CGA Site Remediation Project – Technical Background & Challenges

New Dam Road, Sanford, ME

Revitalizing New England: Brownfields Summit 2022
Devens, Massachusetts
May 19, 2022

SUPPORTING [DOING] LEADING

TRCcompanies.com

How did this happen?

City of Sanford Code Enforcement, 1992

Site Background

Google Earth; Imagery Date 12/13/2015

Google Earth; Imagery Date 9/27/2014

- 18-acre site
- Developed in the early 1970s
- Operated as a pre-cast concrete manufacturer for approximately 5 years
- Then used by CGA as an electronic circuit board recycling facility from the 70's to '91
- The site was abandoned after 1991
- Structure demolished in 2017

Environmental Timeline

1970: Building Constructed

1975: CGA Begins Operations

1991: Violations, Spills, & Complaints – displeased residents, displeased town officials.
CGA operations cease. Debris & drums remain.

1992: DEP to the rescue – Removal Action #1

City of Sanford Code Enforcement, 1992

Environmental Timeline

1970
1990
2000
2010
2018

5 Mid 1990s: More complaints, owner refuses to allow town & DEP access

To: Major Tom Jones

Dt: September 14, 1994

Fm: Chief Gordon N. Paul

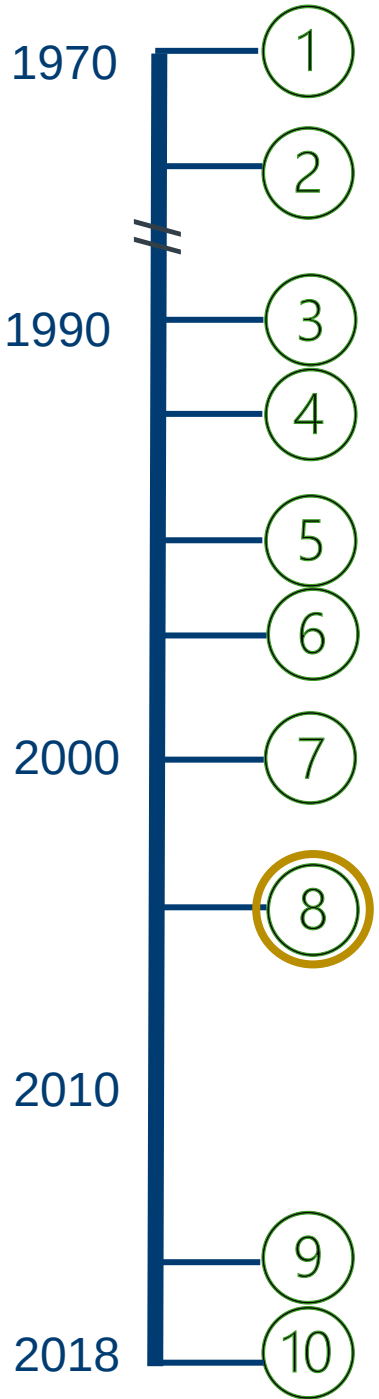
Re: CGA Building Site on New Dam Road

Would you please assign the Crime Prevention Officer and/or a Detective to inspect the property located on New Dam Road for potential security risks. The attached letter seems to indicate that this business is unsecure and their is cause for concern as I have been advised that there may be health risks/dangers associated with materials on the property (chemicals,waste products, etc.)

Please have someone complete this assignment in a timely manner and generate a report to my office so I may inform the Town Administrator and Municipal Officers.

c.c. Mr. Webb, Town Administrator
Mr. Howard, Codes Officer
Mrs. Ballenger, Board of Selectmen

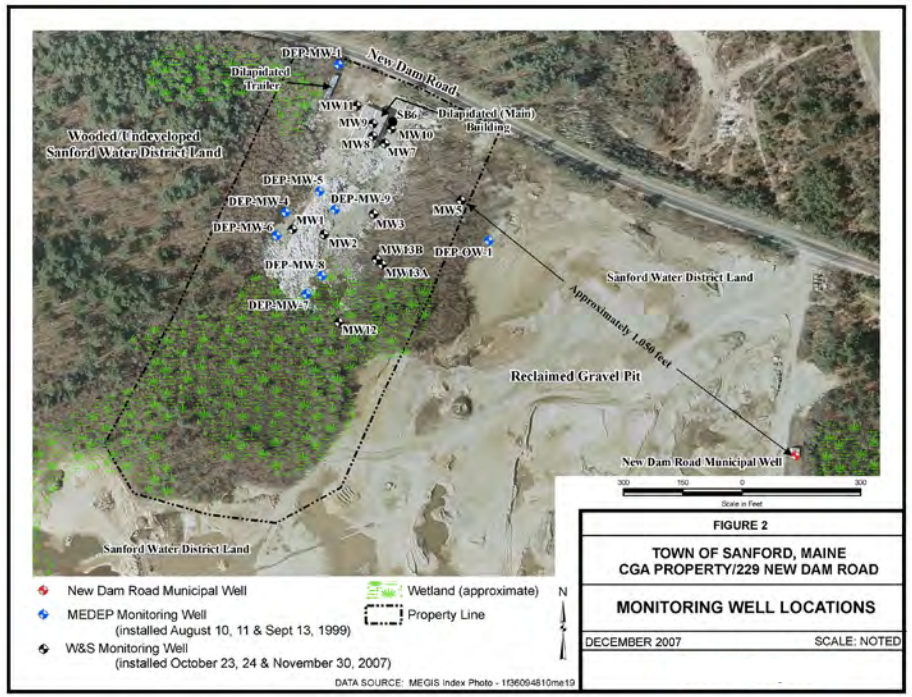
6 1995: CGA to start up operations again? NOPE! Structure fire – conditions continue to go downhill



Environmental Timeline

7 1999/2000: Consent Decree & Order (Maine DEP v. CGA) – Assessment Begins. Copper identified as a COC

8 2007/2008: Phase I ESA, Phase II ESA, Hazardous Building Material Assessment, & Tank Pull – **Brownfields $$ Have Entered the Chat**



Environmental Timeline

1970
1990
2000
2010
2018

1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10

9 2017: Building demo & DEP Removal Action #2

Google Earth; Imagery Date 9/27/2014

Google Earth; Imagery Date 5/4/2018

10 2018: Supplemental Phase II ESA & First ABCA – assumed future use as a park

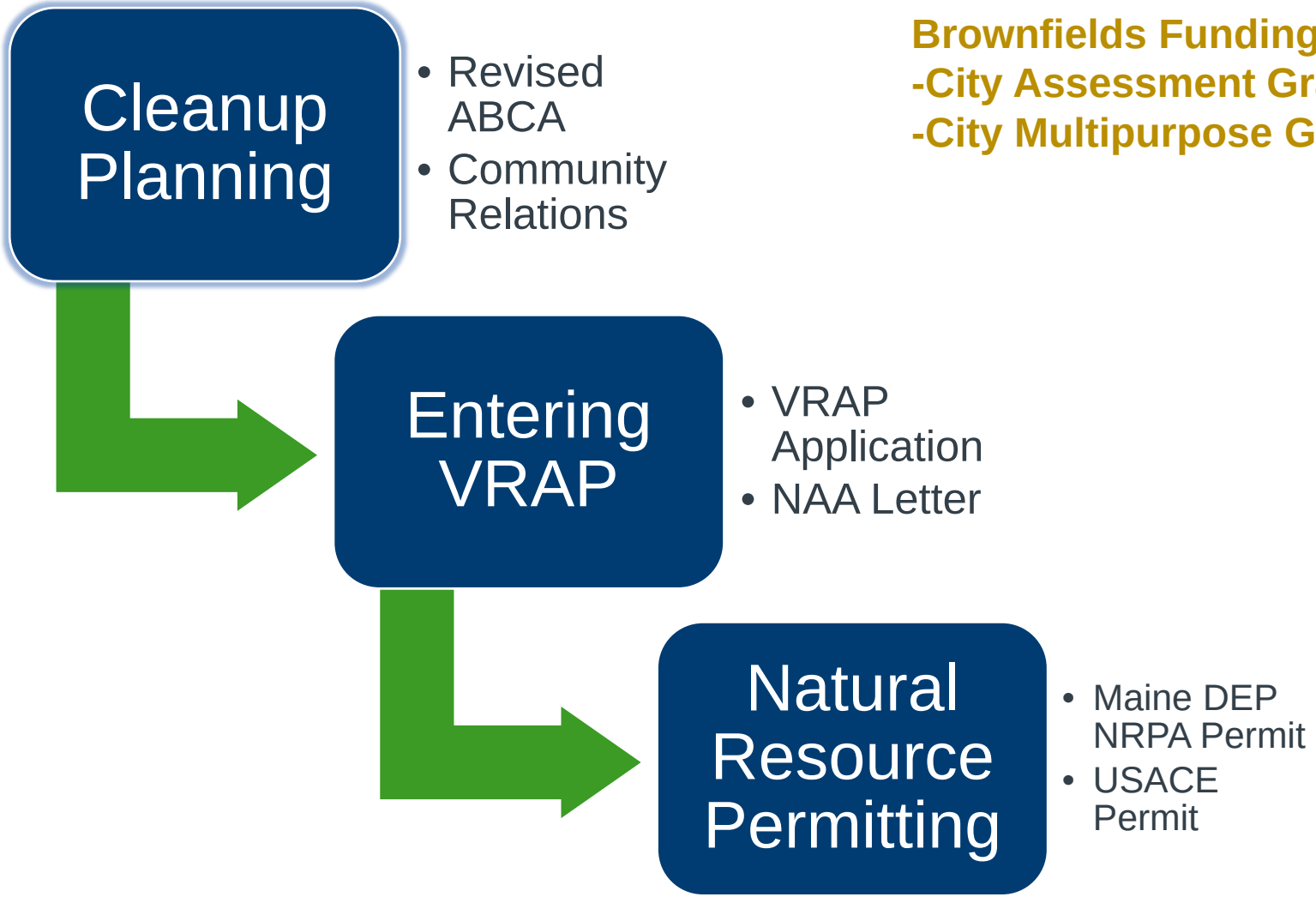
2018/2019 – CGA Site is selected for solar development

2018 Conceptual Design

WALDEN RENEWABLES

What does this mean for the cleanup project?

Technical Approach – Using the Brownfields Program: 2019-2020 Prep Work



Brownfields Funding Sources:
-City Assessment Grant – FY18
-City Multipurpose Grant – FY19

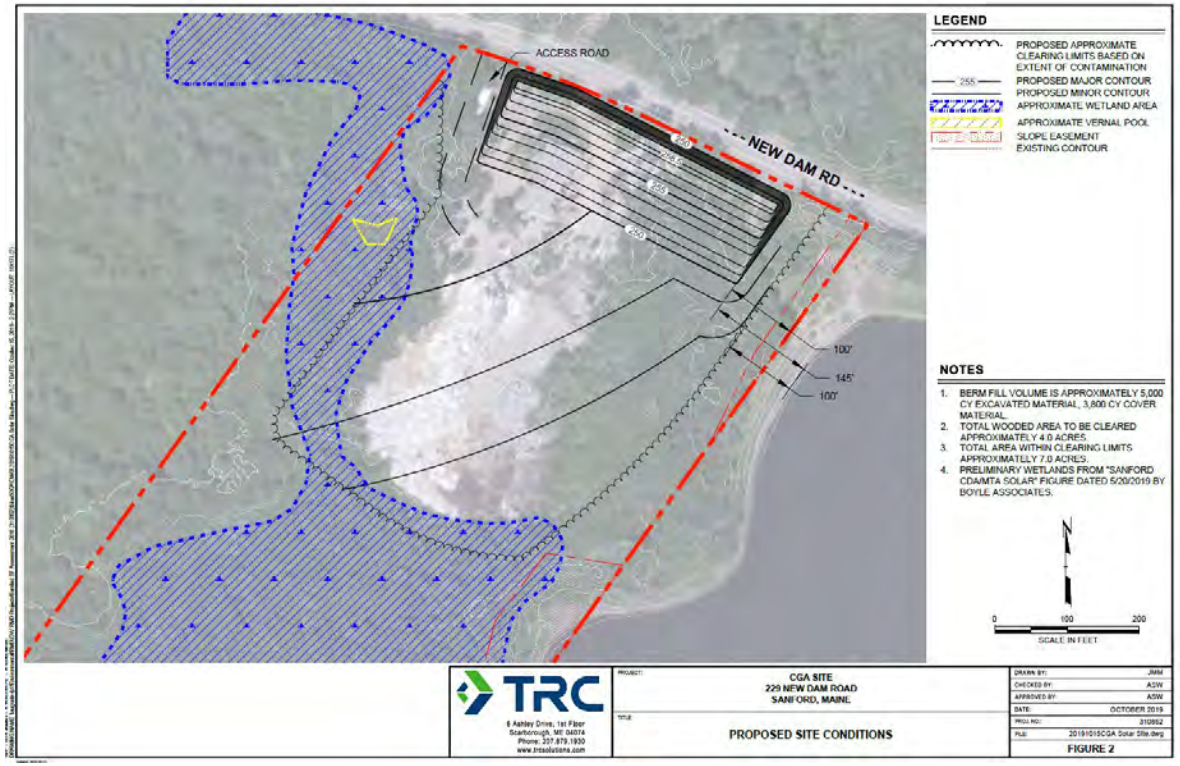
Technical Approach – Using the Brownfields Program: 2019-2020 Prep Work

2019 - Revised ABCA – 4 Remedial Alternatives

Remedial Alternative #3 – Hotspot Excavation, On-site Consolidation / Containment of Contaminated Soils, and Environmental Covenant

Effective, Feasible, & Lowest Cost

	Alternative 2-Containment				Alternative 3- Consolidation and Containment				Alternative 4- Disposal			
	Quantity	Units	Unit Price	Subtotal	Quantity	Units	Unit Price	Subtotal	Quantity	Units	Unit Price	Subtotal
Mobilization	1	lump sum	$20,000	$20,000	1	lump sum	$20,000	$20,000	1	lump sum	$10,000	$20,000
Clearing and Grubbing	4	acre	$5,875	$23,500	4	acre	$5,875	$23,500	1	acre	$5,875	$5,875
Soil Excavation				$0	4,700	cubic yard	$8.50	$39,950	4,700	cubic yard	$8.50	$39,950
General Site Grading	1	lump sum	$10,250	$10,250	1	lump sum	$10,250	$10,250	1	lump sum	$10,250	$10,250
Geotextile Fabric	14,000	square yard	$1.35	$18,900	5,850	square yard	$1.35	$7,898				$0
Cover Soil Placement	9,400	cubic yard	$23	$213,192	3,800	cubic yard	$23	$86,184				$0
Stabilization	7	acre	$1,200	$8,400	7	acre	$1,200	$8,400	4	acre	$1,200	$4,800
Disposal Testing				$0				$0	24	1/250 tons	$200	$4,800
Disposal				$0				$0	5,710.50	ton	$100	$571,050
Environmental Covenant	1	lump sum	$3,500	$3,500	1	lump sum	$3,500	$3,500				
Construction Subtotal				$297,742				$199,682				$656,725
Construction Quality Assurance	1	lump sum	$30,000	$30,000	1	lump sum	$30,000	$30,000	1	lump sum	$30,000	$30,000
Subtotal Cost				$327,742				$229,682				$686,725
Contingency (25%)				$74,435.50				$49,920.38				$164,181.25
Total Cost				$402,177.50				$279,601.88				$850,906.25



2020 - Accepted into VRAP

Natural Resource (Wetlands) Permitting

No problem, right?

TRC, 4/17/2020

Natural Resource (Wetlands) Permitting

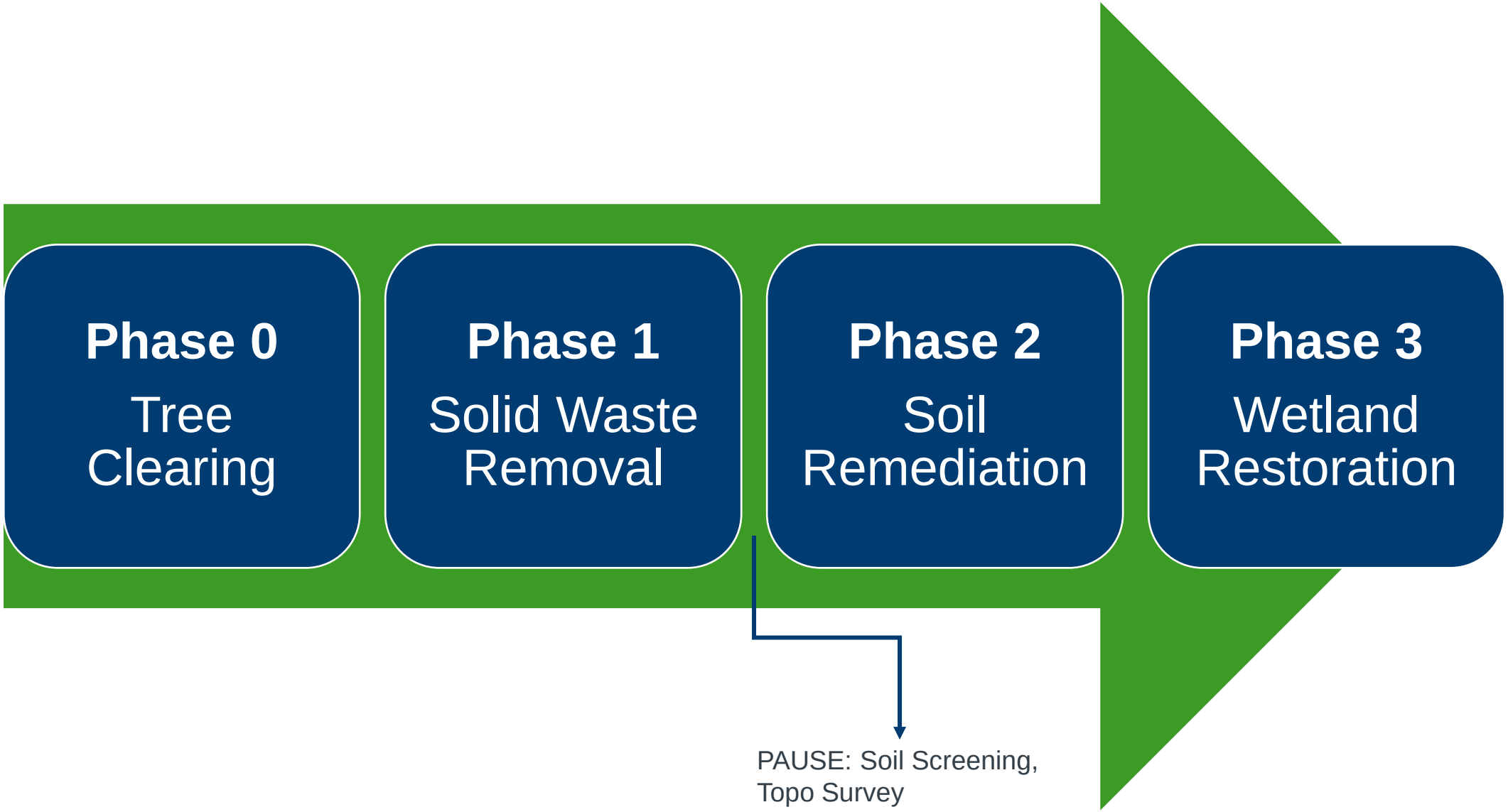
June 5, 2020 – Permit Application Submitted

August 19, 2020 – MEDEP Approval

Discussions with USACE

October 30, 2020 – USACE Approval

Technical Approach – Using the Brownfields Program: 2021 Site Work

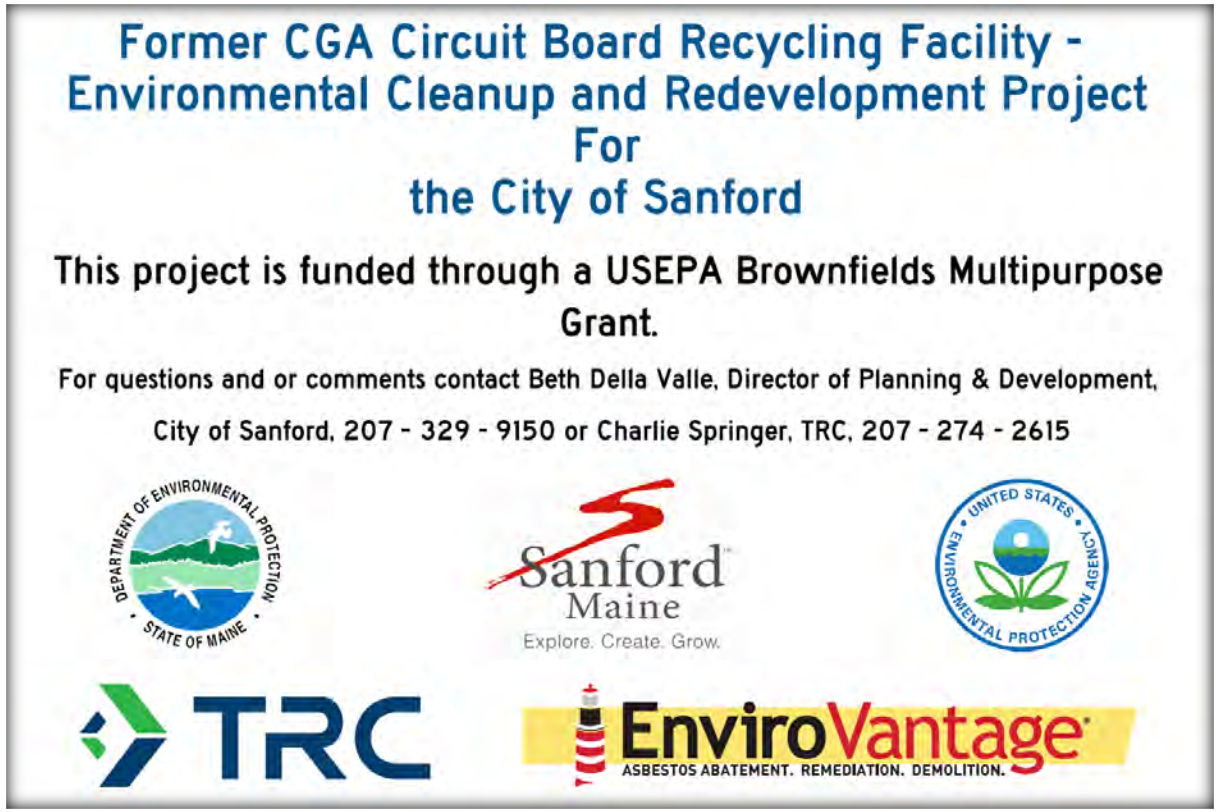


Phase 0 – Tree Clearing

- Tree clearing contractor secured by the City in August 2021
- Site cleared by early September

Phase 1 - Solid Waste Removal

- Solid waste removal contractor funded by **EPA Brownfields Multipurpose Grant**
- Work started in late August and was completed in mid-October



Photos – During Removal

Photos – During Removal (continued)

Photos – During Removal (continued)

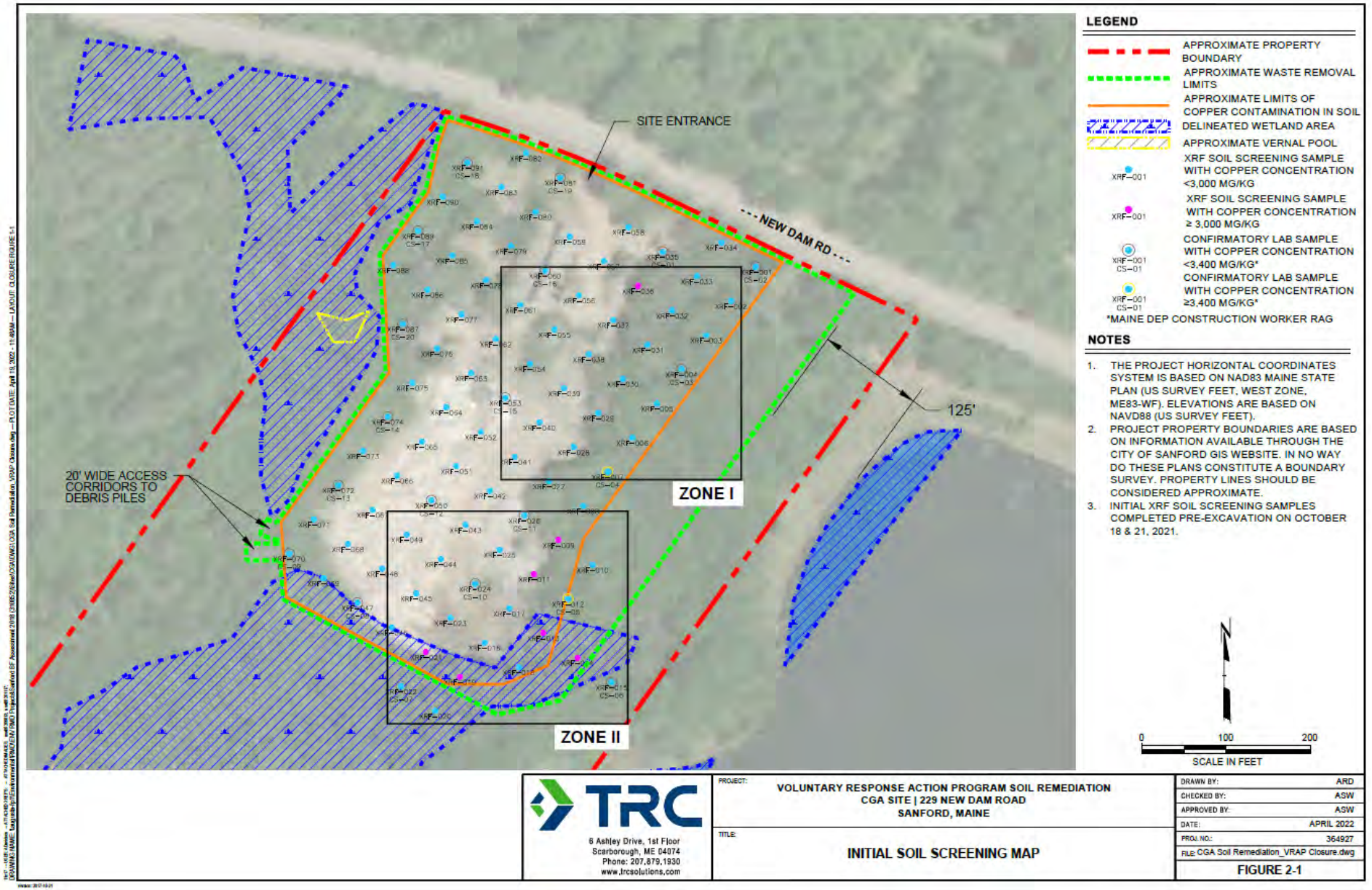
Photos – The Last Truck!

Photos – Post Solid Waste Removal

Over 2,000 tons of waste were removed in Fall 2021.

Costs greatly exceeded expectations – **Brownfields RLF Loan & Subgrant** from DEP to cover the difference

Phase 1 Complete – Soil Screening (DEP Partnership)



Phase 1 Complete – Pause for Soil Screening (DEP Partnership)

Based on XRF screening, the volume of soil containing copper above the regulatory threshold & requiring remediation was reduced by **95%**.

Is the 2019 ABCA still accurate? Time for an update (3rd time is the charm).

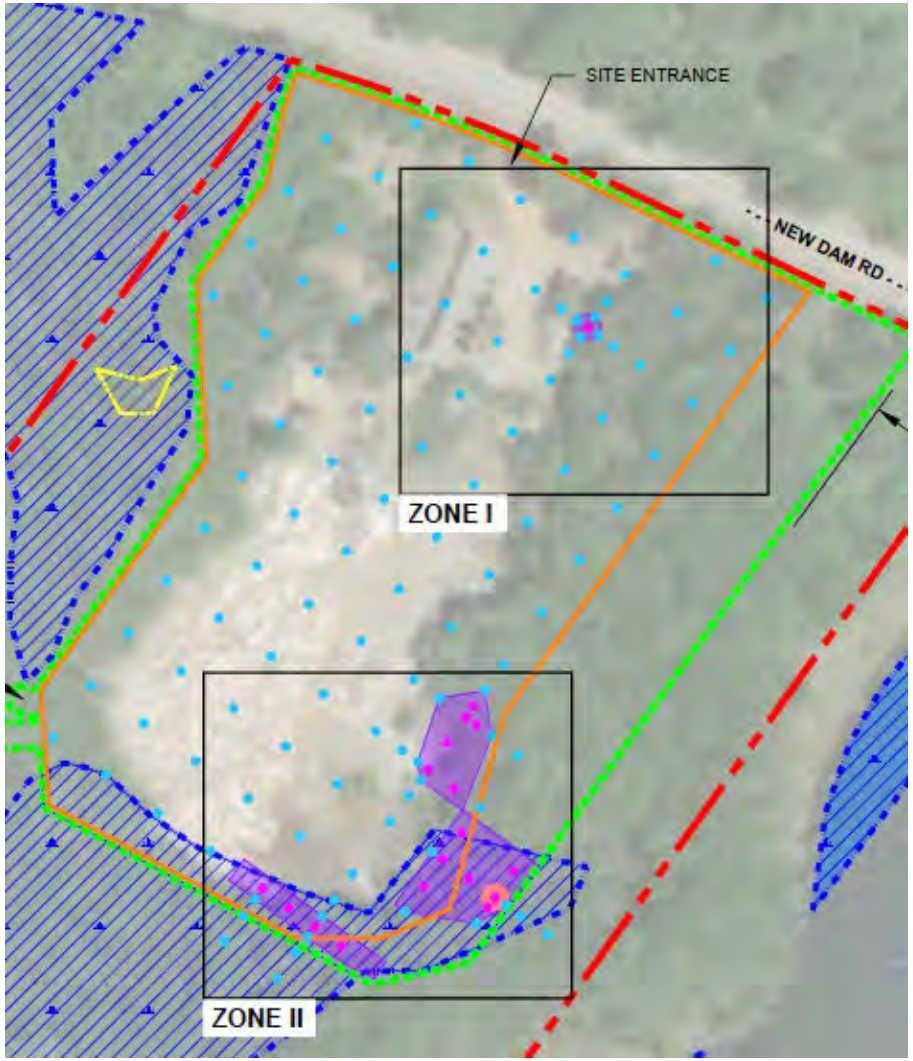
Analysis of Brownfields Cleanup Alternatives – Update

			Alternative 2- Containment		Alternative 3- Consolidate and Cap		Alternative 4- Offsite Disposal	
DESCRIPTION	UNITCOST	UNIT	QTY	TOTAL	QTY	TOTAL	QTY	TOTAL
Mobilization	$ 18,450.00	LS	1	$ 18,450.00	1	$ 18,450.00	1	$ 11,000.00
SITE WORK								
Soil Excavation	$ 2,500.00	1/500 CY	0	$ -	0.6	$ 1,500.00	0.6	$ 1,500.00
Dewatering	$ 2,000.00	1/500 CY	0	$ -	0.6	$ 1,200.00	0	$ -
Rough Grading	$ 2,500.00	1/acre	1	$ 2,500.00	0	$ -	0	$ -
Geotextile	$ 0.47	Sq ft	12000	$ 5,640.00	600	$ 282.00	0	$ -
Cover Soil Placement	$ 27.31	CY	450	$ 12,289.50	66	$ 1,802.46	0	$ -
Top Soil Placement	$ 52.27	CY	450	$ 23,521.50	22	$ 1,149.94	0	$ -
Berm Stabilization	$ 1,200.00	LS	0	$ -	1	$ 1,200.00	0	$ -
Stabilization	$ 935.00	acre	6	$ 5,610.00	6	$ 5,610.00	6	$ 5,610.00
Environmental Covenant	$ 3,000.00	EA	1	$ 3,000.00	1	$ 3,000.00	0	$ -
WETLAND RECONSTRUCTION								
Clean Subgrade/ Organic Soil	$ 36.00	CY	375	$ 13,500.00	375	$ 13,500.00	375	$ 13,500.00
Permanent Stabilization-Vegetation	$ 3,850.00	acre	0.45	$ 1,732.50	0.45	$ 1,732.50	0.45	$ 1,732.50
Wetland Shrubs	$ 61.00	each	400	$ 24,400.00	400	$ 24,400.00	400	$ 24,400.00
ENVIRONMENTAL/SOIL DISPOSAL								
Soil Disposal Cost	$ 137.50	TON	0	$ -	0	$ -	375	$ 51,562.50
Analytical/Pre-characterization Samples	$ 750.00	EA	0	$ -	0	$ -	2	$ 1,500.00
LONGTERM MAINTENANCE								
Annual Inspection and Repairs	$ 2,000.00	1/year	0	$ -	20	$ 40,000.00	0	
		SUBTOTAL		$ 110,643.50		$ 113,826.90		$ 110,805.00
		Contingency (25%)		$ 27,660.88		$ 28,456.73		$ 27,701.25
		Construction Administration		$ 20,000.00		$ 20,000.00		$ 5,000.00
		TOTAL		**$ 158,304.38**		**$ 162,283.63**		**$ 143,506.25**

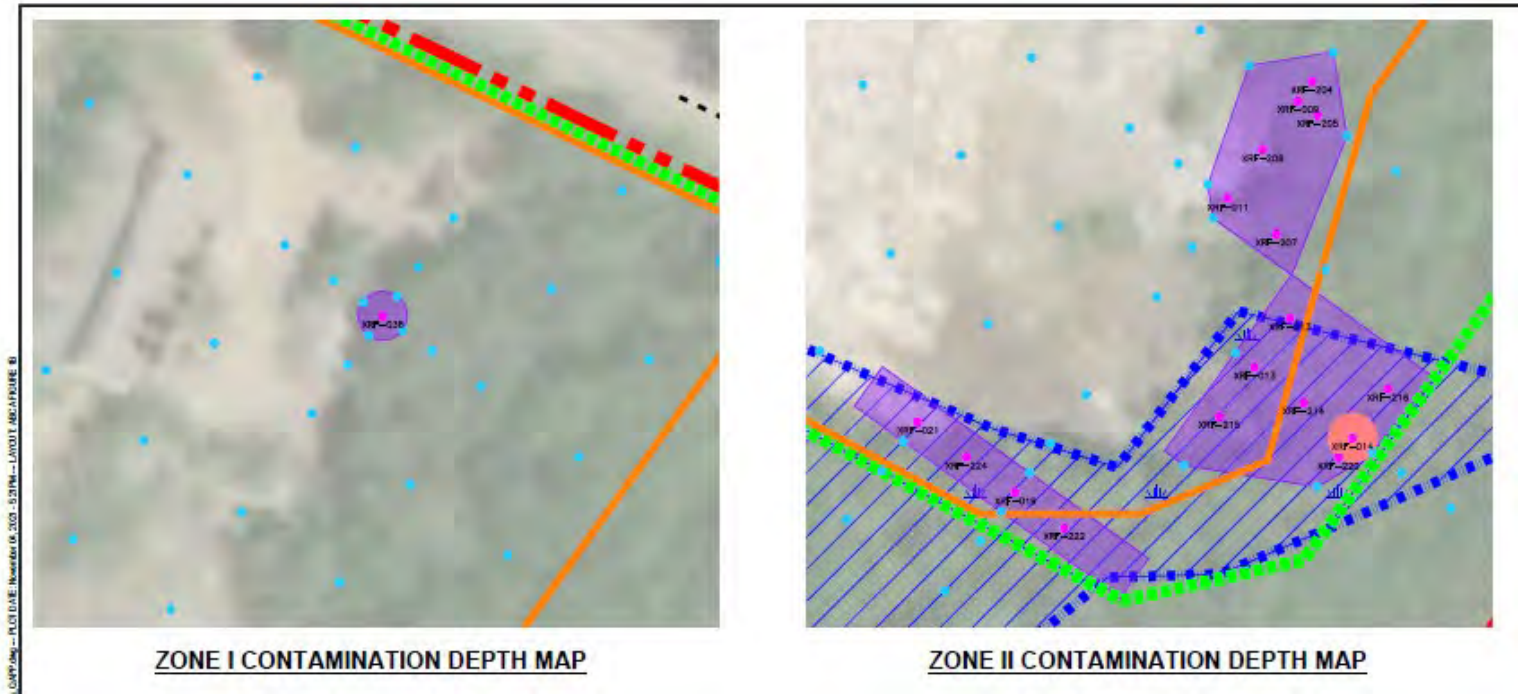
Notes:

Reference: Unit pricing obtained from recent contractor bid

Phase 2 – Soil Remediation – Excavation and Off-Site Disposal



Completed in December 2020



ZONE I CONTAMINATION DEPTH MAP

ZONE II CONTAMINATION DEPTH MAP

Phase 2 – Soil Remediation

Phase 2 – Soil Remediation

Unique site challenges!

Phase 3 – Wetland Restoration - Prep Work Ongoing

Site Closure

Completion Report – April 2022
Includes EMMP

Declaration of Environmental Covenant (deed restriction) in process
- Limit extraction & use of groundwater
- Site work resulting in disturbance of soil &groundwater must be conducted in accordance with the EMMP

VRAP Certificate of Completion – estimated receipt in Summer 2022

Funding Sources (who has chipped in)

- City of Sanford
  - Contracted Survey
  - Contracted Tree Clearing
  - $40,000 required match
  - Labor and Equipment

- Walden Renewable Development
  - Wetland Assessment
  - Natural Resources Assessment

- Maine DEP
  - Assessment Funding
  - Cleanup Funding
  - Brownfields RLF Loan & Subgrant
  - Labor and Equipment

- U.S. EPA
  - Brownfields Assessment Grant
  - Brownfields Multipurpose Grant

Before (1990), During (2020), & After (2021)

Before (1990), During (2020), & After (2021)

Before (1990), During (2020), & After (2021)

Thank you!

Emily Wassmer, PG, LG
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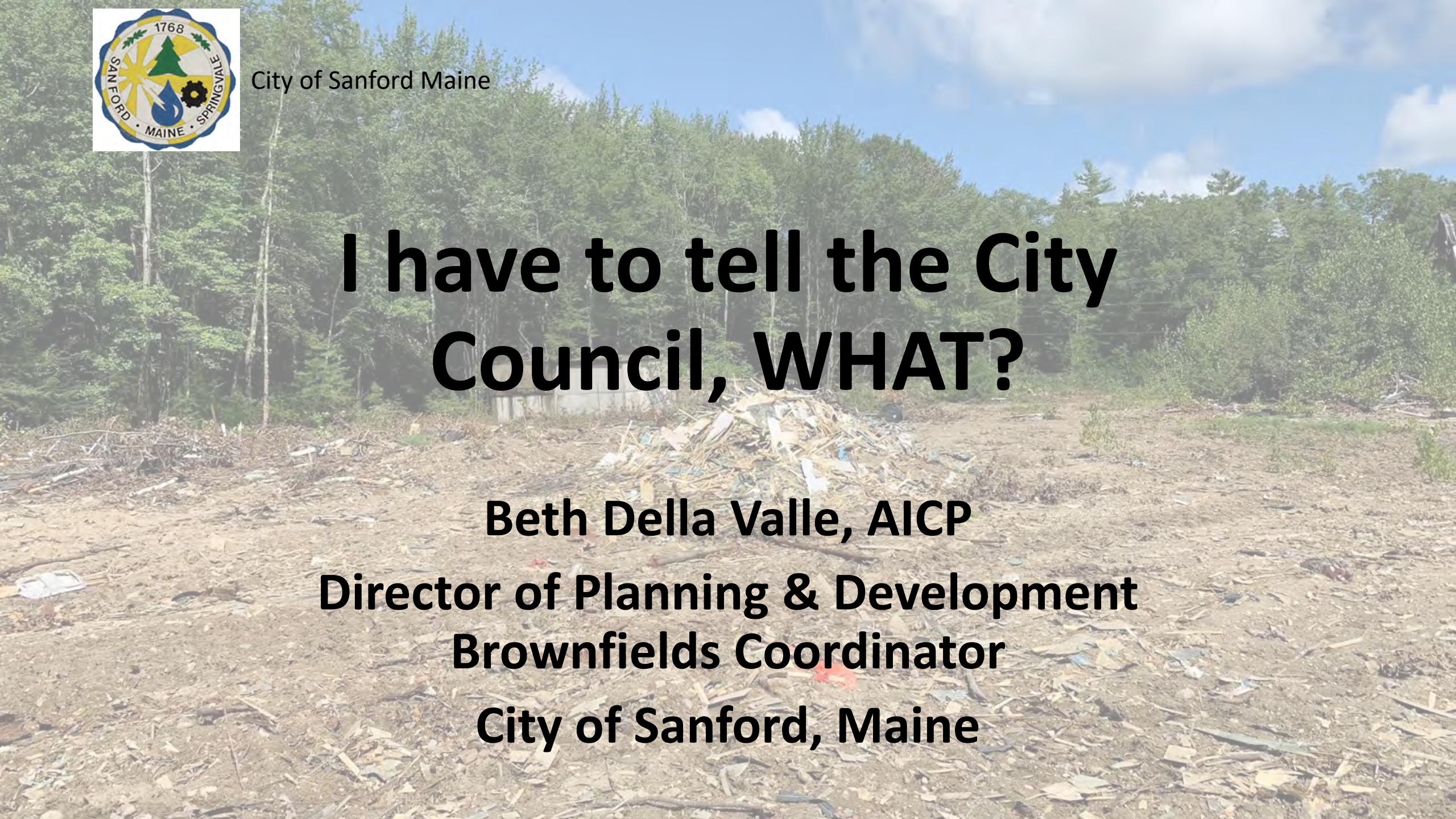
(207) 298-0785



City of Sanford Maine

I have to tell the City Council, WHAT?

Beth Della Valle, AICP

Director of Planning & Development

Brownfields Coordinator

City of Sanford, Maine

City of Sanford Maine

Municipal perspective

- Residents pressured City to acquire site before knowing extent of environmental issues
- Lack of action kept eyesore and environmental hazards prominent in public's mind
- Returning EPA BF grant gave time to prepare strategies for aspects not eligible for BF funds
- Tying cleanup to sustainable redevelopment and new tax and lease revenues – this is a win-win-win for the City

City of Sanford Maine

Manage local politics

- Regular communication with City Council, Planning Board, and City Departments about progress, as well as roadblocks
- Regular communication re progress/challenges with regulators – DEP, Army Corps, others
- Regular communication with local and social media
- Make it visual - create “wall” of pre, ongoing, and post cleanup images

City of Sanford Maine

CGA BROWNFIELDS SITE
NEW DAM ROAD

Abandoned Waste
and Clean Up

PRIVATE

City of Sanford Maine

Coordinate multiple departments

- Started with support from City Manager, who is direct conduit to City Council
- Got buy-in to common goals from various departments and districts – Public Works, Parks and Recreation, Code Enforcement, Police Department, Sewerage District, Water District

City of Sanford Maine

Creatively allocate municipal funds

- **Used departmental operating and capital budgets to fund “pieces” of the project**
- **Used wood chips from tree clearing to support departmental operations and reduce contracting costs**

City of Sanford Maine

Facilitate (and foster) public/private partnerships

- **Reach out to and work with <u>everyone</u> – EPA, DEP, Maine Turnpike Authority, Regional Planning Commission, municipal departments, utility districts, private developer, BF contractors, local organizations, residents**

City of Sanford Maine

Roll with the punches & trust the Team

- **Keep a sense of humor**
- **Keep your eye on the ultimate outcome – a clean, sustainably redeveloped site**
- **For each problem we solved, it seemed like two new ones surfaced – keep the faith and tackle each new problem as it emerges**
- **Take it a step at a time – celebrate small successes**
- **Appreciate you partners, share the credit, and publicly thank them**

Walden Renewables

A Developers Perspective – Sanford CGA

You found

Developer Perspective on Siting

- Never as much land as you think
- Be prepared for surprises during the survey work (land, species, bogs)
- Find a strong team (local/competent/respected)

WALDEN
RENEWABLES

Permitting Complexities

- Measure 17 times, cut 6
- Expect permitting to take longer – especially now
- Multiple layers permitted in sequence or parallel
- Develop a strategy with multiple contingencies

WALDEN
RENEWABLES

Reuse of Waste Site for Clean Power

- Easy to gain acceptance in community
- Good for company reputation – value to broader industry
- Be aware there are community members who want it to remain

WALDEN
RENEWABLES

Working with Lenders on Financing

- Costs for construction/restriction associated with site considered
- Be ready to package it up multiple times for multiple teams
- Minimize all environmental impact – demonstrate benefit

WALDEN
RENEWABLES

Keep on Truckin’

- Propose to be operational with a few extra years available
- Talk with others and evaluate current conditions
- Do what you can in the interim

WALDEN
RENEWABLES

Eventually, You See the Light

WALDEN
RENEWABLES

Contact

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Head of New England Development
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Portland, ME 04101
w: 603.570.4842
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www.waldenrenewables.com

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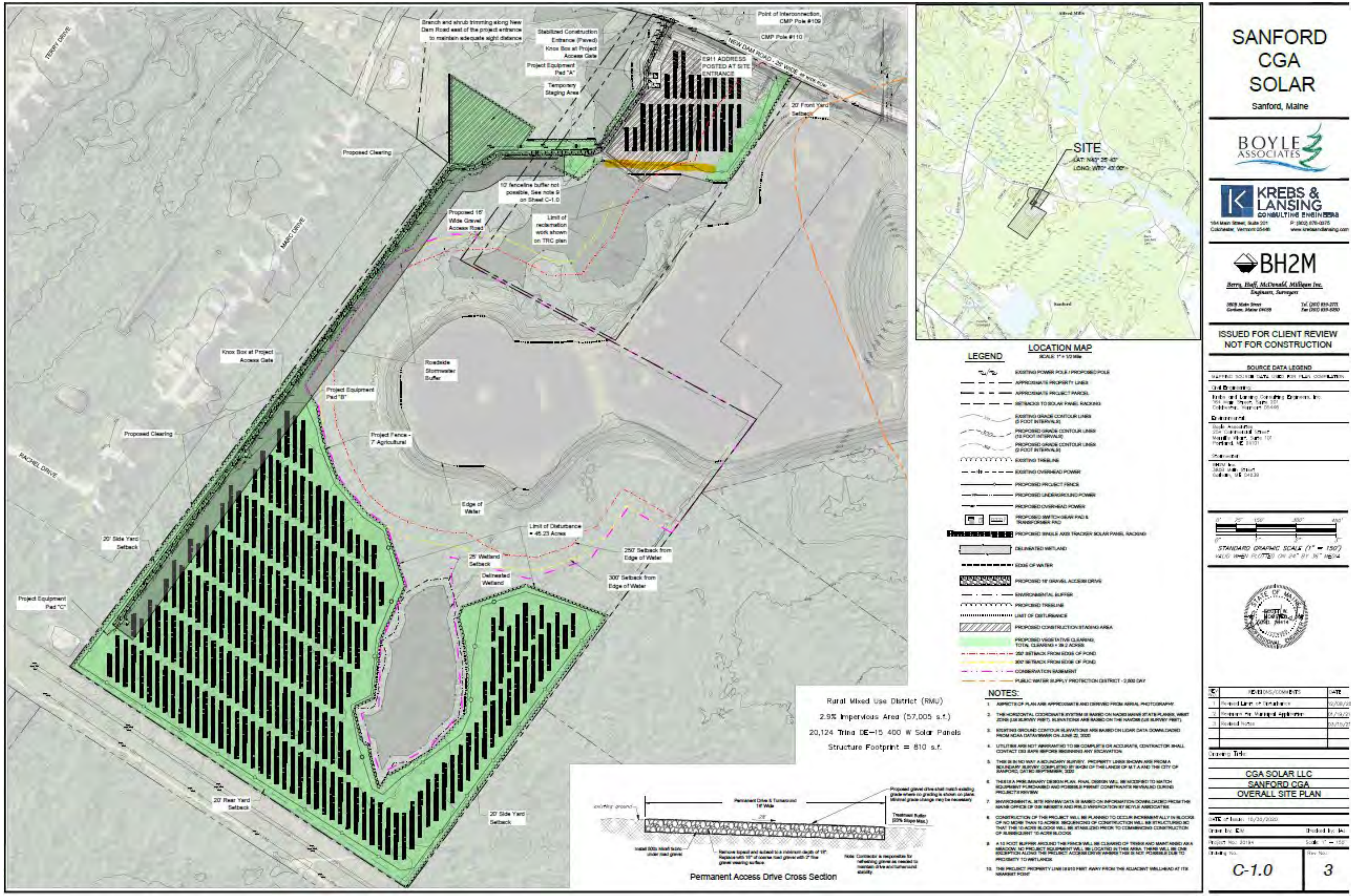

WALDEN RENEWABLES

CGA Site Brownfields Redevelopment – Funding Sources Demystified

New Dam Road, Sanford, ME

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SUPPORTING [DOING] LEADING

TRCcompanies.com

What everyone in the audience is thinking right now!

CGA Brownfields / Skyrocketing Construction Costs

- 2008 - Original cost estimate = $150,000
- 2015 - Updated cost estimate = $250,000
- 2018 - Updated cost estimate = $350,000
- 2020 - Pre-construction cost estimate = $690,000
  - (includes solid waste removal)
- 2022 - Final remedial budget = $1,000,000

Don’t wait; it will just be more expensive!

Holy Cow That Is Expensive!

How Do We Pay For All Of This?

CGA Funding between 1992 and 2018

26 Years!!!

- Maine DEP Removal Action (1992) = unknown
- Sanford Brownfields Assessment Funding (2004 & 2009) = $45,000
- Maine DEP Solid Waste Removal Funding (2017) = $308,000
- Maine DEP 128(a) Assessment Funding (2017) = $25,000
- Sanford Brownfields Cleanup Funding = $200,000 (*grant unused / returned*)
- Sanford Brownfields Assessment Funding (2018) = $18,000
- Sanford Municipal In-Kind (over time) = $25,000 (estimate)

Sub-Total (pre-2019) = $421,000

CGA Funding since 2019

- Sanford Brownfields Multipurpose Funding = $500,000
- Sanford Brownfields Multipurpose Match = $40,000
- Sanford Brownfields Multipurpose Leveraged = $40,000
- Maine DEP Field Services = $10,000 (estimate)
- Sanford Municipal Funding (tree clearing)= $45,000
- Sanford Municipal In-Kind = $25,000 (estimate)
- Maine DECD RLF Loan Funding = $100,000
- Maine DECD RLF Grant Funding = $200,000
- Private Funding = $15,000 (estimate)

Sub-Total (since 2019) = $975,000

CGA “All-In” Funding

- Sub-Total (2018 and before) = $421,000
- Sub-Total (since 2019) = $975,000
- **Grand total = $1,396,000**

You Have to Start Somewhere

Be Committed to the Long Road

Focus on what is achievable "today" with an eye on the ultimate goal

Celebrate the milestone achievements along the way

So, how do you pull it off?

1. Surround yourself with a strong Team that is committed to a common goal
2. Maintain open communication with all parties, including regulators
3. Strong relationships allow for partners to be vested and find ways to meet the challenge
4. Don’t ever give up (if it was easy, someone else would have already done it)

Your Efforts Will Be Rewarded

In the end, it will all be worth it!

Thank You!

Charlie Springer, PG, CHMM
Brownfields Program Manager
Northern New England Practice Leader
Engineering, Construction, Remediation Group

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Open Discussion / Q&A