

## October 2023 CAP Meeting - Lake Success

Tom Stilley, Corteva Remediation Group Leader

October 3, 2023

## October 2023 Agenda

•Welcome and Instructions - Tom Stilley - Remediation Group Leader, Corteva Remediation Group, Vice President – Sporting Goods Properties Inc.

Project Updates

- Site Background Information
- Wetland and Ecological Evaluation Sitewide
- Success Lake Remediation Recap
- Site Roads Remediation and Cap Area Management
- Redevelopment Concept Plan
- •Wrap Up/Questions



#### Lake Success - Opening Thoughts

- We are very happy that you are able to attend today and see the significant progress that we continue to make on our site cleanup program.
- We have maintained excellent progress on our cleanup program despite the extra challenges and burdens that everyone continues to experience related to global economic conditions
- We will continue to use a combination of in-person and virtual meetings to update the community about the site.



### **Corteva Agriscience – Who we are**

- Corteva was formed from combining the agricultural businesses of Dow and DuPont
- June 1, 2019 was our first official day of operation as a publiclytraded independent company
- The stock ticker is CTVA, and we have a \$36B Market Capitalization
- Sporting Goods Properties Inc. is a wholly-owned subsidiary of Corteva, and has managed the remediation program since its inception



## **Definition of Terms**

- AEC = Area of Environmental Concern, which is an area that may have had impacts from historic site operations
- CAMU = Corrective Action Management Unit, a designated area on the site where we manage and cap our impacted soil
- ACO Administrative Consent Order, the legal document that forms the basis for our cleanup obligations. We have compatible ACOs with EPA and CT DEEP



#### Lake Success Business Park (LSBP)

- Bridgeport/Stratford, CT
- 420 Acres
- Former Remington
  Arms manufacturing
  and testing site





## LSBP Regulatory Program

- Work is governed by two consent orders with USEPA and CT DEEP
- Three primary remedy areas of focus:
  - 1. Upland soil most site areas have been addressed, working on site interior roads
  - 2. Lake remediation is completed, restoration work is being monitored and maintained
  - 3. Wetlands and Groundwater sampling and investigation underway, with remediation being evaluated



## Wetland Study Areas (in green)



Path: S:ProjectsIMSDUPONT/LKSUCCESS/Projects/Pore Water Sampling Work Plan - 2021) Figure 1-1 - Evaluation Wetlands.mxd



# **Site Wetlands**



## **Wetland Study Areas**

- All wetland areas have been mapped, along with vernal pool areas
- Collected sediment and surface water samples at 8 different wetland areas for evaluation and compared results to ecological benchmarks
- Collected pore water samples to determine if constituents are present in the water entrained in the sediment
- Used data to conduct an environmental risk assessment



## Wetland Study Areas

- An ecological risk assessment determined that some sediment removal is needed in each of the wetland areas
- In 2022 we completed a second round of sampling to refine the delineation areas and recently submitted a report to EPA and CT DEEP with findings
- The second round of samples slightly increased the area of sediment removal in each wetland



#### **Pore Water Sampling in Wetlands**

Using Henry Probe and Syringe to Collect Pore Water Sample A Sampling Location at West Branch of Roadway 12/10/2020 08:11 Brook Marsh

A Sampling Location at AEC 21 Wetland



male

## Wetlands – Next Steps

- The sampling delineated areas of concern from past site activities, and built off previous sampling results
- We conducted field sampling in December 2022, and that timing was dictated by the needed water level in the wetlands
- After evaluating the data, we are developing a plan to remediate and restore any needed areas and file for the required permits



## **Next Steps for Wetlands**

- SGP will submit a Corrective Measures Implementation Plan for EPA and CT DEEP approval to remove impacted wetland sediments and restore wetlands habitat restoration
- Sediments will be excavated and placed in the on-site future cap area
- Started wetland permitting process (Federal, state and local permits) for these remediation activities
- Remediation is planned for Summer/Fall 2024



# Questions?



## **Success Lake Remediation**





## Lake Project Timeline - 2018 to 2022

- Site preparation and equipment mobilization August 2018 to June 2019
- Sediment excavation from lake 2019
- Munitions separation and management From June 2019 to September 2022
- Restoration Multiple phases, starting in Spring 2021
  and completed in October 2022
- Maintenance of restored areas for the next 5 years
  - Normal attrition after first planting cycle
  - Beaver damage in winter 2021-2022



#### **Success Lake Remediation by the Numbers**

- Over 92,000 cubic yards of sediment dredged and processed
- Over 5,000 items of munitions recovered and managed safely
- 74,000 cubic yards sand and topsoil produced for on-site beneficial re-use (sustainable)
- 24,000 cy tailings processed and placed in CAMU (no trucks through neighborhoods)
- 6,400 ft of shoreline restored
- Restoration plantings in 2021-2022
  - 25,000 aquatic plants
  - 1,500 trees and shrubs
  - 3,000 other plantings



#### Success Lake Remediation Over \$15 MM in Local Goods and Services

- Over 80,000 Hours of Union Craft Labor
- Professional Services
  - Engineering
  - Laboratory
- Equipment
  - Construction
    Equipment
  - Pumps and Generators
- Materials
  - Stone
  - Plantings
- Taxes and fees



Morning Safety Briefing with Social Distancing



## Lake - Shoreline Restoration



#### **COMPLETED LAKE HABITAT BENCH**





### Littoral shelf plantings (plugs)





#### Installing plugs into gentle slope





# Restored areas showing new growth





## Lake - Upland Grass Restoration



#### Measuring grass seed before mixing





#### Hydroseeding operation for upland areas





### **Current growth**





## **Lake - Forest Restoration**



#### Staging woody shrubs and trees





#### **Restoring former lake access ramp**





### **Plantings after installation**





#### New tree plantings protected by deer fence





# Questions?



# **Site Roads Remediation**

This work started in October 2022 and will continue through 2024.



## **Site Roads Project**

Over 5 miles of interior site roads require remediation We have collected almost 1,500 samples to verify extent of impact

We have moved over 4,000 truck loads of soil into our cap area

At the completion of the project in 2024, we expect to handle 40,000 cubic yards of soil After we are done with the site roads and wetlands projects, we will install a protective cap over the soil



#### **Site Roads Excavation**





#### **Site Roads Excavation**





#### **Site Roads Excavation**





# Site Road Excavation – showing variable conditions







### How do we know where to dig?

This unit is called an XRF. It measures the amount of lead in the soil. This saves time compared to collecting a sample and sending it to a lab for analysis.

We participate in a Quality Control program that measures the accuracy of our XRF machine.





#### **Site Roads Restoration**





#### **Restored Site Road**





#### **Restored Site Road**





# **Cap Area Management**



## **Cap Area Management**

Area that will safely contain soil from other areas on site

- Roadway Brook
- Some lake material
- Some of the interior site roads
- Several remaining upland areas with soil containing lead exceedances

Sustainable approach that is protective while greatly reducing truck traffic and greenhouse gas generation



## **Soil Screening Operations**





#### Spreading out soil in future cap area





#### Soil placement in future cap area





# Stabilizing soil so that it meets EPA and CT DEEP requirements





# Placing soil in shallow lifts and compacting in place





### Soil placement in future cap area





# Questions?



## **2024 Activities**



# **2024 Activities**

Continue excavation and restoration of interior site roads

Remediate and restore wetlands

Statistical-based random sampling of site to verify completeness of investigations and cleanup

Continue monitoring of restored areas

- Roadway Brook
- Lake

Complete design and permitting for future cap installation



# Site Redevelopment Options



# **Important to Remember**

- We are at the concept planning stage, with about 2 plus years of remediation remaining still to complete
- Remediation schedule is subject to change based on a number of factors, including future sampling results and agency approvals
- Public input will be part of the redevelopment process



## **Redevelopment Factors**

- Significant Conservation Areas and Open Space
- Preserve sensitive ecological habitats
- The site has limited road access and has a long industrial history with munitions
- Concentrate redevelopment at previouslydisturbed areas
- Recognize the effect of site constraints and local real estate market on redevelopment



#### **Site Setting**





#### Active work areas



**Disturbed Areas** 



#### Watercourses and Wetlands





## Forestland and Rock Outcrops





#### Types of Uses Considered for Redevelopment

- Office/Research and Development
- Hotel and Conference Center
- Green and Low Impact Manufacturing
- Skilled Trades
- Passive Recreation
- Solar cells
- Nature Center



Pictures are not from site



#### **Conservation Area**

70% +/- of property would be open space (about 300 Acres)

Possible walking trails

Possible educational learning areas with signage

Controlled Access Around Lake





Pictures are not from site



# Caring for the future of the site

Protecting a valuable and extensive forested area, requires significant financial resources to:

- Support staffing and programming
- Provide adequate security (we currently spend about \$200K per year)
- Repairs, maintenance and upkeep

Unlike most small urban parks, the site is large and isolated, therefore some development is valuable and necessary to provide eyes on the site to maintain and protect the natural features and habitat

We will work with government agencies and groups like land trusts and national/regional trustee groups to identify the best long-term stewardardship approach



Pictures are not from site



# Questions?



# Thank you for attending!

# Please travel home safely

