



**BOARD OF SUPERVISORS
WORK SESSION
Tuesday, August 18, 2020 – 4:30 PM**

**Gallery Room - Chatham Community Center
115 South Main Street,
Chatham, Virginia 24531**

AGENDA

- 1. CALL TO ORDER (4:30 PM)**
- 2. ROLL CALL**
- 3. AGENDA ITEMS TO BE ADDED**
- 4. APPROVAL OF AGENDA**

For the citizens' convenience, all Work Session and Committee Meetings are now being recorded and can be viewed on the same YouTube location as the Board of Supervisor's Business Meetings. Please remember that the Board's Work Session is designed for internal Board and County Staff communication, discussion, and work. It is not a question and answer session with the audience. Accordingly, during the Work Session, no questions or comments from the audience will be entertained. Respectfully, any outbursts or disorderly conduct from the audience will not be tolerated and may result in the offending person's removal from the Work Session. As a reminder, all County citizens, and other appropriate parties as designated by the Board's Bylaws, are permitted to make comments under the Hearing of the Citizens' Section of tonight's Business Meeting.

- 5. PRESENTATIONS**
 - a. Department Head Spotlight (Parks and Recreation Department); (Staff Contact: Mark W. Moore); (30 minutes)
 - b. Cherrystone and Roaring Fork Dams Rehabilitation Update (Staff Contact: Richard N. Hicks); (Presenter: David Krisnitski, P.E.); (30 minutes)
- 6. STAFF, COMMITTEE, AND/OR CONSTITUTIONAL OFFICER REPORTS**
 - a. Finance Committee Recommendations (Staff Contact: David M. Smitherman); (10 minutes)
- 7. BUSINESS MEETING DISCUSSION ITEMS**

8. CLOSED SESSION

- a. Consultation with legal counsel employed or retained by a public body regarding specific legal matters requiring the provision of legal advice by such counsel.

(1) Legal Authority: Virginia Code § 2.2-3711(A)(8)

Subject Matter: Franklin County/Cool Branch Fire and EMS Service

Purpose: Consultation/Advice from Legal Counsel Regarding
Related Contract Negotiations

9. RETURN TO OPEN SESSION & CLOSED SESSION CERTIFICATION

- a. Closed Session Certification

10. ADJOURNMENT



Board of Supervisors
EXECUTIVE SUMMARY

INFORMATION ITEM

Agenda Title:	Department Head Spotlight (Parks and Recreation Department); (Staff Contact: Mark W. Moore); (30 minutes)		
Staff Contact(s):	Mark W. Moore		
Agenda Date:	August 18, 2020	Item Number:	5.a
Attachment(s):	Parks and Recreation Board Presentation		
Reviewed By:	<i>VM</i>		

Mark W. Moore, County's Park and Recreation Director, will provide the Board the latest installment in the County's Department Head Spotlight.

PITTSYLVANIA



COUNTY, VIRGINIA

PARKS AND RECREATION

DEPARTMENT HISTORY

- ▶ The Department
 - ▶ April 2011
 - ▶ Added first staff in 2015
 - ▶ Current staff
- ▶ What We Do
 - ▶ Youth Sports
 - ▶ School System Partnership (JUA)
 - ▶ Capital Projects
 - ▶ Community Center
 - ▶ Social Media presence over 4k

YOUTH SPORTS

- ▶ 147 teams, 2,365 kids ages 5-15
- ▶ FY19 Revenue - \$45,000 (Gate fee is \$2)
 - ▶ 22,500 paying attendees
- ▶ Administered with help from 4 recreation clubs (Gretna, Chatham, DR and Tunstall)
- ▶ Youth Sports Board for each sport
 - ▶ Board makeup

SCHOOL SYSTEM PARTNERSHIP

- ▶ JUA, foundation for the department
- ▶ Renews annually
- ▶ Evolved into a partnership
 - ▶ \$15,000 toward mutually beneficial projects
 - ▶ PCTC partnerships – Dog Park sign, LOVE sign

CAPITAL PROJECTS

- ▶ \$500k+ grant funding for middle school park project
- ▶ \$800k+ grant funding for Wayside Park renovations
- ▶ \$2.1 million in revenue & grant funding since 2011
- ▶ Capital Projects Include:
 - ▶ Current Wayside Park project
 - ▶ 5 public parks (Numerous state awards including top VACO award in 2018)
 - ▶ 8 new athletic fields, renovation to 3 others
 - ▶ Ringgold Rail Trail renovations
 - ▶ Walking track at Brosville Elementary
 - ▶ Gretna Town Trail - \$100k grant from RGG

COMMUNITY CENTER

- ▶ Storefront for Parks & Recreation
- ▶ Nearly doubled rental revenue in first year (FY19 \$31k+, last year of Chatham Cares \$18k+)
- ▶ Programming including Y daycare, yoga, pickleball, aerobics, dance, karate, camps, clinics, etc.
- ▶ Hub for county activities including:
 - ▶ All county public meetings (COVID)
 - ▶ Youth sports award banquets
 - ▶ Numerous employee events & Christmas party's
 - ▶ Sheriff's national press conference on Ringgold tragedy
 - ▶ Elected office candidate forum
 - ▶ Voter Registrar – Poll worker training



Attachment: Parks and Recreation Board Presentation (2119 : Department Head Spotlight



Attachment: Parks and Recreation Board Presentation (2119 : Department Head Spotlight

Titan Park at TMS



Attachment: Parks and Recreation Board Presentation (2119 : Department Head Spotlight



Attachment: Parks and Recreation Board Presentation (2119 : Department Head Spotlight



Attachment: Parks and Recreation Board Presentation (2119 : Department Head Spotlight

Brosville Elementary Walking Track & Ballfield



Attachment: Parks and Recreation Board Presentation (2119 : Department Head Spotlight

Ringgold Rail Trail



Attachment: Parks and Recreation Board Presentation (2119 : Department Head Spotlight

Wayside Park



Attachment: Parks and Recreation Board Presentation (2119 : Department Head Spotlight

THANK YOU
FOR YOUR
SUPPORT!

- ▶ Seed Funding for Capital Projects
- ▶ Quality of Life & Connection to Economic Development
- ▶ One of the most tangible ways to show citizens their tax dollars at work



Board of Supervisors
EXECUTIVE SUMMARY

INFORMATION ITEM

Agenda Title:	Cherrystone and Roaring Fork Dams Rehabilitation Update (Staff Contact: Richard N. Hicks); (Presenter: David Krisnitski, P.E.); (30 minutes)		
Staff Contact(s):	Richard N. Hicks		
Agenda Date:	August 18, 2020	Item Number:	5.b
Attachment(s):	Cherrystone Dams Cost Reduction Summary		
Reviewed By:	<i>DK</i>		

David Krisnitski, P.E., Froehling and Robertson, will be present to provide the Board an update on the Cherrystone and Roaring Fork Dams Rehabilitation Projects.



Cost Savings Analysis Cherrystone Dam #1 and #2a

VA DCR ID# 143002 and 143003





F&R/Dewberry Team Members

David Krisnitski, P.E., CFM

- F&R Dam Engineering Section Manager

Kevin Hylton

- F&R CAD Design Manager

Scott Erhardt

- Dewberry Project Manager

Geoffrey Cowan, P.E.

- Dewberry Water Resources Engineer

Fred Tucker, P.E.,

- Dewberry Senior Geotechnical Engineer

Steve Hjelle, P.E.

- F&R Senior Geotechnical Engineer

Samuel Barnes, E.I.T.,

- F&R Staff Engineer

Amber Kidwell, M.S., E.I.T.

- F&R Staff Engineer

Don Sipher, P.E.

- F&R Regional Vice President





Cherrystone Dams Cost Savings Analysis

5.b.a

- NRCS identified several required upgrades on Dam #1 and #2a
- We agree both dams do not meet the required Factor of Safety (FS) criteria for these items
- It's an easy answer to go straight to armoring the embankment but we feel that option should be the last resort

- At the core of our thinking is that many of the identified problems are already close to meeting the requirements.
- We looked at how the existing conditions could be improved to increase the FS of each element
- The previous analysis does not appear to have spent enough time on that question and just presented more drastic and costly design concepts



Cherrystone Dams Cost Savings Analysis

5.b.a

- Our goal is to save all stakeholders from unnecessary expenditures of money, effort, and frustration
- We have developed a less expensive option where NRCS can still provide support and funding

- From our review the item that could most likely lead to the worst case embankment failure is the downstream slope stability of Dam #1
- That one issue is easily solved by adding embankment fill to strengthen the downstream slope
- The remaining deficiencies would most likely not result in total embankment failure

Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dams – Current Conditions

5.b.a



Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Original Construction – circa 1968

1. Significant Hazard Classification
2. 135 foot wide x 10 foot deep Vegetated Spillway
3. 50% PMP Auxiliary Spillway Capacity
4. 2.5:1 Upstream Embankment Slope
5. 2.5:1 Downstream Embankment Slope
6. Traditional Type Principal Spillway Tower



DCR Required Inundation Study in 2010

1. Used required National Weather Service HMR-51 PMP data
2. Used the USACE HEC-HMS and HEC-RAS software
3. Determined dam was now High Hazard
4. Determined auxiliary spillway capacity was about **50%**
5. Auxiliary Spillway capacity is now inadequate



DCR Revises VA PMP in 2016

1. In 2016 VA DCR studied the PMP rainfall data in Virginia
2. This required changing from using NWS data to VA PMP data set for analysis
3. 50% capacity w/ NWS PMP = **75%** capacity w/ 2016 VA PMP
4. Auxiliary Spillway capacity is still inadequate



2018 NRCS Preliminary Engineering Study

1. Revised the capacity analysis
2. Used required 2016 VA PMP rainfall data
3. Used SITES software (typical for spillway erosion prediction)
4. Evaluated auxiliary spillway capacity
5. Evaluated Auxiliary spillway integrity
6. Evaluated seismic stability of the Principal Spillway Tower
7. Evaluated the existing toe drains



Identified Deficiencies

1. Auxiliary Spillway Capacity
2. Auxiliary Spillway Integrity
3. Downstream Slope Stability
4. Top of dam width
5. Rapid Drawdown Upstream Slope Stability
6. Seismic Stability of the Principal Spillway and catwalk
7. Toe Drain Replacement
8. Upstream development below the spillway elevation
9. Inadequate stream capacity at Hodnett's Mill Rd.



2018 NRCS PER Results

1. Spillway capacity 75% (insufficient)
2. Vegetated spillway integrity (fails under design loads)
3. Downstream slope stability insufficient
 1. Dam originally built with this condition but not far from acceptable
4. Dam top width is too narrow for High Hazard classification
 1. Built this way presumably since originally was Significant Hazard
5. Upstream slope at 2.5:1 Factor of Safety is insufficient
 1. Dam originally built with this condition but not far from acceptable
6. Principal spillway tower seismic Factor of Safety insufficient
 1. Dam originally built with this condition but not far from acceptable
7. Toe drains are beyond service life
8. Homes were allowed to be built upstream below 100 yr elev
9. Drainage at Hodnetts Mill backs up water to the dam



NRCS Recommended Repairs

1. Construct wider spillway on the dam to solve #1
2. Armor spillway with Roller Compacted Concrete to solve #2
3. Add fill to strengthen downstream slope to solve #3
4. Add fill to widen top of dam to solve #4
5. Add fill to flatten upstream slope to solve #5
6. Demolish tower and rebuild further upstream to solve #6
7. Install new toe drains to solve #7
8. Construct barriers or move houses above 100 yr to solve #8
9. Make offsite improvements to Hodnett's Mill Rd.

Estimated construction cost \$12.9M (local share \$4.5M)



NRCS Repair Risks and Impacts

1. The spillway directly on the dam means if the spillway fails the embankment fails
2. Filling on the downstream slope is a minimal impact
3. Widening top of dam affects upstream and downstream
4. Fill on the upstream slope requires draining the lake totally
 1. Environmental impact
 2. Loss of use of the lake for extended period
 1. Loss of water supply temporarily
 2. Loss of fishery



NRCS Repair Risks and Impacts (cont.)

5. Relocating tower requires draining the lake totally
 1. Environmental impact
 2. Loss of use of the lake for extended period
 1. Loss of water supply temporarily
 2. Loss of fishery
 3. Requires new site investigation and design AFTER draining the lake
 1. Extends time the lake is drained
6. Adding new toe drain is a minimal impact
7. Moving or modifying three upstream residences is disruptive
8. Offsite road modifications reduce backwater on the dam



F&R Cost Savings Analysis - Questions we explored

- Can the existing spillway be armored more effectively than the dam?
- Can a cutback protection wall be used instead of an armored channel (favored option)?
- Can the downstream embankment slope be modified to pass stability FS?
- Can the upstream slope be modified to improve FS?
- Can the drawdown rate be reduced to improve FS?
- Can the tower be modified without draining to meet the seismic Factor of Safety?
- Can any improvement to one element also help another one?
- **Can the project be completed without draining the lake?**



F&R Cost Savings Analysis Results

1. Widen auxiliary spillway to solve #1
2. Construct Concrete Cutback Protection in the spillway to solve #2
3. Add fill to strengthen downstream slope to solve #3
4. Add fill downstream to widen top of dam to solve #4
5. Excavate to flatten upstream slope to solve #5
6. Modify tower in place without draining to solve #6
7. Install new graded filter blanket to solve #7
8. Modify spillway control section to set 100 yr pool below 2 houses and modify last house to solve #8
9. Make offsite improvements to Hodnett's Mill Rd.

Estimated construction cost \$7.6 (local share \$2.7M)



F&R Repair Risks and Impacts

1. Widening the existing spillway is a minimal impact.
2. The hardened spillway remaining off the dam means if the spillway surface fails the embankment still does not fail
3. Placing all fill on the downstream slope is a minimal impact
4. Widening top of dam to the downstream is minimal impact
5. No filling on the upstream slope no longer requires draining the lake totally
 1. Reduces environmental impact
 2. Saves the cost of the dewatering and temporary cofferdam
 3. Loss of use of the lake greatly reduced
 1. Loss of water supply impact greatly reduced
 2. No loss of fishery



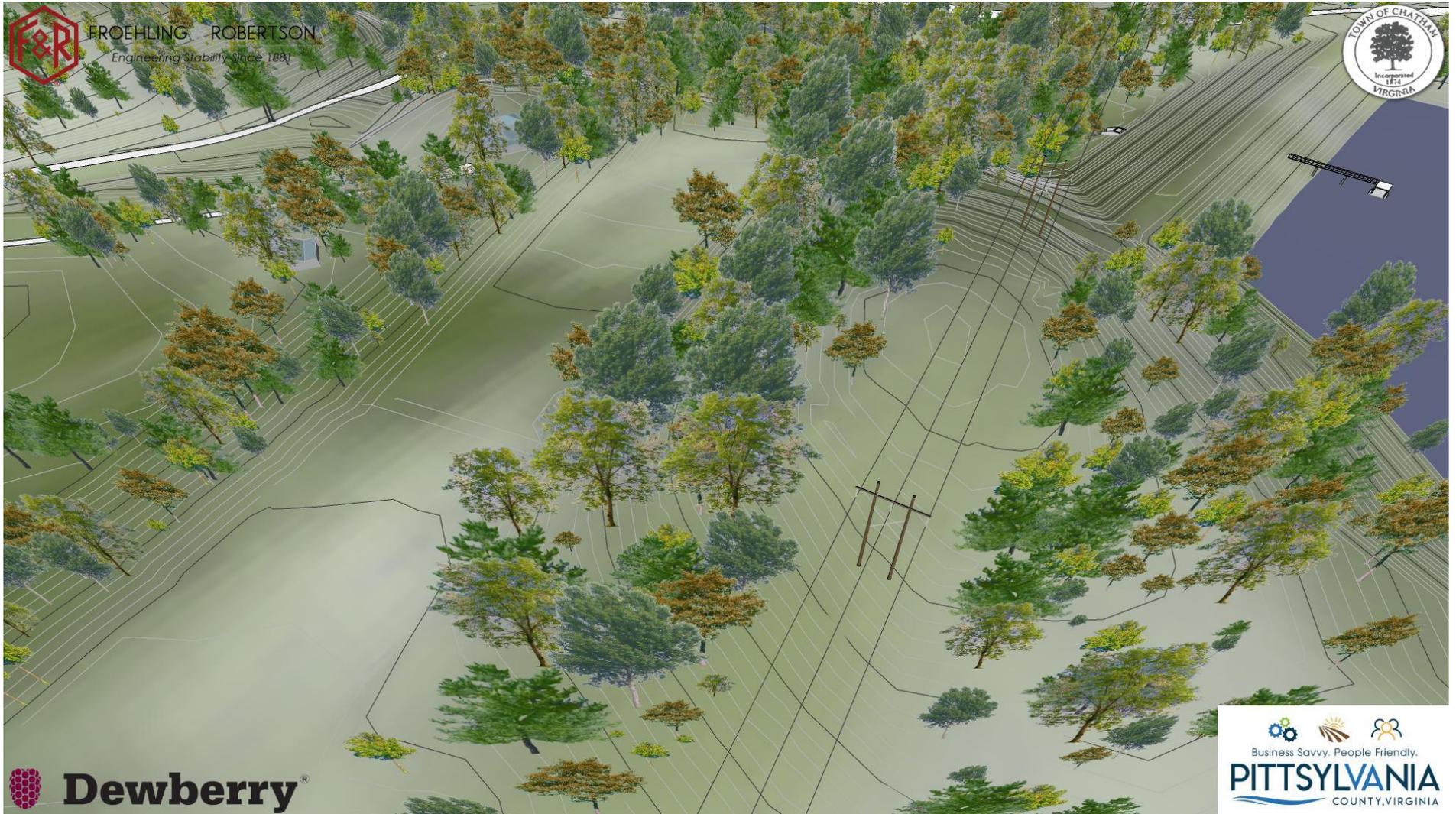
F&R Repair Risks and Impacts

6. Modifying tower without draining the lake totally
 1. Same benefits as #5 above
 2. Does not require site investigation for new tower construction
7. Lowered spillway control section eliminates modification of 2 of the upstream residences
8. Third upstream residence still requires modification
9. Replacing the toe drain is a minimal impact
10. Offsite road modifications reduce backwater on the dam
11. Both the dam and spillway will appear similar to today but solves all of the dam safety concerns



Cherrystone Dam #1 Spillway Today

5.b.a

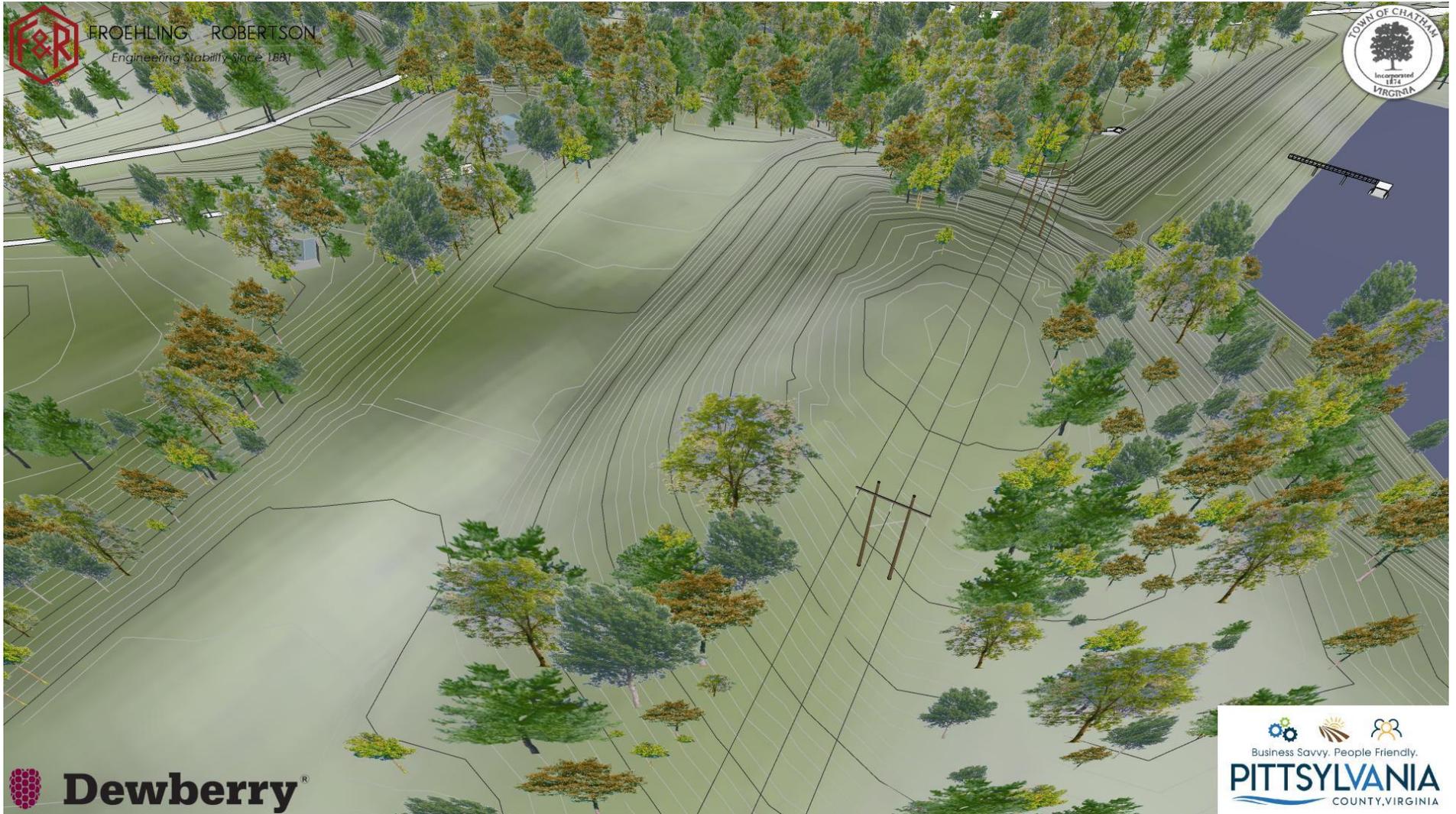


Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #1 – Clearing Trees Toward Dam

5.b.a

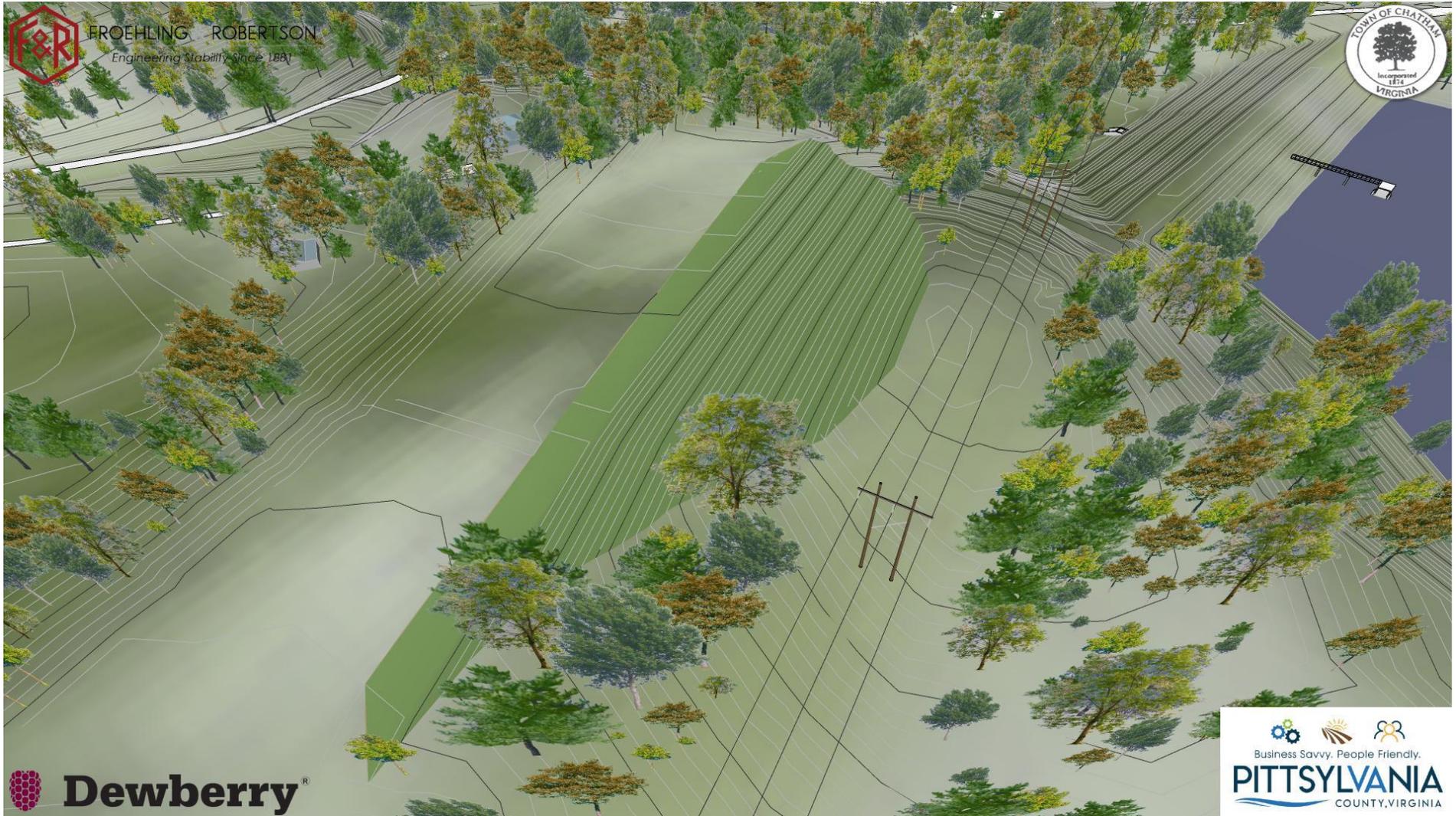


Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #1– Widen Spillway to 165ft

5.b.a

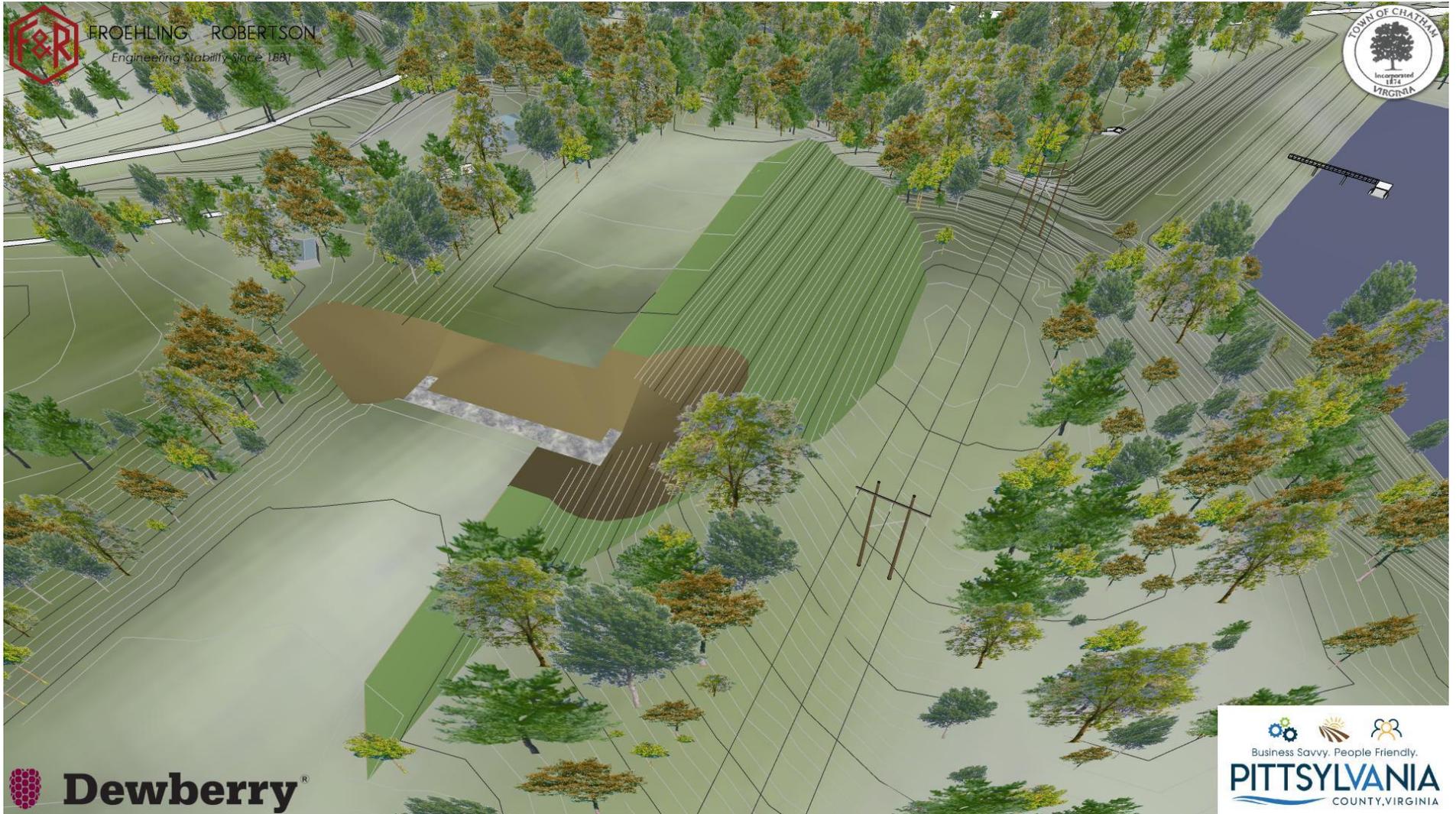


Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #1 – Excavate to Bedrock

5.b.a

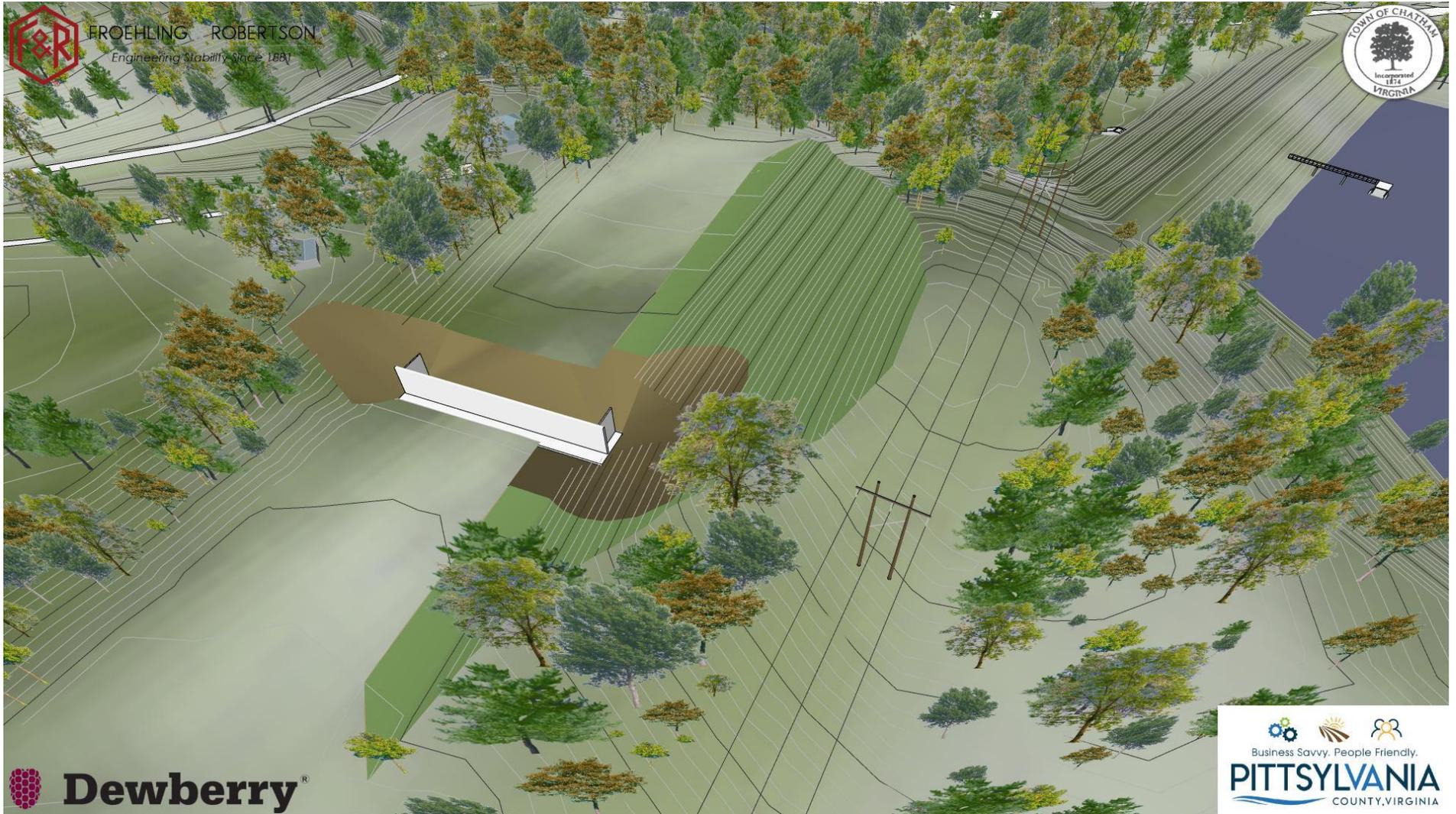


Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #1 – Construct Concrete Sill

5.b.a

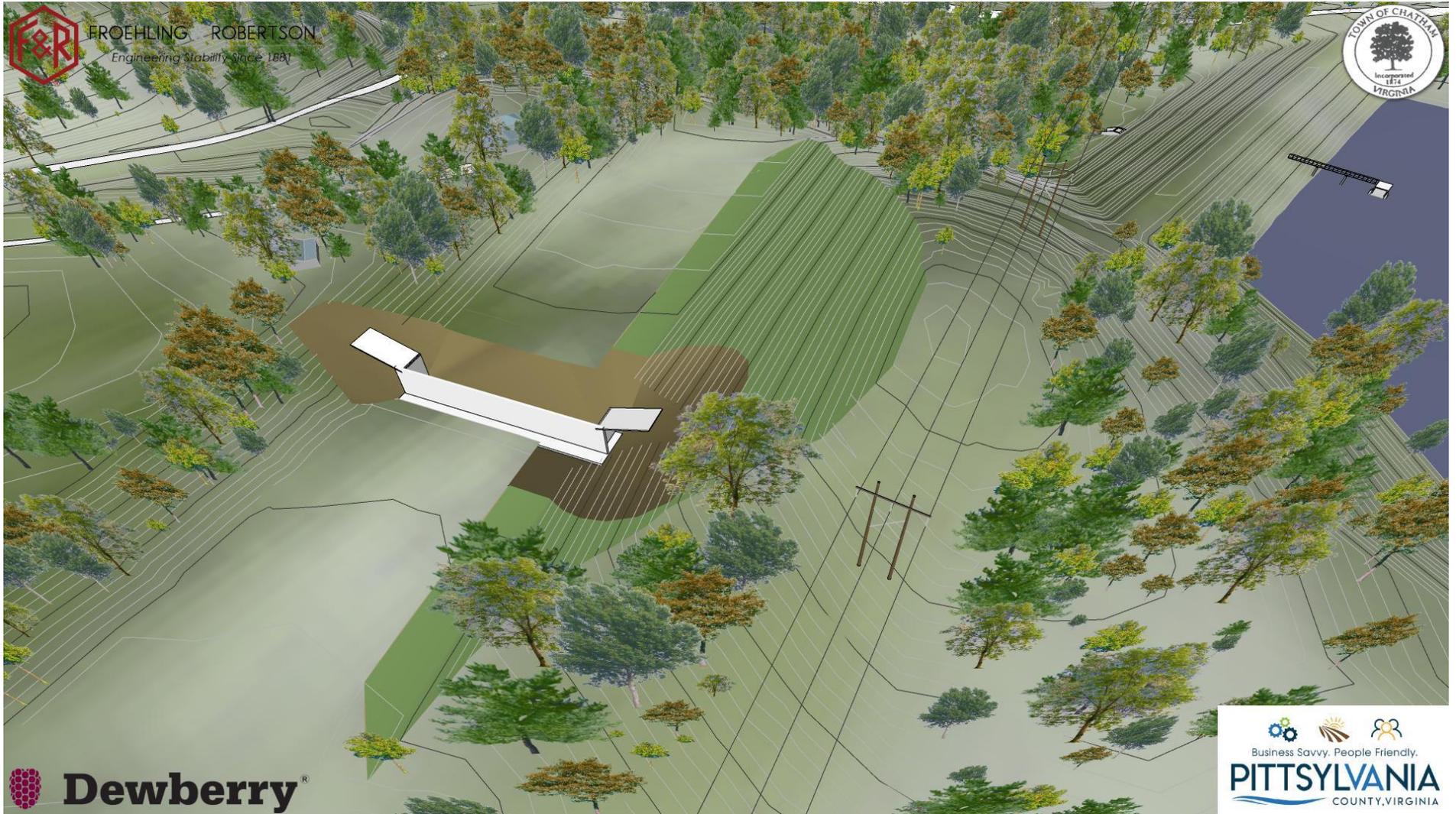


Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #1 – Add Concrete Slope Armor

5.b.a

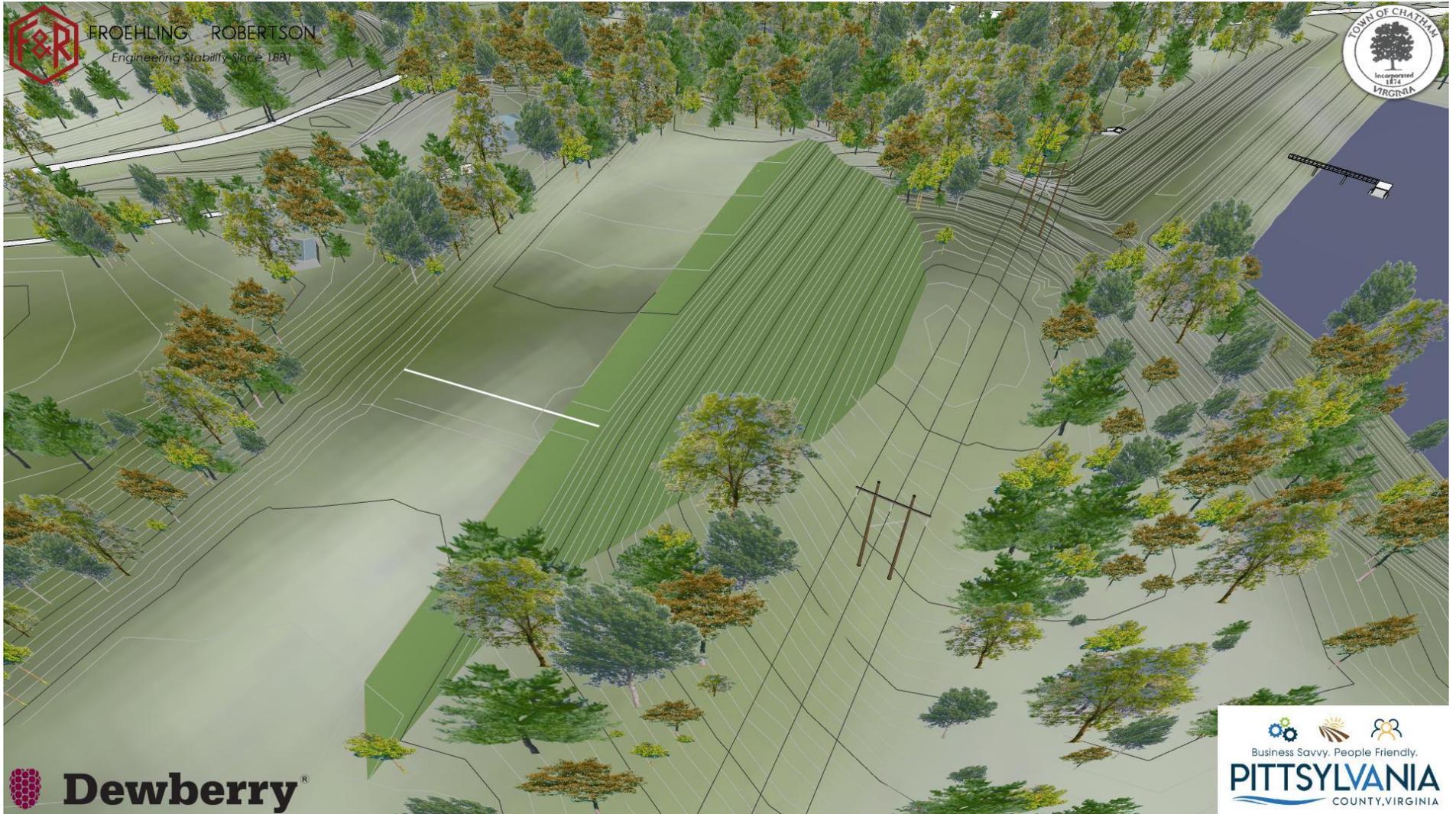


Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #1 – Bury Concrete Sill

5.b.a

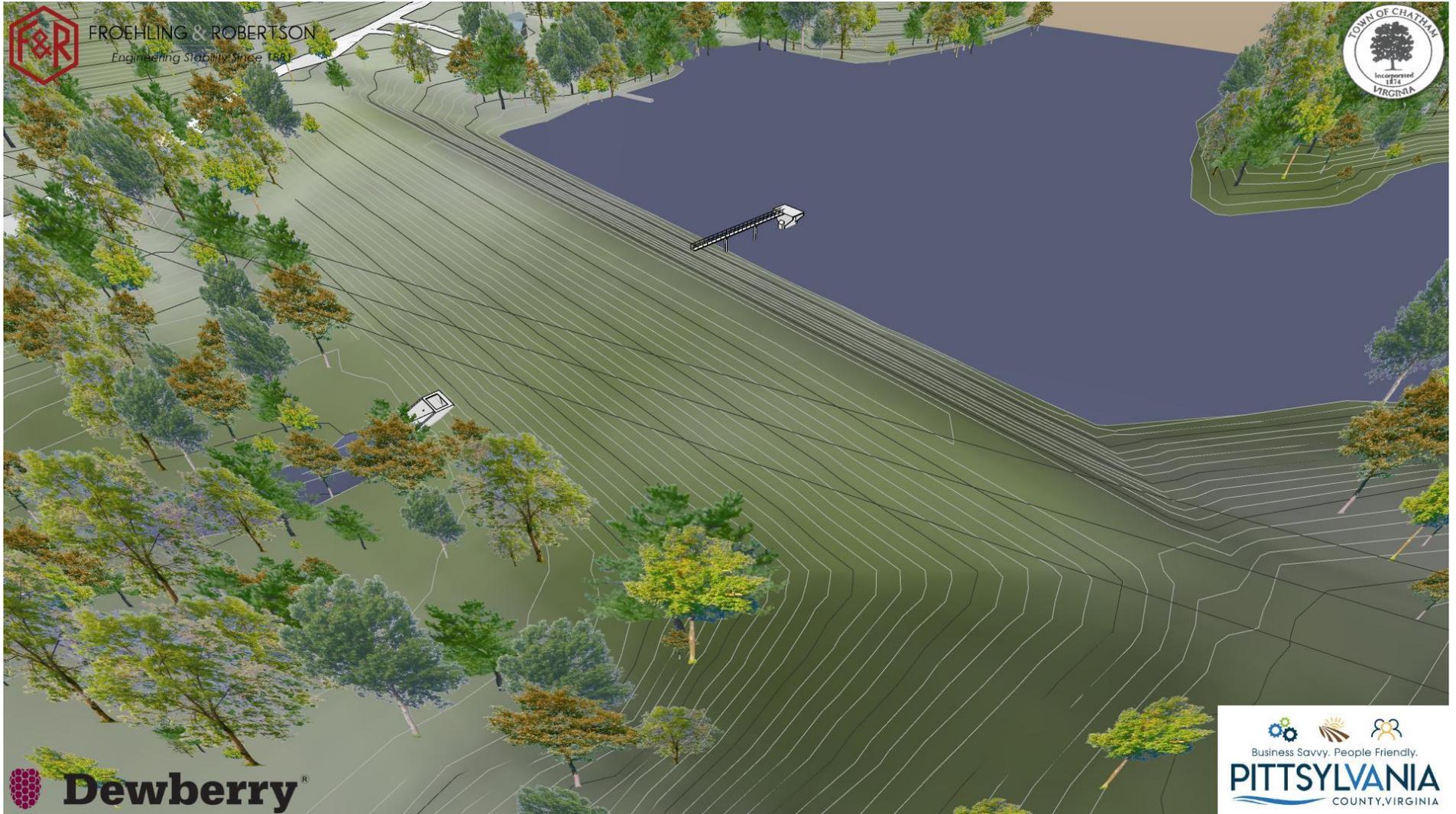


Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #1 – Embankment Today

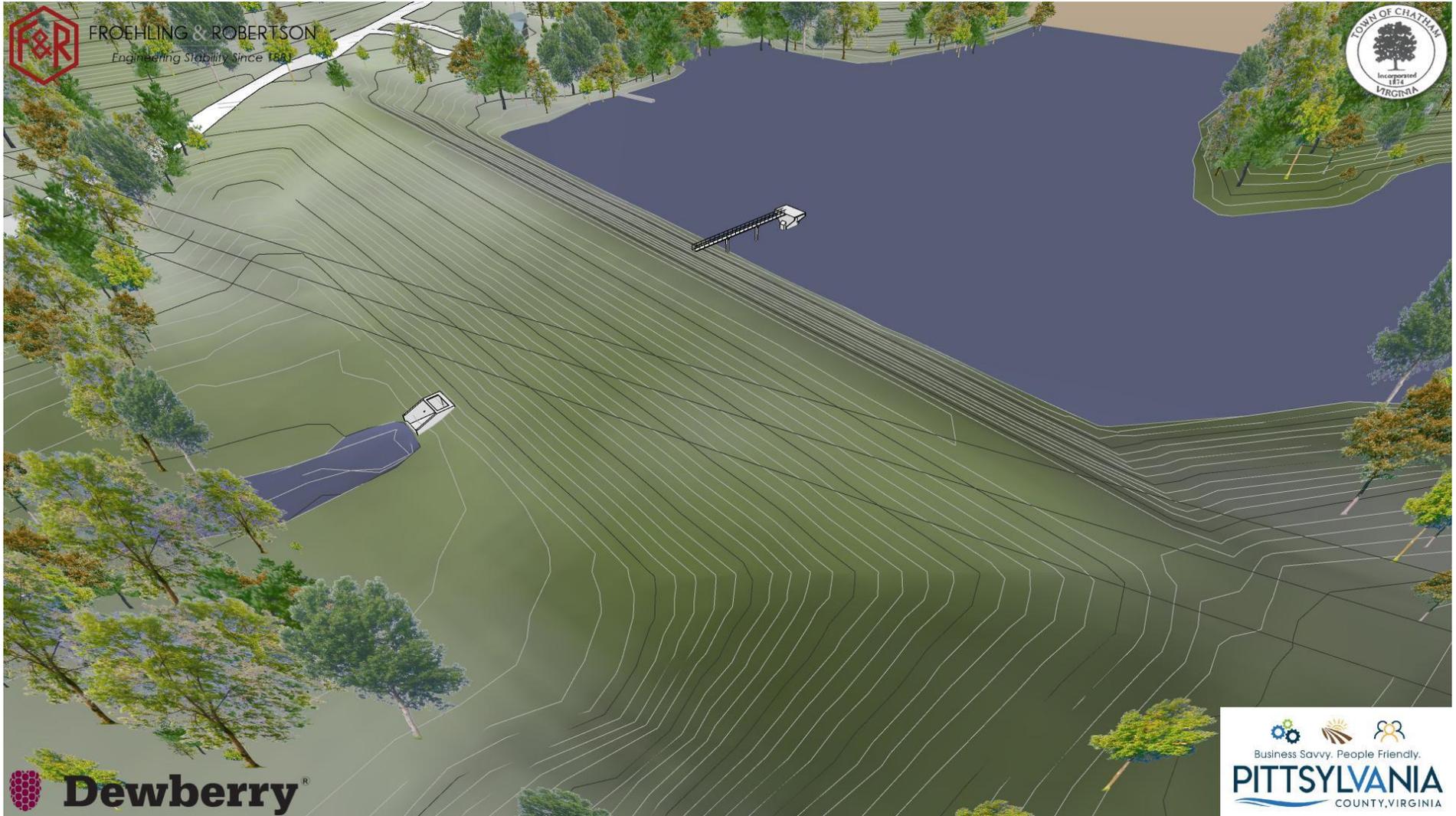
5.b.a



Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



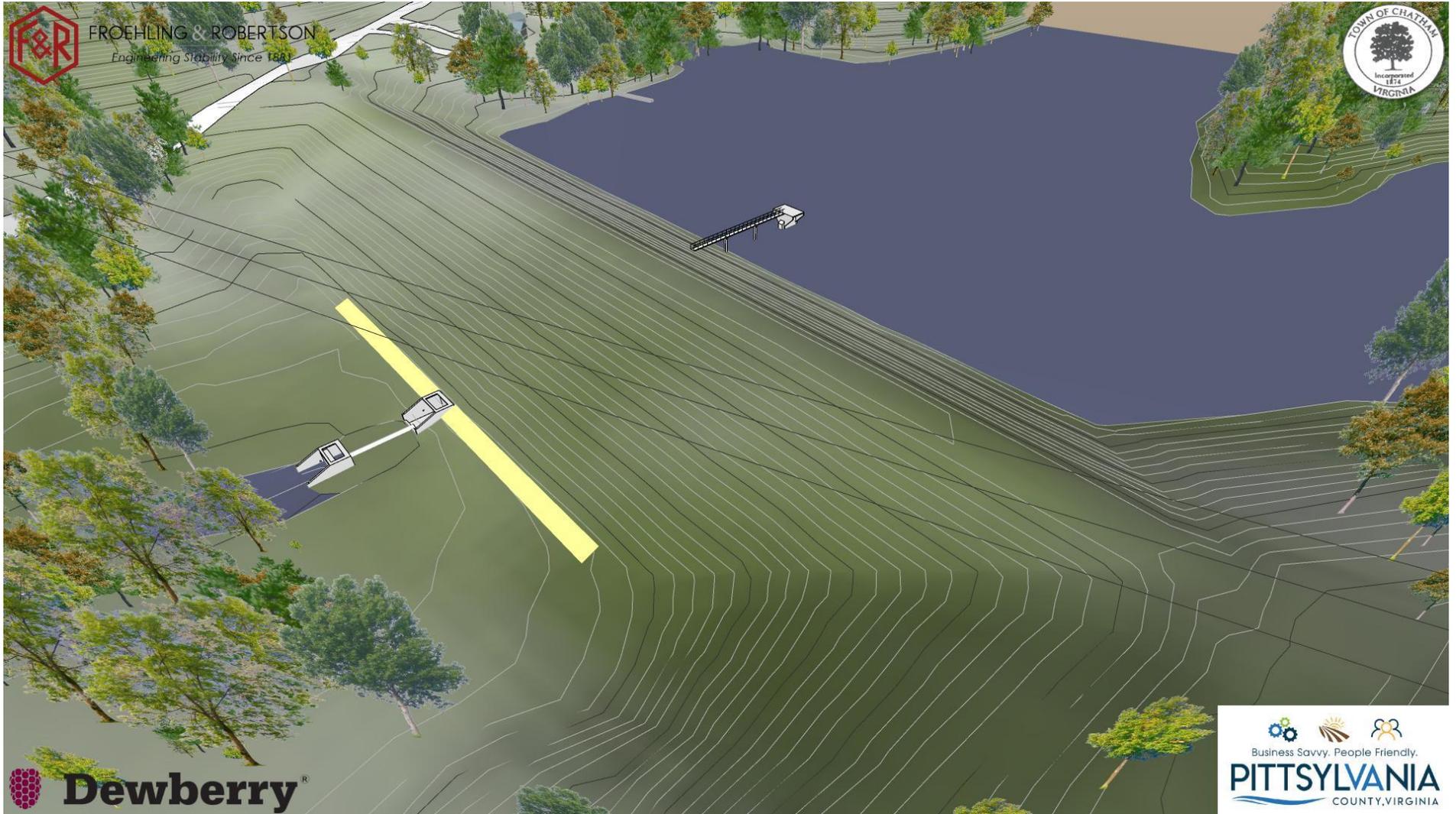
Cherrystone Dam #1 – Clear Trees





Cherrystone Dam #1 – Install Graded Filter and Extend Conduit

5.b.a

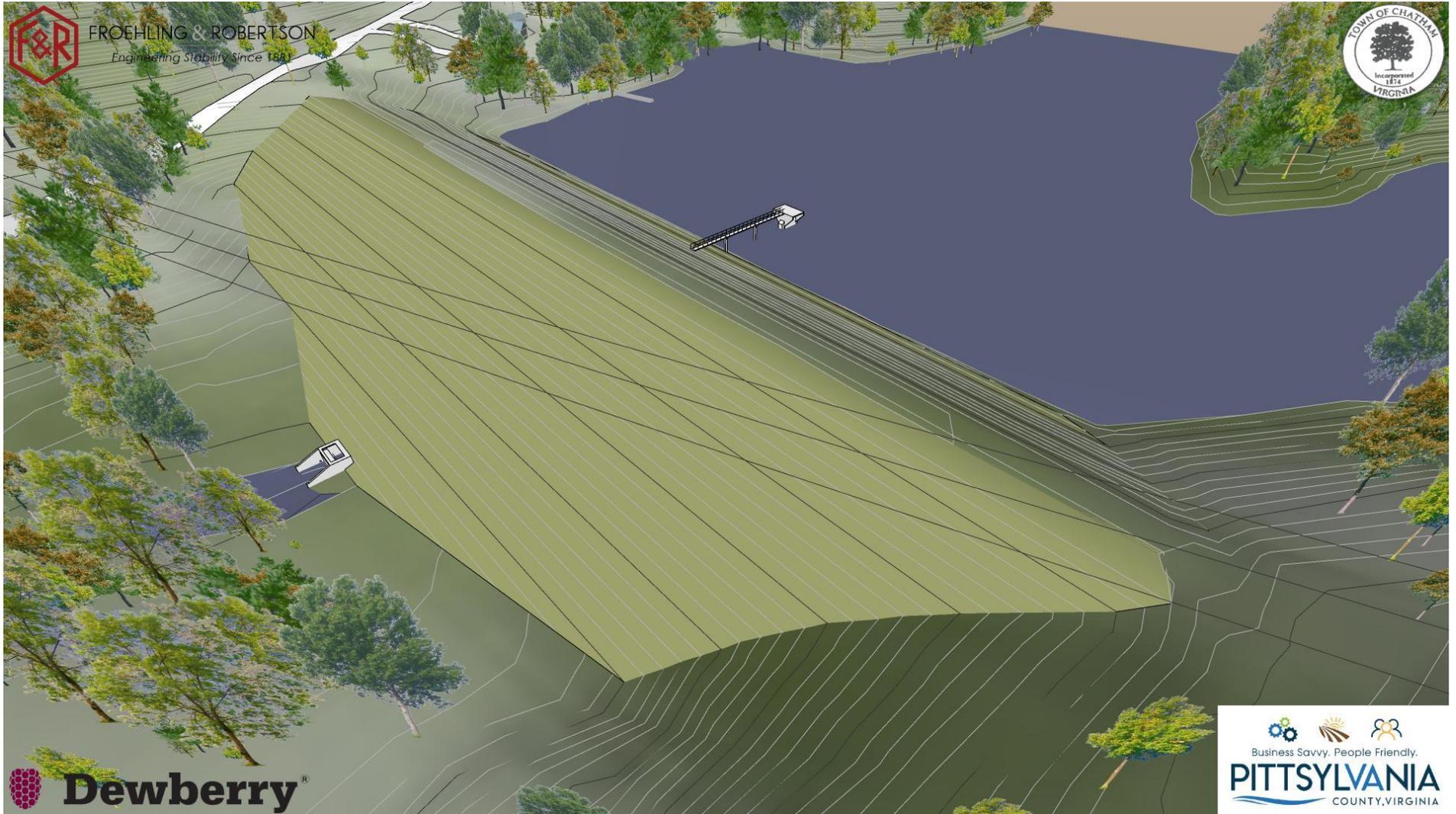


Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #1 – Add Downstream Fill From Dam #1 Spillway

5.b.a

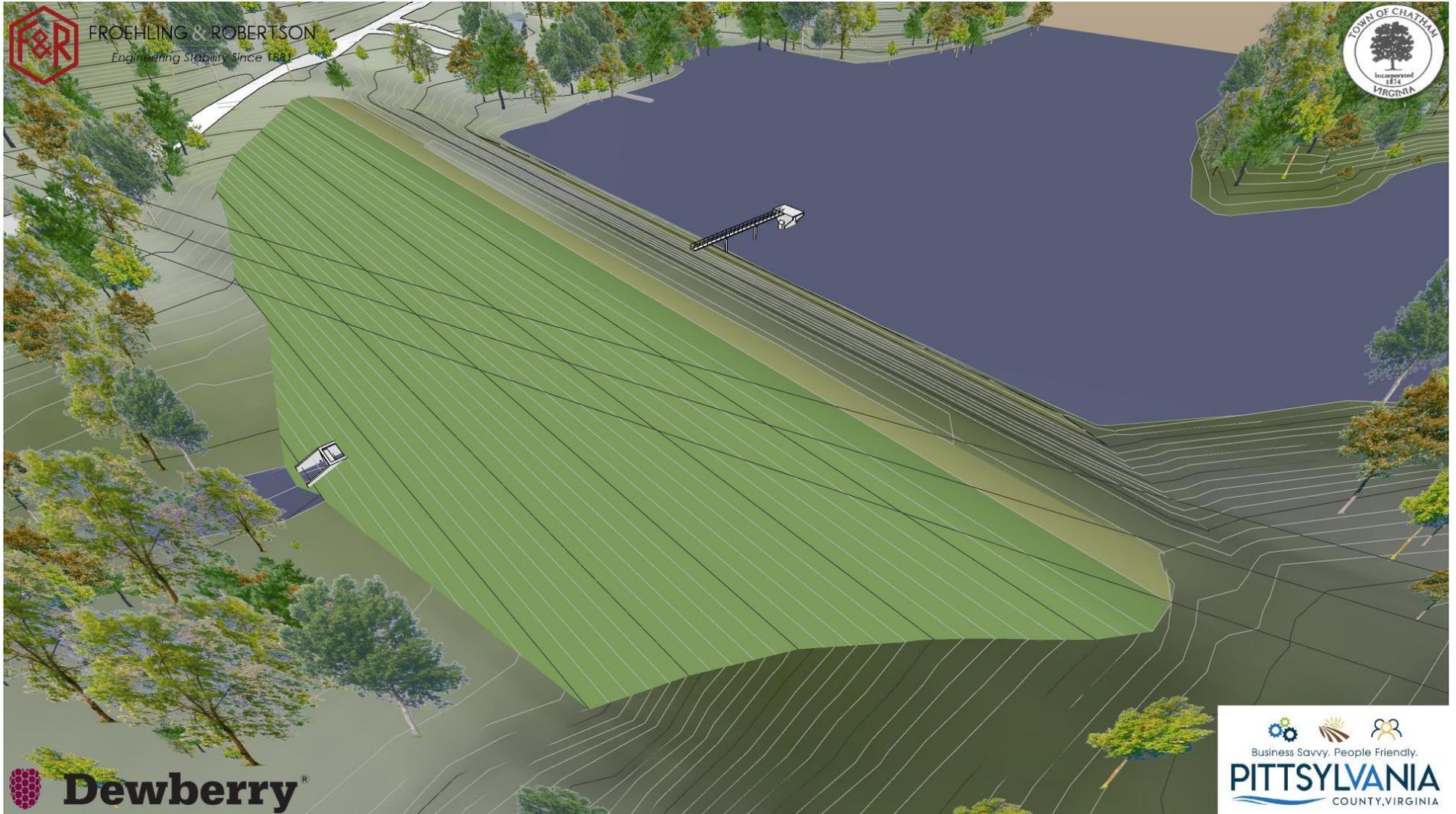


Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #1 – Add Downstream Fill From Dam #2 Spillway

5.b.a

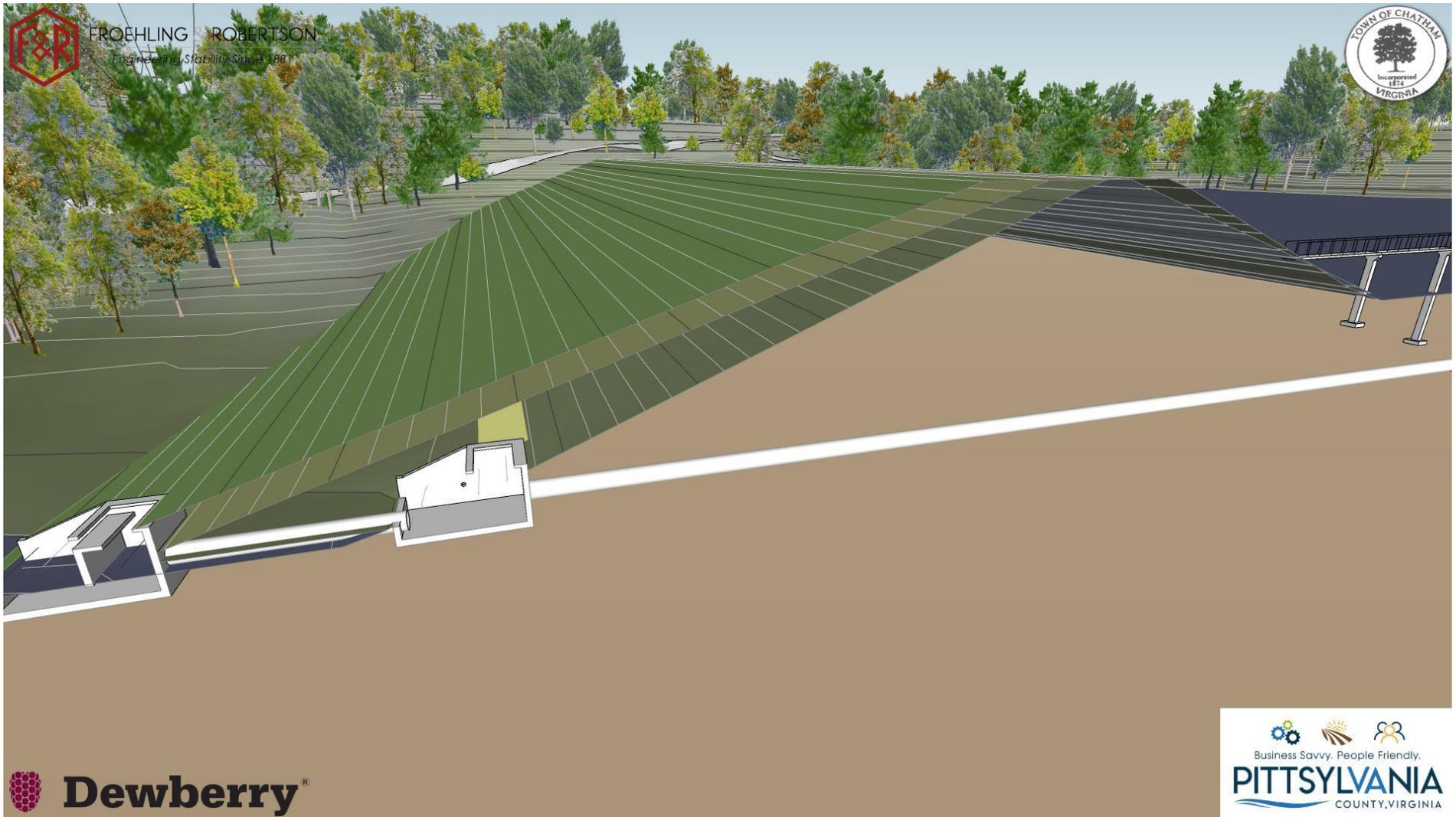


Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #1 – Post Construction Cross Section

5.b.a



Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #1 Estimate

Cherrystone Site 1						
Planning Construction Cost Details						
ALTERNATIVE 4 - RCC ASW OVER THE DAM						
Item	Work or Material	Spec No.	Quantity	Unit	Unit Price	Amount
1	Clearing	1	1	LS	\$ 356.20	\$ 356.20
2	Clearing and	2	6.87	AC	\$ 18,075.00	\$ 124,175.25
3	Structure Removal	3	1	LS	\$ 77,473.00	\$ 77,473.00
4	Erosion and Sediment	5	1	LS	\$ 448,070.00	\$ 448,070.00
5	Seeding and	6	11.13	AC	\$ 2,500.00	\$ 27,825.00
6	Construction Surveys	7	1	LS	\$ 162,262.00	\$ 162,262.00
7	Mobilization	8	1	LS	\$ 243,392.00	\$ 243,392.00
8	Dewatering	11	1	LS	\$ 85,000.00	\$ 85,000.00
9	Diverting Water	11	1	LS	\$ 1,200,000.00	\$ 1,200,000.00
10	Excavation,	21	50,496	CY	\$ 9.00	\$ 454,464.00
11	Excavation, Sediment	21	6,000	CY	\$ 24.78	\$ 148,680.00
12	Excavation, Structure,	21	856	CY	\$ 44.84	\$ 38,383.04
13	Earthfill, Class A	23	8,228	CY	\$ 4.15	\$ 34,146.20
14	Earthfill, Class C	23	46,507	CY	\$ 7.05	\$ 327,874.35
15	Structure Backfill	23	531	CY	\$ 29.45	\$ 15,637.95
16	Drainfill, Fine	24	6,177	CY	\$ 101.00	\$ 623,877.00
17	Drainfill, Coarse	24	2,340	CY	\$ 84.00	\$ 196,560.00
18	Topsoiling	26	1	LS	\$ 127,645.00	\$ 127,645.00
19	Reinforced Concrete	31	205	CY	\$ 848.31	\$ 173,903.55
20	Steel Reinforcement	34	24,332	LB	\$ 1.81	\$ 44,040.92
21	Coarse Aggregate for	36	20,350	TN	\$ 26.00	\$ 529,100.00
22	Fine Aggregate for	36	16,280	TN	\$ 23.00	\$ 374,440.00
23	Cement for RCC	36	2,035	TN	\$ 225.00	\$ 457,875.00
24	Pozzolan for RCC	36	2,035	TN	\$ 87.00	\$ 177,045.00
25	Mix, Convey, Place,	36	20,350	CY	\$ 91.00	\$ 1,851,850.00
26	RCC Test Section	36	1	LS	\$ 90,400.00	\$ 90,400.00
27	Prindpal Spillway	41	67	LF	\$ 840.00	\$ 56,280.00
28	12-Inch PVC Pipe	45	560	LF	\$ 13.10	\$ 7,336.00
29	Riprap Salvage and	61	1,366	CY	\$ 56.81	\$ 77,602.46
30	Water Control Gates,	71	2	EA	\$ 40,000.00	\$ 80,000.00
31	Water Control Gates,	71	1	LS	\$ 49,000.00	\$ 49,000.00
32	Trash Racks	81	1	LS	\$ 56,320.00	\$ 56,320.00
33	Baffle Inlet	81	1	LS	\$ 16,800.00	\$ 16,800.00

Cherrystone #1 Dam - Spillway Upgrade					
Reinforced Concrete Cutback Protection Wall					
	Quantity	Unit	Cost/Unit	Cost	Totals
Mobilization					
Clearing	1	LS	\$ 356.20	\$ 356.20	
Clearing and Grubbing	6.87	AC	\$ 18,075.00	\$ 124,175.25	
Structure Removal	0	LS	\$ 77,473.00	\$ -	
Erosion and Sediment Control	1	LS	\$ 448,070.00	\$ 448,070.00	
Seeding and Mulching	11.13	AC	\$ 2,500.00	\$ 27,825.00	
Construction Surveys	1	LS	\$ 162,262.00	\$ 162,262.00	
Mobilization	1	LS	\$ 243,392.00	\$ 243,392.00	
Dewatering	1	LS	\$ 85,000.00	\$ 85,000.00	
Diverting Water	0	LS	\$ 1,200,000.00	\$ -	
Subtotal				\$ 1,091,080.45	\$ 1,091,080.45
Earthwork					
Excavation, Unclassified	81000	CY	\$ 9.00	\$ 729,000.00	
Excavation, Sediment	200	CY	\$ 24.78	\$ 4,956.00	
Excavation, Structure, Unclassified	100	CY	\$ 44.84	\$ 4,484.00	
Earthfill, Class A	0	CY	\$ 4.15	\$ -	
Earthfill, Class C	81000	CY	\$ 7.05	\$ 571,050.00	
Structure Backfill	100	CY	\$ 29.45	\$ 2,945.00	
Drainfill, Fine Aggregate	1000	CY	\$ 101.00	\$ 101,000.00	
Drainfill, Coarse Aggregate	20	CY	\$ 84.00	\$ 1,680.00	
Topsoiling	1	LS	\$ 127,645.00	\$ 127,645.00	
Subtotal				\$ 1,542,760.00	\$ 1,542,760.00
Concrete Structure					
Reinforced Concrete	1500	CY	\$ 848.31	\$ 1,272,465.00	
Steel Reinforcement	150000	LB	\$ 1.81	\$ 271,500.00	
Reinforced Concrete Adjustmer	0.0	CY	\$ 500.00	\$ -	
Coarse Aggregate for RCC	0	TN	\$ 26.00	\$ -	
Fine Aggregate for RCC	0	TN	\$ 23.00	\$ -	
Cement for RCC	0	TN	\$ 225.00	\$ -	
Pozzolan for RCC	0	TN	\$ 87.00	\$ -	
Mix, Convey, Place, and Cure R	0	CY	\$ 91.00	\$ -	
RCC Test Section	0	LS	\$ 90,400.00	\$ -	
Subtotal				\$ 1,543,965.00	\$ 1,543,965.00
Principal Spillway					
Principal Spillway Conduit, 42-	50	LF	\$ 840.00	\$ 42,000.00	
12-Inch PVC Pipe	560	LF	\$ 13.10	\$ 7,336.00	
Riprap Salvage and Restoration	100	CY	\$ 56.81	\$ 5,681.00	
Ad'l Rip Rap for Seismic Stabili	1.0	LS	\$ 279,000.00	\$ 279,000.00	
Water Control Gates, 12-Inch	0	EA	\$ 40,000.00	\$ -	
Water Control Gates, 42-Inch	0	LS	\$ 49,000.00	\$ -	
Trash Racks	0	EA	\$ 56,320.00	\$ -	
Baffle Inlet	0	LS	\$ 16,800.00	\$ -	
Subtotal				\$ 334,017.00	\$ 334,017.00



Original Construction – circa 1968

1. Significant Hazard Classification
2. 200 foot wide x 6 foot deep Vegetated Spillway
3. 50% PMP Auxiliary Spillway Capacity
4. 3.0:1 Upstream Embankment Slope
5. 2.5:1 Downstream Embankment Slope
6. Traditional Type Principal Spillway Tower



DCR Required Inundation Study in 2010

1. Used required National Weather Service HMR-51 PMP data
2. Used the USACE HEC-HMS and HEC-RAS software
3. Determined dam was now a High Hazard
4. Determined auxiliary spillway capacity was about **50%**
5. Auxiliary capacity is now inadequate



DCR Revises VA PMP in 2016

1. In 2016 VA DCR studied the PMP rainfall data in Virginia
2. This required changing from using NWS data to VA PMP data set for analysis
3. 50% capacity w/ NWS PMP = **85%** capacity w/ 2016 VA PMP



2018 NRCS Preliminary Engineering Study

1. Revised the capacity analysis
2. Used required 2016 VA PMP data
3. Used SITES software (typical for spillway erosion estimates)
4. Evaluated Auxiliary spillway capacity
5. Evaluated Auxiliary spillway integrity
6. Evaluated Seismic stability of the Principal Spillway Tower
7. Evaluated toe drains



2018 NRCS PER Results

1. Spillway capacity 85% (insufficient but close)
2. Vegetated spillway integrity (fails under design loads)
3. Principal spillway tower seismic Factor of Safety insufficient
 1. Dam originally built with this condition but not far from acceptable
4. Toe drains beyond service life



NRCS Recommended Repairs

1. Construct wider spillway on the dam to solve #1
2. Armor spillway with Roller Compacted Concrete to solve #2
3. Drain lake to modify tower to solve #3
4. Install new toe drains to solve #4

Estimated construction cost \$7.8M (local share \$2.7M)



NRCS Repair Risks and Impacts

1. The spillway directly on the dam means if the spillway fails the embankment fails
2. Proposed tower modifications requires draining the lake totally
 1. Environmental impact
 2. Loss of use of the lake for extended period
 1. Loss of water supply temporarily
 2. Loss of fishery
3. Adding new toe drain is a minimal impact



F&R Cost Savings Analysis - Questions we explored

- Can the existing spillway be armored more effectively than the dam?
- Can a cutback protection wall be used instead of an armored channel (favored option)?
- Can the tower be modified without draining to meet the seismic Factor of Safety?
- Can any improvement to one element also help another one?
- **Can the project be completed without draining the lake?**



F&R Cost Savings Analysis Results

1. Raise dam to increase spillway capacity to solve #1
2. Construct Concrete Cutback Protection in the spillway to solve #2 (Proven to not be feasible)
- 2a. Construct Concrete Chute in the existing spillway instead of on the dam to solve #2
3. Modifying the tower under water no longer requires draining the lake totally to solve #3
 1. Reduces environmental impact
 2. Saves the cost of the dewatering and temporary cofferdam
 3. Loss of use of the lake greatly reduced
 1. Loss of water supply impact greatly reduced
 2. No loss of fishery
4. Install new toe drains to solve #4

Estimated construction cost \$7.6 (local share \$2.7M)



F&R Repair Risks and Impacts

1. Placing fill on the top and downstream slope is a minimal impact and adds to its strength
2. The hardened spillway remaining off the dam means if the spillway surface fails the embankment still does not fail
3. Modifying tower without draining the lake totally
 1. Reduces environmental impact
 2. Saves the cost of the dewatering and temporary cofferdam
 3. Loss of use of the lake greatly reduced
 1. Loss of water supply impact greatly reduced
 2. No loss of fishery
4. Replacing the toe drain is a minimal impact
5. Both the dam and spillway will appear similar to today but solves all of the dam safety concerns



Cherrystone Dam #2a Spillway - Today

5.b.a



Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #2a – Clear Trees Toward Dam

5.b.a



Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #2a – Grade Spillway Slope

5.b.a



Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #2a – Excavate for Concrete Chute

5.b.a



Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #2a – Concrete Control Section

5.b.a



Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #2a – Concrete Chute

5.b.a



F&R FROEHLING & ROBERTSON
Engineering Stability Since 1887



Dewberry

Business Savvy. People Friendly.
PITTSYLVANIA
COUNTY, VIRGINIA

Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #2a – Bury Concrete Chute

5.b.a

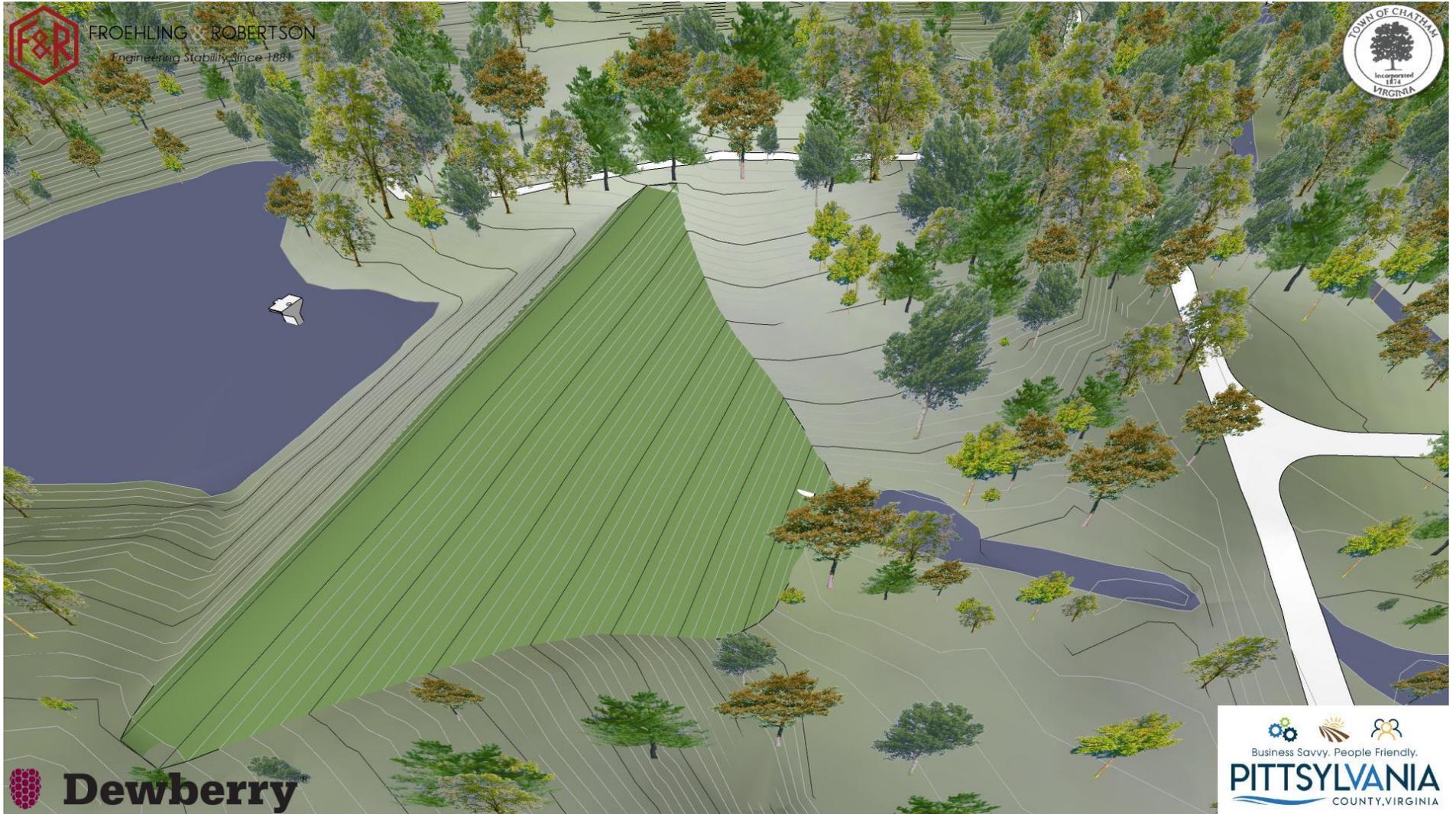


Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dam #2a – Bury Concrete Chute

5.b.a



Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dams – Pre Construction

5.b.a



Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Cherrystone Dams – Post Construction

5.b.a



Attachment: Cherrystone Dams Cost Reduction Summary (2128 : Cherrystone and Roaring Fork Dams



Board of Supervisors
EXECUTIVE SUMMARY
INFORMATION ITEM

Agenda Title:	Finance Committee Recommendations (Staff Contact: David M. Smitherman); (10 minutes)		
Staff Contact(s):	David M. Smitherman		
Agenda Date:	August 18, 2020	Item Number:	6.a
Attachment(s):			
Reviewed By:			

David M. Smitherman, County Administrator, will review with the Board Finance Committee recommendations for potential action at the August Business Meeting.



Board of Supervisors
EXECUTIVE SUMMARY

INFORMATION ITEM

Agenda Title:	Consultation with legal counsel employed or retained by a public body regarding specific legal matters requiring the provision of legal advice by such counsel.		
Staff Contact(s):	J. Vaden Hunt, Esq.		
Agenda Date:	August 18, 2020	Item Number:	8.a
Attachment(s):			
Reviewed By:	<i>VH</i>		

- (1) Legal Authority: Virginia Code § 2.2-3711(A)(8)
 Subject Matter: Franklin County/Cool Branch Fire and EMS Service
 Purpose: Consultation/Advice from Legal Counsel Regarding
 Related Contract Negotiations



Board of Supervisors
EXECUTIVE SUMMARY
INFORMATION ITEM

Agenda Title:	Closed Session Certification		
Staff Contact(s):	J. Vaden Hunt, Esq.		
Agenda Date:	August 18, 2020	Item Number:	9.a
Attachment(s):			
Reviewed By:	VH		

PITTSYLVANIA COUNTY BOARD OF SUPERVISORS
CLOSED MEETING CERTIFICATION

BE IT RESOLVED that at the Meeting of the Pittsylvania County Board of Supervisors (the "Board") on August 18, 2020, the Board hereby certifies by a recorded vote that to the best of each Board Member's knowledge only public business matters lawfully exempted from the Open Meeting requirements of the Virginia Freedom of Information Act (the "Act") and identified in the Motion authorizing the Closed Meeting were heard, discussed, or considered in the Closed Meeting. If any Board Member believes that there was a departure from the requirements of the Act, he shall so state prior to the vote indicating the substance of the departure. The Statement shall be recorded in the Board's Minutes.

	<u>Vote</u>
Joe B. Davis	Yes/No
Timothy W. Dudley	Yes/No
Ben L. Farmer	Yes/No
William ("Vic") Ingram	Yes/No
Charles H. Miller, Jr.	Yes/No
Ronald S. Scarce	Yes/No
Robert ("Bob") W. Warren	Yes/No