



# Waste Synergies and Opportunities Daniels Health Incinerators

Paul Vujic – Manager Industrial Waste



# Safety Share

- Site visit today at Wiblin Street
  - Watch for uneven surfaces eg concrete footpaths
  - Take time when conversing steps, getting off bus, stepping over raised areas.
  - May be a damp area around bin washing area. Possible slip hazard.
  - Be aware of your surroundings as working environment.
  - Keep to walkways behind guide and refrain from touching anything.



# Overview of Facilities



- Facilities located in Sydney (Silverwater) and Melbourne (North Laverton). Market leader and accepts waste streams from local and interstate customers.
- NSW's largest HTI (High Temperature Incinerator) and Melbourne facility is one of only two in the state.
- Processes medical and clinical waste in Sydney. Operates 24/7.
- Barriers to entry very high (Council and EPA permits).
- Base business of medical waste underpins facility. Additional hazardous work is incremental and therefore attractive.
- Great locations in Melbourne and Sydney. Transport efficiencies. Existing Toxfree Environmental Services (TES) locations nearby.
- Experienced and highly skilled staff within the business. Very specific skill sets.
- Very good safety and environmental records. Excellent relationships with regulators.





# Silverwater - Sydney

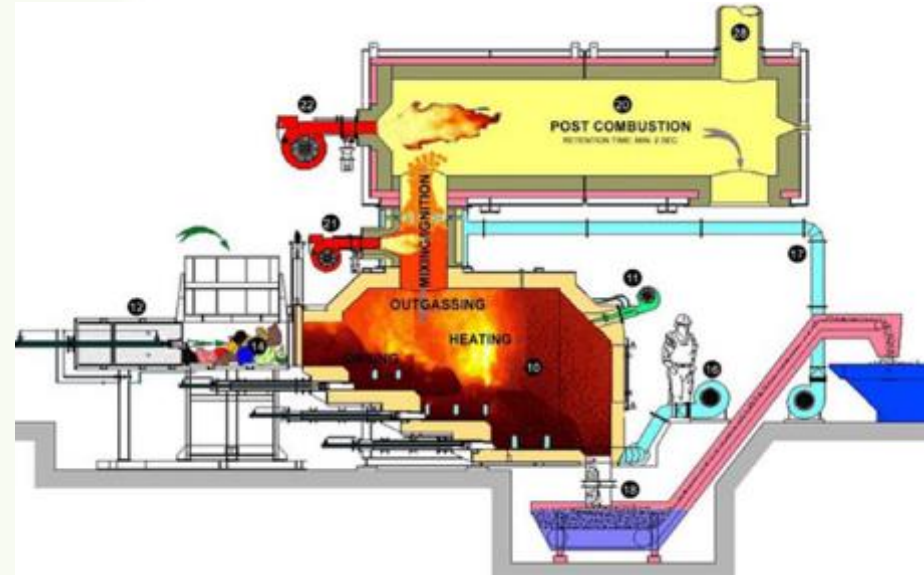
- **Major \$4m upgrade completed (Feb 17).** Best practice “Air Quality Control System” (AQCS) in the country. Improved emissions, improved productivity and increased waste streams being accepted as a result of the upgrade
- **New EPA license (Mar 17).** The Silverwater facility has expanded its capability and can now receive and process Hazardous liquid and chemical waste. Not just medical waste processing.
- **Liquid disposal and High end Hazardous Waste.** Liquid injection system for solvents/aqueous waste streams installed. Energy rich liquids substitute for gas. Increased volume being processed. Further engineering improvements being planned to increase productivity.
- **Materials handling and processes implemented.** Able to accept and process Hazardous materials efficiently. Utilising the expertise from Toxfree Environmental Services.



# Silverwater - Sydney



- **Incinerator overview.** Temperatures  $>1100^{\circ}\text{C}$ . Gas fired burners with liquid fuel injection capability. Packaged chemicals and hazardous waste capability. System utilises the energy from the waste to reduce gas consumption.
- **Examples of waste streams.** Fuels, Solvents, Laboratory chemicals, dangerous goods, highly reactive chemicals, photographic waste, Quarantine waste, pharmaceutical, product destruction (firelighters, cigarette lighters, hair dyes, perfumes, solvent bottles etc).
- **Areas of focus.** Utilising Toxfree's existing collection and market facing network, personnel and infrastructure, the Daniels facilities can focus on improving throughput and process enhancements. This is already paying dividends.



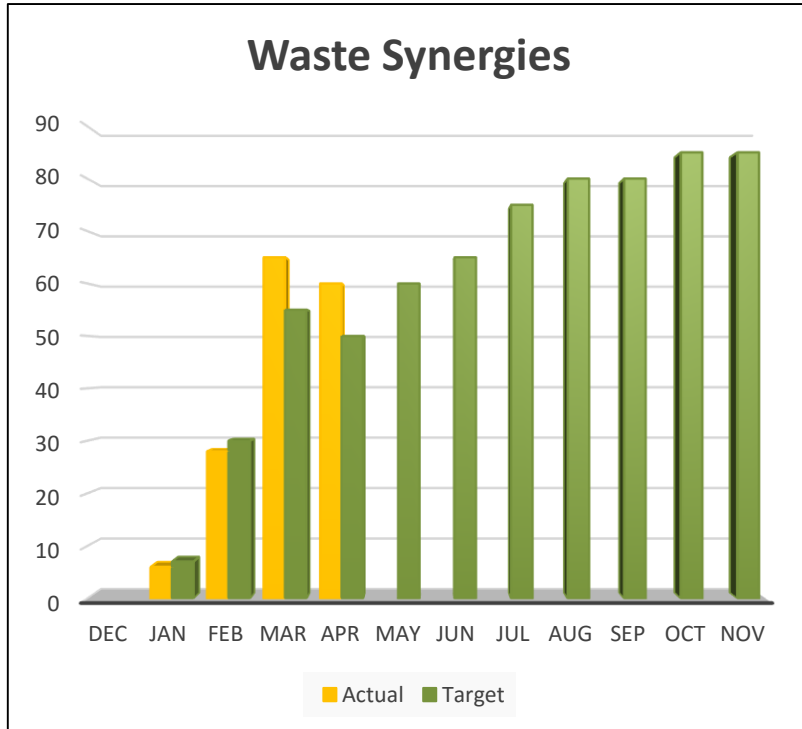
# Laverton - Melbourne



- Rotary Kiln process in Vic.
- Licensed for high end PCB waste as well as medical waste. Compliments Toxfree's existing Narangba, Qld Plasma Arc facility.
- Excellent license and development consent.
- Excellent location adjacent to TES Melbourne depot, only 400m away.
- Production opportunities identified.
- Opportunity to further expand license and develop "Toxfreefuel" as a gas substitute.



# Waste Synergy Project



tonnes

- ✓ Waste disposal synergy on track at Apr 17 and improving.
- ✓ Increasing since acquisition to a record month in Mar 17 with further improvement forecasted and a pipeline of projects underway.
- ✓ Waste traditionally went outside the Toxfree Group of companies.
- ✓ Strong face to face roll out across Toxfree (especially TES) nationally. National logistic and process network in now place.
- ✓ Waste being received from Toxfree branches all over Australia (Sydney, Newcastle, Melbourne, Perth, Brisbane and Adelaide).
- ✓ Benefits to both TES existing business and Daniels Health. Gas savings, incremental volume/revenue at Daniels. Toxfree save on freight and disposal costs. Spend kept inside the group.

# Waste Synergy Project

## ***What have we done to date.....***

- Upgraded Sydney's Air Quality Control System (AQCS)
- Increased acceptance criteria and types of waste streams being processed
- Significantly upgraded EPA licence. Issued Feb 17
- Installed second liquid injection system.
- National logistics network set up to efficiently transport waste from around Australia.
- Training and education of staff to ensure synergies maximised, includes leakage report.

## ***To do.....***

- Further enhancement of liquid injection system to increase types of waste material that can be processed.
- Continue to create new benchmark production records for liquid injection.
- Additional waste streams and new revenue streams being evaluated and tested
- Develop and refine *Toxfreefuel*.





# New Marketing



**toxfree**

## RECOVERING ENERGY FROM WASTE

### HAZARDOUS WASTE AND PRODUCT DESTRUCTION

#### WASTE STREAMS ACCEPTED

Waste Fuels & Hydrocarbons	Laboratory Chemicals	Product Destructions
Solvents & Paints	Photographic Waste	Firelighters & Cigarette Lighters
Oxidisers & Organic Peroxides	Quarantine Waste	Perfumes & Hair Dyes
Reactives	Pharmaceuticals	Aqueous Wastes

**PEACE OF MIND, COMPLETE DESTRUCTION,  
BRAND PROTECTION, CERTIFICATES OF  
DESTRUCTION, EPA LICENSED**

 Acetates	 Beauty Products	
 Pharmaceuticals	 Laboratory Chemicals	

The facility in Sydney extracts energy from waste materials (liquids and solids), thereby reducing the reliance on fossil fuels (gas).

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# Questions?



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# Household Hazardous Waste & e-waste

Jesse Brown – Manager – TES, Sydney





# Contents



- Hazardous Household Waste
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  - Community Recycling Centres (CRC's)
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- Conclusion



# Strategy



- TES focus on Hazardous Household Wastes and Packaged Chemicals (i.e. universities and schools).
- Complimentary services include fluorescent tube, lamp and e-waste recycling.
- Strong presence in regional NSW with CRCs and regional collection runs.
- Integration with the Daniels Team to strengthen market position within the Health Services Sector (i.e. packaged hospital chemical wastes).

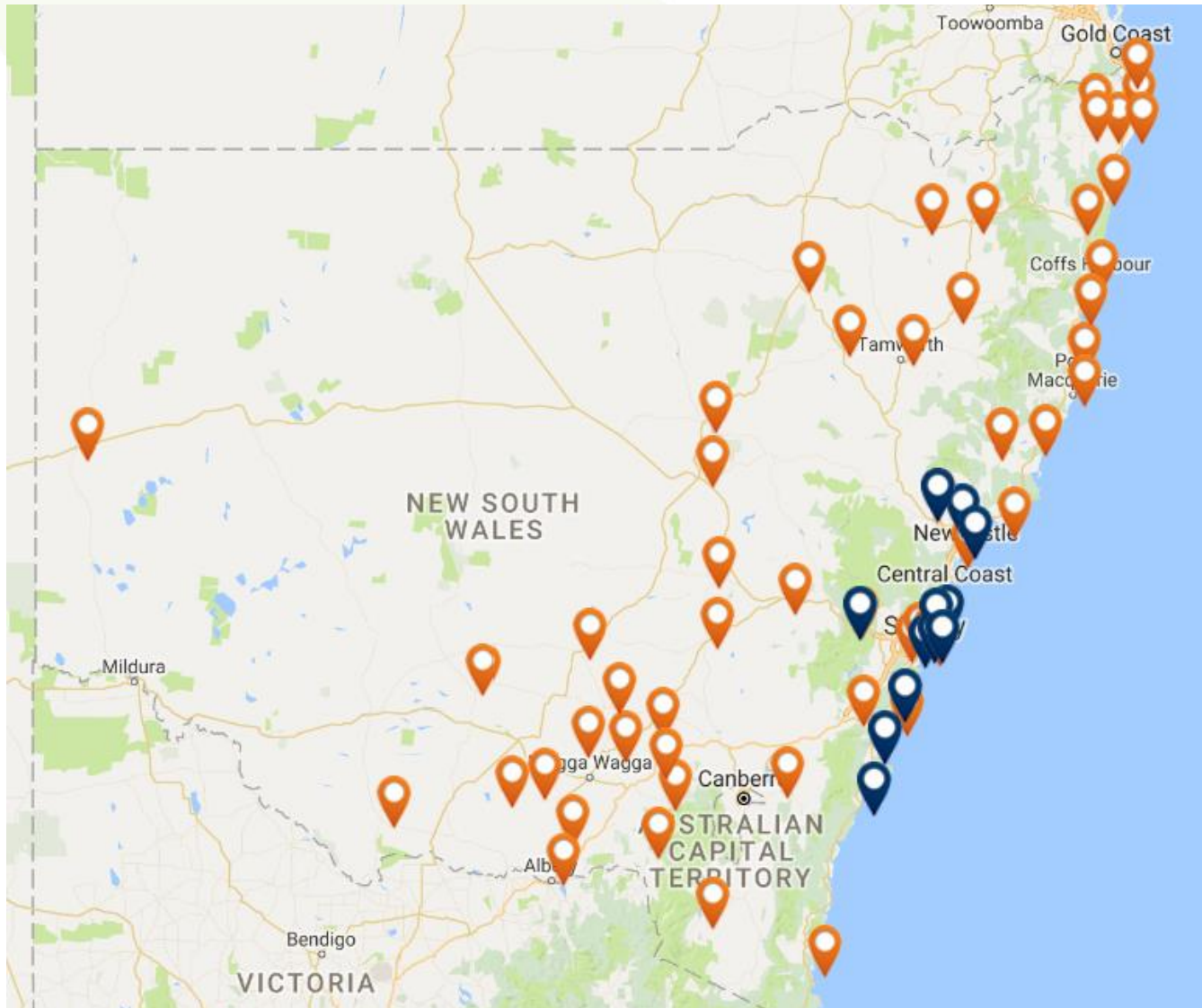
# Household Hazardous Wastes



- Contract with NSW EPA for Household Hazardous Wastes – mobile collections.
  - Currently servicing 4 out of the 5 zones.
  - Most weekends have a collection between Feb and Nov, across NSW.
  - Collections accept 41 categories of waste products i.e pesticides, paint, gas cylinders, oils, acids, etc



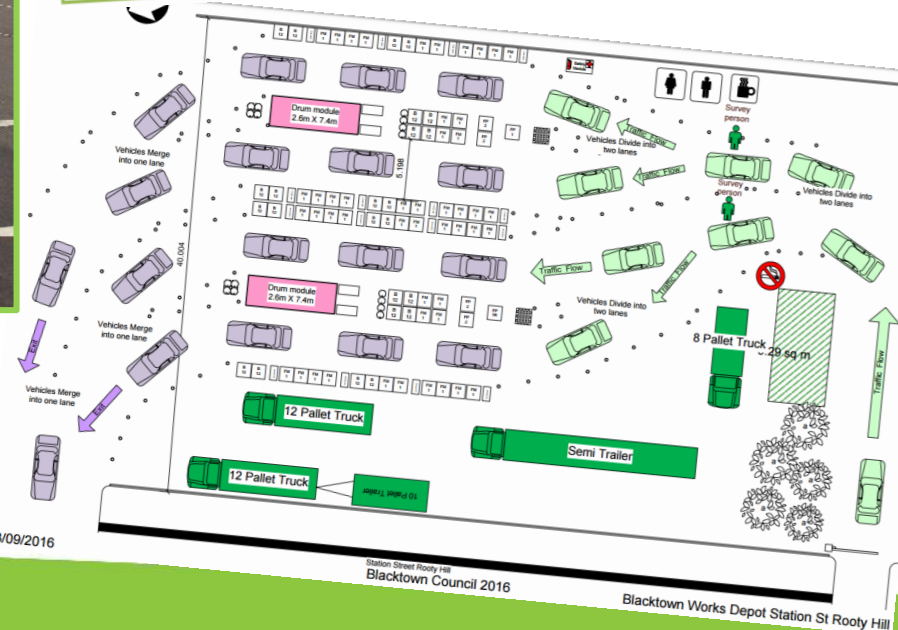
# Hazardous Household Wastes



# Hazardous Household Wastes



Equipment Type	Waste Type
B12 Stillage	Paint, oil, etc
FP2 Cage	Gas Cylinders - Propane
FM1 Stillage	Fire Extinguishers
FPIR Stillage	Gas Cylinders – Other
Fluoro Box	Fluoro tubes and lamps
205L Open-Top Drums	Aerosols, acids, non-haz
Small and Large Kegs	Reactives, acids, household batteries
Bunded Pallets	Lead Acid Batteries





# Community Recycling Centres (CRCs)



- ~90 sites currently operational.
- NSW EPA aim to roll out ~101 permanent sites (excluding a couple of mobile collection vehicles).
- Targets high volume, low toxic waste streams such as paints, oil, gas cylinders, car batteries, etc
- MOU signed with Penrith City Council to build and operate a CRC at Charles St.



# Community Recycling Centres (CRCs)



# Innovation – TES Sydney

- HazPak MK II to be operational in May 2017.
- HazPak will handle paints, solvents, pesticides, surfactants, aerosols, etc.
- Blended into a fuel source for Daniels Silverwater's Energy from Waste process.
- Only plant of its type in

NSW.



# e-waste

- Not currently banned from landfill, however VIC may by end of 2017.
- Expansion into NSW Local Government market.
- Recycling directly for OEMs (Original Equipment Manufacturers) take back programs.
- Secure destruction of data sensitive equipment, e.g. financial institutions, defence, etc.





# e-waste



- In Australia, e-waste is growing three times faster than the rate of general domestic waste.
- Increased e-waste recycling driven by mandatory Federal legislation (Product Stewardship Scheme) for 'end-of-life' TVs and computers.
- Requiring progressively higher rates of recycling from 50% in 2015/16 to 73% by 2024/25.

# BluBox

- Automatic process that separates commodities from e-waste, whilst under a vacuum environment.
- Further separation of e-waste components - plastic, glass, metal and phosphor powder containing mercury.



# Strategy FY18



- Primary target markets – Education and Hospital sectors for chemical wastes, fluorescent tubes and e-waste.
- Build on our regional market share to complement CRC collections.
- Integrate Daniel's Energy from Waste plant with HazPak as a innovative selling point to our customers.
- Introduce treatment technology lacking in NSW (backwards integration) for corrosives and toxics.

That concludes the presentation.

Are there any questions?



# Worth Recycling Overview

George Cooper – Sales &  
BD Manager



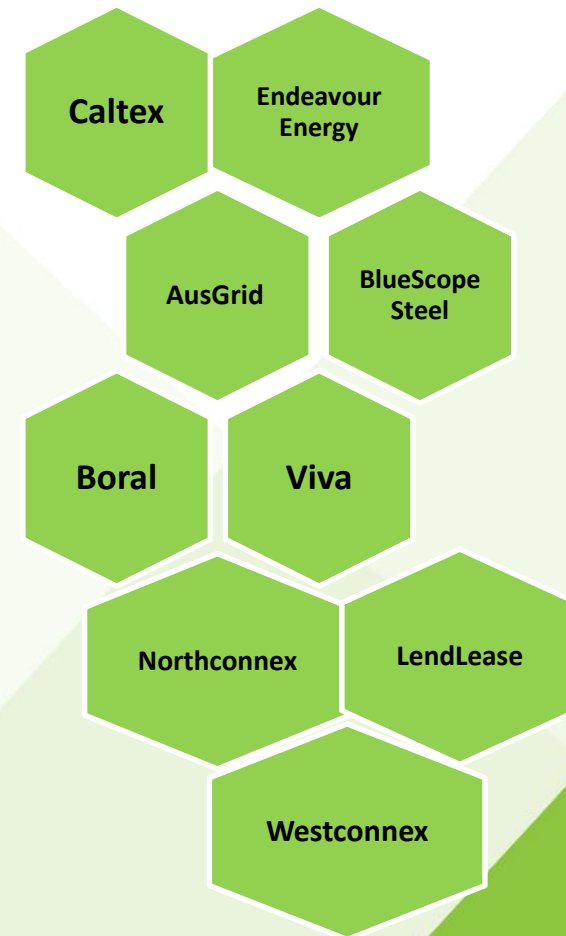
# The “Worth Recycling” Company - Overview



***WORTH RECYCLING is the industry leader in the collection, transportation, processing and recycling of industrial and contaminated waste streams:***

- Handling, transport and treatment of wastewaters, waste oils and other wash waters
- Client contaminated solids investigations, assessments and formulation of immobilisation treatments
- Experienced team, specialising in industrial cleaning services for any size project including Non Destructive Digging, CCTV & Drain Cleaning work
- Technical design, development and management of new and innovative waste and wastewater processing technologies
- Development, handling and operation of innovative recovery resource initiatives

## Diverse Customer Base



# Our Assets & Innovative Resource Recovery Facilities

## WORTH RECYCLING:

- Three innovative waste treatment facilities
  - South Windsor Integrated Liquid and Soil Waste Facility
  - St Mary's Contaminated Soil Facility
  - Port Kembla Integrated Liquid and Sludge Facility
  
- Four waste and truck depots across New South Wales
  - South Windsor
  - St Mary's
  - Port Kembla
  - Kurri Kurri
  
- One hundred & forty experienced waste personnel
  
- Own and operate EPA licensed fleet of liquid, vacuum and SuperSucker tankers



# South Windsor Integrated Liquid and Soil Waste Facility





# Our Capabilities – South Windsor

## EPA LICENCED & CAPABLE OF:

### EPL 4602

- J120 Oily Water
- J100 Oil
- J100 Grease
- J160 Residues
- Z140 Groundwaters
- M250 Surfactants
- N190 Filter Cake
- N205 Industrial Residues
- N120 Hazardous Soils
- Stormwaters
- Drill Mud

## EPA LICENCED FOR:

- T190 Grease Trap
- K110 Cooking Oil



# St Mary's Contaminated Soil Facility



# Our Capabilities – St Mary's

## EPA LICENCED & CAPABLE OF:

### EPL 20271

- N120 Contaminated Soils

## DA APPROVED FOR:

- J120 Oily Water
- Grease Trap
- Packaged Waste
- Construction & Demolition Waste
- Drill Mud





# Port Kembla Liquid & Coal Tar Facility





# Our Capabilities – Port Kembla

## EPA LICENCED & CAPABLE OF:

- J100 Oil
- J120 Oily Water
- Z140 Groundwaters
- Coal Tar Impacted Slurries



# Our Capabilities – Industrial Services

***Toxfree Industrial Services NSW business offers a wide range of services to handle any industrial services requirements***

- Typical Services include:
  - Wet & Dry Vacuum Loading
  - High Pressure Water Blasting
  - Tank Cleaning
  - Sewer & Drain Cleaning
  - Non Destructive Digging
  - Facility Decommissioning
  
- Twenty Four (24) Items of Plant & Equipment
  
- Thirty Two (32) Permanent Employees
  
- Multiple Casuals
  
- Two P&L and Reporting Structures
  - Industrial Services – Sydney
  - Industrial Services – Defence

## RESPONSIBILITIES & SERVICES:

- Sydney Region – Liquids & Contaminated Soils
  - Two treatment facilities (South Windsor & St Mary's)
  - 30 x Liquid Vacuum Tankers
- Hunter Region – Liquids, Industrial Services, Packaged Waste, Parts Washes, Total Waste Management
  - Two facilities (Kurri Kurri & Heatherbrae)
  - 15 x Liquid Vacuum Tankers and IS Trucks
- Port Kembla – Liquids
  - Two treatment facilities (OWTP & CTP)
  - 12 x Liquid Vacuum Tankers
- Melbourne – Liquids
- Brisbane – Liquids

# Key Strategic Opportunities

## CURRENT ACTIVITY:

- Continue to target the strong infrastructure market in NSW for Industrial Services work and diversify our skills and customer portfolio in the other keys markets i.e. drain cleaning/CCTV, hydro demolition etc.
- Develop major contaminated soil projects in NSW via our Contaminated Soil Facility at St Mary's
- Continue our market development and technical focus in the creation of low grade fuel oils for the on sale of value products
- Develop and implement a total waste management strategy in the Hunter Valley region to complement the Toxfree range of services
- Implement innovative liquid waste treatment technology at South Windsor to complement our existing liquid waste services





# Questions?

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