Agenda

• Purpose of the Presentation
• Introductions
• Background Information
• Current Solid Waste and Recycling Program
• State of the Industry for Solid Waste and Recycling
    Global → National → Florida → The Villages
• Path Forward
• Discussion
Purpose of the Presentation

• Discuss existing solid waste and recycling program in The Villages
• Provide an overview of current solid waste and recycling trends (Globally, Nationally, in Florida, and The Villages)
• Discuss utilizing a Solid Waste Management Plan to strategize and manage anticipated solid waste and recyclables
Introductions

• Josh Lawson, PG
  - 20 years of experience in the solid waste field
  - Manager of Projects supporting integrated waste solutions at Jacobs
  - Extensive experience with solid waste services—has worked with >50 communities/landfills in the Southeast and is supporting several communities with solid waste planning

• John Wood, PE
  - Global Technology Leader for Integrated Waste Solutions at Jacobs
  - More than 30 years of experience in the solid waste field
  - Strong background in waste management, including waste planning; technology assessment; recycling; processing, transfer station, and landfill design
What is a Landfill?

A facility where waste is buried in a manner engineered to minimize environmental impacts. Landfills are the most common method of waste disposal.
What is a Transfer Station?

A facility where solid waste is consolidated and transferred from collection vehicles to larger trucks or rail cars for long distance transport.
What is a Materials Recovery Facility (MRF)?

A facility where mixed recyclables are sorted into specific categories and processed, or transported, to processors for remanufacturing.
What is an Energy from Waste (or Waste to Energy) facility?

A facility that generates energy in the form of electricity or heat from the treatment of waste, or the processing of waste into a fuel source.
Other Definitions

- **Tip Fee** - fee charged for disposing of material at a solid waste facility, such as a landfill or transfer station.

- **Household Assessment** - monthly fee charged for the collection, transportation, processing and disposal of waste and recyclables.

- **Single Stream/Commingled Recycling** – collection approach in which all recyclables (newspaper, cardboard, plastic, aluminum, etc.) are placed in a single bin. These recyclables are collected by a single truck and taken to a MRF to be sorted into various commodities for sale.

- **Recycling Rate** = \( \frac{\text{tons recycled} + \text{credit for material used to create energy}}{\text{tons recycled} + \text{tons disposed}} \)
Every Year.....

EVERY YEAR, AMERICANS CREATE 258 MILLION TONS OF TRASH

169 MILLION TONS END UP IN LANDFILLS AND INCINERATORS
How Much Do We Recycle?

In 2015, the US recycling rate was 34.7%

In 2015, the FL recycling rate was 54%

In 2018, The Villages recycling rate was 37.1%
Current Solid Waste and Recycling Program
Collection Districts

- **Village Community Development Districts 1 through 11** – services are provided by the North Sumter County Utility Dependent District, which owns Sumter Sanitation. Sumter Sanitation contracts collection services to Jacobs.

- **Town of Lady Lake portion of The Villages and District 12 & 13**, south of Route 44 - services are provided by Waste Management, Inc.
The Villages Solid Waste Program

- Residential waste is collected twice per week
  ~100 tons per collection day
- Recyclables are collected once per week
  ~55 tons per collection day
- Yard waste is collected once per week,
  ~125 tons per collection day
- Bulk waste pickup on request
- $17.90 per month household assessment
Where Does My Solid Waste and Recycling Go?

• Jacobs separately collects waste, recyclables, yard waste, and bulk waste
• Material is taken to Waste Management, Inc’s Wildwood Transfer Station, and the NSCUDD pays a $28.35 per ton tip fee for solid waste, recyclables, and yard waste
  – The solid and bulk waste is transferred to Chesser Island Road Landfill in GA for disposal
  – The recyclables are shipped to various locations in Tampa, depending on the material
  – Yard waste goes to the Lake County Waste to Energy Facility
Where Does My Solid Waste and Recycling Go?
How does The Villages compare with other Florida jurisdictions?

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>The Villages District 1 to 11</th>
<th>Collier County</th>
<th>Ormand Beach</th>
<th>Naples</th>
<th>Apopka</th>
<th>Lake County</th>
<th>Osceola County</th>
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State of the Industry for Solid Waste and Recycling
The Solid Waste and Recycling Industry is Being Impacted by Several Factors

- Plummetsing Market Prices
- Environmental Concerns
- China Imports
- Volatile Shifting Markets
- Contamination
- Aging/Out-Dated Infrastructure
- Limited Landfill Options

The Villages® Community Development Districts

NSC UDD JACOBS®
Global Perspective

- Policies and restrictions that China and other Asian countries have placed on the import of recyclables has impacted recycling throughout the world and in the US.
  - Overview of regulations and requirements (0.5% contamination)
  - Impact on the value of recyclables
China’s Connection to Recycling in U.S.

• For decades, China has been the largest importer of recycled paper and plastics from around the world (55% of world market)
• In 2016, China imported 7.3 million tons of plastic worldwide
• The U.S. has sent much of our recyclables there due to:
  - Lower labor costs
  - China’s willingness to pay high prices and accept contaminated material
  - Limited domestic markets
What Happened in China?

- **February 2013**: Intensive inspections of incoming loads and importers practices
- **July 2017**: WTO Notice - China announces restrictions on imports of 24 recyclables
  - Restrictions to be effective Jan 2018
- **January 2018**: Key Recyclables Banned - Complete ban on mixed paper and scrap plastics
- **March 2018**: New Contamination Limits - 0.5% contamination limit on other recyclables
  - Aggressive enforcement by Chinese customs officials
- **May 2018**: All Imports Halted - Even recyclables with <0.5% contamination turned away at ports
U.S. Scrap Plastic Exports to China Have Decreased Significantly, Depressing Market Value

[Bar chart showing decrease in tons of plastic exported to China from 2012 to 2018, with a corresponding decrease in price per ton.]
National Perspective: How is the U.S. Dealing with New Import Restrictions?

- Sorting lines are slowed to better remove contaminants, increasing cost
- Communities are changing how they collect recyclables
  - Removing some materials from program
  - Selective bans on specific materials (e.g., plastic bags)
  - Switching from single stream to bins
- Some communities have been forced to landfill recyclables due to no markets or higher costs

The Villages, Districts 1 to 11
Central Florida Perspective

- Global market has negatively impacted Florida recycling programs
- Similar waste and recycling programs have modified or stopped collecting recyclables
- Increasing hauling costs and labor rates
- The cost to recycle is increasing—it is more expensive than landfilling or waste-to-energy
Impacts in Florida

- 17 cities in Broward County are evaluating options after contracts with Sun Bergeron will not be renewed. That leaves WMI as the only option but **costs will be nearly double** (June 2018)

- Lee County reports being **charged nearly $363,000** by its processor because of high contamination rates (July 2018)

- City Commissioners in Largo **approve a 20% rate increase**, the first in more than 10 years according to Tampa Bay Newspapers. Winter Haven also approves its own increase (Aug. 2018)

- Lake Worth is preparing to **switch to dual-stream collection**, which is expected to cost $220,000

- Clearwater reportedly sent nearly **one-third of its recyclables to the Pinellas County waste-to-energy facility** in August 2018 due to contamination, and has reduced the type of materials collected

- Largo has been struggling to attract interested bidders for its next recycling contract after one recently expired with Waste Connections. The Tampa Bay Times reports the city is on its third attempt now and is temporarily **paying $50 per ton** (April 2019)

- Santa Rosa County will temporarily send recyclables to a landfill for disposal as it works out new logistics with the Emerald Coast Utilities Authority (ECUA) MRF. ECUA's plans to more than **double its processing cost** to $20 per ton (April 2019)
Impacts in Florida

• Walton and Bay Counties - 30A Recycle suspends curbside collection as the local recycling center can no longer sell its plastic to Waste Management’s Dothan, AL facility (April 2018)

• Sunrise will suspend all curbside recycling after refusing more expensive contract terms from WMI (July/Aug. 2018)

• The DeBary City Council voted to suspend its recycling program immediately now that GEL Environmental will begin charging for processing costs. The City projected this would have cost more than $31,000 per year

• Jacksonville - Republic Services is seeing more than 25% inbound contamination at its local MRF and is in talks with the City to potentially raise rates (Sept. 2018)

• Deltona decides to suspend its curbside recycling program with Waste Pro, citing processing costs that are more than double that of disposal and estimated annual savings of $715,000 (Jan. 2019)

• Ormond Beach - after considering its options ahead of a potential contract renewal with Waste Pro, the City decides to renegotiate for higher rates while also cutting glass and "non-marketable plastic containers" (Feb. 2019)

• Polk County officials cite China as a reason for eliminating glass, magazines and certain plastics from the local recycling program (Nov. 2017)
What’s happening in Florida

• FDEP launched a "Rethink. Reset. Recycle" campaign to raise awareness about the state's 30% contamination rate in recyclables

• Educational programs are being implemented to reduce contamination
  - Lakeland approved a $55,000 education campaign to help reduce contamination rate
  - Indian River County launched an educational campaign asking residents to keep plastic bags out of recycling carts
  - Orange County received a $193,000 grant from The Recycling Partnership to expand an education and outreach program
Impact on The Villages

- The Villages offers a high level of solid waste services and is cost competitive to other jurisdictions
- Current disposal and processing contract is expiring, and the cost to recycle is anticipated to increase above the current $28.35 per ton
- The District is considering options on the future of the solid waste and recycling program
Key Take-Aways

• Contamination is a major problem in recycling—we have avoided addressing the problem by shipping recycled materials to China
• China has changed regulations for imported recyclables, which has caused a global disruption in the recycling market
• Global changes in the recycling market are impacting The Villages’ solid waste and recycling program
• The Villages may need to adjust the solid waste and recycling program or assessment to respond to these changing conditions
What is a Solid Waste Management Plan and Why Should The Villages Consider Preparing One?

• A SWMP identifies waste and recycling services, the amount of waste generated, and identifies options to manage the waste
• Provides a recommended path forward for programs and disposal methods
• Can be used for budget prioritization and forecasting
The Solid Waste Management Plan Will Answer these Questions

- What changes can be made to the solid waste and recycling program to be more cost-effective?
- Can we sustainably recycle more waste?
- How do we remain flexible to changing markets for recyclables?
- What alternatives are available for the disposal of solid waste?
- What are the overall environmental impacts of the alternatives considered in the SWMP?
- What are the financial impacts to residents of the long-term SWMP?
Potential Solid Waste Disposal Facilities

Legend
- Landfill
- Energy from Waste
Recommendations and Path Forward
Recommendations and Path Forward

- Prepare a Solid Waste Management Plan that identifies options to manage solid waste and recyclables, anticipating the continued growth of The Villages
- Develop goals or guiding principles for the program
- Identify budget requirements reflecting market conditions and desired level of service, and if needed, adjust the program
Thank you for attending!
Questions and Discussion