

Innovative Warehouse & Vehicle Storage Design for Current and Future Demands

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Introductions



**Berkeley Electric
Cooperative**
MIKE FULLER
CEO



**COOPERATIVE
BUILDING SOLUTIONS**
TIM MASA
President



**COOPERATIVE
BUILDING SOLUTIONS**
SCOTT LUECAL
Regional Vice President

*A complete turnkey solution for the
planning, design, construction, and
support of electric cooperative facilities*



36

STATES
SERVICED
ACROSS THE
COUNTRY

3M+

SQUARE FEET OF
ELECTRIC
COOPERATIVES
BUILT

150+

ELECTRIC
COOPERATIVE
CLIENTS
SERVED

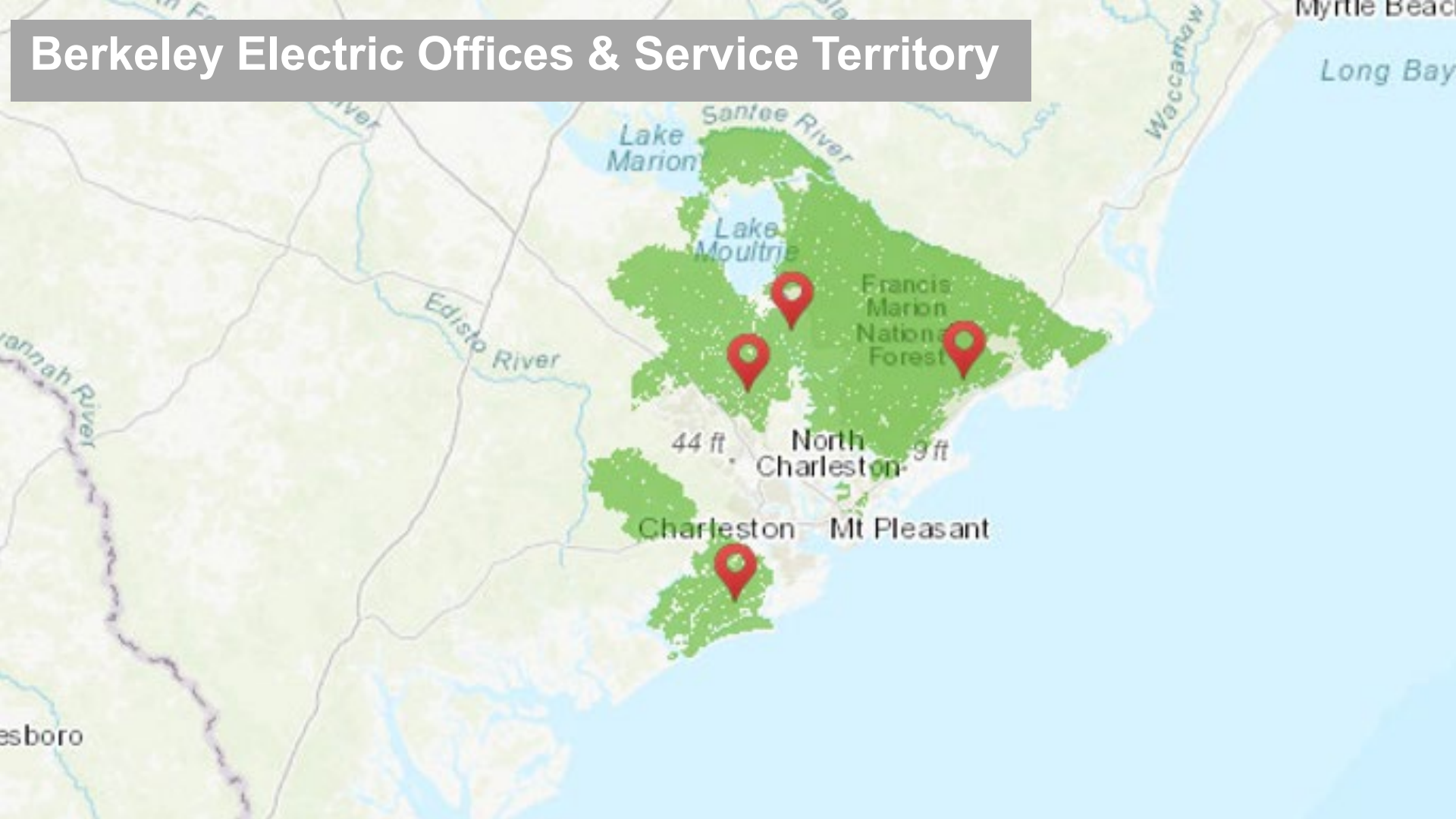
Co-op Challenges That Led To CBS

- New for most boards, CEOs and staff
- Time consuming
- Working with multiple firms
- Singular event
- Complicated process
- Strong potential for risk

Berkeley Electric Cooperative - Mike Fuller, CEO

- Headquarters in Moncks Corner, with district offices in Moncks Corner, Johns Island, Awendaw and Goose Creek.
- Benefitting from growth in and around the Charleston, SC area.
 - 2013 = 93,280 meters
 - 2018 = 107,993 meters
 - 2023 = 132,415 meters
 - We expect to continue to grow at 4% annually.
- We have just completed a multi-year, multi-facility investment initiative, combining six facilities to one central location.
- Engagement with Cooperative Building Solutions.

Berkeley Electric Offices & Service Territory



Biggest Problems with Warehouse & Vehicle Storage Buildings

- Not Enough Space
 - Growth of the electric business
 - Diversification into broadband
 - Increase with inventory due to supply chain issues
 - Utility vehicles are larger
- Poor Traffic Flow & Safety Issues
- Appropriate Access for Deliveries
 - Loading Dock
 - Overhead Door
 - Pull Thru Capabilities
- Costly Maintenance Issues / Outdated Facilities

What options do you have?

- Do Nothing
- Renovation
- Addition
- New Construction

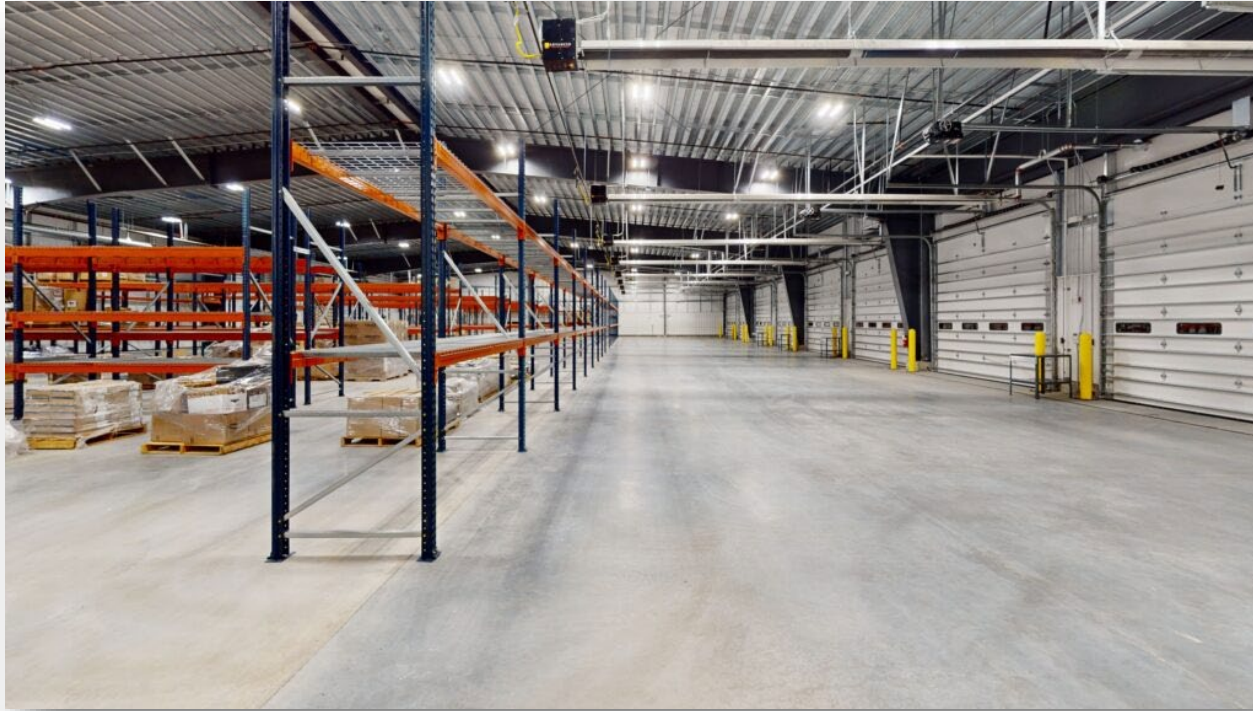
Good Warehouse & Vehicle Storage Space Should Include:

- Reliability – Good Quality
- Resilient – Flexibility
- Economical

WAREHOUSE



Where Will Materials Be Loaded Onto Vehicles?



Where Will Materials Be Loaded Onto Vehicles?



How Will Materials And Deliveries Be Received At The Warehouse?



Other Aspects of Warehouse Space

- Work Space / Offices
- Forklift Charging Stations
- In Floor Scale
- Conditioned Space



Secured Material & Equipment Storage



Proper Lighting Shown In Aisles



Proper Ventilation Using HVLS Fans



Good Circulation Around Warehouse Shelving

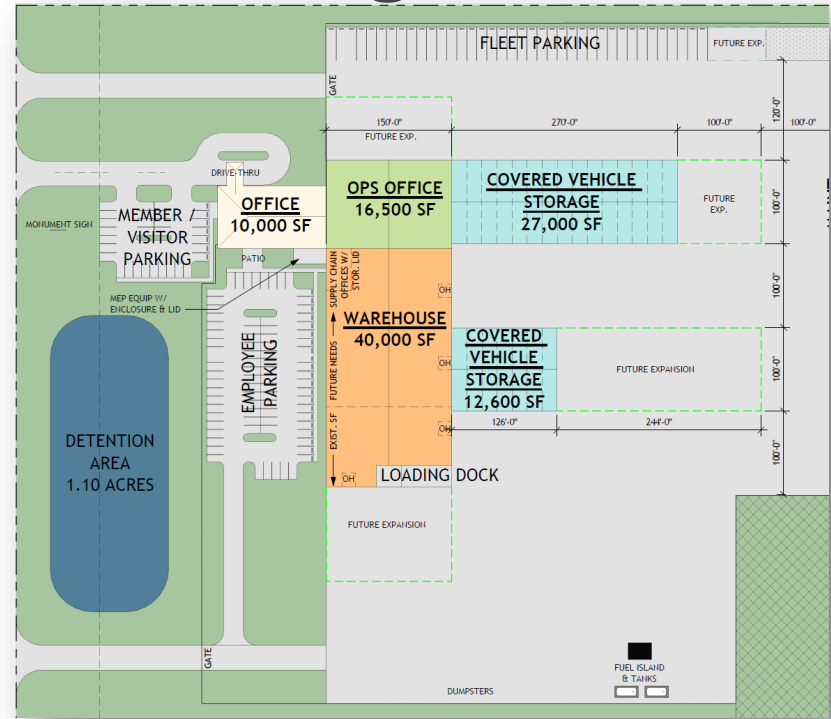


Office Storage Not Frequently Accessed



Warehouse – Future Planning

- Master Planning
- How to expand in the future?
- Scalability for Operations
- Accommodate Future Initiatives, i.e. Broadband



VEHICLE STORAGE



Vehicles Have Changed





Raised Docks



Loading Materials On Grade With A Fork Lift



Vehicle Storage - Options

- Enclosed (Wider Overdoors – 14')
- Covered (Ceiling Soffit Panels)
- No Interior Columns – Best Flexibility
- 3 Sided
- Surface Parking Outside
- Impact on Vehicles

Berkeley Electric (Moncks Corner Vehicle Storage Building)



Berkeley: Enclosed Vehicle Storage Building



Example: Covered Vehicle Storage Building



Example: 3-Sided Vehicle Storage Building



Good Circulation And Room For Surface Parking



Vehicle Storage Facilities – Different Design Layouts

- Pull Thru Bay Concept
- Herringbone Pattern Concept
- Designated Area to Distribute Materials

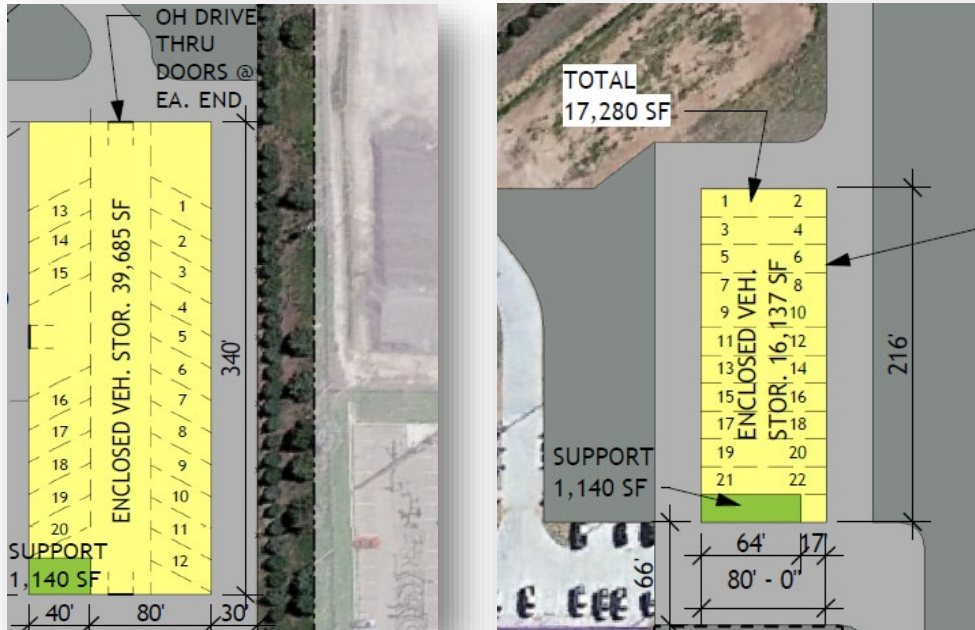
Pull Thru Vehicle Storage Building – No Interior Columns



Herringbone Pattern Parking



Pull Thru VS. Herringbone



40,800 SF Vs. 17,280 SF

Designated Aisle For Distributing Materials



Other Aspects of Vehicle Storage Space

- Heating
 - In Floor Radiant Floor Heat (Geothermal or Electric Boilers)
 - Unit Heaters
 - Gas Fired Heaters
- Exhaust System
- Conditioned Space
- Proper Drainage Inside
- Vehicle Approach
 - Concrete
 - Gravel
- Electrical Vehicles
- Host Other Events



Events in Vehicle Storage Building



Events in Vehicle Storage Building



How Much Pavement (Concrete / Asphalt) To Install?



How Much Pavement (Concrete / Asphalt) To Install?



Minimum 20' To 30' Concrete Apron In Front Of Vehicle Storage



BERKELEY CASE STUDY



Berkeley Electric – Case Study

- Top Issues Berkeley Electric was Looking to Address
 - Operational Efficiency
 - Safety
 - Member Responsiveness
- Top Decisions that Berkeley Electric Made
- Best Advice

Berkeley Electric Previous Conditions



Berkeley Electric Previous Conditions



Berkeley Electric Previous Conditions



Berkeley Electric (John's Island Warehouse Building)



Berkeley Electric (John's Island Vehicle Storage Building)



Berkeley Electric (Moncks Corner Vehicle Storage Building)

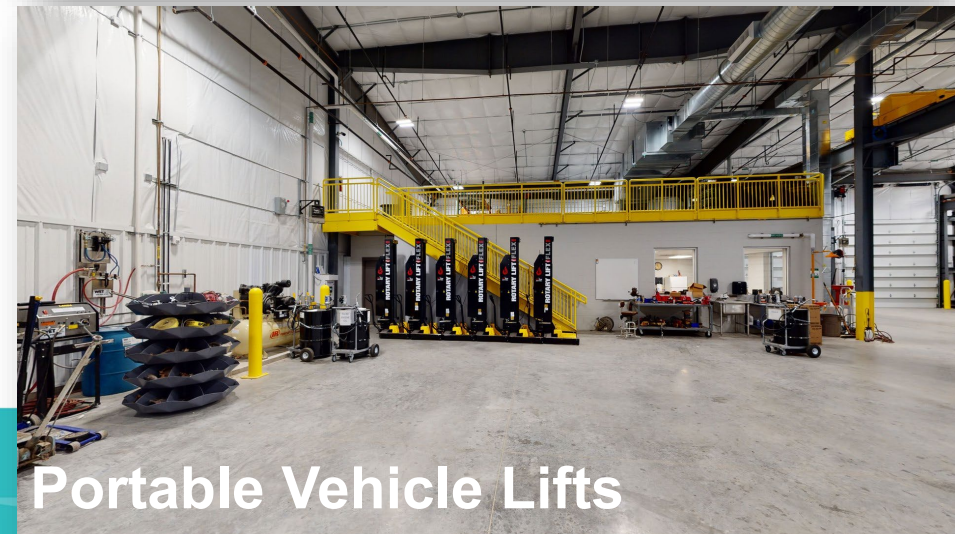
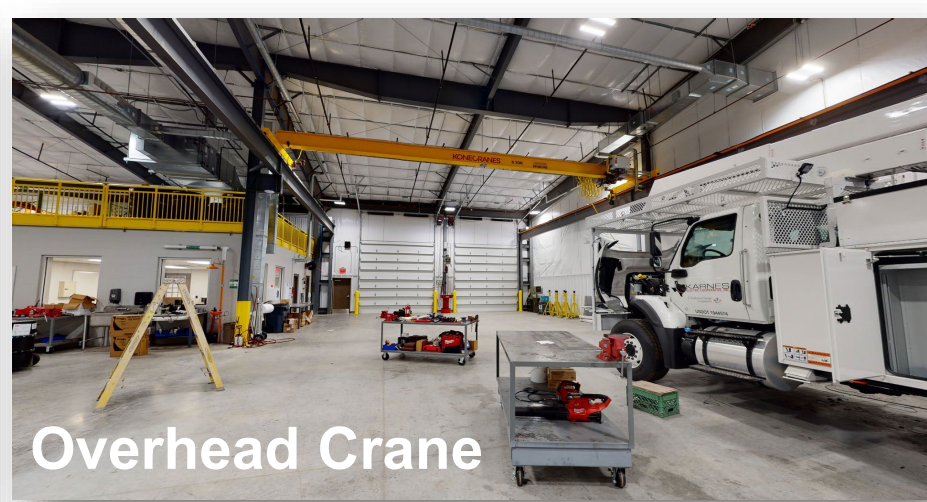
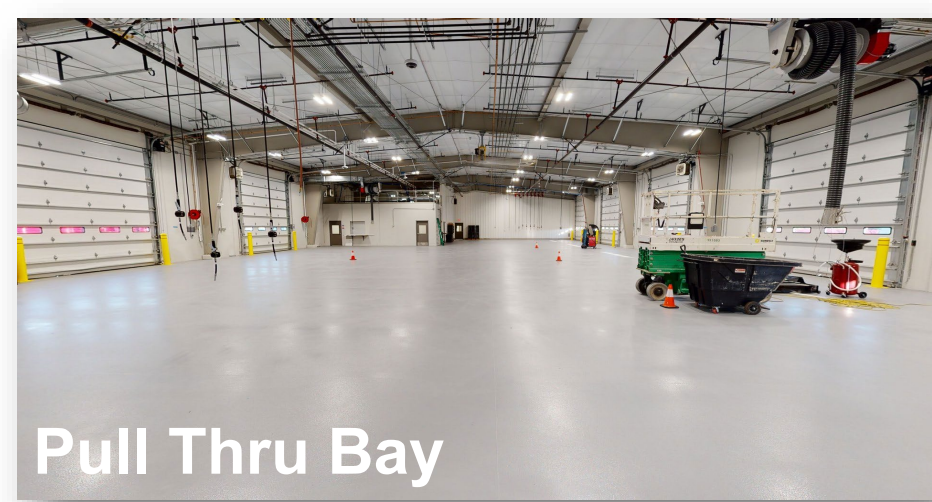


VEHICLE MAINTENANCE



Vehicle Maintenance Space Considerations

- Do you have a mechanic(s) on staff ?
- What type of services will you provide?
- What type of materials will you need to store?
- What type of equipment will you need to perform services?
- Where will you provide services, i.e. location



Timeline For a Project

- Items to consider:
 - Project Due Diligence – Facility Planning Study
 - Board Approval to Move Forward
 - Financing Requirements & Approval (RUS / CFC / Co-Bank, other)
 - Regulatory Requirements & Approval
 - Planning & Design
 - Building Permitting
 - Construction
 - Relocation

Next Steps – How to Move Forward?

- Employee Input
- Inform the Board of Directors
- Tour Other Existing Facilities
- Engage an Expert
- Proper Member Communication

QUESTIONS?

