BD ELECTRICAL & SOLAR

CAPABILITIES & QUALIFICATIONS

Electrical construction
Solar • Storage • Electrification



The experience behind your next project.

Company capabilities, installation scope, and selected project experience for property owners, developers, and construction teams.

BD ELECTRICAL & SOLAR LLC

NOVEMBER 2026

Electrical expertise. Demonstrated in the field.



BD Electrical & Solar delivers electrical construction and integrated energy systems for homes, businesses, educational campuses, research facilities, and other operating properties.

One coordinated electrical scope

Distribution and energy equipment are planned together: services, feeders, solar, storage, charging, controls, and backup priorities.

A defined role on each job

Experience ranges from full engineering, procurement and construction (EPC) delivery to field installation and electrical subcontracting. Profiles define our scope.

Work in occupied facilities

Our experience includes operating dealerships, campuses, hotels, airport facilities, and research environments with access and sequencing constraints.

Evidence, not generic claims

The pages that follow document real site challenges, installed scope, equipment, and results. Project photography and linked case studies support client qualification.

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CAPABILITIES AT A GLANCE

From electrical foundations to connected energy.

Residential energy

Rooftop and ground-mounted solar; battery retrofits; whole-home energy coordination; smart panels and EV charging.

Homeowners, custom builders, renovation teams

Commercial solar

Rooftops, ground mounts, solar carports and canopies; DC collection, inverters, distribution and interconnection.

Developers, EPC teams, facility owners

Electrical construction

Services, switchgear, panels, feeders, branch circuits, lighting, equipment power and specialty fit-outs.

General contractors, laboratories, institutions

EV charging infrastructure

Residential Level 2, commercial charging, high-power DC fast charging, underground pathways and utility coordination.

Property owners, hospitality, fleets, campuses

Storage & backup integration

Compatible battery systems, backup controls, critical-load planning, generators and energy management.

Homes and properties evaluating resilience

A system that fits the property.



Start with existing infrastructure, available space, electricity use, and the homeowner's priorities. Build a coordinated plan rather than treating each device as a separate project.

Solar & repowering

Roof-mounted and ground-mounted generation; system layout; roof attachments, racking and modules; inverter and electrical installation; permitting and utility coordination. Aging systems can be evaluated for replacement.

Storage & backup

New solar-plus-storage and compatible existing-PV retrofits. Define supported circuits, energy needs and backup controls before choosing equipment. Runtime depends on usable energy, load and operating conditions.

Smart electrical systems

Service upgrades, SPAN controls, circuit monitoring, vehicle charging, and future-load planning. Review capacity and compatibility before assuming an existing service can support new equipment.

New homes & renovations

Complete rough-in and finish, lighting, appliance circuits, structured wiring, distribution, and coordinated solar installation. Integrate equipment and wiring pathways with architecture and finishes.

Build the generation. Deliver the infrastructure.



Support a complete installation or a defined electrical package. Scope and responsibility are established with the owner, developer, general contractor, and engineering team.

Rooftops, ground mounts & canopies

Roof attachments and racking where included; module installation; DC collection; inverters; AC distribution; grounding; interconnection; testing and commissioning support.

Site & utility coordination

Underground conduits and duct banks, foundations and equipment pads where included, transformer and utility coordination, planned shutdowns, and site restoration.

Occupied-property execution

Coordinate deliveries, roof access, parking, work zones and electrical interruptions around the facility. Published projects include multi-building campuses and operating businesses.

Storage & electrification planning

Evaluate new demand, commercial charging, storage applications, backup priorities and future expansion against the property’s distribution system and operating needs.

The work behind reliable power.



From research equipment to high-power vehicle charging, BD’s published experience covers the electrical systems that make a property function.

Distribution & service work

Service entrance modifications, metering, disconnects, panels and switchgear; feeder routing, conductors and terminations; grounding, bonding, labeling and testing.

Specialty facilities

Laboratory branch circuits, fabrication equipment feeds, workbench power, UPS distribution, LED lighting and mechanical equipment connections.

Residential Level 2 charging

Dedicated circuits and hardwired chargers, equipment placement, electrical capacity review, and compatible integration with existing solar and energy-management systems.

Commercial DC fast charging

Utility infrastructure, high-capacity distribution and feeders, excavation, duct banks, equipment foundations, charger connections, bollards and commissioning.

A clear scope.
An accountable handoff.

01 Define the project

Review plans, existing electrical infrastructure, operating needs, utility information, access and schedule. Identify responsibilities, exclusions and dependencies before construction.

02 Coordinate design and field work

Align equipment selection, engineering partners as required, permitting, utility requirements, construction sequencing and shutdown planning with the agreed scope.

03 Install, test and commission

Complete the contracted installation, inspections, testing and applicable commissioning. Coordinate operating information, monitoring and next steps for ongoing service.

Technology experience & procurement review

Tesla Energy Certified Installer • SPAN Authorized Installer.

Our project experience also includes FranklinWH, Enphase, SolarEdge, Yaskawa Solectria, Autel and Eaton equipment.

For a project-specific qualification package, request current licenses, insurance certificates, relevant references and safety documentation, together with the proposed scope and project team. This catalog is a capabilities overview, not a substitute for those records.

SELECTED PROJECT EXPERIENCE

Middleborough Whole-Home Energy System



Middleborough Whole-Home Energy System · Middleborough, MA

THE CHALLENGE

Roof space alone could not accommodate the desired solar capacity. The project needed to integrate additional generation on the property with storage, backup priorities, electrical distribution, and vehicle charging.

BD’S SCOPE

- Rooftop solar and a custom three-pole solar array
- Excavation, reinforced foundations, and underground electrical infrastructure
- Tesla Powerwall storage and backup controls
- SPAN smart panel, EV charging, and energy monitoring
- Utility interconnection and commissioning

THE RESULT

The homeowner can generate, store, monitor, and manage electricity through a connected system. Circuit-level controls help prioritize available battery energy during an outage, while the combined roof and ground arrays make use of the property’s available space.

Read the project case study →

SELECTED PROJECT EXPERIENCE

Gloucester FranklinWH Battery Retrofit



Gloucester FranklinWH Battery Retrofit · Gloucester, MA

THE CHALLENGE

The homeowner wanted storage and backup capability while preserving the existing PV investment. BD evaluated the installed solar and electrical equipment to plan the retrofit around the system already in place.

BD'S SCOPE

- Existing solar and electrical infrastructure evaluation
- FranklinWH battery installation
- Associated energy-management equipment
- Integration with existing PV and home electrical distribution

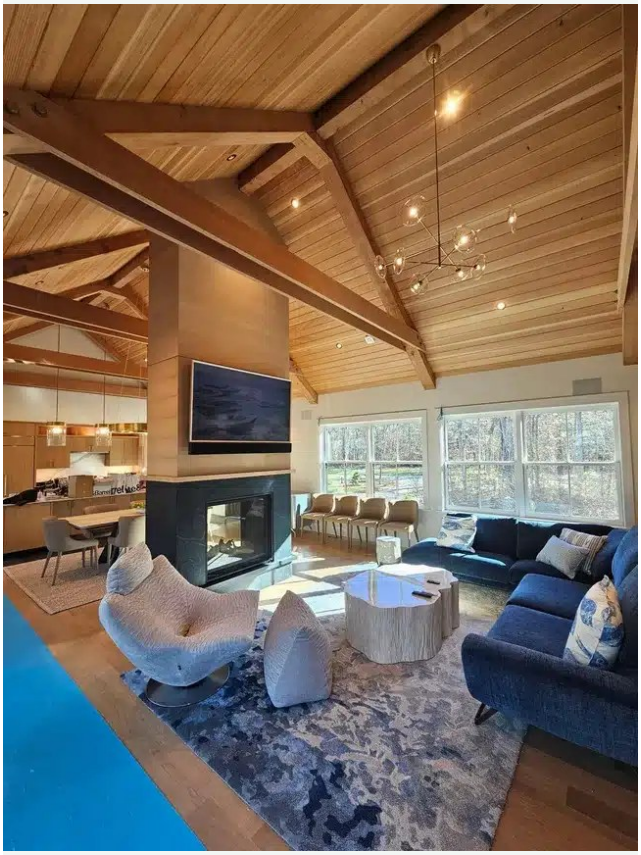
THE RESULT

The completed retrofit adds storage and backup capability without replacing the original solar array. The homeowner can store energy for later use through an expanded solar-plus-storage system.

Read the project case study →

SELECTED PROJECT EXPERIENCE

Brewster Custom Home Electrical & Solar



Brewster Custom Home Electrical & Solar · Brewster, MA

THE CHALLENGE

Exposed wood ceilings, detailed finishes, and evolving fixture selections required close coordination with the builder and other trades. Wiring pathways needed to preserve the home’s finished appearance.

BD’S SCOPE

- New-construction rough-in, service, panels, and branch circuits
- Architectural, recessed, decorative, and exterior lighting
- Appliance circuits and structured wiring
- System 7 whole-home management and controls
- Residential solar, inspections, and final commissioning

THE RESULT

The finished home brings electrical distribution, layered lighting, integrated controls, and solar generation together. Planning these systems during construction allowed equipment and pathways to be coordinated with the architecture.

Read the project case study →

SELECTED PROJECT EXPERIENCE

Bridgewater Grid-Tied Residential Solar



Bridgewater Grid-Tied Residential Solar · Bridgewater, MA

THE CHALLENGE

The array needed to use multiple roof areas while maintaining a clean finished appearance. Rooftop installation, inverter placement, and service integration were planned together.

BD'S SCOPE

- Solar design, roof attachments, racking, and modules
- Tesla string inverter installation
- DC and AC electrical work
- Permits, inspections, and utility interconnection
- Net-metering coordination and commissioning

THE RESULT

The completed grid-tied system produces electricity at the home and can export excess generation under its applicable utility arrangement. BD delivered the roof and electrical work as one coordinated installation.

Read the project case study →

SELECTED PROJECT EXPERIENCE

Wareham Residential Solar Repower



Wareham Residential Solar Repower · Wareham, MA

THE CHALLENGE

Deteriorating modules and increasingly difficult-to-support legacy equipment made continued repairs less practical. The project needed a new installation that improved monitoring and serviceability on an existing solar-ready property.

BD'S SCOPE

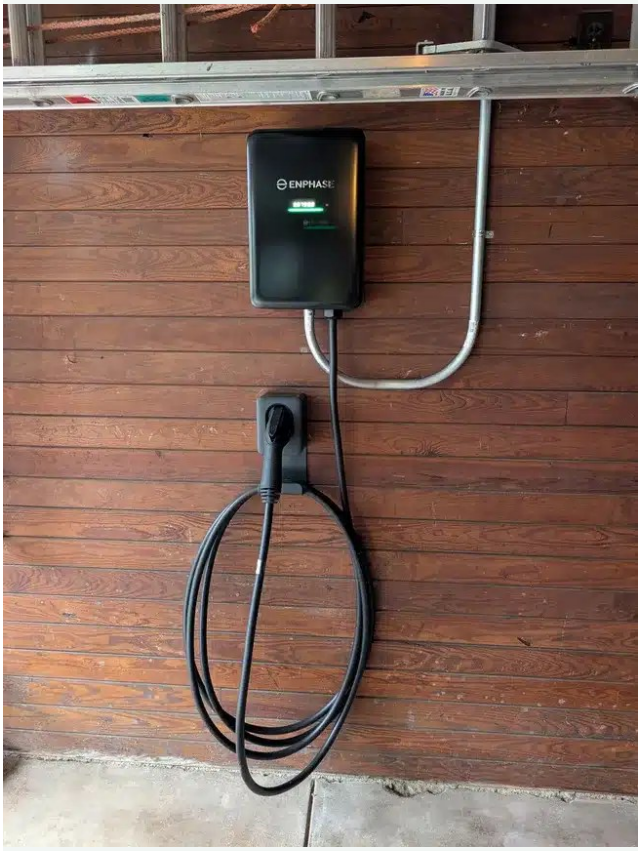
- Removal of the aging array and obsolete equipment
- Inspection of the roof and existing penetrations
- New racking, mounting equipment, and modules
- Module-level electronics and updated electrical components
- System testing and commissioning

THE RESULT

The homeowner gained a modern solar installation with individual-module monitoring and service access. The repower replaced aging centralized-inverter equipment with a current platform for continued solar generation.

Read the project case study →

Wenham Enphase EV Charging Integration



Wenham Enphase EV Charging Integration · Wenham, MA

THE CHALLENGE

The homeowner wanted to charge two vehicles while retaining the benefits of the existing energy-management platform. The chargers needed to integrate with the existing system and electrical distribution.

BD’S SCOPE

- Two Enphase EV charger installations
- Integration with existing rooftop solar
- Coordination with the existing four Enphase batteries
- Electrical distribution and energy-management integration

THE RESULT

The completed system connects solar production, four existing batteries, and two new EV chargers through the Enphase platform. BD’s work shows how a home’s energy system can be expanded as vehicle and electrical needs change.

Read the project case study →

SELECTED PROJECT EXPERIENCE

Premier Automotive Dealership Solar Portfolio



Premier Automotive Dealership Solar Portfolio · Cape Cod & Plymouth, MA

THE CHALLENGE

The dealerships needed to remain open throughout construction. HVAC equipment, vents, skylights, and varying roof layouts required site-specific array planning and careful coordination around customers, employees, and service operations.

BD'S SCOPE

- Rooftop racking, solar module installation, and Jeep canopy solar
- DC wiring, commercial inverters, and AC distribution
- Utility interconnection, testing, and commissioning
- Construction coordination across occupied dealerships

THE RESULT

The portfolio includes BMW, Audi, Audi Car Wash, Volvo Cape, Volvo Plymouth, Jeep rooftop and canopy, and the Auto Salon. Multiple operating facilities now generate electricity on site through one coordinated commercial solar construction effort.

Read the project case study →

SELECTED PROJECT EXPERIENCE

Cape Cod Aggregates Ground-Mount Solar



Cape Cod Aggregates Ground-Mount Solar · Freetown, MA

THE CHALLENGE

The project began on undeveloped land within an active aggregate operation. Winter weather, site preparation, underground collection systems, and utility infrastructure required coordinated civil and electrical construction.

BD’S SCOPE

- Ground-mount racking and 1,536 solar modules
- Underground DC and AC collection systems
- Twelve Solectria PVI-36TL inverters
- Transformer, metering, and utility interconnection infrastructure
- Procurement, construction, testing, and startup

THE RESULT

The completed facility combines 560.6 kWdc of solar modules with 432 kWac of inverter capacity. It demonstrates BD’s ability to deliver a solar generation site from foundations and underground work through power conversion and interconnection.

Read the project case study →

SELECTED PROJECT EXPERIENCE

New Bedford Historic Mill Rooftop Solar



New Bedford Historic Mill Rooftop Solar · New Bedford, MA

THE CHALLENGE

The project combined legacy switchgear, waterfront corrosion exposure, and demanding rooftop material handling. Interconnection required sourcing compatible equipment and reducing the existing main breaker from 2,000A to 1,600A.

BD’S SCOPE

- Design and engineering coordination, procurement, and utility coordination
- Approximately 1,400 Qcells modules on ballasted racking
- Ten SolarEdge 33.3 kW three-phase inverters
- Legacy switchgear modifications and interior conduit routing
- Crane logistics, commissioning, and startup

THE RESULT

The installation provides approximately 420 kWdc / 333 kWac of solar capacity while preserving the existing switchgear. Interior raceways reduce coastal exposure, and the completed system supports the owner’s multi-property energy strategy.

Read the project case study →

Bristol Aggie Campus Solar Installation



Bristol Aggie Campus Solar Installation · Dighton, MA

THE CHALLENGE

An occupied school campus, changing roof elevations, and multiple work areas required disciplined access planning and coordination with facility staff to minimize disruption to students and faculty.

BD'S SCOPE

- Structural roof attachments, racking, and modules
- DC wiring and conduit installation
- Inverter and AC electrical installation
- Commissioning support and coordination with Solect Energy

THE RESULT

The completed arrays provide on-site renewable generation for the educational campus. BD delivered the field installation from roof attachments through electrical connections, with attention to safe access, workmanship, and long-term serviceability.

Read the project case study →

SELECTED PROJECT EXPERIENCE

Stone Zoo Solar Canopy Electrical Installation



Stone Zoo Solar Canopy Electrical Installation · Stoneham, MA

THE CHALLENGE

Construction occupied areas used by visitors, vehicles, staff, and animal-care operations. Solar interconnection also required a facility shutdown while critical electrical loads remained supported.

BD'S SCOPE

- Solar canopy electrical installation
- Phased construction and access coordination
- Interconnection shutdown planning
- Temporary power for critical zoo operations
- Coordination with Solect and zoo personnel

THE RESULT

The solar canopy installation was completed while the zoo continued operating. Phased work zones maintained circulation, and temporary power supported essential loads during the interconnection shutdown.

Read the project case study →

Cape Cod Community College Solar & EV Carport



Cape Cod Community College Solar & EV Carport · West Barnstable, MA

THE CHALLENGE

The project connected solar arrays, power-conversion equipment, campus distribution, and EV chargers across an existing parking area. Underground and canopy-mounted pathways needed coordinated routing and equipment placement.

BD'S SCOPE

- Excavation, trenching, and underground conduit banks
- Solar DC collection and canopy raceways
- Yaskawa Solectria inverters and AC distribution
- EV charger branch circuits and equipment connections
- Equipment pads, bollards, grounding, and commissioning support

THE RESULT

The completed installation gives the campus parking area three functions: parking, renewable generation, and vehicle charging. BD connected the solar and EV equipment through a coordinated commercial electrical infrastructure.

Read the project case study →

Westport Native Nursery Solar Pergola



Westport Native Nursery Solar Pergola · Westport, MA

THE CHALLENGE

The structure needed to fit the working landscape and nursery operations. Foundations, structural framing, electrical infrastructure, and solar equipment had to function as one cohesive project.

BD'S SCOPE

- Project management and site coordination
- Excavation and reinforced concrete pier foundations
- Custom timber-frame construction
- Underground electrical infrastructure
- Solar installation, interconnection, and commissioning

THE RESULT

The completed pergola provides shade for plants, staff, and visitors while producing electricity on site. Underground electrical routing preserves the appearance of the property, and the solar canopy serves as a functional centerpiece for the nursery.

Read the project case study →

Tewksbury 350 kW DC Fast Charging



Tewksbury 350 kW DC Fast Charging · Tewksbury, MA

THE CHALLENGE

The charging installation required new utility infrastructure and high-capacity distribution while hotel guests, staff, and vehicles continued using the property. Construction sequencing and accessible routes were central to the work.

BD'S SCOPE

- Utility transformer coordination and new distribution equipment
- Underground conduits, duct banks, and feeders
- Excavation, concrete pads, and equipment foundations
- Autel charger wiring and terminations
- Accessible sidewalk improvements, bollards, testing, and commissioning

THE RESULT

The hotel gained high-power charging backed by purpose-built electrical and civil infrastructure. BD coordinated the work around the operating property, including the accessible charging area and protected equipment locations.

Read the project case study →

SELECTED PROJECT EXPERIENCE

DunkWorks Research Facility Electrical Construction



DunkWorks Research Facility Electrical Construction · Woods Hole, MA

THE CHALLENGE

A rapid-prototyping facility combines industrial fabrication equipment with electronics benches, engineering workstations, and collaborative spaces. Power and lighting needed to serve that mix while accommodating an evolving research environment.

BD'S SCOPE

- Branch circuits and research equipment power distribution
- Dedicated fabrication equipment feeds and connections
- LED and architectural lighting
- Electrical rough-in, finish, devices, and laboratory infrastructure
- Testing and commissioning

THE RESULT

The finished facility has organized electrical infrastructure for advanced manufacturing and collaborative engineering. Functional lighting supports fabrication work, while architectural fixtures complement the shared spaces.

Read the project case study →

Data Center UPS & Critical Power Upgrade



Data Center UPS & Critical Power Upgrade · Massachusetts

THE CHALLENGE

Work took place in an active server environment where equipment access, cable management, and installation sequencing were critical. The new infrastructure needed to support reliable operations within limited space.

BD'S SCOPE

- Eaton BladeUPS installation
- Three-phase distribution panelboards and feeders
- Dedicated server circuits and twist-lock receptacles
- Rack power distribution and organized terminations
- Grounding, bonding, testing, and commissioning

THE RESULT

The facility gained conditioned backup power and dedicated distribution for its server and network equipment. Organized routing and accessible equipment improve maintainability while supporting the customer's critical IT operations.

Read the project case study →

ADDITIONAL PROJECT EXPERIENCE

More work.
More ways to deliver.



1200A School Solar Interconnection Upgrade

New 1200A utility service disconnect; Utility CT cabinet and service splice cabinet; Dedicated 1200A PV disconnect and PV CT cabinet.

View project →



800A Laboratory Electrical Panel Upgrade

800A, 480V three-phase subpanel installation; Feeder conduit, conductors, and terminations; Equipment mounting, grounding, and bonding.

View project →



Commercial Rooftop HVAC Electrical Installation

Three-phase power distribution and branch circuits; Equipment disconnects and final connections; EMT and rigid conduit systems.

View project →

ADDITIONAL PROJECT EXPERIENCE

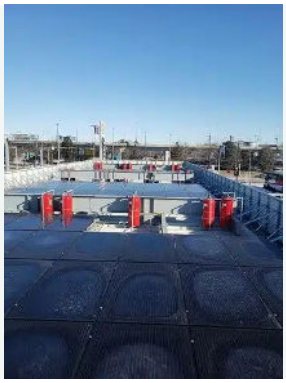
More work.
More ways to deliver.



Digital Way Commercial Solar Portfolio

Commercial rooftop PV electrical installation; DC wiring, raceways, and inverter installation; AC infrastructure and utility interconnection.

View project →



Logan Airport Fuel Facility Rooftop Solar

Solar module installation; Rooftop DC wiring and conduit; Inverter installation.

View project →



Pembroke Office Park Rooftop Solar

Electrical installation for multiple rooftop PV systems; Rooftop conduit and wiring; Inverter installation.

View project →

More work.
More ways to deliver.



Plymouth Tesla Wall Connector Installation

Tesla Wall Connector installation; Dedicated Level 2 charging circuit; Hardwired electrical connection.

View project →



Somerville High School Rooftop Solar

Commercial PV electrical installation and DC homeruns; Conduit and raceway systems; Inverter connections and AC distribution.

View project →



St. Mark’s School Solar Installation

PV attachments, racking, and module installation; DC conductors, raceways, and grounding; Electrical equipment and terminations.

View project →

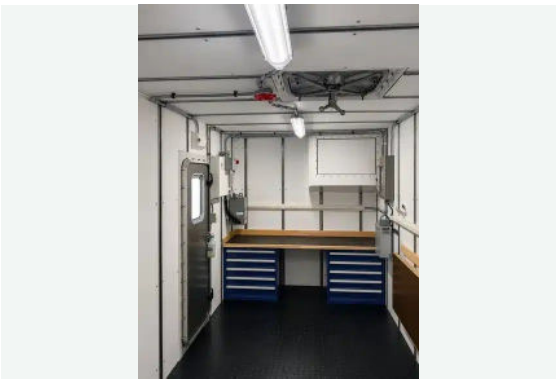
More work.
More ways to deliver.



Walpole Commercial Solar Carport

Underground duct banks and raceways; Equipment bases, grounding, and bonding; DC collection, conductor pulls, and terminations.

View project →



WHOI Mobile Research Laboratory Fit-Out

Electrical panel and branch-circuit installation; Interior LED lighting; Dedicated workbench receptacle circuits.

View project →



WHOI Welding Shop LED Lighting Retrofit

Removal of existing high-bay fixtures; Commercial LED high-bay installation; Electrical modifications and rewiring.

View project →

PUT OUR EXPERIENCE TO WORK



Let’s define your project.

Share the property, project scope, available plans, schedule, and qualification requirements. We’ll help identify the right next step.

REQUEST A PROJECT ASSESSMENT

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