, overhanging veg + banks, submerged

Aquatic Organisms Observed: *(list)* Fish + invertebrates

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora, Polygonum cuspidatum, Elaeagnus umbellata, Microstegium vimineum

Tributary is: *(check one)* [X] Natural [ ] Artificial, man-made [ ] Manipulated

Disturbances: *(check all that apply)* [ ] Livestock access [ ] Manure in waterbody [ ] Waste discharge pipes [X] Other: Adjacent lumber yard

Stream Quality[b]: *(check one)* [ ] High [X] Moderate [ ] Low

Waterbody ID:
SWZH028

[a] ***Connecting swales*** are water features *that do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

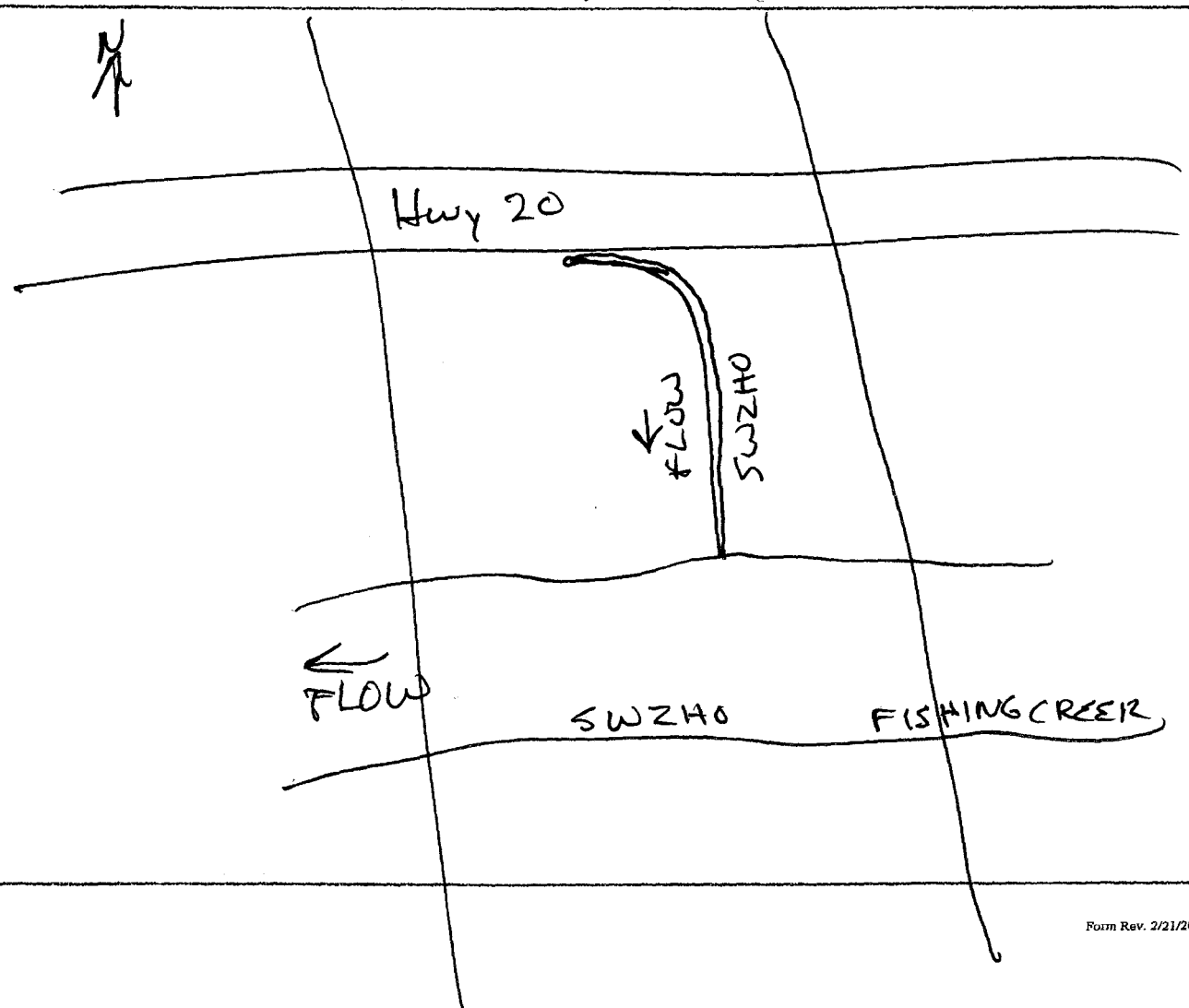
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

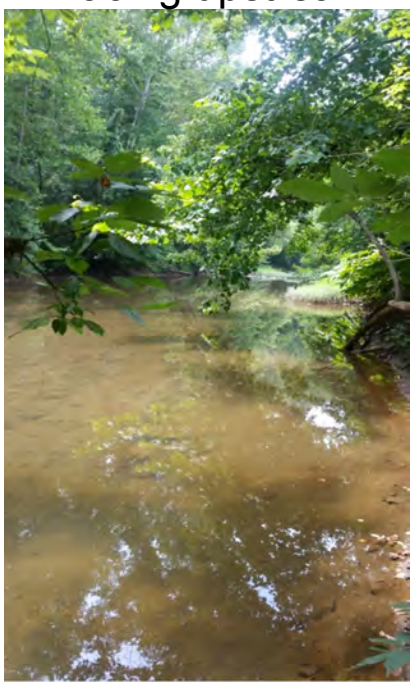
Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



SWZH028

Waterbody *SWZH028*
facing upstream



Waterbody *SWZH028*
facing downstream

SWZH028

Waterbody SWZH028 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Supply Header	UNT TO Fishing Creek	SWZH027	7-29-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, DB	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-C001 33-009 A008 33-009-C002	[redacted] 29.4	[redacted] 29.4	NONE

Survey Type: *(check one)* ☒ Centerline ☒ Re-Route ☒ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 4 ft.
Height: _____ ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☒ Water staining
☒ Bent, matted, or missing vegetation ☐ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
8 ft.	_____ ft.	1[redacted] ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	<1 fps	Right: 3 ft. Left: 3 ft.	Right: 40 degrees Left: 40 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☒ No water ☐ Clear ☐ Turbid ☐ Sheen on surface ☒ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☐ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	_____ %	70 %	10 %	20 %	_____ %	_____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
10 ft.	☐ Trees:	☒ Shrubs:	☒ Herbs	
	Avg. DBH of Dominants: *(approx.)*	_____ in.	_____ in.	

Dominant Bank Vegetation: *(list)* Elaeagnus umbellata, Prunus serotina, Impatiens capensis

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Elaeagnus umbellata, Rosa multiflora, Microstegium vimineum

Tributary is: *(check one)* ☐ Natural ☒ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent to RR & lumber yard

Stream Quality[b]: *(check one)* ☐ High ☐ Moderate ☒ Low

Waterbody ID: SW2#027

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

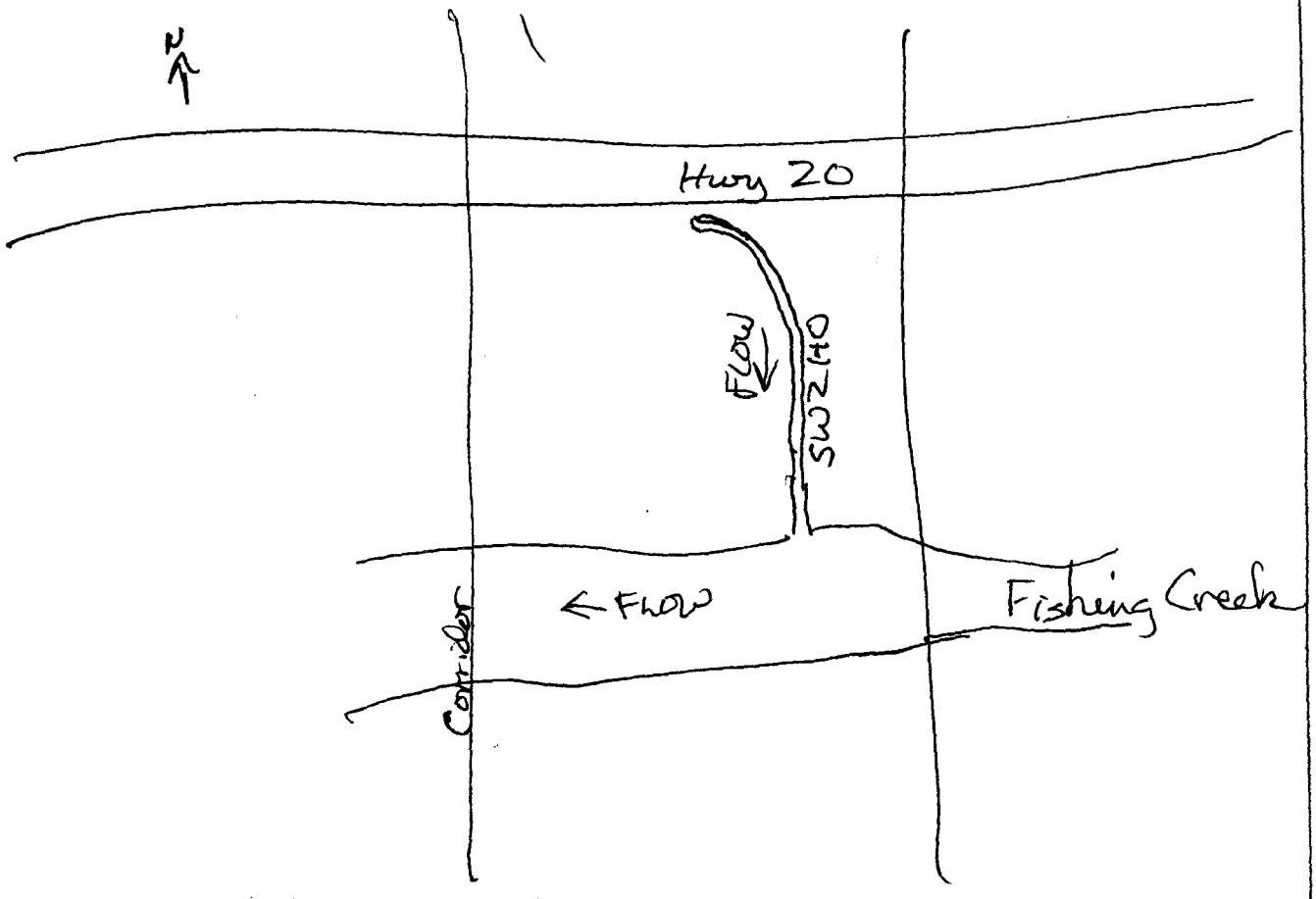
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



SWZH027

Waterbody *SWZH027*
facing upstream

Waterbody *SWZH027*
facing downstream

SWZH027

Waterbody SWZH027 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO SOUTH FORK FISHING CREEK	SWZGO14	5/1/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DD WEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-B019 33-009-A208	28.9	28.9	NONE

Survey Type: *(check one)* ☒ Centerline ☒ Re-Route ☐ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☐ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☒ Other: CHANNELIZED

OHWM	OHWM Indicator: *(check all that apply)*					
Width: 3 ft.	☒ Clear line on bank	☐ Shelving	☐ Wrested vegetation	☐ Scouring	☐ Water staining	
Height: 6" ft.	☐ Bent, matted, or missing vegetation	☒ Wrack line	☐ Litter and debris	☐ Abrupt plant community change	☐ Soil characteristic change	

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
5 ft.	2 ft.	4" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒ Straight ☐ Meandering	<1 fps	Right: 1 ft. Left: 1 ft.	Right: 30 degrees Left: 30 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☐ Turbid ☐ Sheen on surface ☒ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☐ Bedrock ☒ Gravel ☐ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	____ %	20 %	____ %	80 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*	☐ Trees:	☒ Shrubs:	☒ Herbs
0 ft.	Avg. DBH of Dominants: *(approx.)*	____ in.	____ in.	

Dominant Bank Vegetation: *(list)* Rosa multiflora, Elaeagnus umbellata, Dactylis glomerata

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools

Aquatic Organisms Observed: *(list)* Small invertebrates

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora, Elaeagnus umbellata

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: channelized/next lumber yard

Stream Quality[b]: *(check one)* ☐ High ☐ Moderate ☒ Low

Waterbody ID:
SWZG0014

[a] *Connecting swales* are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

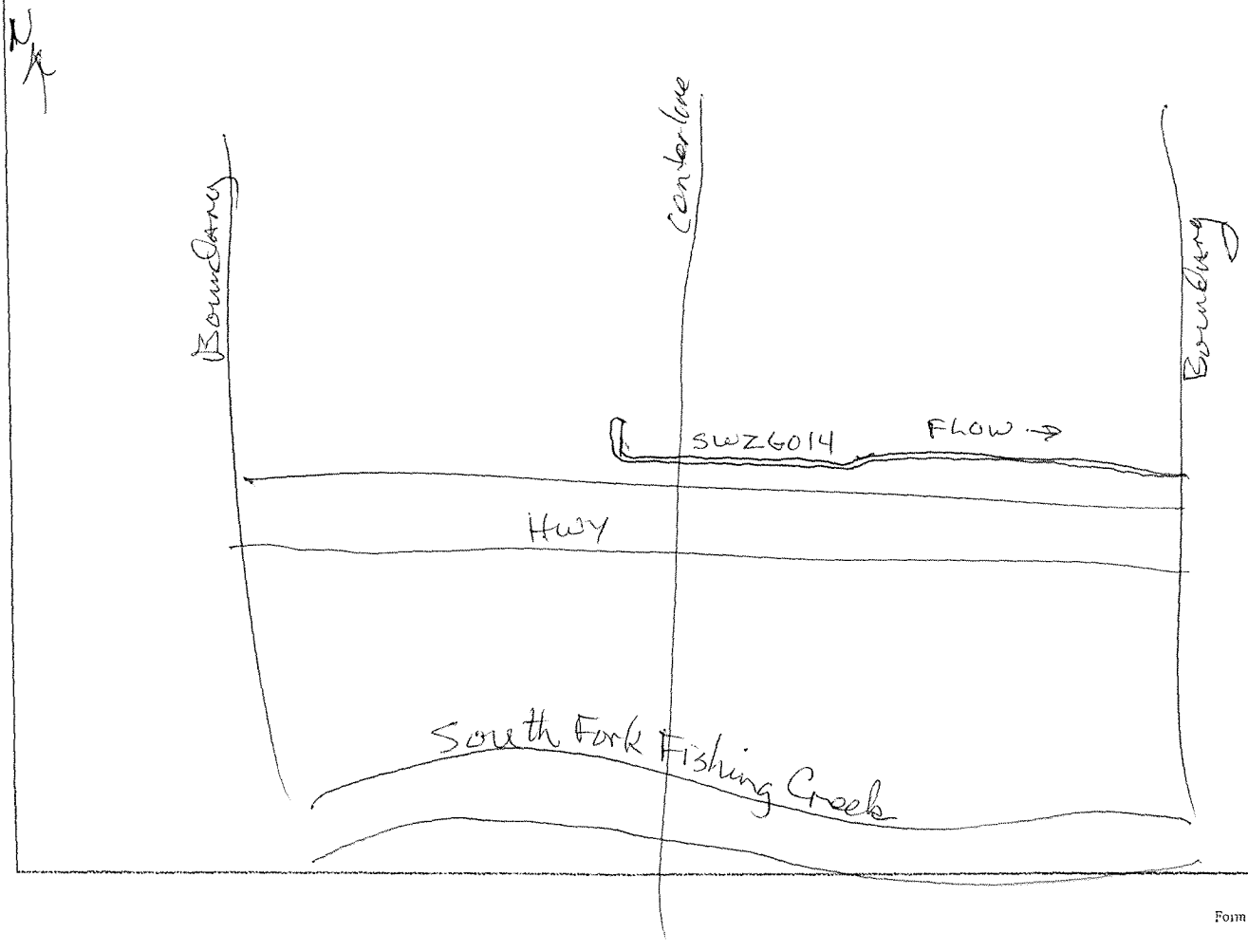
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg014

Waterbody swzg014 facing upstream

Waterbody swzg014 facing downstream

Swzg014

Waterbody swzg014 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO SOUTH FORK FISHING CREEK	SWZG016	5-1-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-B012 33-009-B018	29.1	29.1	NONE

Survey Type: *(check one)* ☒ Centerline ☒ Re-Route ☐ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM Width: 4 ft. Height: 1 ft.

OHWM Indicator: *(check all that apply)* ☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☐ Water staining ☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
6 ft.	____ ft.	____ ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	4 fps	Right: 3 ft. Left: 3 ft.	Right: 90 degrees Left: 70 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	80 %	5 %	5 %	____ %	____ %

Width of Riparian Zone: 725 ft.

Vegetative Layers: *(check all that apply)* ☐ Trees: ____ in. ☒ Shrubs: ____ in. ☒ Herbs

Avg. DBH of Dominants: *(approx.)*

Dominant Bank Vegetation: *(list)* Elaeagnus umbellata, Viola sp.

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles, pools

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Elaeagnus umbellata

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Nearby road

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZ6016

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

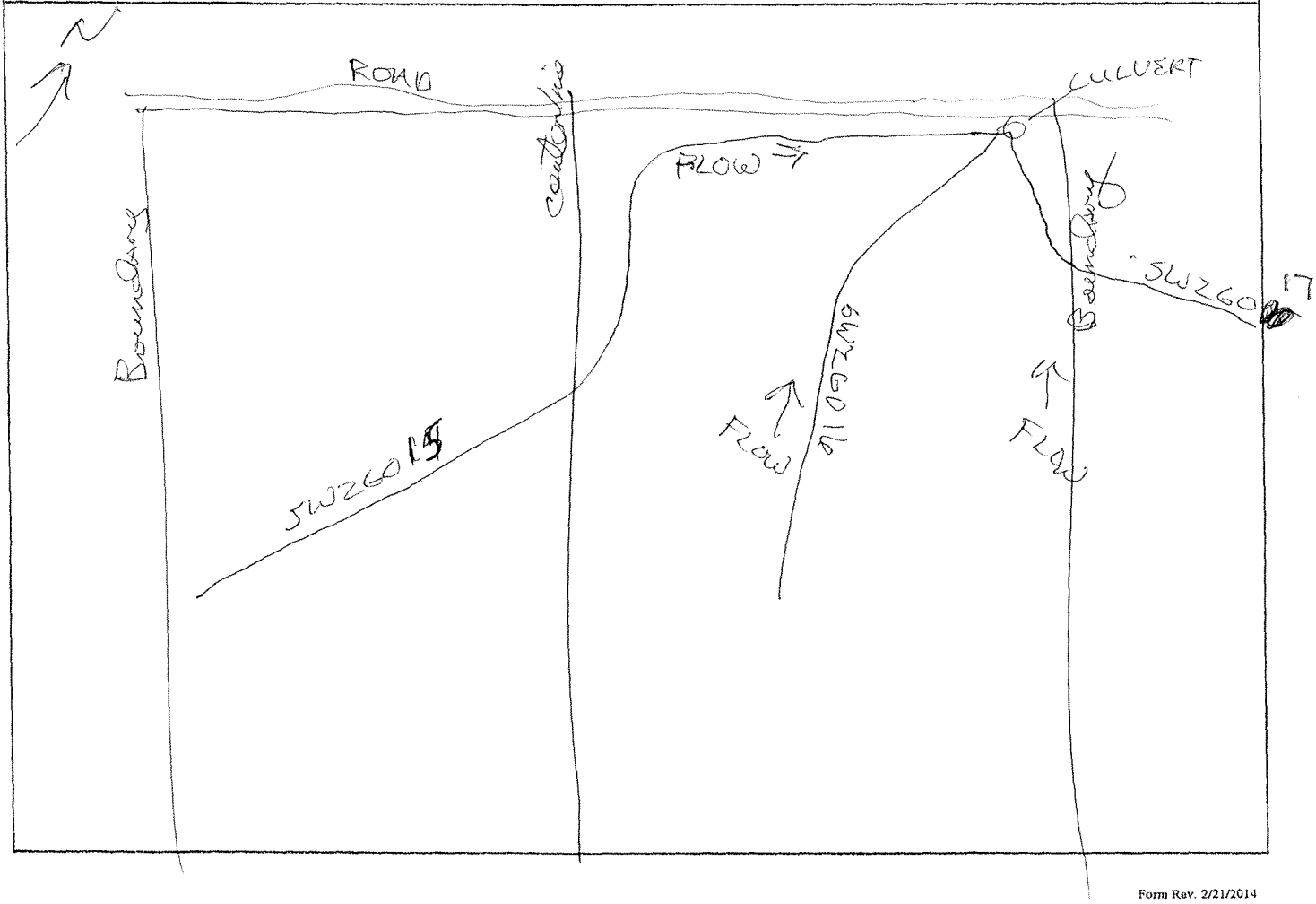
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg016

Waterbody swzg016 facing upstream

Waterbody swzg016 facing downstream

Swzg016

Waterbody swzg016 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO SOUTH FORK FISHING CREEK	SWZG015	5-1-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DD WEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-B012 33-009-B018	29.1	29.1	NONE

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [ ] Intermittent [ ] Perennial

Waterbody Type: *(check one)* [ ] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale[a] [X] Other: CHANNELIZED

OHWM	OHWM Indicator: *(check all that apply)*					
Width: 3 ft.	[X] Clear line on bank	[ ] Shelving	[ ] Wrested vegetation	[ ] Scouring	[ ] Water staining	
Height: 6" ft.	[ ] Bent, matted, or missing vegetation	[X] Wrack line	[ ] Litter and debris	[ ] Abrupt plant community change	[ ] Soil characteristic change	

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
5 ft.	2 ft.	3" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
[X] Straight [ ] Meandering	<1 fps	Right: 1 ft. Left: 1 ft.	Right: 30 degrees Left: 30 degrees

Qualitative Attributes

Water Appearance: *(check one)* [ ] No water [ ] Clear [ ] Turbid [ ] Sheen on surface [X] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [ ] Bedrock [X] Gravel [ ] Sand [X] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate:	____ %	10 %	____ %	90 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
0 ft.	[ ] Trees:	[X] Shrubs:	[X] Herbs	
	Avg. DBH of Dominants: *(approx.)*	____ in.	____ in.	

Dominant Bank Vegetation: *(list)* Rosa multiflora, Elaeagnus umbellata, & Dactylis glomerata

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora, Elaeagnus umbellata.

Tributary is: *(check one)* [ ] Natural [X] Artificial, man-made [ ] Manipulated

Disturbances: *(check all that apply)* [ ] Livestock access [ ] Manure in waterbody [ ] Waste discharge pipes [X] Other: Next to road

Stream Quality[b]: *(check one)* [ ] High [ ] Moderate [X] Low

Waterbody ID:
SWZ6015

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

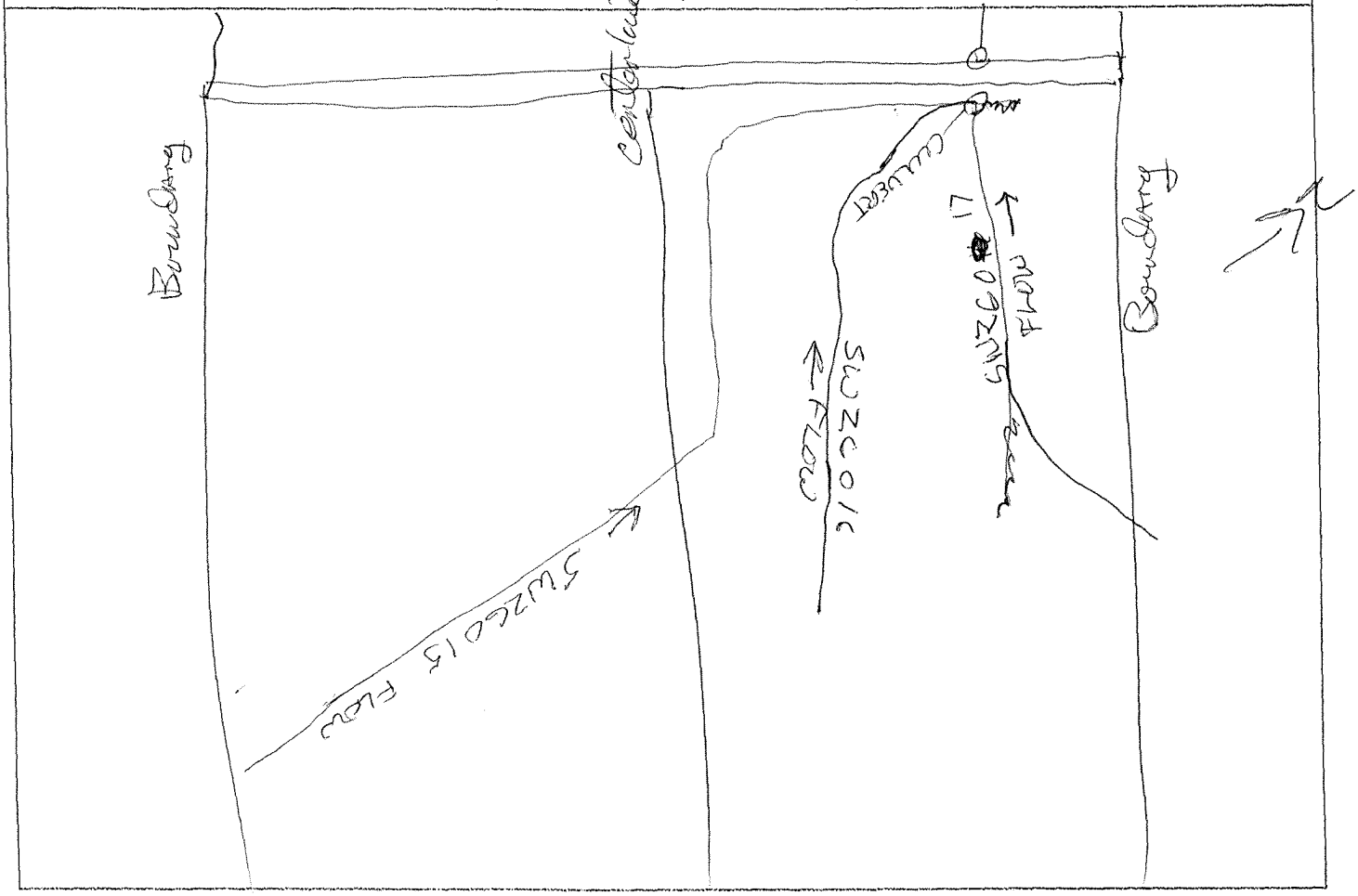
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg015

Waterbody swzg015 facing upstream

Waterbody swzg015 facing downstream

Swzg015

Waterbody swzg015 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO SOUTH FORK FISHING CREEK	SWZ6017	5-1-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DOMEST	JD, JC	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-B012 33-009-B018	29.1	29.1	NONE

Survey Type: *(check one)* ☒ Centerline ☒ Re-Route ☐ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM Width: 4 ft. Height: 1 ft.

OHWM Indicator: *(check all that apply)* ☐ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☒ Scouring ☐ Water staining ☐ Bent, matted, or missing vegetation ☒ Wrack line ☒ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
6 ft.	1 ft.	1/4 ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	1 fps	Right: 2 ft. Left: 2 ft.	Right: 60 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☐ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate: 60 % 30 % ____ % 10 % ____ % ____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
750 ft.	☒ Trees:	☒ Shrubs:	☒ Herbs	
	Avg. DBH of Dominants: *(approx.)*	8 in.	____ in.	

Dominant Bank Vegetation: *(list)* Quercus alba, Prunus serotina, Rosa multiflora, Polystichum acrostichoides, Cornus florida

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: NEARBY ROAD

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZ6017

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

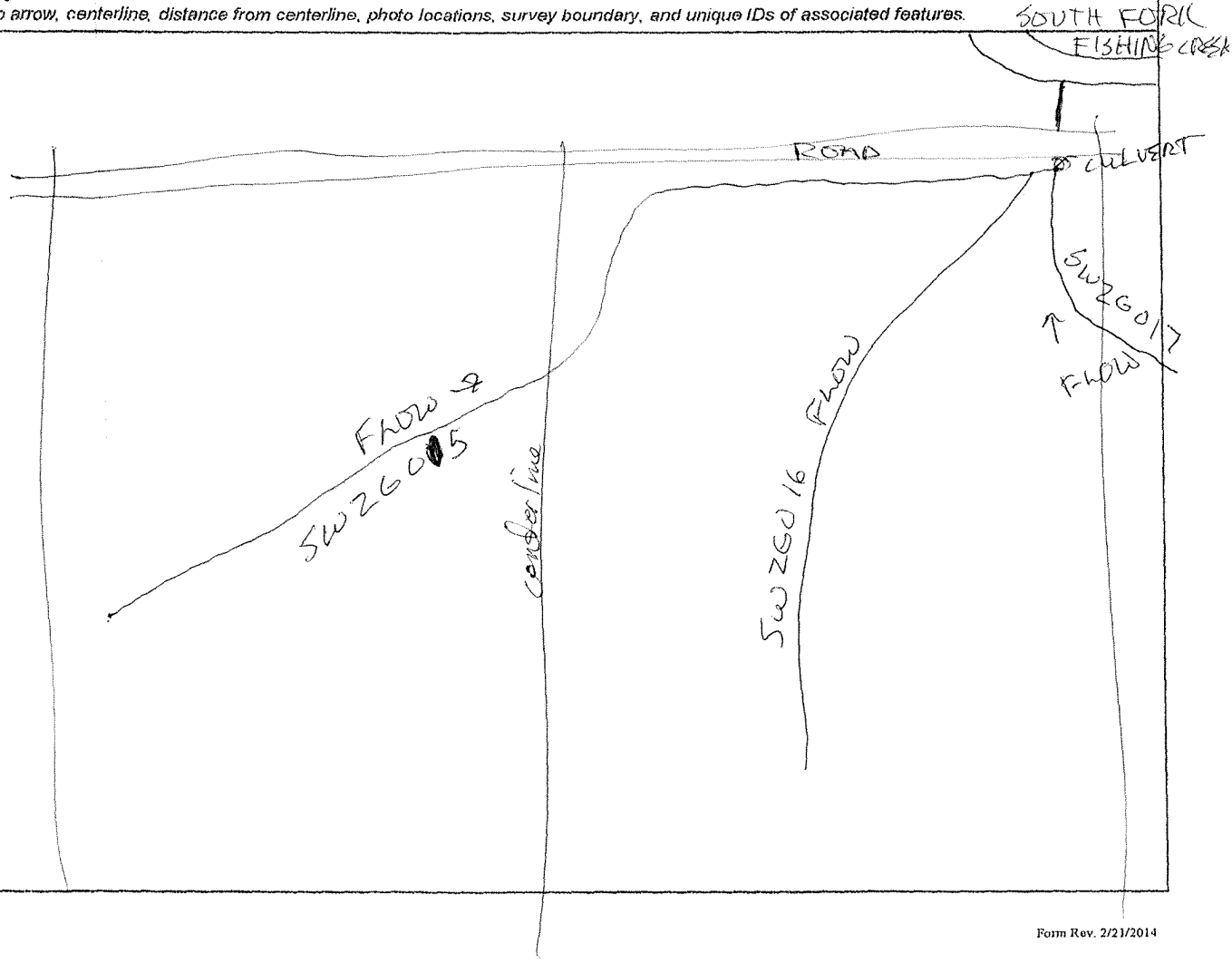
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg017

Waterbody swzg017 facing upstream

Waterbody swzg017 facing downstream

Swzg017

Waterbody swzg017 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	South Fork Fishing Creek	SWZ6018	5-1-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-C004 33-009-B012 33-009-B013 33-009-B018	29.1	29.4	

Survey Type: *(check one)* ☒ Centerline ☒ Re-Route ☐ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☒ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 45 ft.
Height: 4 ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☐ Scouring ☐ Water staining
☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
60 ft.	35 ft.	3 ft.

Sinuosity: *(check one)* ☐ Straight ☒ Meandering

Water velocity: *(Approx.)* 710 fps

Bank height: Right: 8 ft. Left: 8 ft.

Bank slope: Right: 30 degrees Left: 50 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate: 20 % 50 % 5 % 25 % ____ % ____ %

Width of Riparian Zone: 35 ft.

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 8 in. ____ in.

Dominant Bank Vegetation: *(list)* Acer negundo, Platanus occidentalis, Polygonum cuspidatum, Rosa multiflora, Dactylis glomerata

Aquatic Habitats (ex. submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pool, riffles overhanging veg. submerged wood

Aquatic Organisms Observed: *(list)* Small fish.

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora, Polygonum cuspidatum

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☒ Livestock access ☐ Manure in waterbody ☒ Waste discharge pipes ☐ Other: _____

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SW 26 018

[a] ***Connecting swales*** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

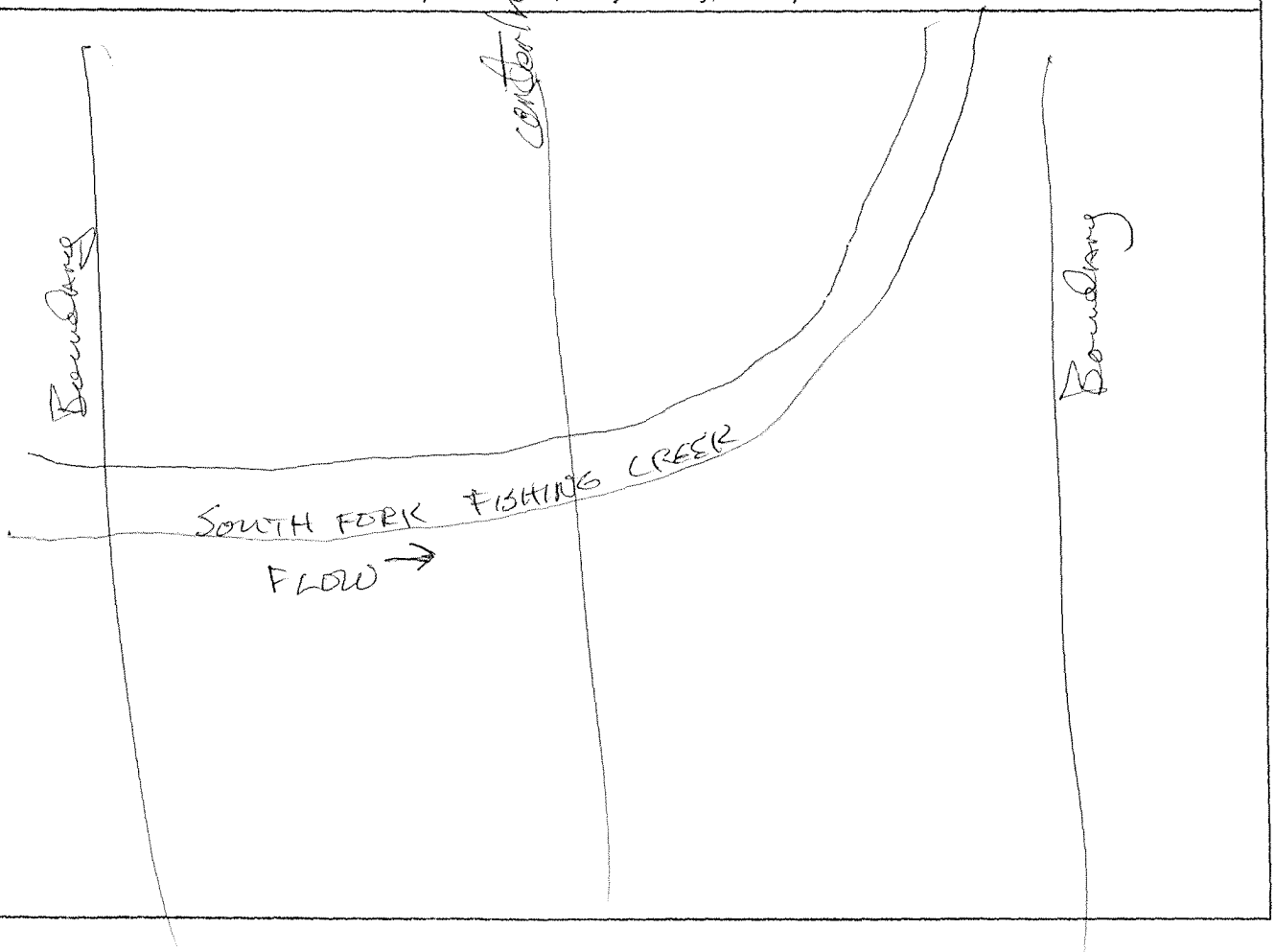
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg018

Waterbody swzg018 facing upstream

Waterbody swzg018 facing downstream

Swzg018

Waterbody swzg018 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	Richwood Run	SWZG019	5-1-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
	30.2	30.2	NONE

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [ ] Intermittent [X] Perennial

Waterbody Type: *(check one)* [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale [a] [ ] Other: _____

OHWM Width: 15 ft. Height: _____ ft.

OHWM Indicator: *(check all that apply)* [X] Clear line on bank [X] Shelving [X] Wrested vegetation [ ] Scouring [ ] Water staining [X] Bent, matted, or missing vegetation [X] Wrack line [X] Litter and debris [ ] Abrupt plant community change [ ] Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
20 ft.	_____ ft.	_____ ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
[ ] Straight	72 fps	Right: 5 ft.	Right: 30 degrees
[X] Meandering		Left: 6 ft.	Left: 45 degrees

Qualitative Attributes

Water Appearance: *(check one)* [ ] No water [X] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [X] Bedrock [X] Gravel [ ] Sand [ ] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate:	10 %	80 %	_____ %	10 %	_____ %	_____ %

Width of Riparian Zone: 0 ft.

Vegetative Layers: *(check all that apply)* [ ] Trees: [ ] Shrubs: [X] Herbs

Avg. DBH of Dominants: *(approx.)* _____ in. _____ in.

Dominant Bank Vegetation: *(list)* Festuca pratensis, Taraxacum officinale, Dactylis glomerata, Brassica napus

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Riffle, pools

Aquatic Organisms Observed: *(list)* Small fish

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora

Tributary is: *(check one)* [X] Natural [ ] Artificial, man-made [ ] Manipulated

Disturbances: *(check all that apply)* [X] Livestock access [ ] Manure in waterbody [X] Waste discharge pipes [ ] Other: _____

Stream Quality[b]: *(check one)* [ ] High [X] Moderate [ ] Low

Waterbody ID:
SWZ6019

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

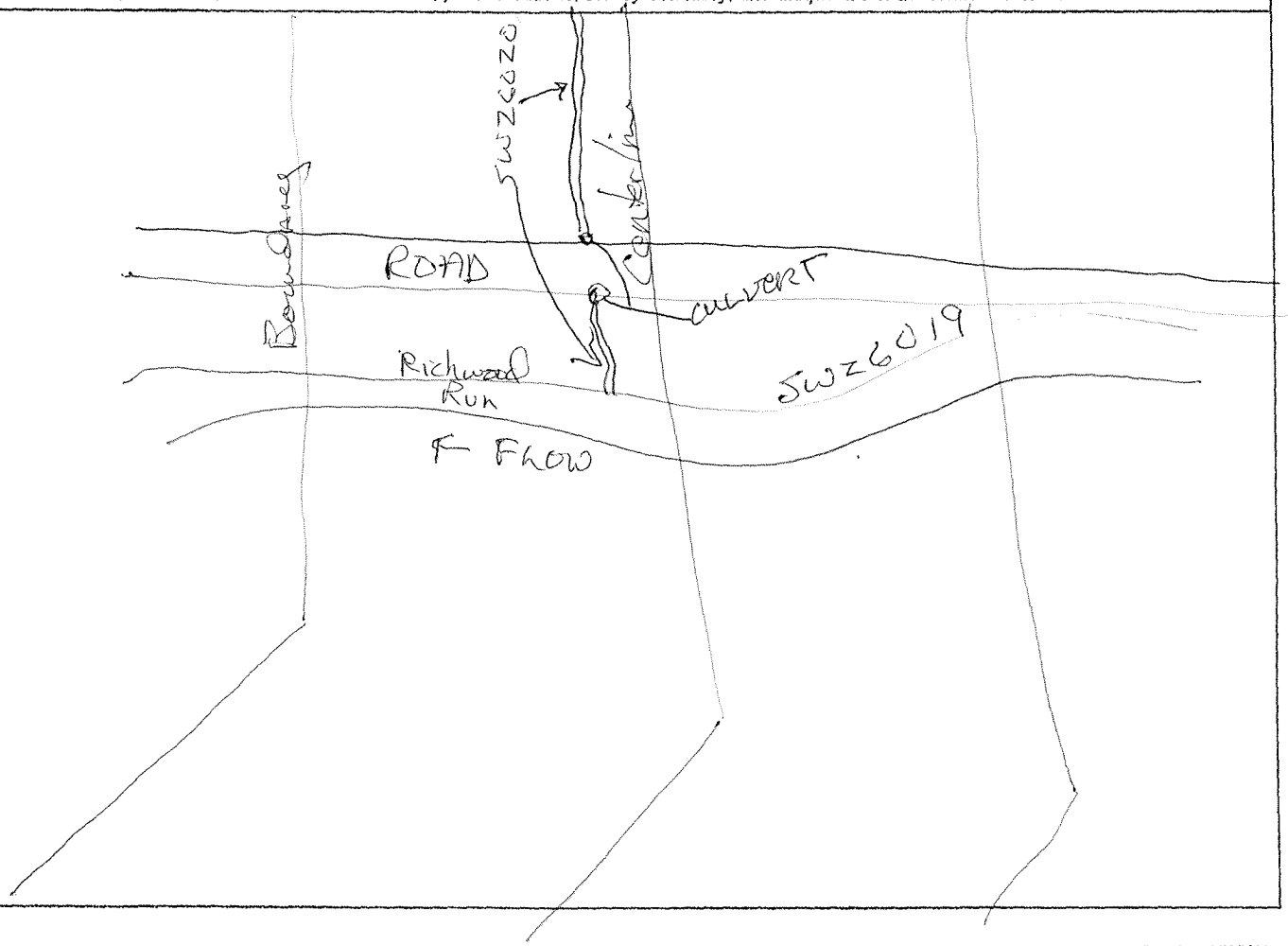
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.

N



swzg019

Waterbody swzg019 facing upstream

Waterbody swzg019 facing downstream

Swzg019

Waterbody swzg019 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO RICHWOOD RUN	SW2GO20	5-1-15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DOWEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
	30.2	30.2	NONE

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [ ] Intermittent [X] Perennial

Waterbody Type: *(check one)* [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale[a] [ ] Other: _____

OHWM Width: 3 ft. Height: 1 ft.

OHWM Indicator: *(check all that apply)* [X] Clear line on bank [ ] Shelving [X] Wrested vegetation [X] Scouring [ ] Water staining [ ] Bent, matted, or missing vegetation [ ] Wrack line [ ] Litter and debris [ ] Abrupt plant community change [ ] Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
5 ft.	____ ft.	____ ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
[X] Straight [X] Meandering	<1 fps	Right: 1½ ft. Left: 1½ ft.	Right: 30 degrees Left: 30 degrees

Qualitative Attributes

Water Appearance: *(check one)* [ ] No water [X] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [X] Bedrock [X] Gravel [ ] Sand [X] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate: 10 % 70 % ____ % 20 % ____ % ____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
0 ft.	[ ] Trees:	[ ] Shrubs:	[X] Herbs	
	Avg. DBH of Dominants: *(approx.)*	____ in.	____ in.	

Dominant Bank Vegetation: *(list)* Dactylis glomerata, Festuca pratense, Taraxacum officinale

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffles pools

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* NONE

Tributary is: *(check one)* [ ] Natural [ ] Artificial, man-made [X] Manipulated

Disturbances: *(check all that apply)* [ ] Livestock access [ ] Manure in waterbody [ ] Waste discharge pipes [X] Other: Roadside run off

Stream Quality[b]: *(check one)* [ ] High [X] Moderate [ ] Low

Waterbody ID:
SWZG020

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

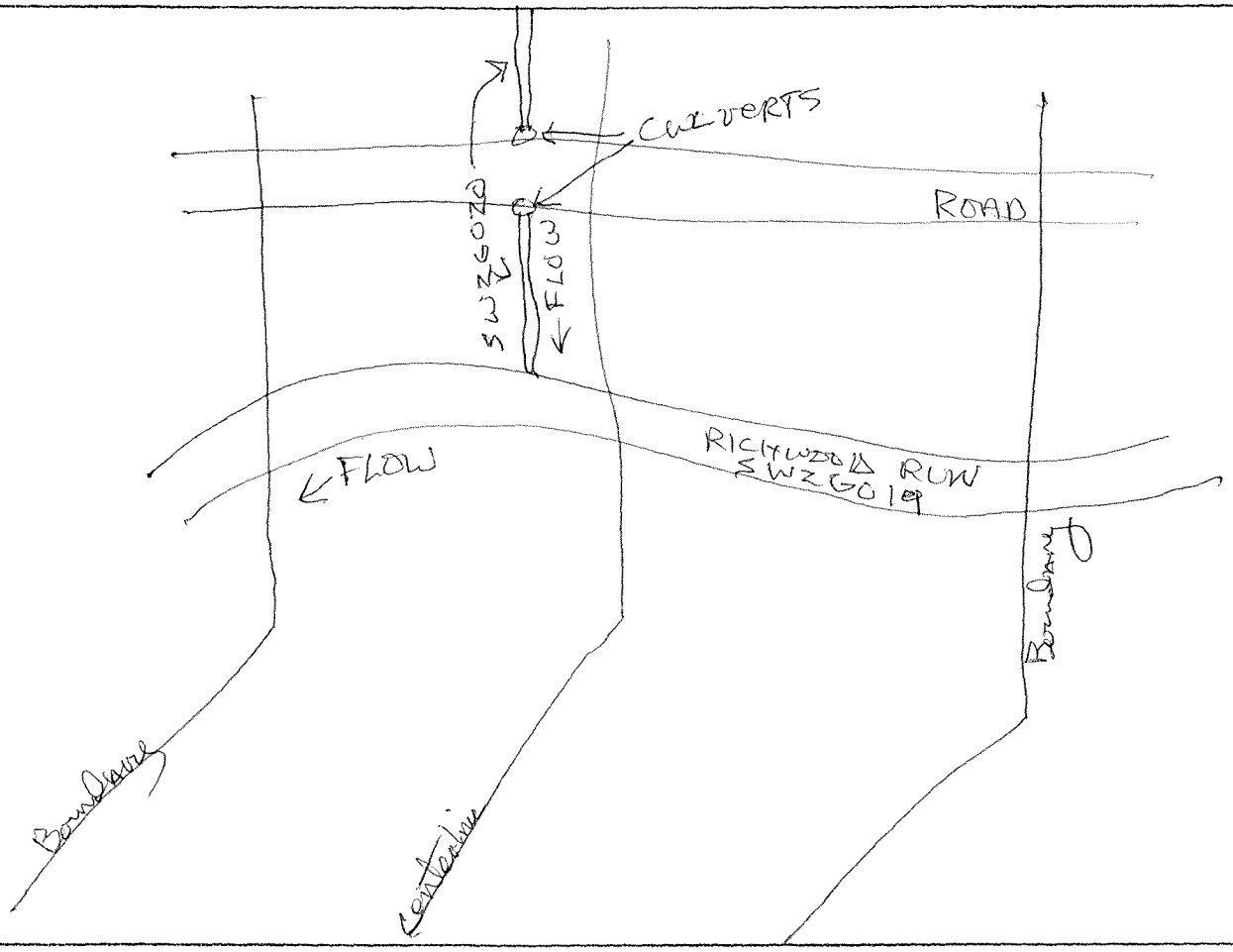
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg020

Waterbody swzg020 facing upstream

Waterbody swzg020 facing downstream

Swzg020

Waterbody swzg020 facing upline cross stream

Waterbody Data Sheet

Description

Project Name:		Date:	Waterbody Survey ID:
Supply Header Project		06/03/2016	swza006
State:	**County/Parish:**	**USGS Waterbody Name**:	
WV	Wetzel	Unnamed tributary	
Company:	**Crew Member Initials:**	**Latitude:**	**Longitude:**
Dominion Transmission, Inc.	KTC, LCE		

Survey Type: *(check one)*	☑ Centerline	☐ Re-Route	☐Access Road	☐Facility	☐Other		
Waterbody Type: *(check one)*	☐ River	☑ Stream	☐ Ditch	☐ Swale	☐ Canal	☐ Other	
Water Appearance: *(check one)*	☑ No Water	☐ Clear	☐Turbid	☐Sheen on Surface	☐Surface Scum	☐Algal Mats	☐Other
Feature Quality[a]**:** *(check one)*	☐ High	☑ Moderate	☐ Low				
Feature Description: *(check one)*	☑ Natural	☐ Artificial, man-made	☐ Manipulated				
Flow Regime: *(check one)*	☑ Ephemeral	☐ Intermittent	☐ Perennial	☐ Connecting Swale			
Sinuosity within Survey Corridor: *(check one)*	☑ Straight	☐ Meandering					

Description Notes:

Ephemeral stream that flows out of survey corridor.

Measurements

Depth of Water: _____ ft. N/A☑ Unknown☐	**Water Edge to Water Edge:** _____ ft. N/A☑	**OHWM Width:** 2 ft.

OHWM Indicator: *(check all that apply)*	☑ Clear line on bank	☐Shelving	☐Wrested vegetation	☐Scouring		☐Water staining
	☑Bent, matted, or missing vegetation	☐Wrack line	☑Litter and debris	☐Abrupt plant community change		☑Soil characteristic change
Dominant Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☑ Cobble	☑ Gravel	☐ Sand	☑ Silt/ clay	☑ Organic

Observations

Riparian Zone Present: *(check one)*	☐ Yes	☑ No	
Vegetation Layers: *(check all that apply)*	☑ Trees	☑ Saplings/Shrubs	☑ Herbs

Dominant Bank Vegetation *(list)***:**

forbs, fern; maple, dogwood; maple, tuliptree

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.)**:**

n/a

Aquatic Organisms Observed *(list)***:**

n/a

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes)**:**

n/a

Observation Notes:

Upland drainage ephemeral stream

swza006

Waterbody swza006 facing upstream

Waterbody swza006 facing downstream

swza006

Waterbody swza006 cross stream

Waterbody Data Sheet

Description

Project Name:		Date:	Waterbody Survey ID:
Supply Header Project		06/03/2016	swza007
State:	**County/Parish:**	**USGS Waterbody Name**:	
WV	Wetzel	Unnamed tributary	
Company:	**Crew Member Initials:**	**Latitude:**	**Longitude:**
Dominion Transmission, Inc.	KTC, LCE		

Survey Type: *(check one)*	☑ Centerline	☐ Re-Route	☐Access Road	☐Facility	☐Other		
Waterbody Type: *(check one)*	☐ River	☑ Stream	☐ Ditch	☐ Swale	☐ Canal	☐ Other	
Water Appearance: *(check one)*	☑ No Water	☐ Clear	☐Turbid	☐Sheen on Surface	☐Surface Scum	☐Algal Mats	☐Other
Feature Quality[a]**:** *(check one)*	☐ High	☑ Moderate	☐ Low				
Feature Description: *(check one)*	☑ Natural	☐ Artificial, man-made	☐ Manipulated				
Flow Regime: *(check one)*	☑ Ephemeral	☐ Intermittent	☐ Perennial	☐ Connecting Swale			
Sinuosity within Survey Corridor: *(check one)*	☑ Straight	☐ Meandering					

Description Notes:

Ephemeral stream that drains upland forest.

Measurements

Depth of Water: _____ ft. N/A☑ Unknown☐	**Water Edge to Water Edge:** _____ ft. N/A☑	**OHWM Width:** 1 ft.

OHWM Indicator: *(check all that apply)*	☐ Clear line on bank	☐Shelving	☐Wrested vegetation	☐Scouring		☐Water staining
	☑Bent, matted, or missing vegetation	☐Wrack line	☑Litter and debris	☐Abrupt plant community change		☐Soil characteristic change
Dominant Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☐ Cobble	☐ Gravel	☐ Sand	☑ Silt/ clay	☑ Organic

Observations

Riparian Zone Present: *(check one)*	☐ Yes	☑ No	
Vegetation Layers: *(check all that apply)*	☑ Trees	☑ Saplings/Shrubs	☑ Herbs

Dominant Bank Vegetation *(list)***:**

forbs; black gum, maple, rose; maple, beech

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.)**:**

n/a

Aquatic Organisms Observed *(list)***:**

n/a

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes)**:**

n/a

Observation Notes:

Upland drainage ephemeral stream; confluence with swza008.

swza007

Waterbody swza007 facing upstream

Waterbody swza007 facing downstream

swza007

Waterbody swza007 cross stream

Waterbody Data Sheet

Description

Project Name:		Date:	Waterbody Survey ID:
Supply Header Project		06/03/2016	swza008
State: WV	**County/Parish:** Wetzel	**USGS Waterbody Name**: Unnamed tributary	
Company: Dominion Transmission, Inc.	**Crew Member Initials:** KTC, LCE	**Latitude:**	**Longitude:**

Survey Type: *(check one)*	☑ Centerline	☐ Re-Route	☐Access Road	☐Facility	☐Other		
Waterbody Type: *(check one)*	☐ River	☑ Stream	☐ Ditch	☐ Swale	☐ Canal	☐ Other	
Water Appearance: *(check one)*	☑ No Water	☐ Clear	☐Turbid	☐Sheen on Surface	☐Surface Scum	☐Algal Mats	☐Other
Feature Quality[a]**:** *(check one)*	☐ High	☑ Moderate	☐ Low				
Feature Description: *(check one)*	☑ Natural	☐ Artificial, man-made	☐ Manipulated				
Flow Regime: *(check one)*	☑ Ephemeral	☐ Intermittent	☐ Perennial	☐ Connecting Swale			
Sinuosity within Survey Corridor: *(check one)*	☑ Straight	☐ Meandering					

Description Notes:

Ephemeral stream that drains upland forest.

Measurements

Depth of Water: _____ ft. N/A☑ Unknown☐	**Water Edge to Water Edge:** _____ ft. N/A☑	**OHWM Width:** 2 ft.

OHWM Indicator: *(check all that apply)*	☑ Clear line on bank	☐Shelving	☐Wrested vegetation	☐Scouring		☐Water staining
	☑Bent, matted, or missing vegetation	☐Wrack line	☑Litter and debris	☐Abrupt plant community change		☐Soil characteristic change
Dominant Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☑ Cobble	☑ Gravel	☑ Sand	☑ Silt/ clay	☐ Organic

Observations

Riparian Zone Present: *(check one)*	☐ Yes	☑ No	
Vegetation Layers: *(check all that apply)*	☑ Trees	☑ Saplings/Shrubs	☑ Herbs

Dominant Bank Vegetation *(list)***:**

forbs, fern; beech, rose, maple, hornbeam; black gum, maple, oaks

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.)**:**

n/a

Aquatic Organisms Observed *(list)***:**

n/a

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes)**:**

n/a

Observation Notes:

Upland drainage ephemeral stream

swza008

Waterbody swza008 facing upstream

Waterbody swza008 facing downstream

swza008

Waterbody swza008 cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	Upper Run	SOWZ6021	5/12/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-C025 33-009-A017	29.9	29.9	

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [ ] Intermittent [X] Perennial

Waterbody Type: *(check one)* [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale[a] [ ] Other: _____

OHWM
Width: 20 ft.
Height: _____ ft.

OHWM Indicator: *(check all that apply)*
[X] Clear line on bank [X] Shelving [X] Wrested vegetation [ ] Scouring [ ] Water staining
[ ] Bent, matted, or missing vegetation [X] Wrack line [X] Litter and debris [ ] Abrupt plant community change [ ] Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
30 ft.	_____ ft.	_____ ft.

Sinuosity: *(check one)* [ ] Straight [X] Meandering

Water velocity: *(Approx.)* >5 fps

Bank height Right: 4 ft. Left: 4 ft.

Bank slope Right: 30 degrees Left: 30 degrees

Qualitative Attributes

Water Appearance: *(check one)* [ ] No water [X] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [X] Bedrock [X] Gravel [X] Sand [X] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate:					
40 %	40 %	10 %	10 %	_____ %	_____ %

Width of Riparian Zone: 25 ft.

Vegetative Layers: *(check all that apply)* [X] Trees: [X] Shrubs: [X] Herbs

Avg. DBH of Dominants: *(approx.)* _____ in. _____ in.

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Acer ~~rubrum~~ barbatum, Rhus glabra, Rosa multiflora, Helianthus sp. Verbesina occidentalis

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools, overhanging roots & veg, Riffles, leaf packs

Aquatic Organisms Observed: *(list)* Several species of small fish, some showing breeding activity

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora

Tributary is: *(check one)* [X] Natural [ ] Artificial, man-made [ ] Manipulated

Disturbances: *(check all that apply)* [X] Livestock access [ ] Manure in waterbody [X] Waste discharge pipes [ ] Other: _____

Stream Quality[b]: *(check one)* [ ] High [X] Moderate [ ] Low

Waterbody ID:
SWZG021

[a] ***Connecting swales*** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

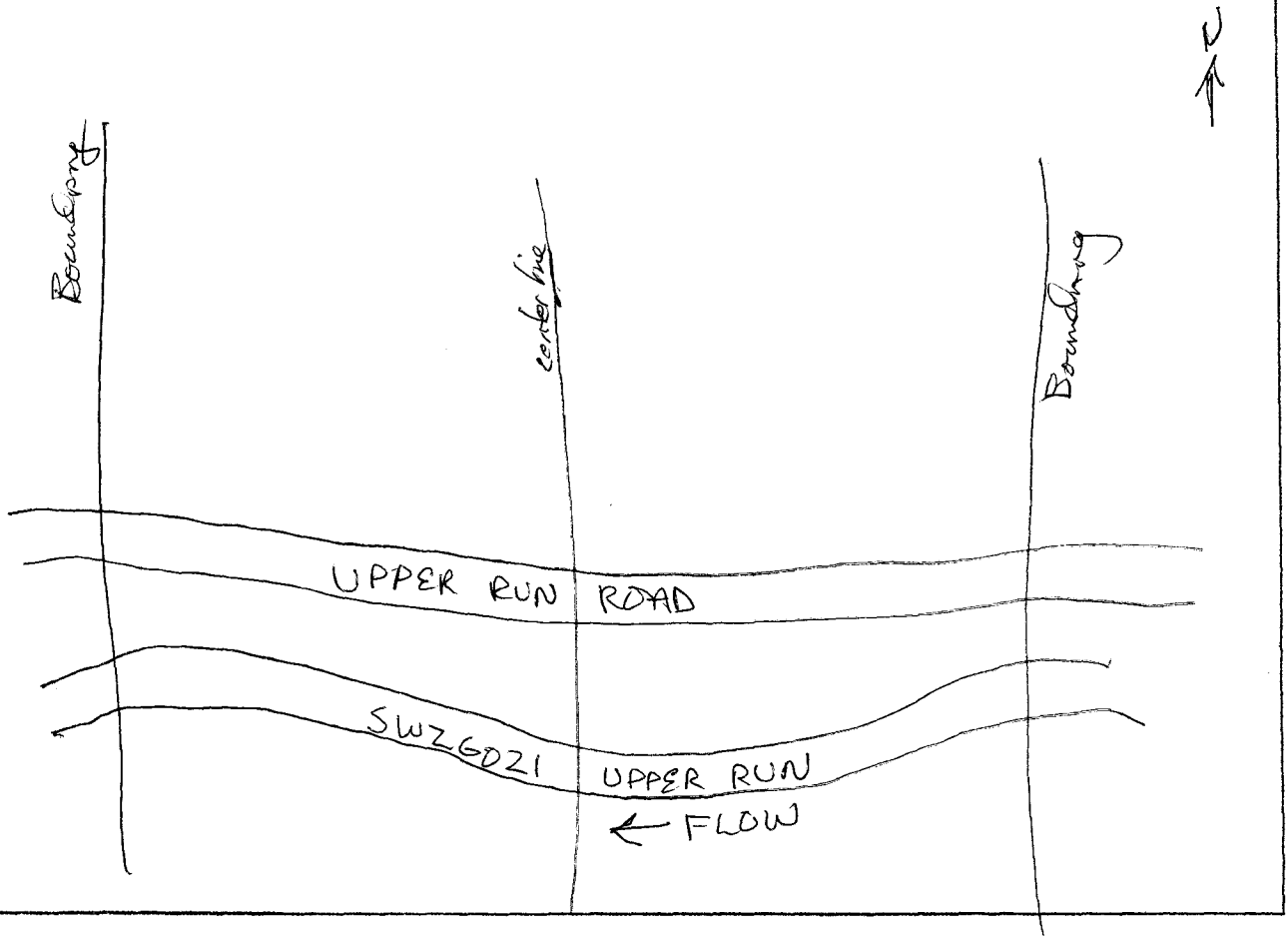
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg021

Waterbody swzg021 facing upstream

Waterbody swzg021 facing downstream

Swzg021

Waterbody swzg021 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO UPPER RUN	SWZ6010	4/22/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DOWEST	JD, DB	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-011 33-009-A034	N	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☐ Access Road ☒ Other: 100 Acre Mockingbird Site

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 6 ft.
Height: 9" ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☒ Scouring ☐ Water staining
☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
8 ft.	2 ft.	3" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	<1 fps	Right: 6 ft. Left: 2 ft.	Right: 90 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☒ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	60 %	15 %	15 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*	Avg. DBH of Dominants: *(approx.)*
750 ft.	☒ Trees: ☒ Shrubs: ☒ Herbs	10 in. ____ in.

Dominant Bank Vegetation: *(list)* Acer negundo, Elaeagnus umbellata, Rosa multiflora, Equisetum hymale

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools, riffles

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora, Elaeagnus umbellata

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☐ Other: NONE

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZ6010

[a] ***Connecting swales*** are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

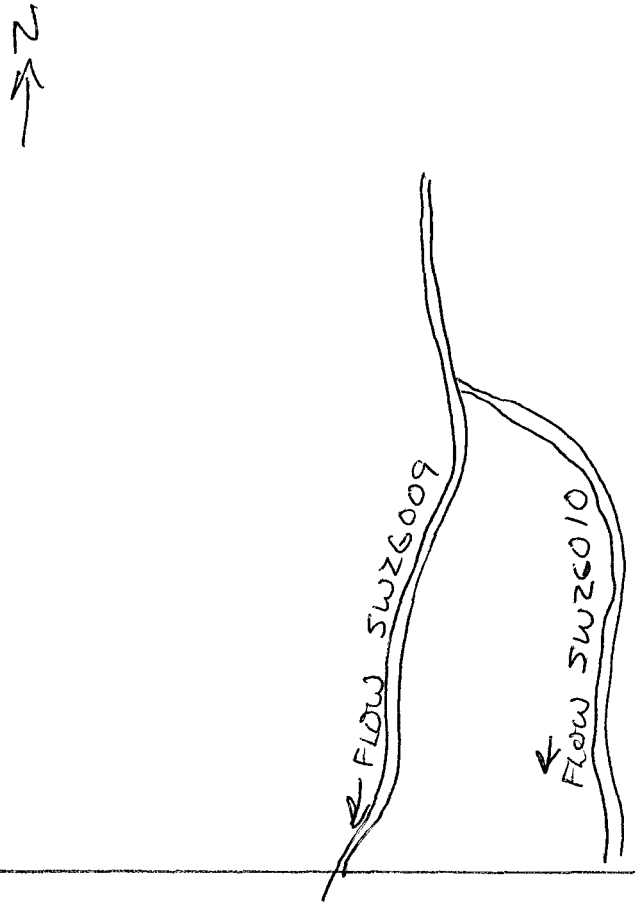
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg010

Waterbody *swzg010*
facing upstream

Waterbody *swzg010*
downstream

swzg010

Waterbody swzg010 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO UPPER RUN	SWZ6022	5/12/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzell	DOMEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-A017 33-009-A021	31.3	31.3	NONE

Survey Type: *(check one)* [X] Centerline [X] Re-Route [ ] Access Road [ ] Other: _____

Physical Attributes

Stream Classification: *(check one)* [ ] Ephemeral [ ] Intermittent [X] Perennial

Waterbody Type: *(check one)* [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale[a] [ ] Other: _____

OHWM
Width: 15 ft.
Height: _____ ft.

OHWM Indicator: *(check all that apply)*
[X] Clear line on bank [X] Shelving [X] Wrested vegetation [X] Scouring [ ] Water staining
[X] Bent, matted, or missing vegetation [X] Wrack line [ ] Litter and debris [ ] Abrupt plant community change [ ] Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
18 ft.	_____ ft.	_____ ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
[ ] Straight [X] Meandering	>1 fps	Right: 2 ft. Left: 2 ft.	Right: 60 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* [ ] No water [X] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: *(check all that apply)* [X] Bedrock [X] Gravel [X] Sand [X] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate:	60 %	30 %	5 %	5 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*	Avg. DBH of Dominants: *(approx.)*
7100 ft.	[X] Trees: [X] Shrubs: [X] Herbs	_____ in. _____ in.

Dominant Bank Vegetation: *(list)* Carpinus caroliniana, Acer barbatum, Athyrium felix-femina

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools, Riffles

Aquatic Organisms Observed: *(list)* small fish, amphibians

Invasive and/or T&E Species Observed: *(list)* NONE

Tributary is: *(check one)* [X] Natural [ ] Artificial, man-made [ ] Manipulated

Disturbances: *(check all that apply)* [ ] Livestock access [ ] Manure in waterbody [ ] Waste discharge pipes [ ] Other: NONE

Stream Quality[b]: *(check one)* [ ] High [X] Moderate [ ] Low

Waterbody ID:
SWZG022

[a] ***Connecting swales*** are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

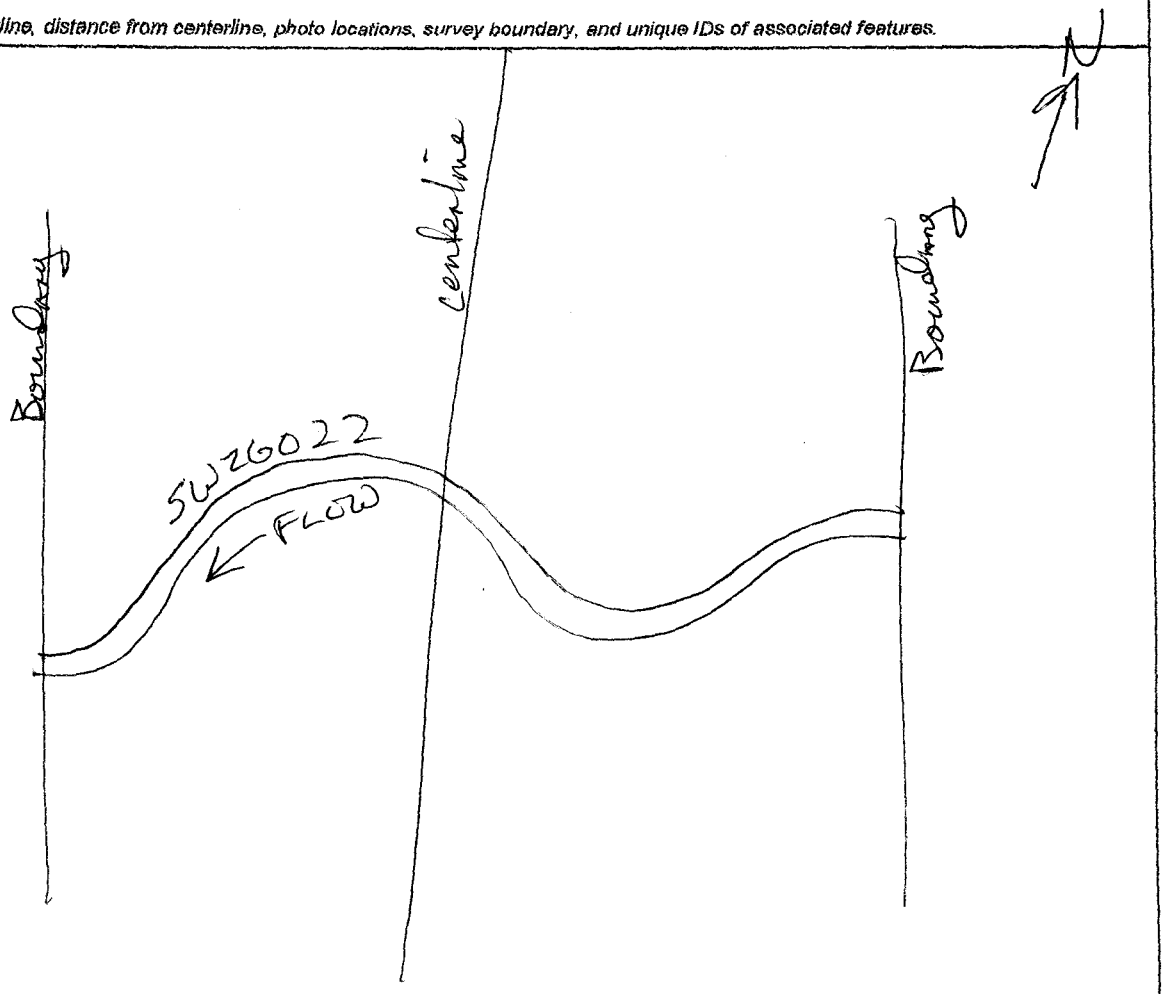
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg022

Waterbody swzg022 facing upstream

Waterbody swzg022 facing downstream

Swzg022

Waterbody swzg022 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DT Supply Hendershot	Lower Run	SWZ6023	5/12/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DOWEST	JD, JG	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-C028	32.3	32.3	NONE

Survey Type: *(check one)* ☒ Centerline ☒ Re-Route ☐ Access Road ☐ Other: _____

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 87 ft.
Height: 9" ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☐ Scouring ☐ Water staining
☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
14 ft.	5 ft.	1' ft.

Sinuosity: *(check one)* ☐ Straight ☒ Meandering

Water velocity: *(Approx.)* 22 fps

Bank height
Right: 1 ft.
Left: 1 ft.

Bank slope
Right: 15 degrees
Left: 15 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	20 %	70 %	5 %	5 %	____ %	____ %

Width of Riparian Zone: 20 ft.

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* ____ in. ____ in.

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Carpinus caroliniana, Fraxinus pensylvanica, Lindera benzoin, Urabasima occidentalis

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffle, pools, over hanging veg.

Aquatic Organisms Observed: *(list)* small fish + frogs

Invasive and/or T&E Species Observed: *(list)* NONE

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Adjacent Easement

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZ6023

[a] ***Connecting swales*** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

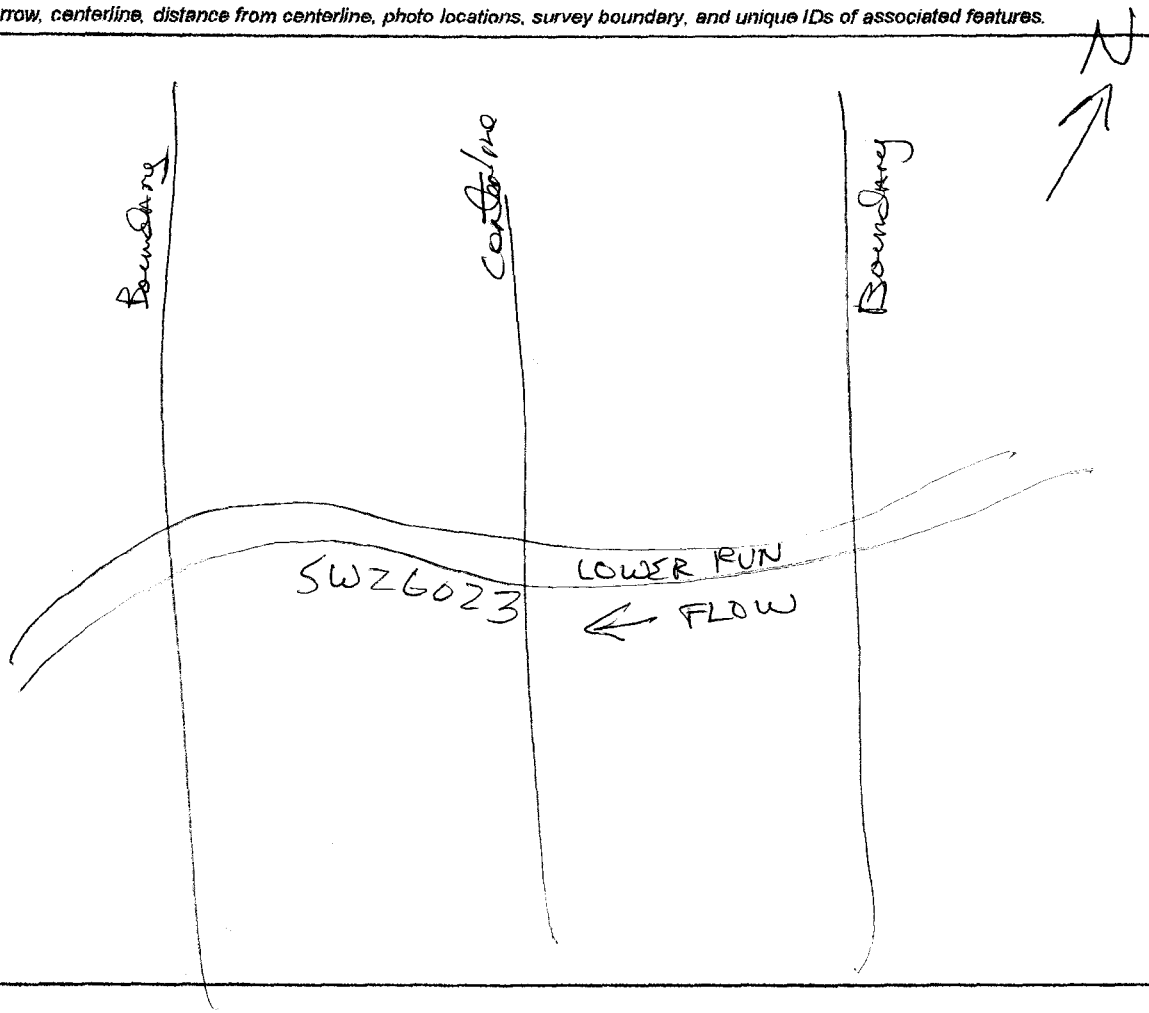
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg023

Waterbody swzg023 facing upstream

Waterbody swzg023 facing downstream

Swzg023

Waterbody swzg023 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	~~PEPPER~~ LOWER RUN	SWZ6008	4/22/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DD WEST	JD, DB	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-011	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☐ Access Road ☒ Other: 100 Acre Mockingbird Site

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM Width: 14 ft. Height: _____ ft.

OHWM Indicator: *(check all that apply)* ☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☒ Scouring ☐ Water staining ☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
20 ft.	12 ft.	4" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	>5 fps	Right: 3 ft. Left: 2 ft.	Right: 90 degrees Left: 40 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☒ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	70 %	10 %	10 %	____ %	____ %

Width of Riparian Zone: 750 ft.

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 15 in. ____ in.

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Rosa multiflora, Elaeagnus umbellata, Microstegium vimineum, Dactylis glomerata

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pools, Riffles, overhanging bank + veg.

Aquatic Organisms Observed: *(list)* small fish

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora, Elaeagnus umbellata

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☒ Waste discharge pipes ☐ Other: _____

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZG008

[a] ***Connecting swales*** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

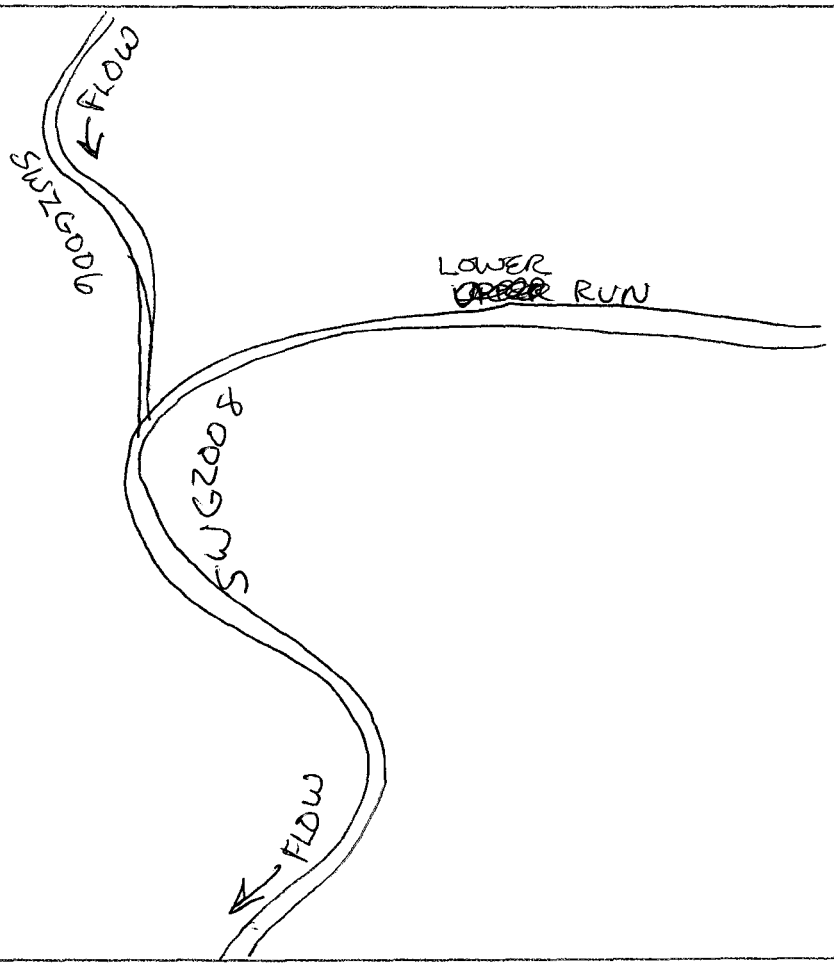
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg008

Waterbody *swzg008*
facing upstream

Waterbody *swzg008*
downstream

swzg008

Waterbody swzg008 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DT1 Supply Header	LOWER UNT TO ~~UPPER~~ RUN	SWZG009	4/22/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, DB	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-011 33-009-A034	NA	NA	WWZG002

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☐ Access Road ☒ Other: 100 Acre Mockingbird Site

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale [a] ☐ Other: _____

OHWM Width: 15 ft. Height: 6" ft.

OHWM Indicator: *(check all that apply)* ☒ Clear line on bank ☒ Shelving ☒ Wrested vegetation ☒ Scouring ☐ Water staining ☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
20 ft.	____ ft.	6" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	>2 fps	Right: 1 ft. Left: 1 ft.	Right: 15 degrees Left: 15 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☒ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate: 20 % 20 % 5 % 5 % ____ % ____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*		
>50 ft.	☒ Trees:	☒ Shrubs:	☒ Herbs
	Avg. DBH of Dominants: *(approx.)* 12 in.	____ in.	

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Acer negundo, Rosa multiflora, Lamium purpureum, Polygonum ~~Peltophyllum~~ peltatum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffle, pools,

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☐ Other: NONE

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZ6009

[a] ***Connecting swales*** are water features that *do not meet* the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

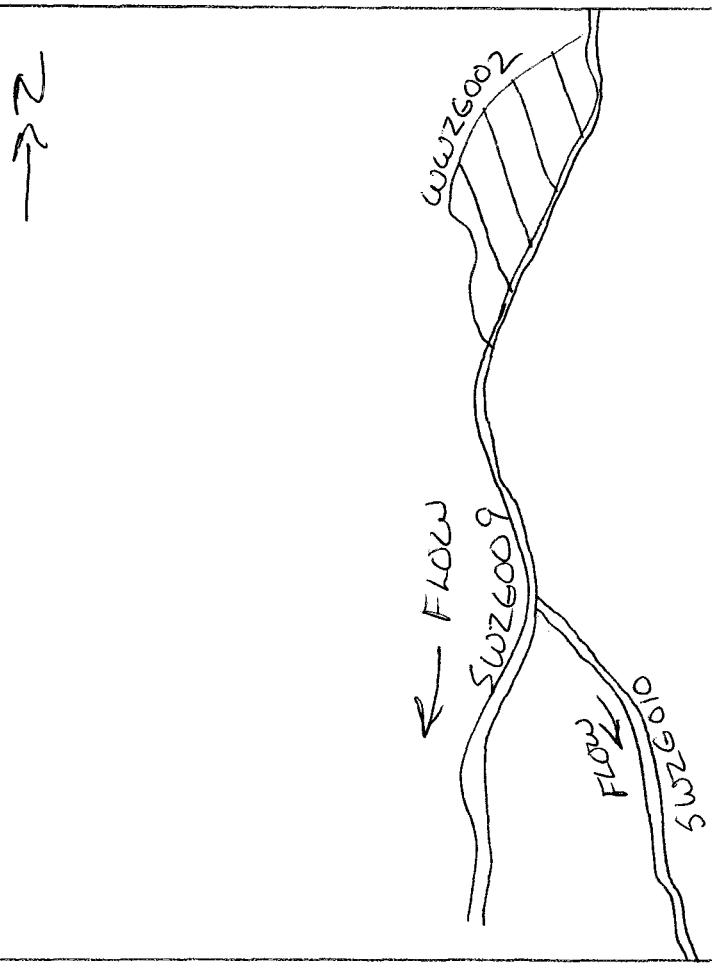
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg009

Waterbody *swzg009*
facing upstream

Waterbody *swzg009*
downstream

swzg009

Waterbody swzg009 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Henderson	SOUTH FORK FISHING CREEK	SWZ6003	4/22/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	PDWEST	JD, DB	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-011	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☐ Access Road ☒ Other: 100 Acre Mockingbird Site

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other:

OHWM	OHWM Indicator: *(check all that apply)*					
Width: 110 ft.	☒ Clear line on bank	☒ Shelving	☒ Wrested vegetation	☐ Scouring	☐ Water staining	
Height: 1 ft.	☒ Bent, matted, or missing vegetation	☒ Wrack line	☐ Litter and debris	☐ Abrupt plant community change	☐ Soil characteristic change	

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
130 ft.	100 ft.	6 ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight	>5 fps	Right: 8 ft.	Right: 80 degrees
☒ Meandering		Left: 6 ft.	Left: 80 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☒ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other:

Substrate: *(check all that apply)* ☐ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other:

% of Substrate:	___ %	20 %	40 %	40 %	___ %	___ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
10 ft.	☒ Trees:	☒ Shrubs:	☒ Herbs	
	Avg. DBH of Dominants: *(approx.)*	10 in.	___ in.	

Dominant Bank Vegetation: *(list)* Acer negundo, Populus deltoides, Platanus occidentalis, Rumex crispus

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Pool, over hanging veg + bank

Aquatic Organisms Observed: *(list)* small fish, tadpoles

Invasive and/or T&E Species Observed: *(list)* NONE

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☒ Livestock access ☐ Manure in waterbody ☒ Waste discharge pipes ☐ Other:

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID: SW2G003

[a] ***Connecting swales*** are water features *that do not meet* the definition of a *waterbody* (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.

swzg003

Waterbody *swzg003*
facing upstream

Waterbody *swzg003*
downstream

swzg003

Waterbody swzg003 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
MTI Supply Header	UNT TO SOUTH FORK FISHING CREEK	SWZG004	4/22/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, DB	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-011	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☐ Access Road ☒ Other: 100 Acre Mockingbird site

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 6 ft.
Height: 0.5 ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☐ Water staining
☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
10 ft.	2 ft.	_____ ft.

Sinuosity: *(check one)* ☐ Straight ☒ Meandering

Water velocity: *(Approx.)* >2 fps

Bank height: Right: 4 ft. Left: 5 ft.

Bank slope: Right: 80 degrees Left: 80 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☒ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	30 %	60 %	5 %	5 %	____ %	____ %

Width of Riparian Zone: >20 ft.

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* ____ in. ____ in.

Dominant Bank Vegetation: *(list)* Ulmus americana, Acer negundo, Elaeagnus umbellata, Rdysticlum acrostoides Lonicera japonica

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Riffle pools

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Elaeagnus umbellata

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: pipeline easement

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZ6004

[a] ***Connecting swales*** are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

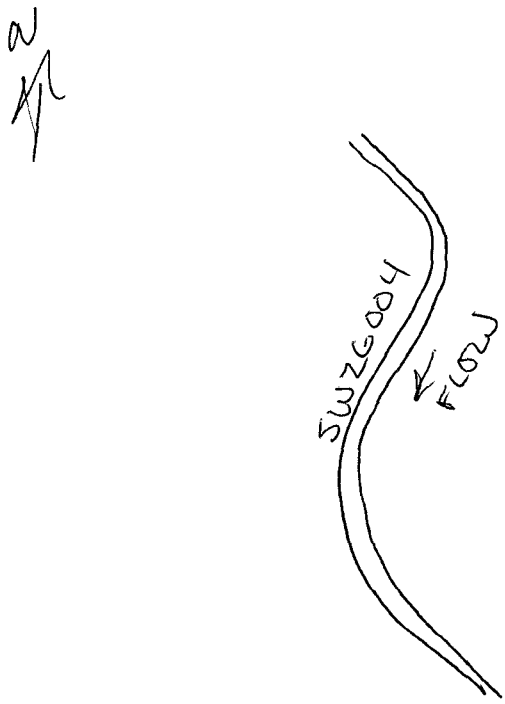
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Waterbody *swzg004*
facing upstream

Waterbody *swzg004*
downstream

swzg004

Waterbody swzg004 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO SOUTH FORK FISHING CREEK	SWZG001	4/22/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DOWEST	JD, D.B.	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-011 33-009-A036	N/A	N/A	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☐ Access Road ☒ Other: 100 Acre Mockingbird Site

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 4 ft.
Height: 6" ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☐ Scouring ☐ Water staining
☐ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
8 ft.	2 ft.	2" ft.

Sinuosity: *(check one)* ☐ Straight ☒ Meandering

Water velocity: *(Approx.)* <2 fps

Bank height: Right: 3 ft. Left: 3 ft.

Bank slope: Right: 90 degrees Left: 90 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☒ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate: 70 % 20 % 5 % 5 % ____ % ____ %

Width of Riparian Zone: >50 ft.

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 8 in. ____ in.

Dominant Bank Vegetation: *(list)* Acer negundo, Elaeagnus umbellata, Rubus leucodermis, Geranium maculatum, Rosa multiflora

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Riffle pools

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☐ Other: NONE

Stream Quality[b]: *(check one)* ☒ High ☐ Moderate ☐ Low

Waterbody ID:
SWZ6001

[a] ***Connecting swales*** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

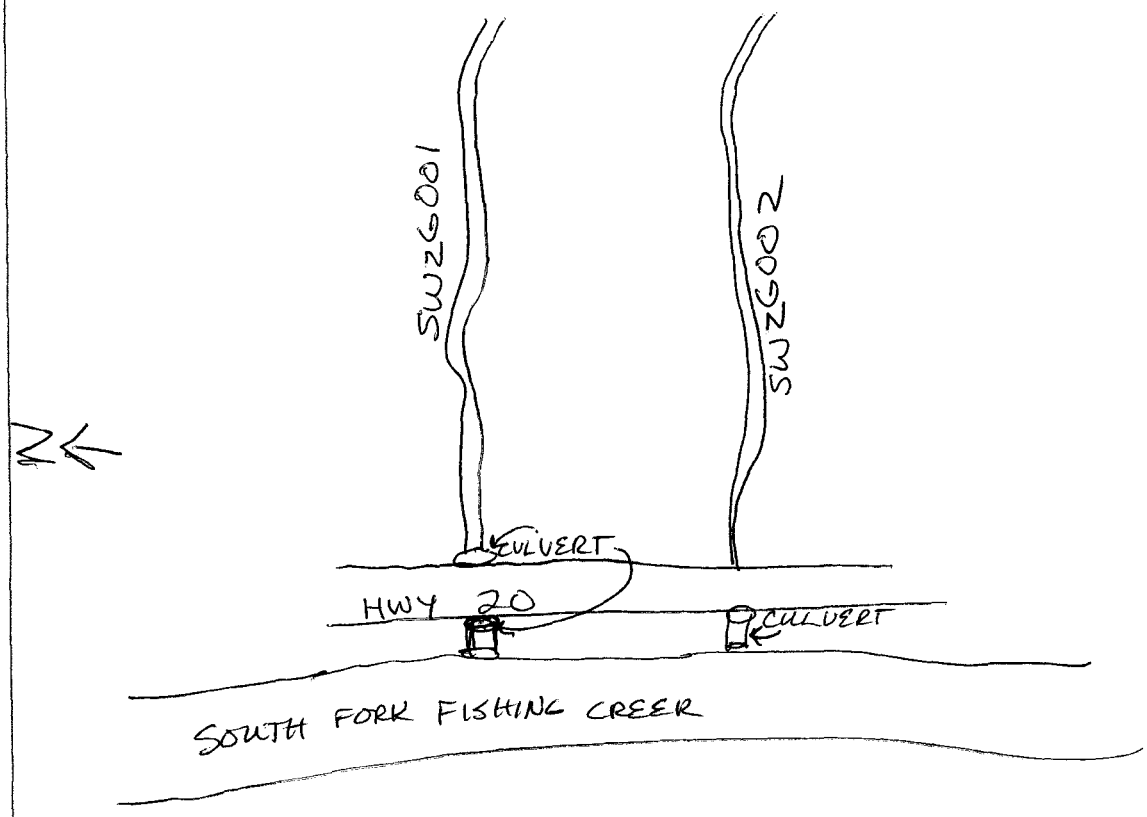
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg001

Waterbody *swzg001*
facing upstream

Waterbody *swzg001*
downstream

swzg001

Waterbody swzg001 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO SOUTH FORK FISHING CREEK	SW26002	4/22/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, DB.	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-011 33-009-A036	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☐ Access Road ☒ Other: 100 Acre Mockingbird Site

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM	OHWM Indicator: *(check all that apply)*
Width: 4 ft. Height: 1 ft.	☒ Clear line on bank ☐ Shelving ☒ Wrested vegetation ☒ Scouring ☐ Water staining ☐ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
8 ft.	1' ft.	1" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	< 1 fps	Right: 2 ft. Left: 2 ft.	Right: 50 degrees Left: 70 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☒ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	60 %	35 %	2 %	3 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
750 ft.	☒ Trees:	☒ Shrubs:	☒ Herbs	
	Avg. DBH of Dominants: *(approx.)*	10 in.	____ in.	

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Cornus florida, Elaeagnus umbellata, Polystichum acrostichoides

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffle, pools

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Elaeagnus umbellata

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☒ Other: Easement/Site Development

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID: SW26002

[a] ***Connecting swales*** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

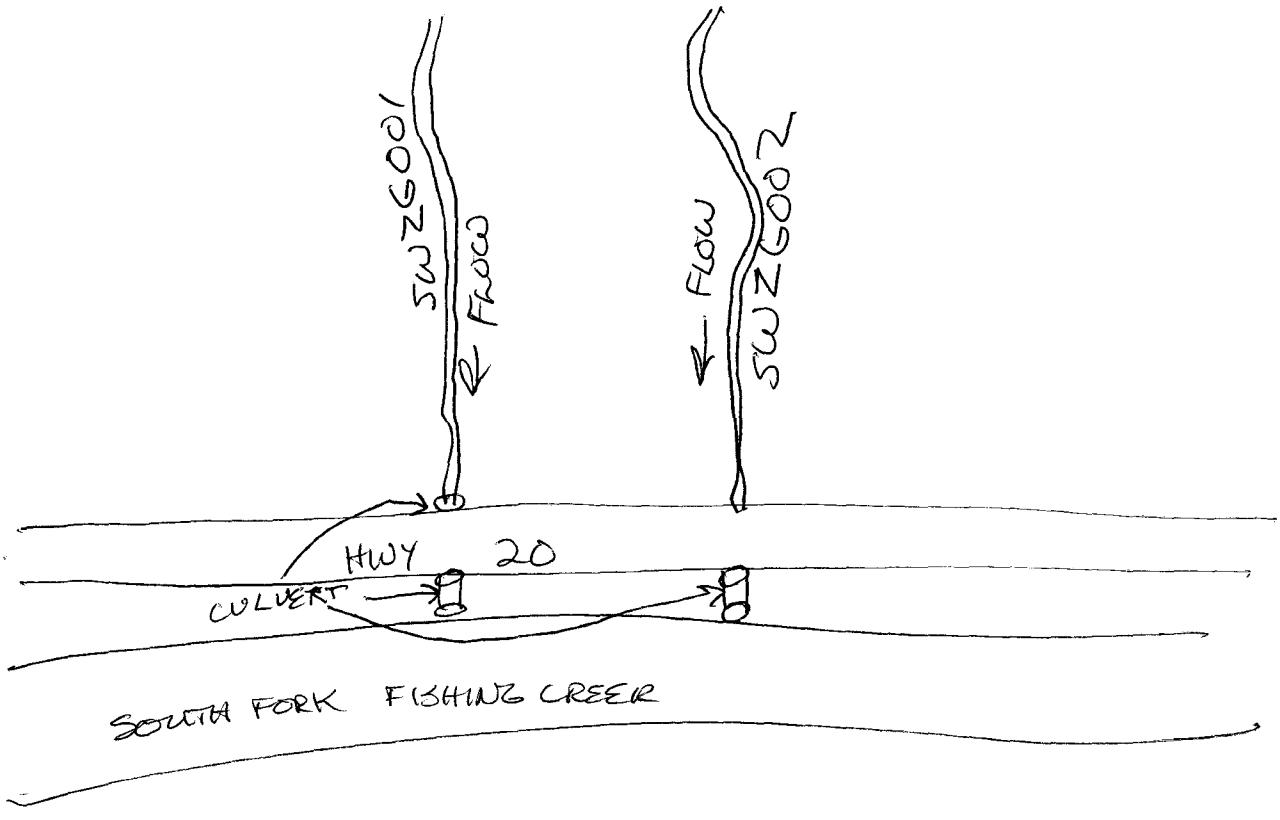
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg002

Waterbody *swzg002*
facing upstream

Waterbody *swzg002*
downstream

swzg002

Waterbody swzg002 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO UPPER RUN	SWZG007	4/22/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	WETZEL	DDWEST	JD, DB	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-011 33-009-A034, 33-009-A035	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☐ Access Road ☒ Other: 100 Acre Mockingbird Site

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM
Width: 6 ft.
Height: 0.5 ft.

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐ Shelving ☐ Wrested vegetation ☒ Scouring ☐ Water staining
☒ Bent, matted, or missing vegetation ☒ Wrack line ☐ Litter and debris ☐ Abrupt plant community change ☐ Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
10 ft.	4 ft.	2" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	<2 fps	Right: 2 ft. Left: 2 ft.	Right: 60 degrees Left: 70 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☒ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	35 %	50 %	10 %	5 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
750 ft.	☒ Trees:	☒ Shrubs:	☒ Herbs	
	Avg. DBH of Dominants: *(approx.)*	10 in.	____ in.	

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Acer negundo, Populus deltoides, Trillium grandiflora, Podophyllum peltatum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffle, pools

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* Rosa multiflora

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☒ Waste discharge pipes ☐ Other: _____

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZG007

[a] ***Connecting swales*** are water features that *do not meet* the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

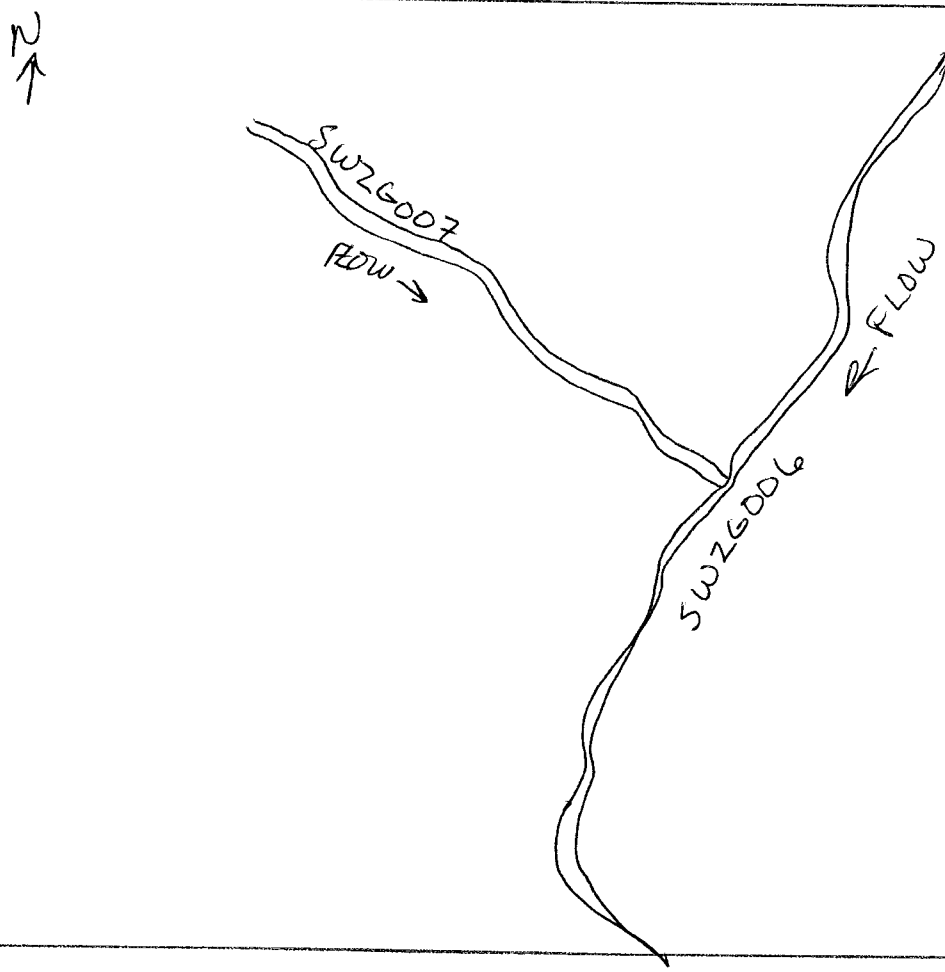
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg007

Waterbody *swzg007*
facing upstream

Waterbody *swzg007*
downstream

swzg007

Waterbody swzg007 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Hendrix	UNT TO LOWER RUN	SWZ6007	4/22/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DD WEST	JD, DB	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-011 33-009-A035 33-009-A034	NA	NA	NONE

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☐ Access Road ☒ Other: 100 Acre Mockingbird Site

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☒ Intermittent ☐ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale [a] ☐ Other: _____

OHWM	OHWM Indicator: *(check all that apply)*					
Width: 3 ft.	☒ Clear line on bank	☐ Shelving	☒ Wrested vegetation	☒ Scouring	☐ Water staining	
Height: _____ ft.	☒ Bent, matted, or missing vegetation	☒ Wrack line	☐ Litter and debris	☐ Abrupt plant community change	☐ Soil characteristic change	

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
8 ft.	1 ft.	1" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight ☒ Meandering	<1 fps	Right: 6" ft. Left: 6" ft.	Right: 15 degrees Left: 15 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☒ Clear ☐ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	70 %	10 %	10 %	_____ %	_____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			Avg. DBH of Dominants: *(approx.)*	
>50 ft.	☒ Trees:	☒ Shrubs:	☒ Herbs	_____ in.	_____ in.

Dominant Bank Vegetation: *(list)* Box elder, viola rotundifolia, Cardamine bulbosa, Carex canadensis, Acer negundo,

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* riffle, pools

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* ~~Rosa~~ Rosa multiflora

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☐ Other: NONE

Stream Quality[b]: *(check one)* ☒ High ☐ Moderate ☐ Low

Waterbody ID: SW26007

[a] ***Connecting swales*** are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

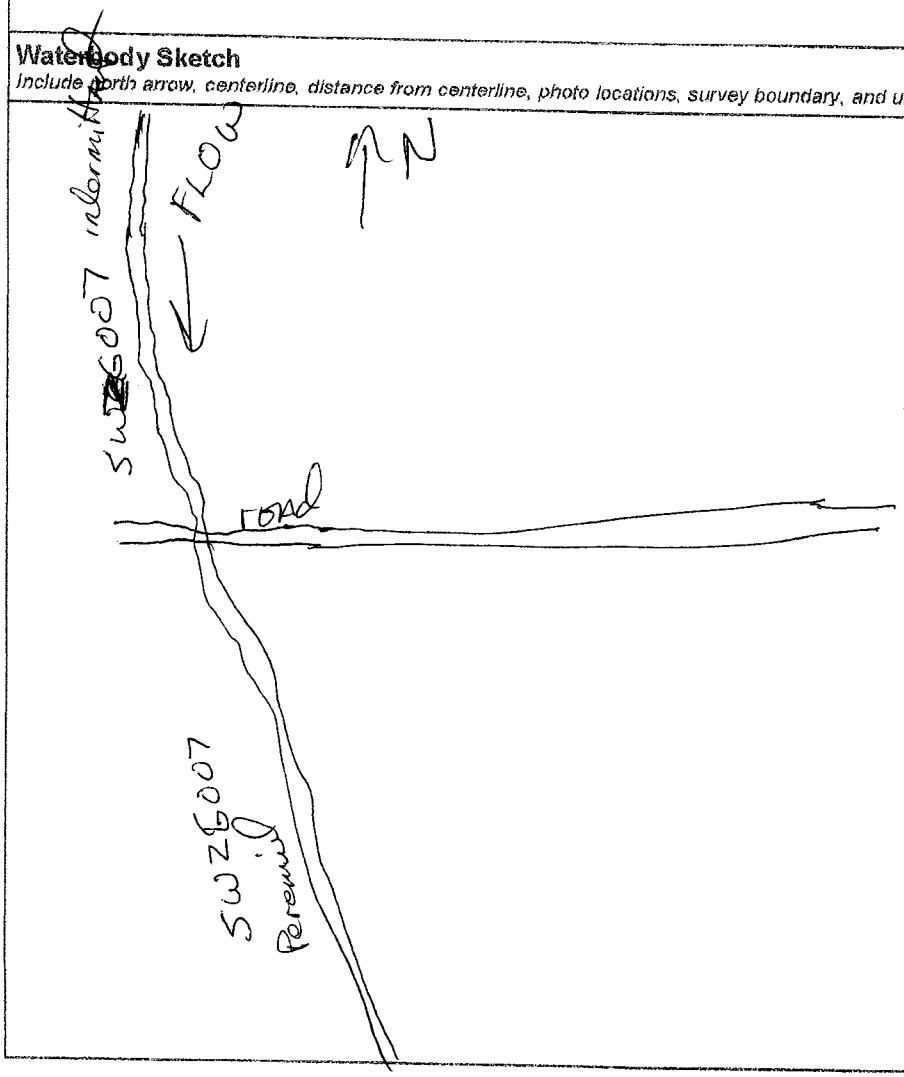
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Swzg007 intermittent

Waterbody *swzg007 intermittent*
facing upstream

Waterbody *swzg007 intermittent*
downstream

Swzg007 intermittent

Waterbody swzg007 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO UPPER RUN	SWZG006	4/22/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DDWEST	JD, DB	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-011 33-009-A034 33-009-A035	NA	NA	WWZG001ew

Survey Type: *(check one)* ☐ Centerline ☐ Re-Route ☐ Access Road ☒ Other: 100Acre Mockingbird Site

Physical Attributes

Stream Classification: *(check one)* ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: *(check one)* ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale[a] ☐ Other: _____

OHWM	OHWM Indicator: *(check all that apply)*					
Width: 10 ft.	☒ Clear line on bank	☐ Shelving	☒ Wrested vegetation	☒ Scouring	☐ Water staining	
Height: _____ ft.	☒ Bent, matted, or missing vegetation	☒ Wrack line	☐ Litter and debris	☐ Abrupt plant community change	☐ Soil characteristic change	

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: *(Approx.)*
14 ft.	3 ft.	4" ft.

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐ Straight	>2 fps	Right: 1 ft.	Right: 70 degrees
☒ Meandering		Left: 2 ft.	Left: 80 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐ No water ☐ Clear ☒ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: *(check all that apply)* ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	10 %	75 %	10 %	5 %	____ %	____ %

Width of Riparian Zone:	Vegetative Layers: *(check all that apply)*			
>50 ft.	☒ Trees:	☒ Shrubs:	☒ Herbs	
	Avg. DBH of Dominants: *(approx.)*	10 in.	____ in.	

Dominant Bank Vegetation: *(list)* Platanus occidentalis, Podophyllum peltatum, Acer negundo, Phlox carolniana

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): *(list)* Riffle pools

Aquatic Organisms Observed: *(list)* NONE

Invasive and/or T&E Species Observed: *(list)* ~~NONE~~ Rosa multiflora

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: *(check all that apply)* ☐ Livestock access ☐ Manure in waterbody ☒ Waste discharge pipes ☐ Other: _____

Stream Quality[b]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZ6006

[a] ***Connecting swales*** are water features that *do not* meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

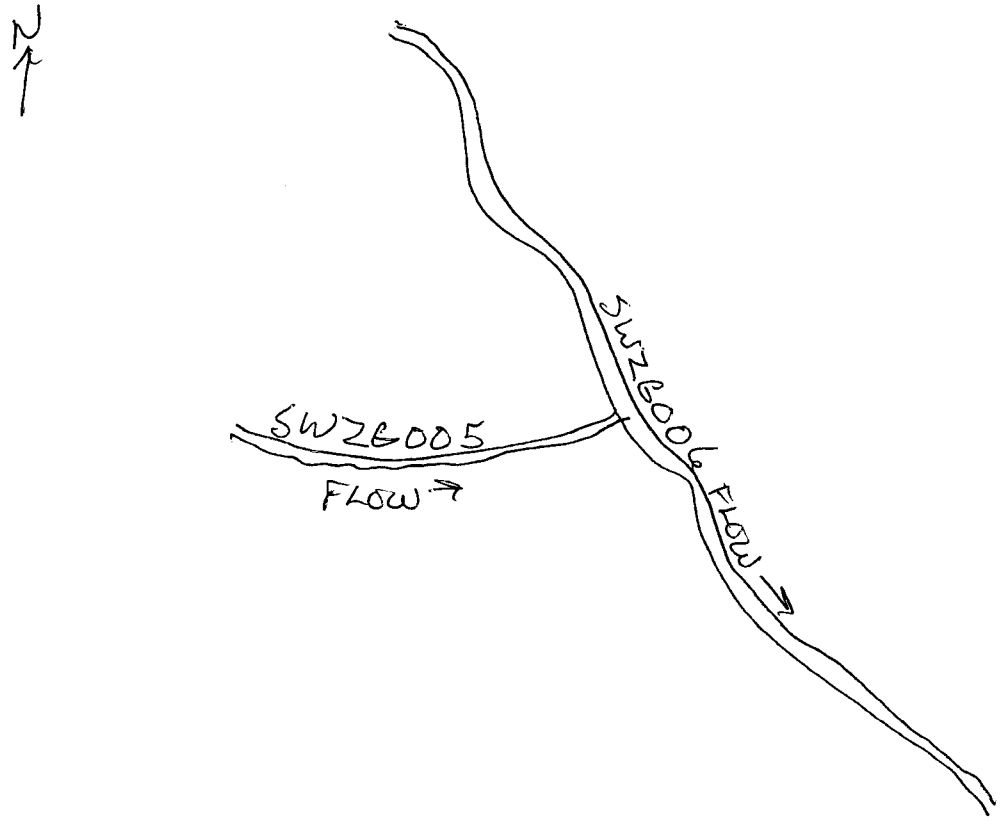
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg006

Waterbody *swzg006*
facing upstream

Waterbody *swzg006*
downstream

swzg006

Waterbody swzg006 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT	SWZ6006	4/22/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DOWEST	JD, DB	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-009-A034	NA	NA	NONE

Survey Type: (check one) [X] Centerline [ ] Re-Route [ ] Access Road [X] Other: 100 acre Mockingbird Site

Physical Attributes

Stream Classification: (check one) [ ] Ephemeral [X] Intermittent [ ] Perennial

Waterbody Type: (check one) [X] Stream [ ] River [ ] Ditch [ ] Pond [ ] Lake [ ] Connecting swale [a] [ ] Other: _____

OHWM
Width: 4 ft.
Height: 1 ft.

OHWM Indicator: (check all that apply)
[X] Clear line on bank [ ] Shelving [ ] Wrested vegetation [X] Scouring [ ] Water staining
[X] Bent, matted, or missing vegetation [X] Wrack line [ ] Litter and debris [ ] Abrupt plant community change [ ] Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: (Approx.)
8 ft.	____ ft.	____ ft.

Sinuosity: (check one)	Water velocity: (Approx.)	Bank height	Bank slope
[ ] Straight [X] Meandering	<1 fps	Right: 1 ft. Left: 1 ft.	Right: 35 degrees Left: 35 degrees

Qualitative Attributes

Water Appearance: (check one) [ ] No water [X] Clear [ ] Turbid [ ] Sheen on surface [ ] Surface scum [ ] Algal mats [ ] Other: _____

Substrate: (check all that apply) [X] Bedrock [X] Gravel [X] Sand [X] Silt/clay [ ] Organic [ ] Other: _____

% of Substrate:	60 %	30 %	5 %	5 %	____ %	____ %

Width of Riparian Zone: 7 ft.

Vegetative Layers: (check all that apply) [X] Trees: [X] Shrubs: [X] Herbs

Avg. DBH of Dominants: (approx.) 8 in. ____ in.

Dominant Bank Vegetation: (list) Acer ~~rubrum~~ negundo, Polystichum acrostoides, Trillium grandiflora, Rosa multiflora

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): (list) Riffle, pool

Aquatic Organisms Observed: (list) NONE

Invasive and/or T&E Species Observed: (list) Rosa multiflora

Tributary is: (check one) [X] Natural [ ] Artificial, man-made [ ] Manipulated

Disturbances: (check all that apply) [ ] Livestock access [ ] Manure in waterbody [ ] Waste discharge pipes [ ] Other: NONE

Stream Quality[b]: (check one) [X] High [ ] Moderate [ ] Low

Waterbody ID: INTERMITTENT SWZ6006

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

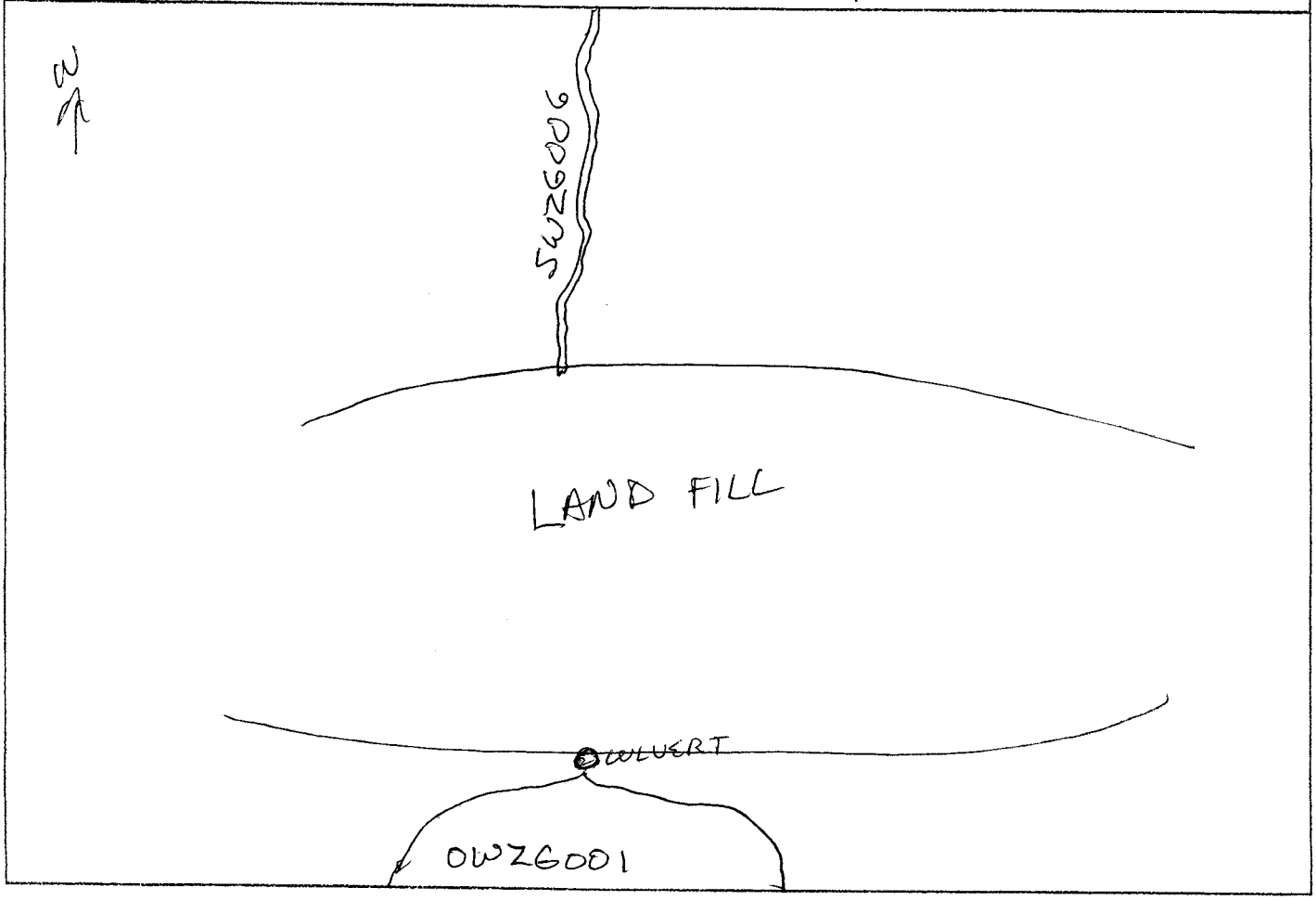
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



Swzg006 intermittent

Waterbody *swzg006 intermittent*
facing upstream

Waterbody *swzg006 intermittent*
downstream

Swzg006 intermittent

Waterbody swzg006 facing upline cross stream

Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Header	UNT TO UPPER RUN	SWZ6005	4/22/15

State:	County:	Company:	Crew Member Initials:	Photo ID(s):
WV	Wetzel	DD WEST	JD, DB	

Tract Number(s):	Milepost Entry:	Milepost Exit:	Associated Wetland ID(s):
33-011	NA	NA	NONE

Survey Type: (check one) ☐ Centerline ☐ Re-Route ☐ Access Road ☒ Other: 100 Acre Mockingbird Side

Physical Attributes

Stream Classification: (check one) ☐ Ephemeral ☐ Intermittent ☒ Perennial

Waterbody Type: (check one) ☒ Stream ☐ River ☐ Ditch ☐ Pond ☐ Lake ☐ Connecting swale [a] ☐ Other: _____

OHWM	OHWM Indicator: (check all that apply)					
Width: 6 ft.	☒ Clear line on bank	☐ Shelving	☒ Wrested vegetation	☐ Scouring	☐ Water staining	
Height: 6" ft.	☒ Bent, matted, or missing vegetation	☒ Wrack line	☐ Litter and debris	☐ Abrupt plant community change	☐ Soil characteristic change	

Width of Waterbody - Top of Bank to Top of Bank at Centerline:	Width of Waterbody - Water Edge to Water Edge at Centerline:	Depth of Water at Centerline: (Approx.)
10 ft.	3' ft.	1" ft.

Sinuosity: (check one)	Water velocity: (Approx.)	Bank height	Bank slope
☐ Straight	<1 fps	Right: _____ ft.	Right: _____ degrees
☒ Meandering		Left: _____ ft.	Left: _____ degrees

Qualitative Attributes

Water Appearance: (check one) ☐ No water ☐ Clear ☒ Turbid ☐ Sheen on surface ☐ Surface scum ☐ Algal mats ☐ Other: _____

Substrate: (check all that apply) ☒ Bedrock ☒ Gravel ☒ Sand ☒ Silt/clay ☐ Organic ☐ Other: _____

% of Substrate:	20 %	70 %	5 %	5 %	_____ %	_____ %

Width of Riparian Zone:	Vegetative Layers: (check all that apply)			
>250 ft.	☒ Trees:	☒ Shrubs:	☒ Herbs	
	Avg. DBH of Dominants: (approx.)	10 in.	_____ in.	

Dominant Bank Vegetation: (list) Platanus occidentalis, Acer negundo, Phlox carolinicana, Podophyllum peltatum

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): (list) Riffle, pools

Aquatic Organisms Observed: (list) NONE

Invasive and/or T&E Species Observed: (list) None

Tributary is: (check one) ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Disturbances: (check all that apply) ☐ Livestock access ☐ Manure in waterbody ☐ Waste discharge pipes ☐ Other: NONE

Stream Quality[b]: (check one) ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SWZG005

[a] ***Connecting swales*** are water features that *do not* meet the definition of a waterbody (*not* an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

[b] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

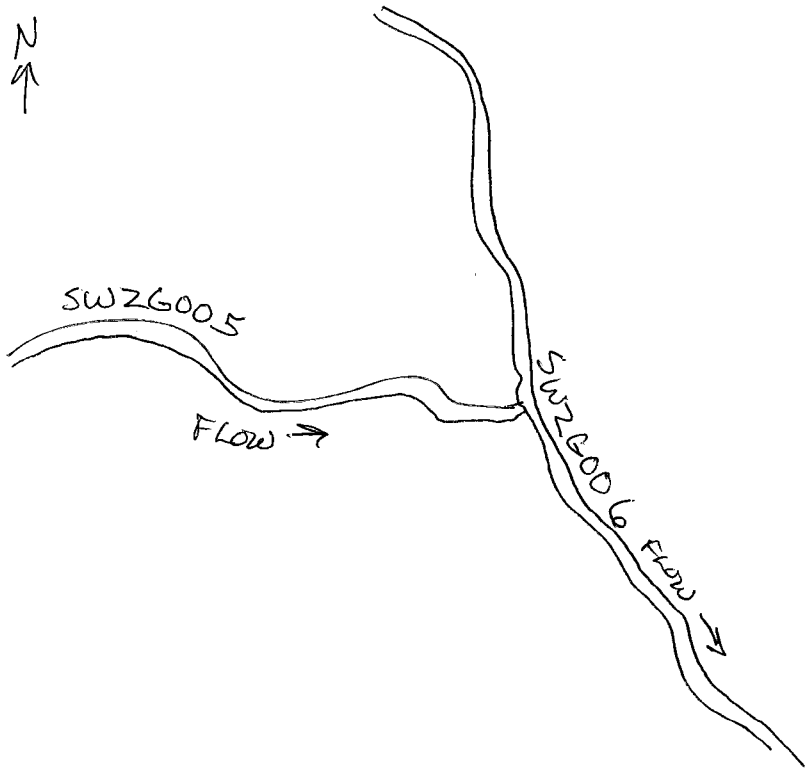
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes

Waterbody Sketch

Include north arrow, centerline, distance from centerline, photo locations, survey boundary, and unique IDs of associated features.



swzg005

Waterbody *swzg005*
facing upstream

Waterbody *swzg005*
downstream

swzg005

Waterbody swzg005 facing upline cross stream

Open Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
DTI Supply Wendeler	OLD POND BELOW LANDFILL	OW26001	4/22/15

State:	County:	Company:	Crew Member Initials:	Photos:
WV	Wetzell	DDWEST	JD, DB	

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
33-009-A034	NA	NONE

Survey Type: *(check one)* ☒Centerline ☒Re-Route ☐Access Road ☐Other:

Physical Attributes

Waterbody Type: *(check one)* ☐Stock Pond ☐Natural Pond ☐Lake ☐Reservoir ☒Impoundment ☐Oxbow ☐Other:

Hydrologic Regime: ☒Permanently Flooded ☐Semipermanently Flooded ☐Seasonally Flooded ☐Temporarily Flooded

OHWM

Height: 4 ft.

OHWM Indicator: *(check all that apply)*

☒Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining

☐Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Depth of Water:	Bank height (average):	Bank slope (average):
N/A☒ ____ ft.	76 ft.	30 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☐Clear ☒Turbid ☐Sheen on surface ☒Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)* ☐Bedrock ☐Boulder ☐Cobble ☒Gravel ☒Sand ☒Silt/ clay ☒Organic ☐Other:

% of Substrate:	____%	____%	____%	30%	30%	30%	10%	____%

Width of Riparian Zone: 725 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒Trees: ☒Saplings/Shrubs: ☒Herbs

Avg. DBH of Dominants: *(approx.)* 10 in. 2 in. ____ in.

Dominant Bank Vegetation *(list)*: Salix nigra, Platanus occidentalis

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): POOL

Aquatic Organisms Observed *(list)*: small frogs, tadpoles

T&E Species Observed *(list)*: Rosa multiflora, Elaeagnus umbellata

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): at base of old landfill w/ wastewater issuing into pond

Waterbody is: *(check one)* ☐Natural ☒Artificial, man-made ☐Manipulated

Waterbody Quality [a]: *(check one)* ☐High ☐Moderate ☒Low

Waterbody ID: OW2G001

[a] *Connecting swales* are water features that do not meet the definition of a waterbody (not an ephemeral waterbody) in that there is not a defined bed, bank, and ordinary high water mark, however, it is a water conveyance feature that is characterized by flow volume, frequency, and duration to make it more than just an erosional feature and connects two potential waters of the U.S. and thereby may be subject to Section 404 permitting.

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Notes

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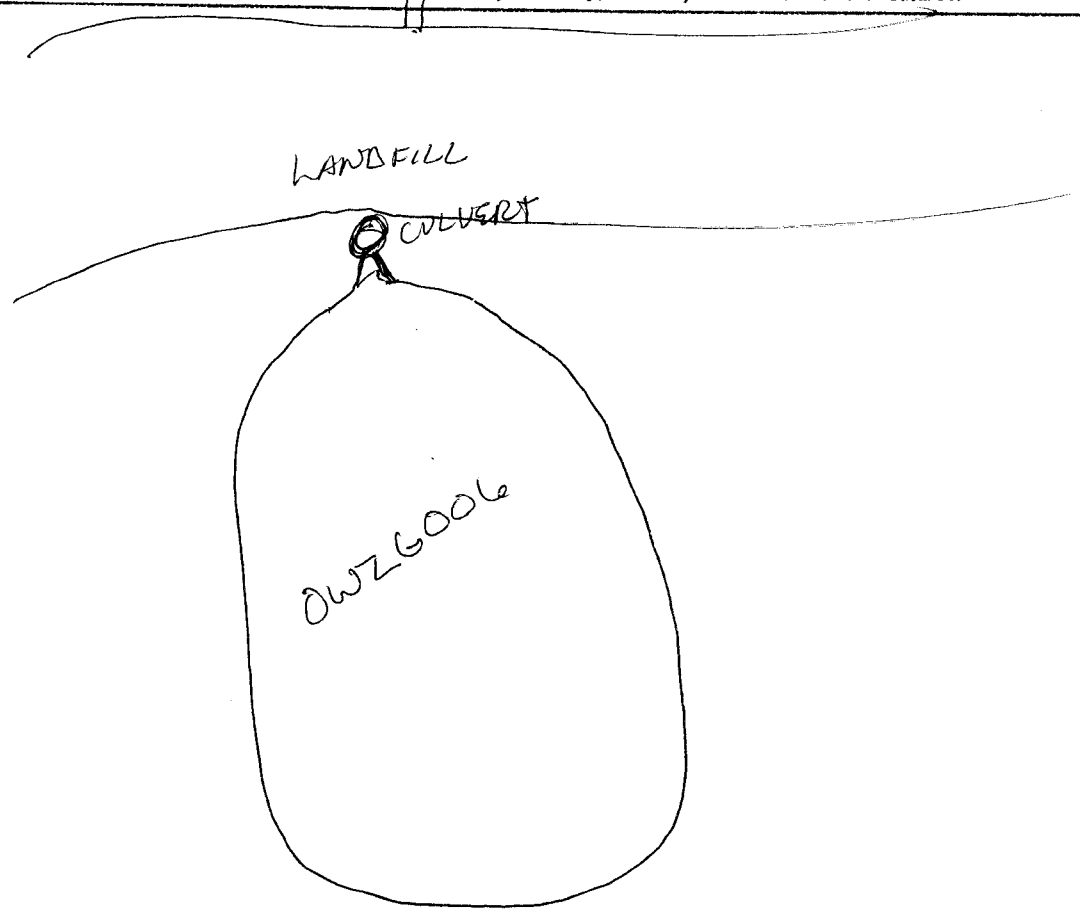

owzg001

Waterbody *owzg001*
facing upstream

Waterbody *owzg001*
downstream

owzg001

Waterbody owzg001 facing upline cross stream