Solid Waste Facilities of the Future: High Diversion, Community Asset, and Environmental Innovation

January 25, 2022

JRMA

- Architects, Engineers, and Planners
- Founded in 1982
- Current Staff of 60+
- Portland and Four Other U.S. Offices (Houston; Brea and San Carlos, CA; and Lexington, KY)
- Designed Over 175+ Solid Waste Facilities

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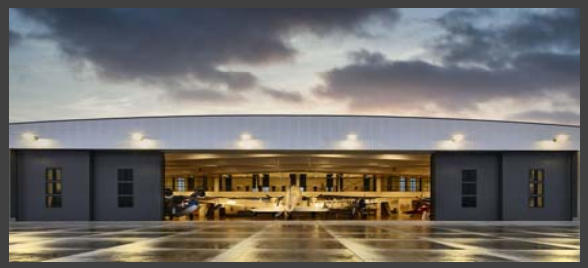
Projects in Oregon and Washington



Recycling/Solid Waste

Aviation

Industrial

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Interconnectedness, Integration, Functionality

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Solid Waste Facilities of the Future: Key Pieces of the Puzzle

High Diversion

Community Asset

Environmental Innovation

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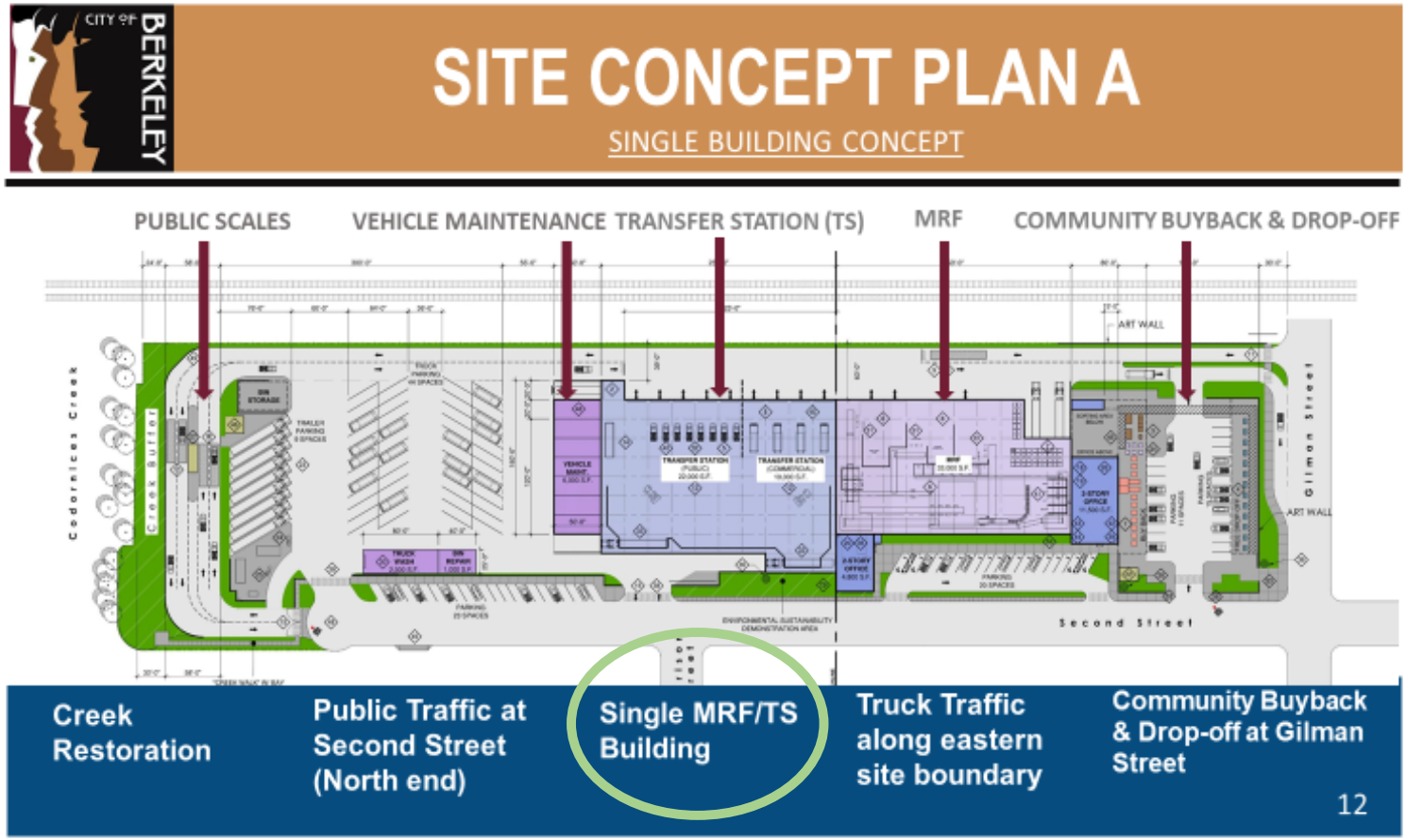
Solid Waste Facilities of the Future: High Diversion

Flexible Operational Space



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Solid Waste Facilities of the Future: High Diversion

Flexible Operational Space Continued

Tacoma Recovery and Transfer Station,
Large Flat Floor

SPU-South,
Portable Signage

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Solid Waste Facilities of the Future: High Diversion

Reuse/Salvage/Recovery at Transfer Station

Berkeley Recycling and Transfer Station – proposed new Transfer Station

Loading dock integrated with tip floor to facilitate recovery of reusables, bulky items, and universal waste

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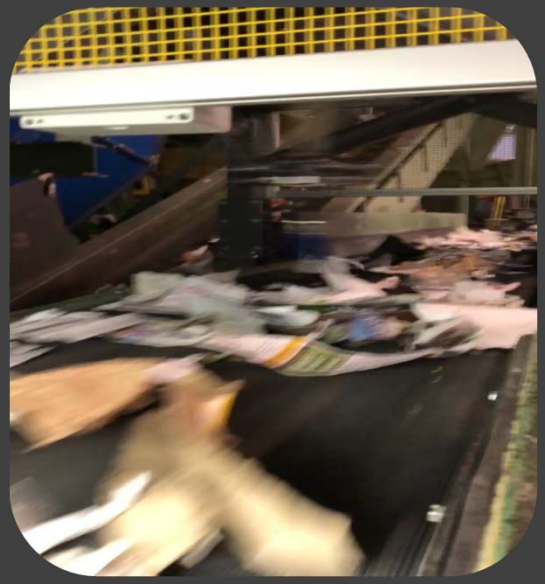
Solid Waste Facilities of the Future: High Diversion

Advanced Processing Technology

Robotics – sort commodities and/or quality control (QC)



Optical sorting units – sort commodities or QC

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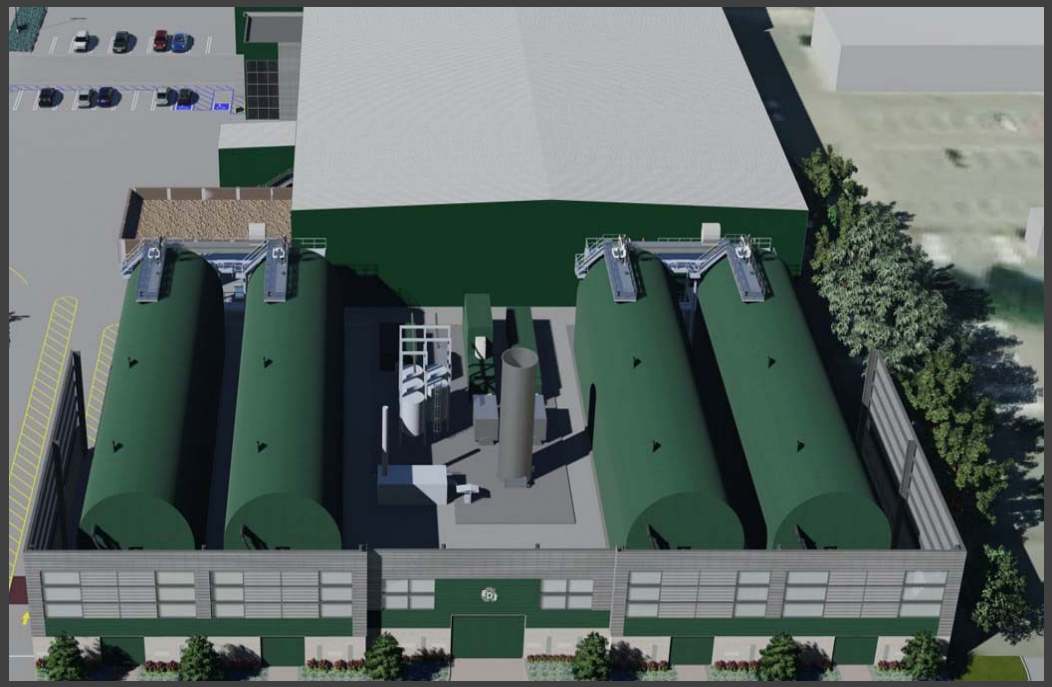
Solid Waste Facilities of the Future: High Diversion

Advanced Processing Technology Continued



Adding Organics Conversion (Anaerobic Digestion) Technology to a Transfer Station

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Solid Waste Facilities of the Future: High Diversion

Advanced Processing Technology Continued

Mechanical Processing Systems for Yard Waste and Food Scraps: Aerated Static Pile Composting and Pre-Processing Systems

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Solid Waste Facilities of the Future: High Diversion

Evolving Integrated Facility Operations

Monterey Regional Waste Management District, Marina, CA

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Solid Waste Facilities of the Future: High Diversion

Evolving Integrated Facility Operations

Shoreway Environmental Center, San Carlos, CA

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Solid Waste Facilities of the Future: High Diversion

Evolving Integrated Facility Operations

Mt. Diablo Resource Recovery Park
Pittsburg, CA

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Solid Waste Facilities of the Future: High Diversion

Evolving Integrated Facility Operations

- **Eight phase masterplan constructed over ten-year period with construction of five primary structures with ancillary facilities for total of 505,600 sf of buildout.**
- **Expand operations from 1,500 tons per day (TPD) to permitted limit of 5,500 TPD.**
- **New 95,500 sf organic waste receiving and processing building**
- **New 136,000 sf C&D receiving and processing building**

Mt. Diablo Resource Recovery Park
Pittsburg, CA

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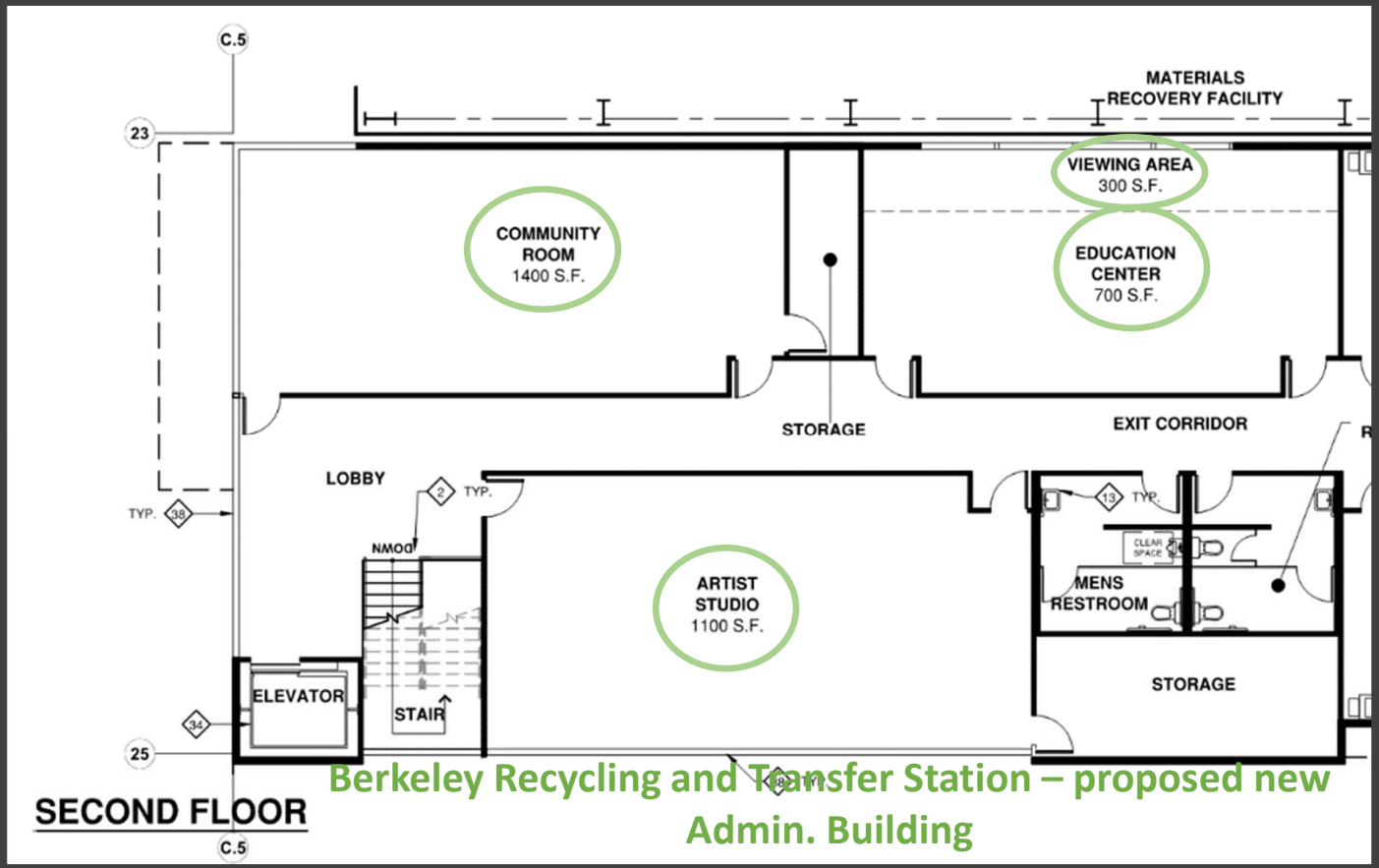
Solid Facilities of the Future: Community Asset

Dedicated Space for Education Center, Meeting Space, and Artist Studio



Berkeley Recycling and Transfer Station – proposed new Admin. Building

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Solid Waste Facilities of the Future: Community Asset

Public Art / Reuse of Materials

King County – Factoria Recycling and Transfer Station, Bicycle rims

Seattle Public Utility (SPU)- South Transfer Station, Reused Street Signs

Reuse/Recycled Fashion

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Solid Waste Facilities of the Future: Community Asset

Public Art / Reuse of Materials Continued

City of Ashland – Lithia Creek Watershed

Recology San Francisco - Sculpture Garden

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Solid Waste Facilities of the Future: Environmental Innovation

Renewable Energy Features

Proposed Berkeley Recycling and Transfer Station – Wind Turbines

Shoreway Environmental Center – Photovoltaics

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Solid Waste Facilities of the Future: Environmental Innovation

Renewable Energy Features Continued

Proposed Berkeley Recycling and Transfer Station – PV Glass in Shade Features

King County – Proposed South County Recycling and Transfer Station - Building Integrated Photovoltaics (BIPV)

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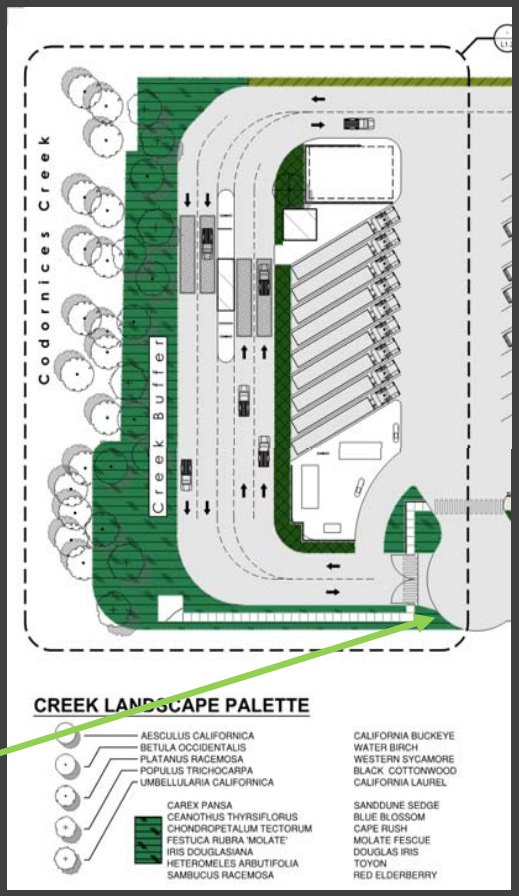
Solid Waste Facilities of the Future: Environmental Innovation

Harmony with Natural Features



Proposed Berkeley Recycling and Transfer Station – Creek Walk

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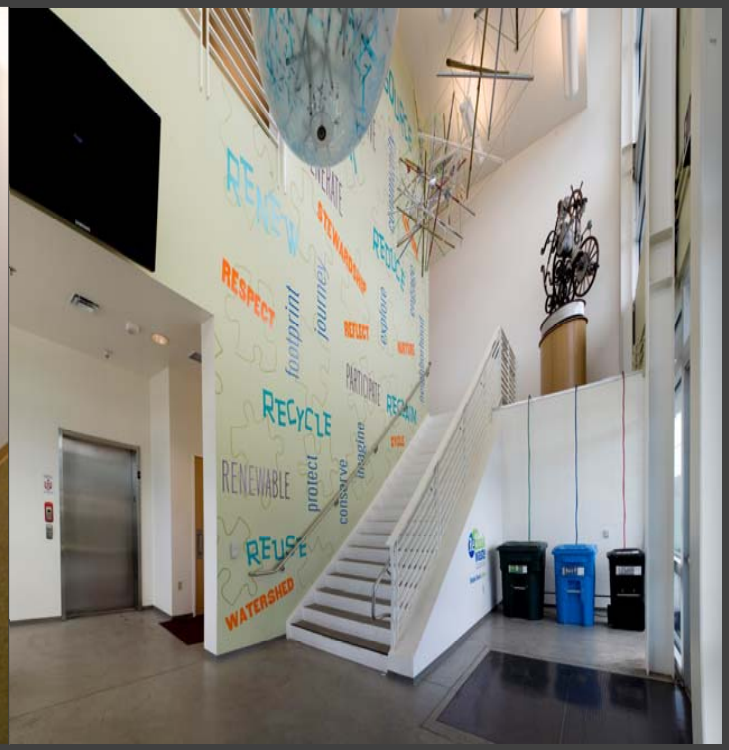
Solid Waste Facilities of the Future: Environmental Innovation

Environmental Education / Resource Conservation



Shoreway Environmental Center – Environmental Education Program

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How Do these Puzzle Pieces Fit Together for You?

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Solid Waste Facilities of the Future: Putting All the Pieces Together

Current Berkeley Public Recycling Center

Proposed Berkeley Public Recycling Center

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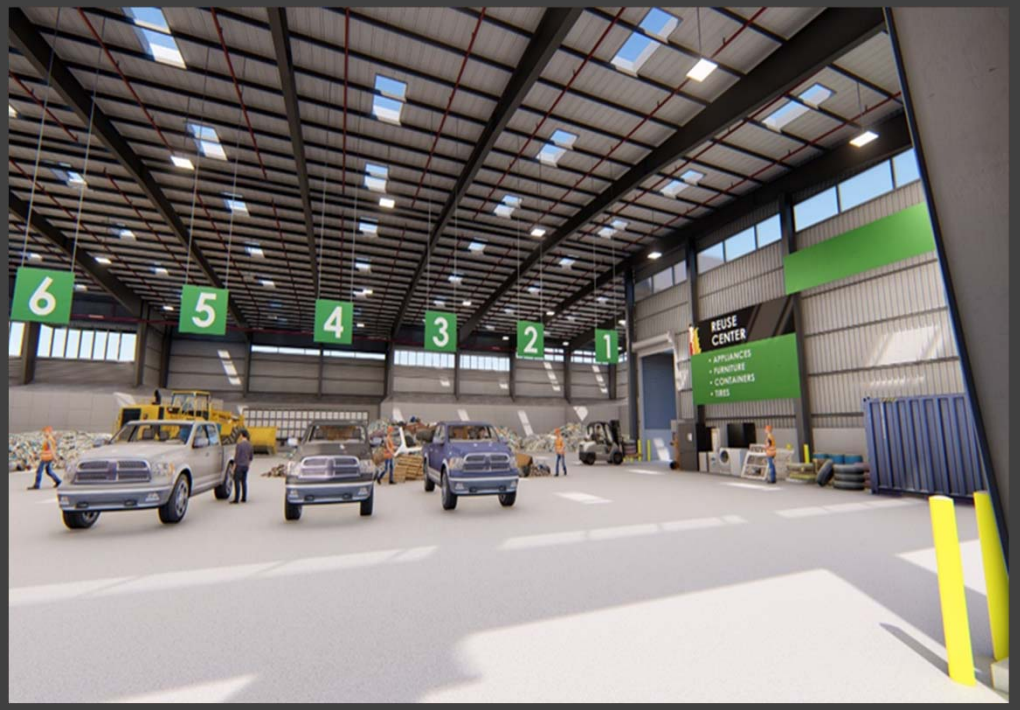
Solid Waste Facilities of the Future: Putting All the Pieces Together

Current Berkeley Transfer Station

Proposed Berkeley Recycling and Transfer Station



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Solid Waste Facilities of the Future: Putting All the Pieces Together

Existing Old, Undersized Transfer Station with Outdoor Handling of Bulky Items, C&D, and HHW

Solid Waste Facilities of the Future: Putting All the Pieces Together

Concept Plan for an Environmental Recovery Facility – Single Building for Receipt and Transfer of MSW, Source Separated Materials, and HHW

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Solid Waste Facilities of the Future: Putting All the Pieces Together

Ideas for Retrofitting a Small Outdoor Transfer Station & Recycling Center

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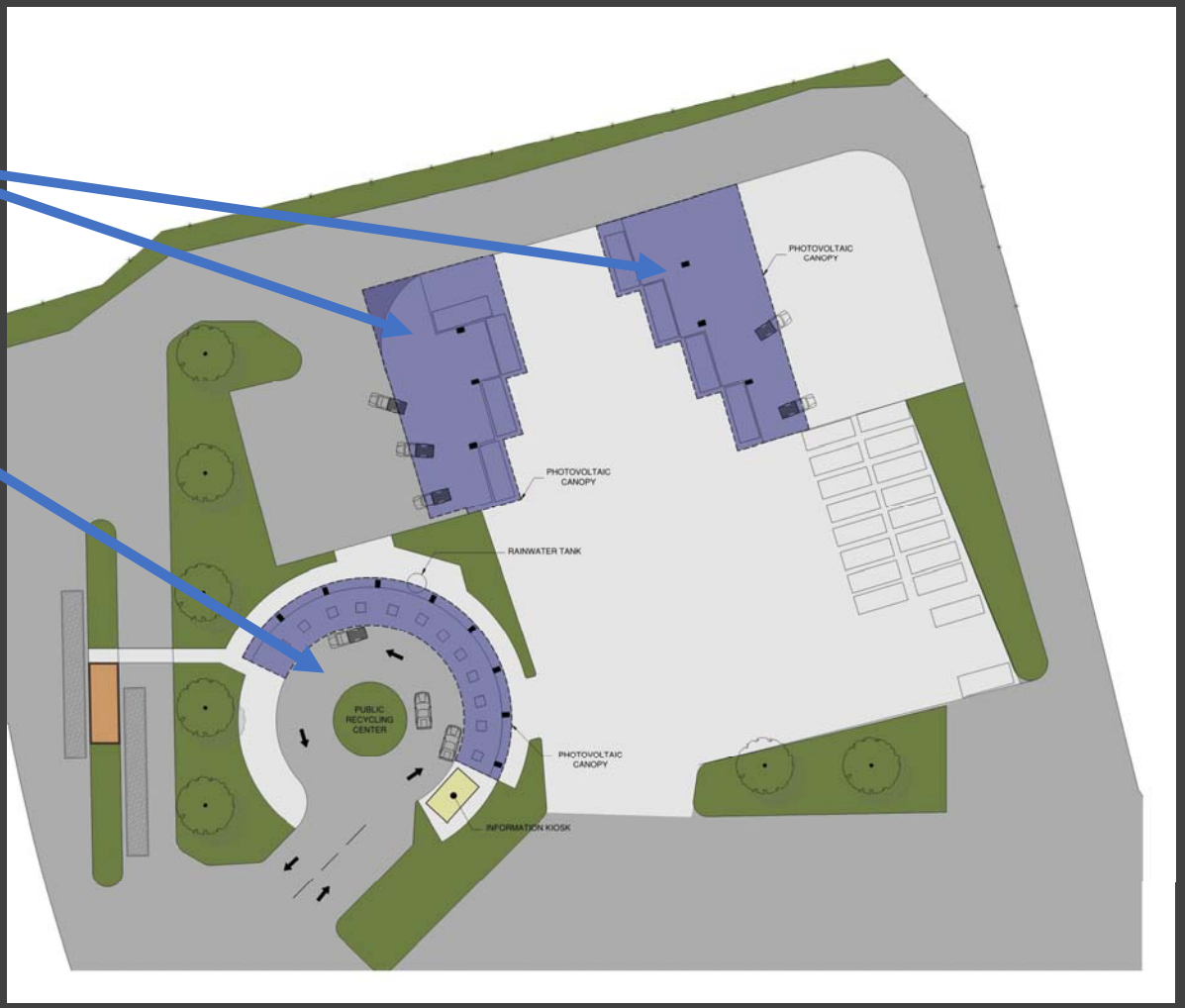
Solid Waste Facilities of the Future: Putting All the Pieces Together

- Photovoltaic canopy over z-wall (currently uncovered)
- Improved recycling center
  - Better traffic flow
  - More containers for drop off
  - Photovoltaic canopy
  - Rainwater harvest tank
  - Information kiosk



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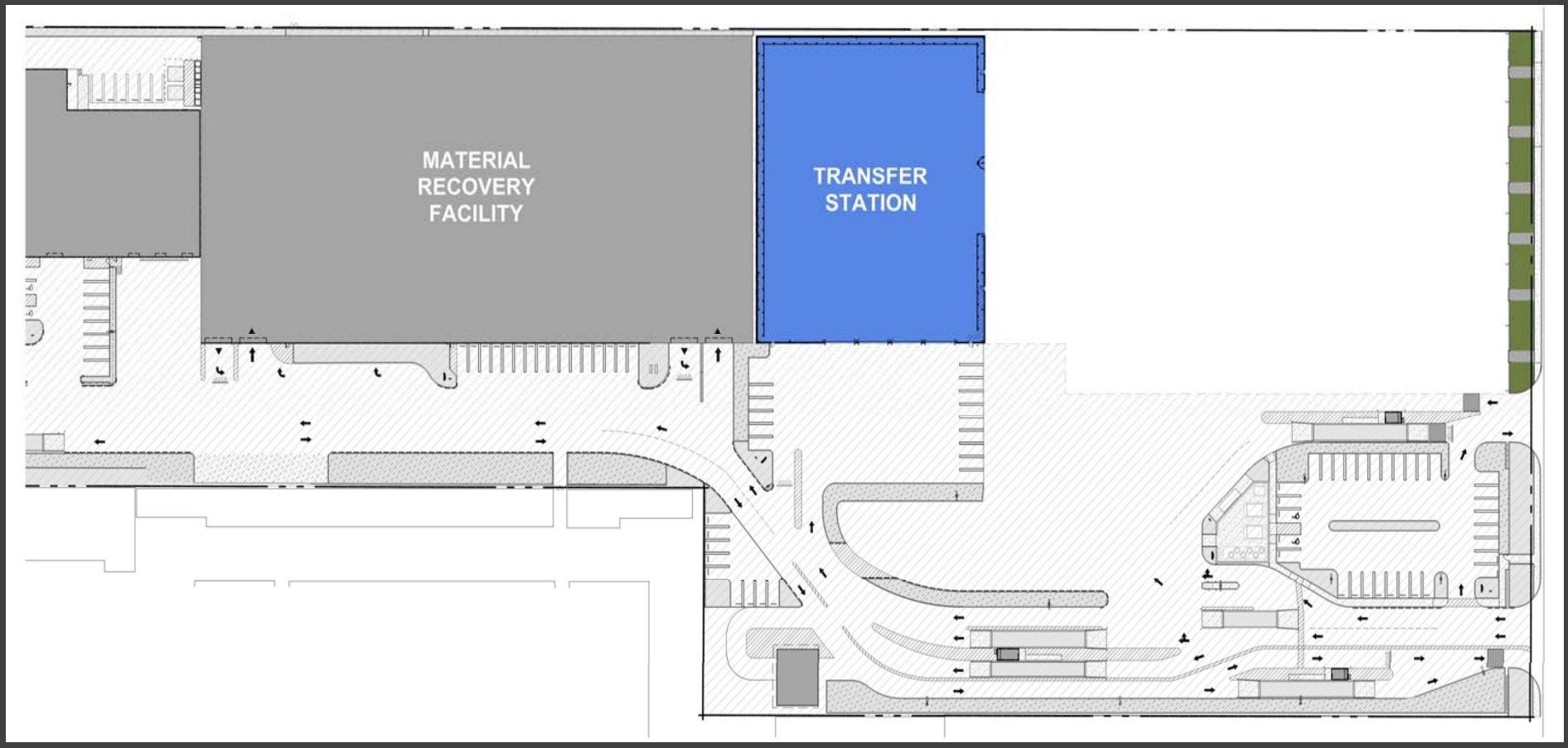

Large Volume Transfer and Processing Facility, Escondido, CA
Max permitted tonnage at 3,223 tpd. 11- acre site.

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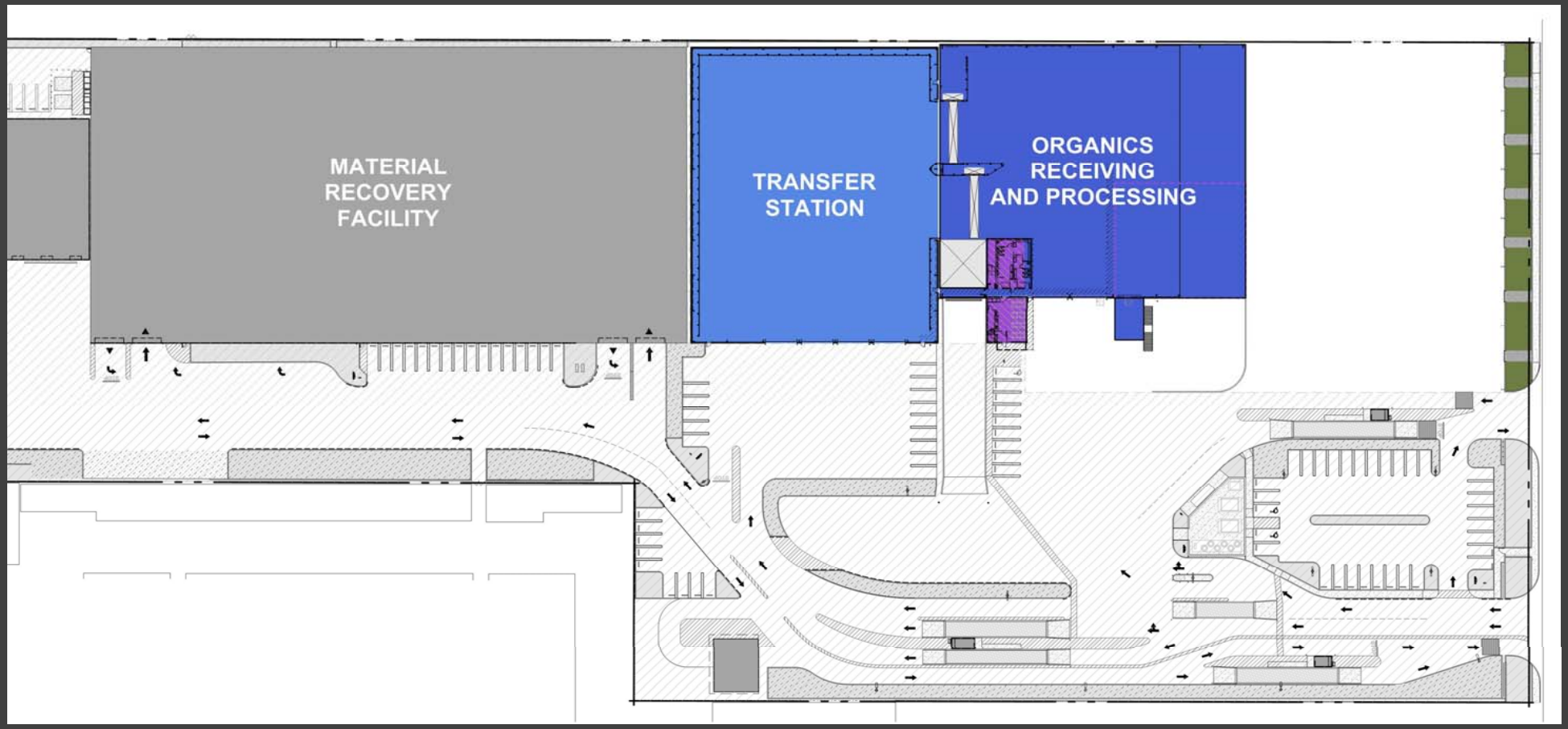
Solid Waste Facilities of the Future: Putting All the Pieces Together



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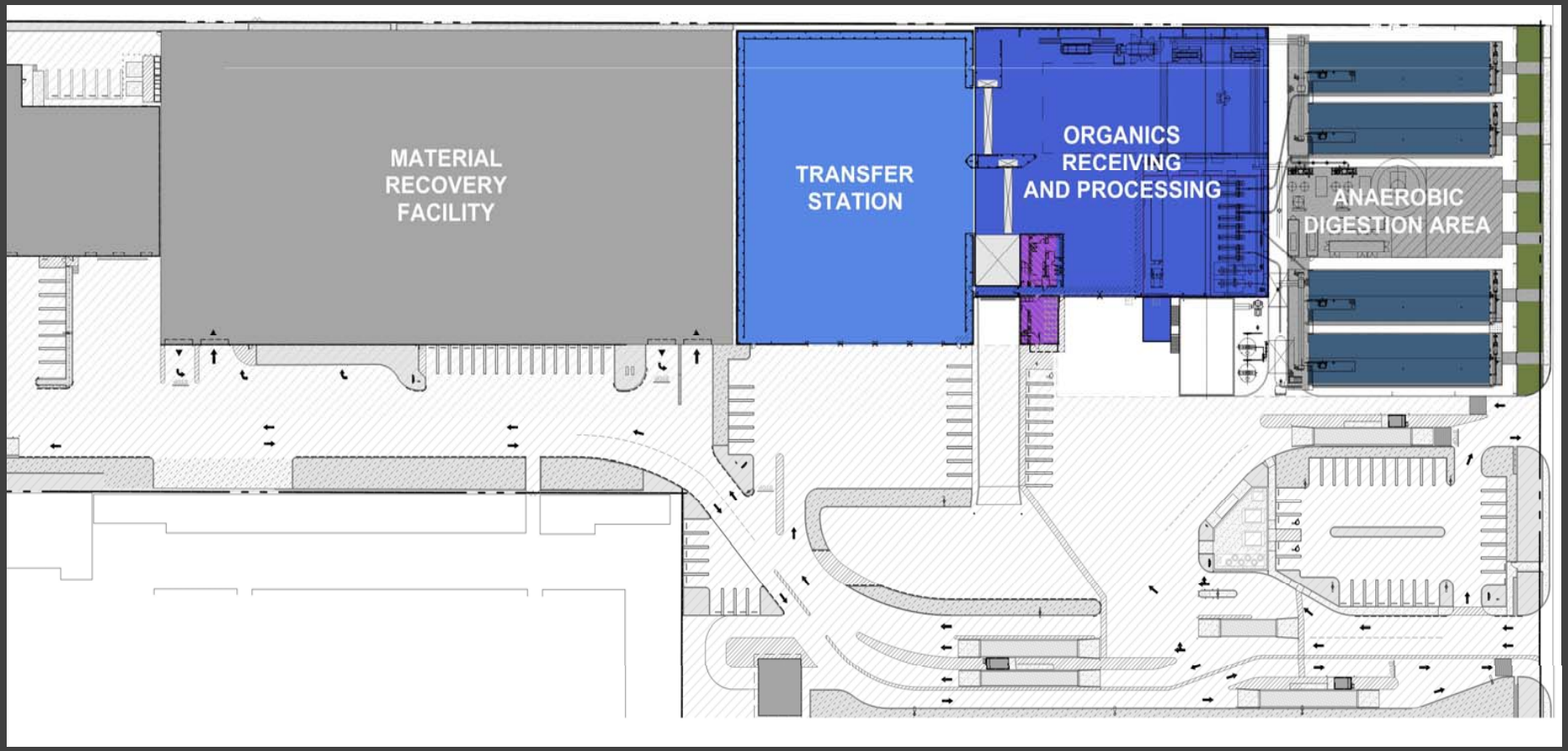

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Solid Waste Facilities of the Future: Putting All the Pieces Together

Large Volume Transfer and Processing Facility, Escondido, CA
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Back to the Future

Lego MRF Created by Matt Mauz, JRMA – Houston Office

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JRMA Project Information

JRMA - Solid Waste

JRMA - Organics Processing

Questions?

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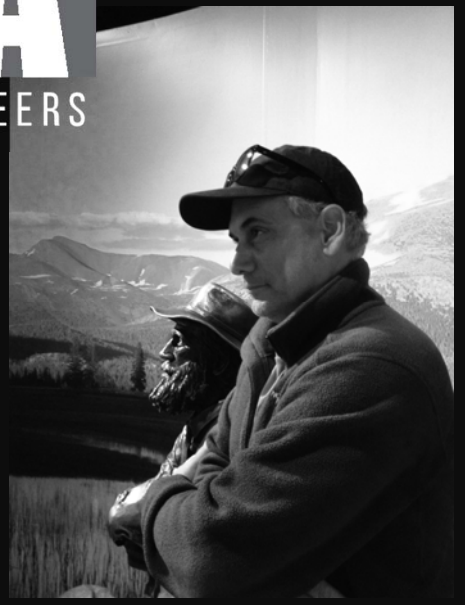

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