



The Sage Report

A Monthly Newsletter of Insights, Projects, and Productivity

A Good Site Visit Starts Before You Leave the Office

A site visit is one of the most important parts of a renovation project. It is also one of the easiest opportunities to waste.

It is easy to walk through a building, take hundreds of photographs, record a few dimensions, and leave feeling that the building has been thoroughly documented. But a large collection of photographs is not the same as having the information needed to design the project.

A good site visit starts at the office, before anyone leaves for the field.

The design team should first understand the scope, review available drawings and reports, and think through the proposed design. What information is missing? What assumptions need to be verified? What existing systems could affect the work? What conditions could make the concept difficult or impossible to construct?



MAKE A CHECKLIST BEFORE YOU GO

This is the most important step.

The checklist should identify exactly what needs to be investigated. Depending on the project, that could include equipment nameplates and capacities, pipe and duct sizes, electrical sources, controls, structural supports, equipment clearances, utility connections, ceiling heights, access routes, existing system capacities, or shutdown requirements.

Mark up the existing drawings before the visit. Identify the equipment and spaces that need to be investigated. Write down the dimensions that matter. Determine which systems need to be traced and where they originate.

Then use the site visit to answer those questions.

Do not make up the investigation while walking through the building.

Existing drawings are valuable, but buildings change. Equipment gets replaced, piping is rerouted, systems are abandoned, and renovations occur that never make it onto record drawings. The purpose of the visit is to verify the information that matters to the design, not simply document everything in sight.

Photographs are essential, but they should be taken with a purpose. Hundreds of random photographs can become nearly useless when no one remembers what they show or why they were taken. Capture overall views for context, then photograph specific equipment, nameplates, connections, controls, structural conditions, access paths, and anything else identified on the checklist.

The investigation should also extend beyond the immediate project area. Replacing an air handling unit may require tracing its electrical feeder, locating pumps and controls, evaluating the equipment removal path, and determining how the replacement will actually get into the building.

Before leaving the site, review the checklist.

Did we answer every question? Did something we discovered create a new one? Are there missing dimensions or photographs that can still be collected?

The goal of a site visit is not to return with the most photographs.

It is to return with the information needed to design the project confidently.



Office of
General Services

Sage Selected for New OGS Electrical Engineering Term Contract

We have some great news to share. Sage has been selected as one of three firms for the New York State Office of General Services Electrical Engineering Services Term Contract!

This is a statewide OGS Design & Construction contract focused on electrical engineering projects for State facilities. The contract has a value of \$4 million for each selected consultant and runs for five years.

Assignments may involve electrical distribution systems, switchgear, standby and emergency generators, building power systems, and the mechanical, structural, civil, architectural, and other supporting work needed to complete those projects.

As part of the selection process, Mike Meyers, David Layton, and Ben Walldroff of Jade Stone Engineering represented our team at the interview. We had approximately 30 minutes to present our team, experience, approach, and understanding of OGS, followed by another 30 minutes of questions from the selection panel. Our presentation focused heavily on something that is difficult to manufacture for an interview: our actual history of working with OGS, knowing their procedures, understanding their facilities and client agencies, and working together as a team. The interview presentation highlighted Sage's long-term OGS experience and our established working relationship with Jade Stone.

And that is really the biggest reason this is worth celebrating. Thank you to everyone at Sage for all of your hard work on OGS projects over the years. Simply describing how we do business with OGS, how we respond when they need us, and the track record our staff has built made for a great interview. We did not have to invent a story about what Sage could be for OGS. We were able to talk about what our people already do every day.

Congratulations to the entire Sage team. This is a big win, and one that everyone here helped earn.



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2025 NYS ENERGY CODE: ENERGY MONITORING IS NOW A BUILDING SYSTEM

One of the easy-to-miss requirements in the 2025 Energy Conservation Construction Code of New York State is Section C405.13, Energy Monitoring. For **new commercial buildings with at least 10,000 square feet** of gross conditioned floor area, simply providing a utility meter is no longer enough. The building must be capable of measuring, monitoring, recording and reporting energy consumption by end use.

What Has to Be Monitored?

For electrical energy, Table C405.13.2 divides building consumption into separate categories:

- HVAC systems
- Interior lighting
- Exterior lighting
- Plug loads
- Significant process loads
- Building operations and miscellaneous loads
- Electric service water heating

The requirement extends beyond the building itself.

Electrical energy associated with site lighting, parking and other site systems serving the building is also included. C405.13.1 and C405.13.2 require meters or other approved measurement devices that can separate these end uses.

The code does not stop with electricity. Sections C405.13.7 through C405.13.11 require similar monitoring of nonelectrical energy, including fuel used for HVAC, process loads, miscellaneous loads and service water heating. District heating and cooling entering a building must also be monitored at the point where it enters the building distribution system.



More Than Just Meters

The meters must automatically communicate with a data acquisition system. For electrical energy, C405.13.4 requires the system to retain at least 36 months of data and provide hourly, daily, monthly and yearly energy-use information by end-use category. It must also track the building's peak electrical demand and when that peak occurred.

C405.13.5 then requires a permanent graphical reporting system accessible to building operations and management personnel. The display must allow the required energy information to be viewed by hour, day, month and year for the previous 36 months. Similar requirements apply to nonelectrical energy under C405.13.10 and C405.13.11.

Why Does It Matter?

The purpose is not simply code compliance. Breaking energy use into categories allows operators to identify performance changes, equipment problems and opportunities for energy-efficiency improvements over the life of the building.

For Sage projects, this needs to be addressed early. Electrical distribution must allow the required loads to be separately measured, mechanical and plumbing designers need to identify fuel and thermal-energy end uses, and the controls/BAS design needs to include data collection, storage and graphical reporting. This should be a coordinated MEP/controls design requirement, not something discovered during final energy-code review.

Mechanical and Plumbing

[ASHRAE Climatic Design Conditions](#)

Find ASHRAE heating and cooling design temperatures and other climate data by location.

[TLV Engineering Calculator](#)

Size steam piping and access calculators for pressure drop, condensate, valves, insulation, and other steam-system calculations.

[Spirax Sarco Steam Tools](#)

Free iPhone app with steam tables, pipe-sizing tools, and product catalogs.

Electrical

[Southwire Calculators](#)

Useful calculators for voltage drop, conduit fill, conductor sizing, and cable pulling.

[Eaton Bussmann Fault Current Calculator](#)

Perform quick point-to-point available fault-current calculations.

Structural

[ASCE Hazard Tool](#)

Look up site-specific wind, snow, seismic, rain, and other design hazard information.

[AISC Shapes Database](#)

Download dimensions and section properties for structural-steel shapes.

[AISC Historic Shape References](#)

A particularly useful resource when identifying and evaluating older steel shapes during renovation projects.

Handy Websites



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A Pitched Roof Can Turn a Small Rooftop Unit into a Big Coordination Issue

Rooftop mechanical equipment is often treated as a simple layout exercise: locate the fan, condensing unit, or other equipment where it works best, coordinate the curb, and move on. On a pitched roof, however, the roof slope itself can trigger a much larger architectural and structural requirement.

The 2025 Mechanical Code of New York State makes this easy to miss because the critical threshold is not an especially steep roof.

MCNYS Section 306.5.1, "Sloped roofs," applies where equipment or components requiring service are installed on a roof with a slope of 3 units vertical in 12 horizontal or greater, and the roof edge is more than 30 inches above grade. The code states that "a level platform shall be provided on each side" where access is required for service, repair, or maintenance. The platform must be at least 30 inches in each dimension and must have guards extending at least 42 inches above the platform.

That means a typical 3:12 or 4:12 architectural roof is already within the platform requirement. A small exhaust fan that looks harmless on the roof plan can suddenly require a substantial framed platform, guardrails, flashing, structural support, and architectural coordination.

Access is a separate issue. Under MCNYS Section 306.5, rooftop equipment more than 16 feet above grade must have a permanent means of access. The code is explicit: "Such access shall not require the use of portable ladders." Section 306.5 also limits the access route so maintenance personnel are not required to walk on roof slopes greater than 4:12.

There is another requirement worth checking. MCNYS Section 304.11 requires guards when equipment requiring service is within 10 feet of a roof edge and the drop exceeds 30 inches. That section allows compliant fall-restraint or fall-arrest anchorage as an exception to the roof-edge guard requirement. That exception should not be assumed to eliminate the separate platform and guard requirements of Section 306.5.1.

The lesson is simple: look at the roof slope before locating rooftop equipment.

During schematic design, the mechanical engineer should identify the roof pitch, anticipated service sides of each unit, route from the roof access point, and proximity to roof edges. If a platform will be required, bring the architect and structural engineer into the discussion immediately.

A better equipment location, a flatter roof area, or a different system arrangement may avoid a platform altogether. Finding that out early costs almost nothing. Finding it out after the roof, curbs, and equipment locations are designed can create a surprisingly expensive change.

For roof-mounted fans and packaged equipment, this should be a standard design checklist item, not something discovered during permit review or construction.





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UPCOMING LIVE WEBINARS AND SEMINARS

This month's lists of free live webinars and seminars is below. Each offers at least one PDH and qualifies as a *Course of Learning* – a format that includes traditional classroom-style courses or live webinars with real-time interaction with an instructor. As a reminder, New York State requires that 18 of the 36 total continuing education hours for professional engineers be completed through *Courses of Learning*.

All webinars listed below are free. The ASHRAE, ASPE and AEE meetings are in-person and have a registration fee that will be reimbursed by Sage for Sage employees.

Date October	Topic	Host	Time (ET)	Link
8	Specifying for Safety: Emergency Eyewash & Shower Equipment (1 RCEP PDH / 1 ASPE CE)	Ron Blank & Assoc / Bradley	12 - 1 PM	Register
8	Trends and Firestopping in Mass Timber Construction (FS103) (1 AIA LU-HSW)	Hilti USA	12 - 1 PM	Register
9	Sustainable Insulation Materials for High-Performance Buildings (1 AIA LU-HSW)	Simpson Gumpertz & Heger	12 - 1 PM	Register
13	Fundamentals of Cast-in-Place Anchor Channel System Design with AC232 (AC101) (1.5 PDH)	Hilti USA	12-1:30 PM	Register
13	Advantages of Polyiso in Below-Grade Applications (1 AIA LU-HSW)	Ron Blank & Assoc / Rmax	12 - 1 PM	Register
14	AEE Fall Forum Series at ETEC: Energy Lunch Panel (PDH credit; quantity not stated; \$35)	AEE Capital Region / UAlbany	11:30A-1P	Register
15	Designing Post-Installed Reinforcement for Structural Extensions (REB201) (1 PDH)	Hilti USA	12 - 1 PM	Register
15	Engineering Ethics: Professional Ethics for Engineers (1 PDH)	NoonPi	12 - 1 PM	Register
15	What's New in the NYS Energy Code (1.5 PDH)	Urban Green Council / NYSERDA	12 - 1:30 PM	Register
20	Anchoring Principles & Design (ANC101) (1 PDH)	Hilti USA	12 - 1 PM	Register
20	Connecting the Dots: Air Barrier Transitions (1 FBPE PDH / 1 AIA HSW)	Ron Blank & Assoc / ABAA	12 - 1 PM	Register
21	Shaping Safe Spaces: Aluminum Railing Design for Residential and Commercial Architecture (1 FBPE PDH / 1 AIA HSW)	GreenCE / Keylink	12 - 1 PM	Register
22	Joint Design for Fire and Sound Considerations (FS102) (1 AIA LU-HSW)	Hilti USA	12 - 1 PM	Register
27	What's New in the NYS Energy Code (1.5 PDH)	Urban Green Council / NYSERDA	9:30 - 11 AM	Register
27	PROFIS Engineering Diaphragm Design Software Demo (PROFIS-D) (0.5 PDH)	Hilti USA	12-12:30P	Register
28	Retaining Wall Failures and How to Prevent Them (1 PDH)	NoonPi	12 - 1 PM	Register
28	Healthy Interiors: Using the WELL Building Standard to Design Commercial Spaces of the Future (1 FBPE PDH / 1 AIA HSW)	GreenCE / Excel Dryer	12 - 1 PM	Register
29	What's New in the NYS Energy Code (1.5 PDH)	Urban Green Council / NYSERDA	12 - 1:30 PM	Register
29	Post-Installed Rebar Design for Structural Joints (REB202) (1.5 PDH)	Hilti USA	12-1:30 PM	Register
30	Using Cable Railings in Public Buildings and Structures: A Demonstration of Strength & Beauty (1 AIA LU-HSW)	Ron Blank & Assoc / Ultra-Tec	12 - 1 PM	Register

- AEE Capital Region states that PDH credit is included with registration but does not state the credit quantity.





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Bassett Medical Center Convenient Care Renovation

Cooperstown, NY

The Convenient Care Renovation project transformed an existing office space into a new 6,200-square-foot outpatient Convenient Care facility. Originally constructed in 2010, the facility was renovated to support a modern urgent care environment, including upgrades to the interior architecture, HVAC, plumbing, fire protection, electrical and structural systems. The project included modifications to support healthcare ventilation requirements, patient care functions, and a new radiology suite with diagnostic X-ray equipment.

Sage Engineering Associates, LLP provided HVAC, plumbing, electrical, lighting, fire protection, and structural engineering design services for the renovation. HVAC upgrades were designed to meet healthcare ventilation standards while providing appropriate space pressurization, occupant comfort, and energy-efficient operation. Mechanical improvements included modifications to the air distribution systems, upgraded filtration, DDC controls integration, and extensive coordination within the existing building infrastructure and limited ceiling spaces.

Electrical system improvements included new lighting, power distribution, emergency power modifications, nurse call systems, fire alarm system modifications, and infrastructure upgrades to support clinical equipment and future operational flexibility.

Plumbing and fire protection work included modifications to domestic water, sanitary, and sprinkler systems to support the renovated patient care environment. The project required extensive coordination with existing building systems, careful phasing, and integration with ongoing facility operations to minimize disruptions during construction.

The project reflects Sage Engineering's experience delivering complex healthcare renovations that modernize patient care environments while maintaining reliable facility operations. Through careful planning and coordination, the project was successfully completed within an accelerated construction schedule while supporting continued healthcare services.

