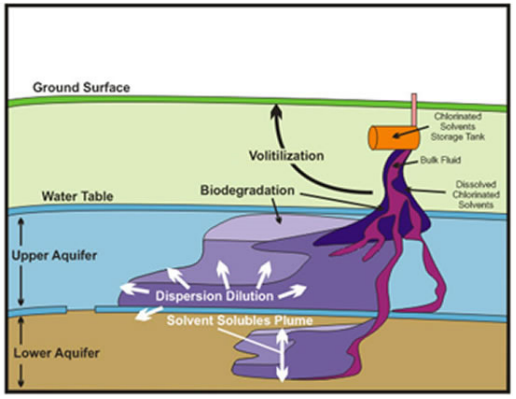
DIGGING DEEPER: DEMYSTIFYING CONTAMINATED SOILS, THE REGULATIONS, AND THE IMPLICATIONS

white + burke

VERMONT DEVELOPMENT CONFERENCE

Kurt Muller
The Johnson Company, Inc.

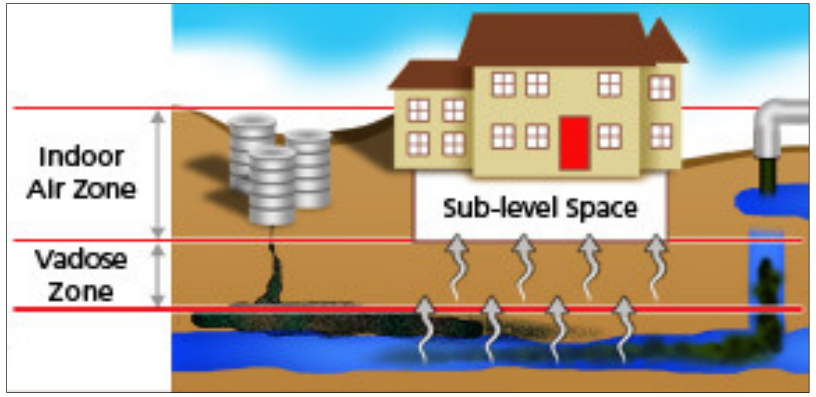
Environmental Issues:
What may affect my project?



Groundwater

Surface water

Sediment



Subsurface Vapor (Intrusion)

AND

SOIL

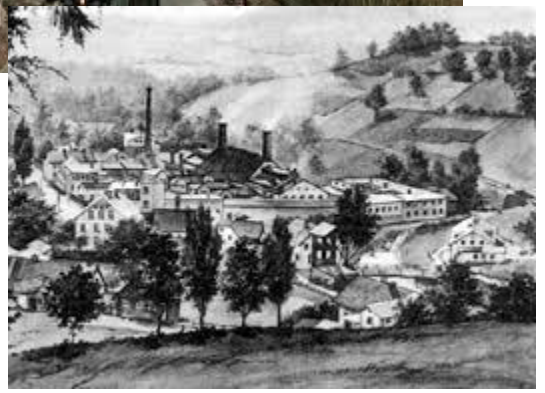
Common Soil Contaminants

- PAHs
- Metals
- VOCs
- PCBs
- Dioxins

“Development Soils”

- PAHs, Lead, and / or Arsenic Impacted Soil only
- Does not adversely impact groundwater
- No unreasonable exposure risk to humans
- Origin of soil - designated downtown development district, growth center, neighborhood development area, TIF district, or village center

Where do PAHs, Lead, and Arsenic come from?



Assume you will encounter development soils

Trish Coppolino
Brownfield Program Coordinator

Development Soil Disposal Options

Before Legislation

Current

- Categorical Facility
- Receiving Site
- Alternate Daily Cover

DETERMINING CLEANUP VALUES

Polycyclic Aromatic Hydrocarbons (PAHs)-VDH

Lead- EPA

Arsenic- EPA

Why Support ALTERNATIVES for DEVELOPMENT SOIL

VERMONT BACKGROUND STUDY

BROWNFIELDS in VT

- Brownfields Reuse Environmental Liability Limitation ACT (BRELLA)
- $ - $$$$
- Brownfields Economic Revitalization Alliance
- A to Z with assistance

City of St. Albans

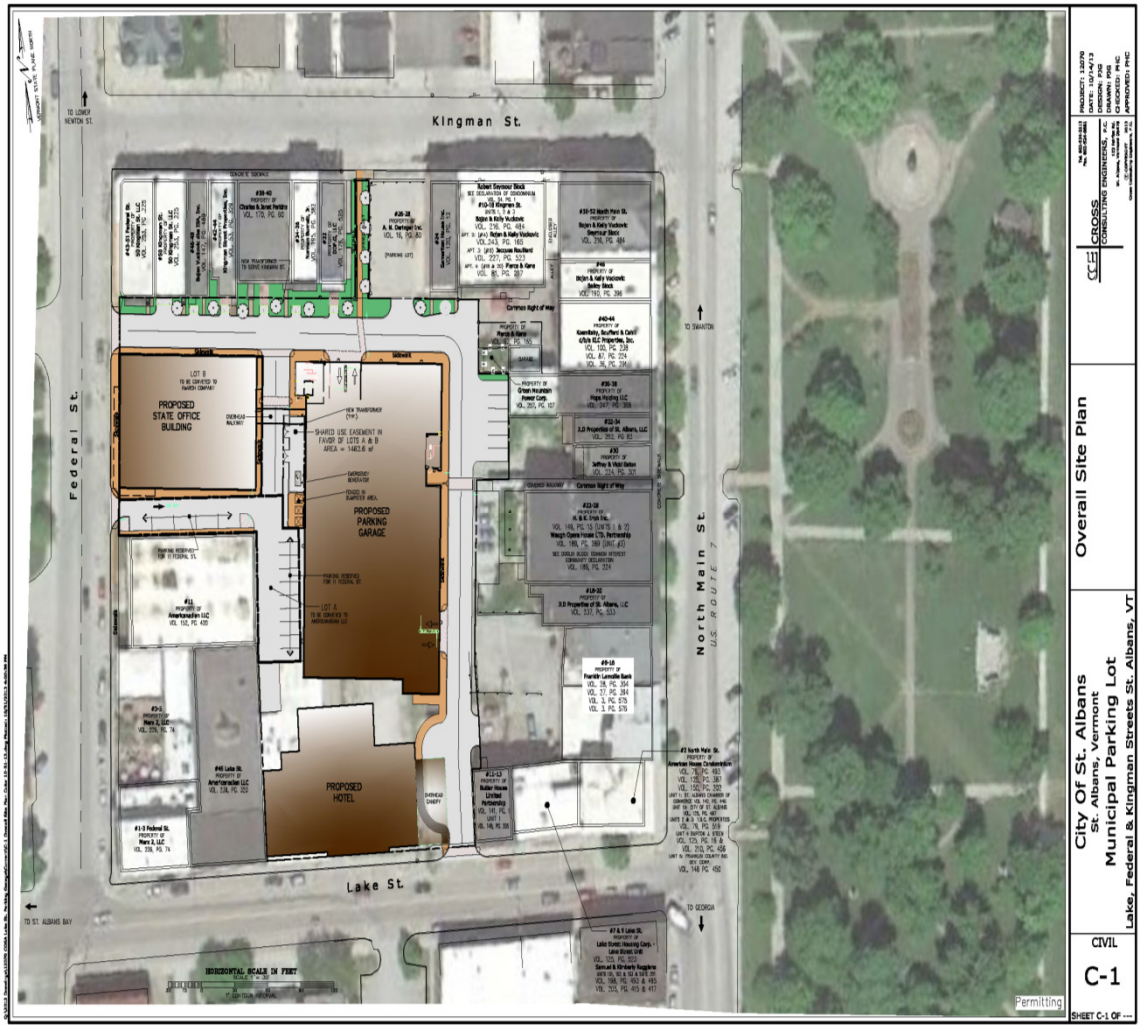
Lessons Learned from a Deep Dive Into Urban Fill

Dominic Cloud, City Manager

Downtown Core
Project Overview

- Comprehensive redevelopment of downtown city block
- 5 – story 47,000 square foot Class A office building (private)
- 5 – story, 50,000 square foot 84 – room Hampton Inn (private)
- 5 – 375 space parking garage in the middle (public)

Downtown Core Site Plan



City's Role and Responsibilities

- Create conditions to attract and incent redevelopment
- Envision project; broker the deals
  - Acquire and assemble properties
  - Demo buildings; Clean the sites
- Offer two urban sites as good or better than urban sites
- Reduce risk, cost, and uncertainty by tackling costs of structured parking and brownfield remediation for developers

Soil Characteristics & Management Plan

- Completed Phase I and Phase II investigations
- Various USTs were located and disposed of
- Soils assessed; Correction plan approved by DEC

Soil Characteristics & Management Plan

- Shallow soils 1 – 4 ft contain varying amounts of ash, brick, cinders & contaminated with various metals and poly aromatic hydrocarbons in excess of DEC screening values

- CAP: Properly manage and temporarily stockpile soil at public works garage before returning it to the site to be used as backfill and covered with one foot of clean fill and capped

Business Characteristics & Development Plan

- New Market Tax Credit created incentive to close in fourth quarter
- Voters slated to approve bonds on September 15
- One contractor selected for both garage and State Office Building
- Bid documents for both office building and garage called for construction to start third week of September
- Urban fill to be temporarily located at public works then returned to site as backfill with minimal clean fill

Stuck in the Deal Tunnel

- Voters approved bonds 3 to 1 in September
- Could not close the deal for the new office building until December
- City proceeded slowly with garage to make sure it was ready when building opened
- In early January, site work was finally in full swing excavation for garage and office building.

Late 2013

Early 2014

The 8,000 Ton Problem

- Contaminated soils would not compact due to the weather and could not be re-used onsite
- Contaminated soils would need another DEC approved resting place, or would need to be landfilled
- Clean fill would need to be brought in to replace urban fill

Dirt Pile

Dirt Pile Strategy

Strategy

- Leave it in temporary storage
- Explore alternatives (phytoremediation; quarry; IMWEA)
- Fill the hole with clean fill

Reality (in 2014)

- It needed to go back in the hole or to a landfill

Unexpected Costs

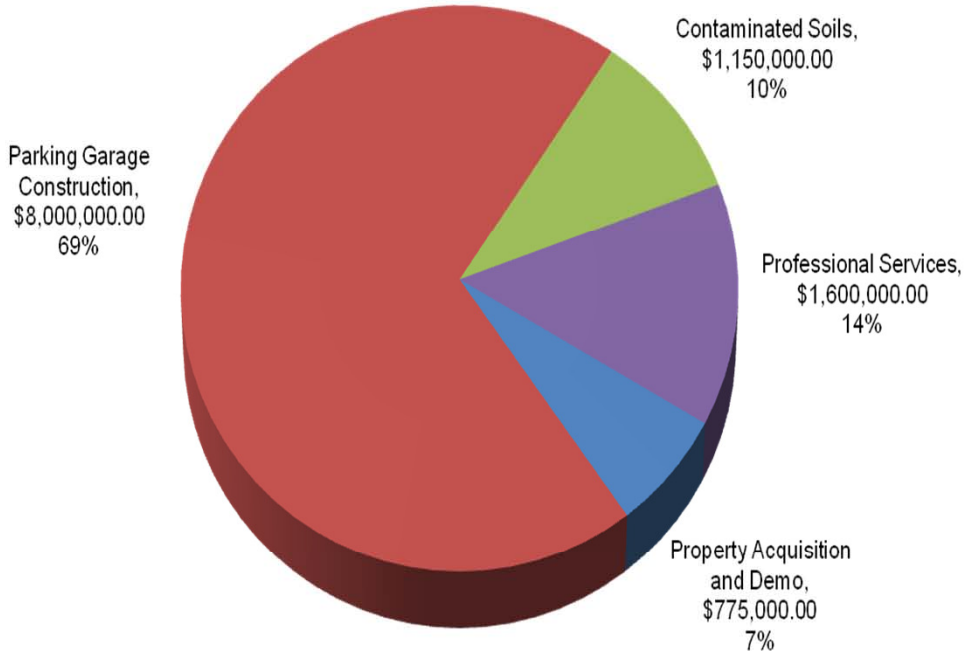
- $10,000 professional services looking for alternates
- $400,000 dispose urban fill
- $226,000 replace with clean fill

Total $636,000

Contaminated Soils Budget

• Hazwopper Training for contractor	50,000
• Environmental Engineering	110,000
• Sub slab venting system	12,000
• Clean fill for Office Building and Garage	226,044
• Urban fill transport and disposal	400,000
• Urban fill hotel transport & disposal (est)	125,000
• Clean fill for hotel site (est)	225,000
• State of Vermont Grant	(200,000)
	$1,148,044

Percentage of the Project



Lessons Learned

- Beware the double whammy of disposal and replacement
- Beware the seasonal variation in CAP feasibility
- Plan and budget for uncertainty surrounding urban spoils
- Form public / private partnerships to spread risk and access grants

Parking Garage
Opened November 2014

State Office Building
Opened January 2015

Hotel
Construction Start April 2016

Policy Implications

- Downtown development holy grail of VT policy-makers
- St. Albans:
  - $16M public investment
  - $32M private investment (two to one)
- Only happened because of a robust tax increment finance plan
- There is nowhere near enough money in the system to deal with costs of urban redevelopment
- Tax Increment Financing is most effective tool available; yet currently none are available to other communities.

Brian Dunkiel
Dunkiel Saunders

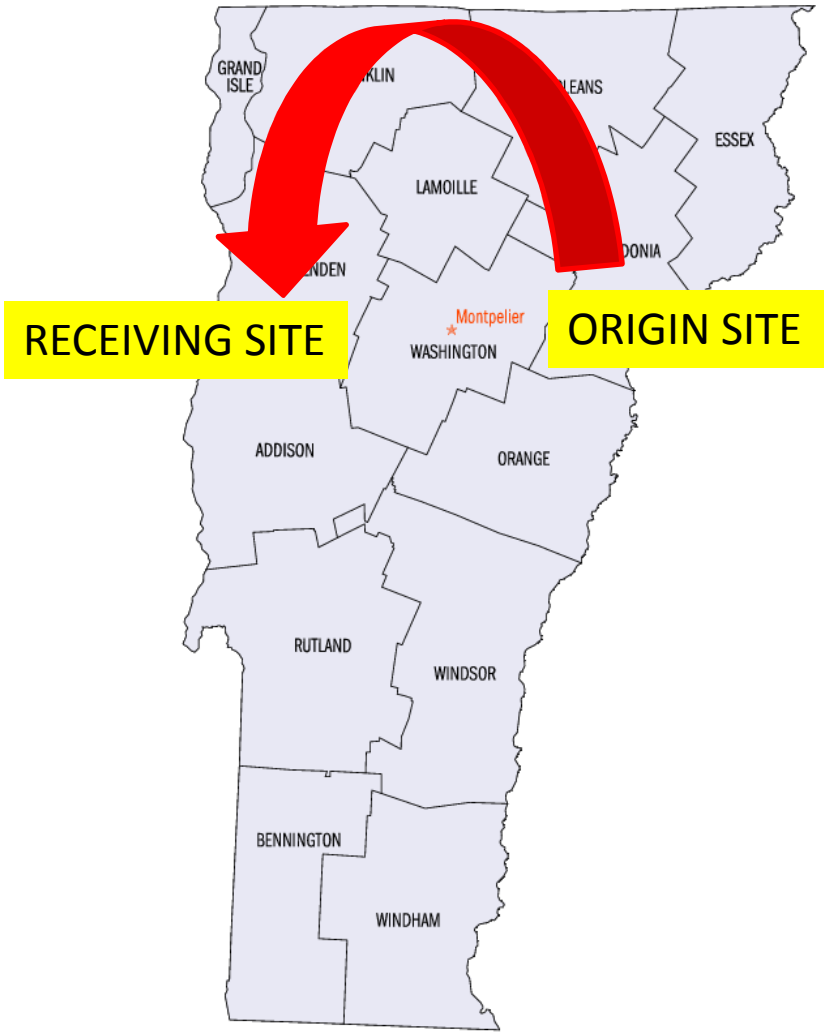

HOW AM I DRIVING ?
PH 745
1-800-827-SAFE
181
EAS


25YD
54247

Kurt Muller
The Johnson Company, Inc.

Proposed Management Alternatives for Development Soil under H269 Legislation.

Relocation


RECEIVING SITE
ORIGIN SITE
GRAND ISLE
ESSEX
LAMOILLE
Montpelier
WASHINGTON
ADDISON
ORANGE
RUTLAND
WINDSOR
BENNINGTON
WINDHAM

Statewide Background Soil Study

Categorical Waste Facility Certification

Stumps

Asphalt

Concrete

Street sweepings

Catch basin grit

AND → ***"DEVELOPMENT SOIL"***

Alternative Daily Cover

IF POSSIBLE

- Reuse
- Isolate onsite
- Plan Ahead
- Get creative

- Befriend the owner of a Categorically Certified Waste Facility

Scott Buckley
ENPRO Services

Got Soil?

Process: Characterize (sample), determine disposition options, excavate, stockpile, resample if required by facility, profile to facility, transport /dispose/re-use onsite.

Sample frequency for facilities:

Landfill:
2 samples for first 500 tons
1 additional sample for next 500 tons
1 additional sample for next 1000 tons

Thermal Desorption NY:
1st Composite Sample for the first 150 Tons
2nd Composite Sample for the first 300 Tons
3rd Composite Sample for the first 750 Tons
1 Additional Composite per every additional 750 Tons

Thermal Desorption NH:
<2000 tons - one sample every 200 tons
>2000 tons 10 plus one additional for every 500 tons

Sample for what parameters?
Site specific based on historical use of site

Could include:
Volatiles
Semi-Volatiles
Metals
PCBs
Pesticide/Herbicide
TPH DRO/GRO

Common Commercial Soil Disposal Options

Permitted Categorical Disposal Facilities – not approved for H269 yet

How to move this pile?

Dump trailers – about 28 tons

55 gallon drum – small quantity

Roll off – about 8 tons max

Quantity

Comparison of soil use options

	Sampling	Transportation	Disposal	Waste District Fee (Varies per District)	Origin/Receiving Site Assessment?	State Haz Tax
Onsite Re-use	x					
Landfill	x	x	x	x		
Thermal Desorption	x	x	x			
Categorical Disposal Facility	x	x	TBD	TBD	x	
Hazardous Soil	x	x	x			x

Takeaway: Importance of team in managing soils

TAKE AWAYS

- PLANNING: Managing development soil is challenging and it must treated as such in terms of planning, schedule, and budget.
- ESTABLISH AN EXPERIENCED TEAM: Developer, Design Engineer, Environmental Consultant, Contractor, Regulatory Agencies, Attorneys, etc.
- COMMUNICATION: It's the key to a successful project.
- DUE DILIGENCE: It pays to know what you have; both short term and long term
- STAY TUNED: Soil management rules are changing, be sure you know what applies to your project
- PUBLIC PERCEPTION: Technically these soils contain carcinogens and the public sees them as dangerous. Should they not be managed appropriately, the legal implications can be significant

white + burke
VERMONT DEVELOPMENT
CONFERENCE

QUESTIONS?

Kurt Muller
Senior Project Engineer/Manager
The Johnson Company
JKM@jcomail.com

Patricia Coppolino
Environmental Program Manger
Agency of Natural Resources
Patricia.Coppolino@vermont.gov

Dominic Cloud
City Manager
City of St. Albans
D.Cloud@stalbansvt.com

Brian Dunkiel
Co-founder
Dunkiel Saunders Elliot Raubvogel & Hand
bdunkiel@dunkielsaunders.com

Scott Buckley
General Manager
ENPRO Services, Inc.
sbuckley@ENPRO.COM