Construction for a livable city
New York City thrives as a world-class destination for business, the arts, tourism, and innovation because it is able to ceaselessly renew itself and its built environment. The building industry is essential to this continuous growth. Even in periods of slowed economic expansion, scaffolding, cranes, trucks, and construction barriers pervade the City's landscape.

With a presence extending to every corner of the City, the building industry brings with it noise, obstructions, and other unwelcome aspects that are necessary components of construction. Given its close proximity to neighbors and the importance of continued public support for its work, the building community can and should seek ways to advance improved construction site management practices, while enhancing its image as a good neighbor and a welcome and integral part of the City's growth.

This report is the result of a working group formed by the New York Building Foundation with leaders in design, construction, and real estate to investigate construction site management practices and their impact on the public and the urban environment. The efforts of this working group concluded with the creation of widely applicable recommendations on ways the industry can make improvements to worksites and, in so doing, improve its image and the quality of life of millions of New Yorkers. The Foundation named this initiative Construction for a Livable City.

KEY WORKSITE CONCERNS

All aspects of worksites were examined to determine where improvements could be made effectively. Four broad areas of interest were identified.

Sheds and Arcades
By New York City Department of Buildings (DOB) estimates, construction sheds, or arcades, cover approximately one million linear feet — almost two hundred miles — of City streets. Sheds must meet minimum DOB criteria regarding height, illumination, and structural integrity, but the overall quality of sheds and their impact on pedestrians and the public are not part of these regulations. DOB recently initiated an ambitious effort to introduce an innovative new shed design. However, measures to improve existing stock could have a quicker and broader impact on the relationship between the building industry and the public.

Fences and Barriers
Virtually all construction sites employ barriers and fencing to prevent public access. But beyond DOB guidelines designed to ensure public safety and restrict advertising, there are no universally accepted practices about placement, maintenance, and aesthetics.

General Worksite Conditions
Noise, cleanliness, traffic and pedestrian impacts, environmental issues (including dust, water runoff and hazardous materials control), and upkeep of the worksite perimeter all have a significant collective impact on quality of life. Currently, project owners and contractors manage these issues, essentially, on a site by site basis. Developing and applying industry-wide standards would provide an opportunity to generate new ideas, create consistent worksite quality across the industry, and improve public perception.

Public and Community Relations
Improving the building industry's relationship with the public requires new strategies for disseminating information and involving stakeholders. A number of innovative approaches to communicating about projects have been implemented across the City. These serve as examples of how to successfully address community concerns and reduce the figurative barriers between builders and neighbors.
A CHECKLIST FOR IMPROVING WORKSITE CONDITIONS

Collectively, the building industry already implements hundreds of common sense practices to make sure that worksites are safe and attractive. However, these practices are not codified or followed systematically. Creating standards around which the industry can coalesce could encourage broad application of best practices. The checklist included at the end of this report was developed in consultation with the New York Building Foundation working group and presents strategies that are broad enough to allow site managers and workers to adapt them to the specific conditions of a particular worksite.

INDUSTRY CHALLENGES

In order to improve worksite quality and practices, the entire project team — project owners, designers, contractors, and workforce — should map out administrative and site coordination issues and accommodate up-front costs. Areas that require specific attention and detailed planning may include:

- Using better quality materials and parts;
- Revising construction site layout and management standards;
- Assigning responsibility for quality control at the worksite;
- Allocating necessary resources to meet site improvement goals;
- Communicating with the public to explain the initiative and improve perception of worksites.

The New York Building Foundation will monitor industry efforts to implement and adapt the checklist.

ENCOURAGING PARTICIPATION AND REWARDING SUCCESS

Worksite Achievement Awards

Efforts to make improvements industry-wide cannot be done in isolation, worksite by worksite. A resource should exist to coordinate efforts, report on progress, and promote successful worksite improvements both within the industry and to the broader public.

The Foundation believes the building industry should establish a recognition program that rewards exceptional achievement. To ensure the program’s longer-term success, industry leaders should also seek ways to promote these efforts to the general public and to further refine the checklist, establishing usable industry-wide standards that can be replicated over time.

CONSTRUCTION FOR A LIVABLE CITY:

CASE STUDIES

Brooklyn Bridge Park — Brooklyn Bridge Park Corporation, Skanska USA Building

The piers at the new Brooklyn Bridge Park have a storied place in the City’s maritime history. The Park retains much of this infrastructure and sense of history while becoming a centerpiece of the City’s PlaNYC initiative.

A chief concern for Regina Myer, President of Brooklyn Bridge Park, was finding innovative ways to ensure community engagement with the project throughout construction. In addition to regular stakeholder meetings, during the summer of 2008, the Park opened its doors to host Summer Pier ‘08, an interim open space and cafe, engaging the community in the construction process and allowing a preview of the future finished space. Strategic phasing of the project has allowed portions of the Park to open even while work continues.

The worksite was secured with clean, uncovered chain link fencing offering visual access as work progressed. Other sections along the three-quarter-mile long exterior were covered in a semi-transparent scrim printed with designs and information about the Park. Plantings were stored at an on-site nursery and arranged to provide additional visual interest.
Given this transparency, worksite maintenance was key. Waste was stored in enclosed areas, screened from the public. Truck access was limited to a single point that had minimal impact on the neighborhood.

Said Myer, “Given the project’s scale and cost, it was important to create as much open space as possible and open it to the public, on a phased basis, as soon as possible. Skanska and Brooklyn Bridge Park have worked together effectively with the community to communicate and accomplish these goals.”

Metro North Facilities Upgrade/Grand Central Terminal, Manhattan — F. J. Sciame Construction Company, Inc.

During its challenging expansion of interior spaces and upgrades to HVAC and electrical infrastructure at Grand Central Terminal, Sciame Construction had to bring steel beams, a metal deck, and other materials into the building without damaging the iconic, landmarked façade, and without interfering with vehicular or pedestrian traffic in one of the City’s busiest corridors.

The solution was to construct a custom bridge that rises from street level, spans the viaduct roadway encircling the terminal, and enters through one of the building’s historic large windows. Working closely with the State Historic Preservation Office, Sciame found a location at the western façade to locate the bridge, sparing the main south elevation from any evidence of the construction activity happening inside.

Sciame also ensured the quality of its worksite structures, including sheds and fences visible to the public. All structures were constructed using undamaged, freshly painted panels and organized to minimize intrusions on public space while satisfying their intended safety functions. Sciame provided extra site-specific security measures at the hoist and bridge structure to further ensure safety. Frank J. Sciame, President of F. J. Sciame Construction Company and veteran of complicated projects, said, “Working on a building of this significance in one of the busiest corridors in the City, our challenge was to adapt our equipment to the building without interfering with the public. Through constant collaboration with our team members, we were able to accomplish both goals while meeting project milestones.”
Columbia University Manhattanville Expansion Project — Columbia University Facilities

Columbia University is redeveloping seventeen acres in West Harlem to facilitate the neighborhood’s revitalization and to allow Columbia to build new academic mixed-use facilities essential to securing its position as one of the nation’s great universities.

Columbia’s comprehensive plan moves away from past ad-hoc growth and includes more than 6.8 million square feet for teaching, research and support services. The project also features new civic, cultural, recreational, and commercial facilities. Improved, pedestrian-friendly streets and publicly accessible open spaces will connect West Harlem to the new Hudson River waterfront park.

To ensure the highest standards for construction site management, Columbia created a comprehensive Clean Construction Action Plan to mitigate impacts on its neighbors. Highlights of the Action Plan include:

- Agreement with the contractor to follow the Action Plan’s guidelines.
- Aggressive monitoring strategy that includes a 24/7 public hotline.
- Multi-pronged efforts to reduce air and noise impacts, including using ultra low sulfur fuel construction vehicles, erecting noise barriers, using noise attenuation devices on equipment, and applying odor control chemicals where needed.
- Enforcing no-idling rules.
- Implementing an Integrated Pest Management Program beginning prior to demolition, using least toxic methods, and incorporating design strategies for new buildings.

The capstone of the Action Plan is a robust communications and engagement strategy that includes a project website featuring biweekly construction updates, and a newsletter. The project team also meets regularly with community stakeholders. Phillip Pitruzzello, Vice President for Columbia’s Manhattanville Capital Construction, observed, “Columbia’s expansion program will be transformative not only for the University but for our neighbors as well. We believe in implementing best-in-class, clean construction practices from the beginning so that the process becomes an opportunity to build lasting relationships and trust with our neighbors.”

Lower Manhattan Preparations for September 11, 2011 — Lower Manhattan Construction Command Center

As the City prepared to mark the tenth anniversary of the terrorist attacks on the World Trade Center, an immense effort was made to ensure that key destinations throughout Lower Manhattan were ready for an international close-up on the days surrounding 9/11/11. Work on projects at the World Trade Center, as well as on a variety of streetscape improvement projects, transportation improvement projects, and storefront renovations, needed to be completed on time without adversely impacting activity in the core of the City’s Financial District.

The Lower Manhattan Construction Command Center (LMCCC) was created specifically to facilitate construction activities of these projects while mitigating their impacts and ensuring the public is kept informed about ongoing work. LMCCC worked with project sponsors to help streamline design and construction schedules, negotiate priorities, coordinate logistics, and plan the movement of construction workers, materials, and equipment to the area.

Since the core mission of LMCCC dovetailed with the objectives of Construction for a Livable City, LMCCC agreed to enlist builders working downtown to implement the checklist on new and ongoing projects. LMCCC asked participants to agree to use the checklist and worked with them to adapt it to on-the-ground conditions.

LMCCC’s involvement provided a unique opportunity to see how the recommendations of the report are best implemented, make adaptations to the checklist, and, most importantly, encourage broader adoption by the industry of the principles of Construction for a Livable City.

Robert Harvey, P.E., then LMCCC’s Executive Director, said, “Construction for a Livable City provides a framework to improve key areas of construction site management that LMCCC has been working on for some time. We hope that applying our background and expertise to the implementation of the checklist will result in more practical guidelines that can be used throughout the City.”
THE NEW YORK BUILDING FOUNDATION STUDY AND THE CONSIDERATE CONSTRUCTORS SCHEME

In June of 2007, the New York Building Foundation enlisted architect Stuart Pertz to investigate the quality of fencing and sidewalk arcades that surround New York City’s construction sites. Pertz’s survey recorded a variety of industry-wide challenges, not only with sheds and barriers, but with site management, public relations, and other key elements that clearly demonstrated the need for further action on the part of the building industry.

The Foundation then looked at different approaches to address these issues, including the Considerate Constructors Scheme, an independent organization set up by the construction industry in the United Kingdom, after which the Foundation’s program is partially modeled. Participating sites work to conform to a Code of Considerate Practice designed to encourage best practices beyond statutory requirements. The best performing sites are recognized with Annual National Awards.

For more information on the UK model visit: www.ccscheme.org.uk/

American Museum of Natural History Renovation of Main Façade and Rotunda — Lend Lease (US) Construction LMB Inc.

As a major cultural attraction in New York City, the American Museum of Natural History remains committed to making visitors feel welcome even as the Museum undertakes a major renovation of its main façade and staircase outside, and its central rotunda inside.

Working closely with construction manager Lend Lease, the project team designed and built a movable wooden fence that shielded active work areas from the public, while allowing large groups of visitors to assemble and move comfortably toward the entrance. The fencing is decorative, includes Museum information and directions, and can be quickly reconfigured as particular phases of work are completed. To further reduce the impact of ongoing work on the Museum experience, the Museum covered scaffold netting with a customized scrim that displays a full-size rendering of the actual façade. Within the rotunda, the Museum also provided custom scaffold netting colored to look like the stone of the interior.

Another important adaptation made by Lend Lease and the Museum was to restrict work hours — especially work that would generate excessive noise, dust, or other disruptions — from 7:00 a.m. to approximately 9:30 a.m., with additional time allowed for clean up. Night hours, for work after the Museum’s close, were arranged as needed. Weekly meetings between the construction team and Museum staff ensure that work proceeds according to the needs and schedule of the Museum.

Ralph J. Esposito, President of Lend Lease (US) Construction LMB commented, “We viewed our role on this project as twofold: to ensure the stability of this landmark, and also to ensure that visitors to the Museum were able to fully appreciate their experience while work was underway. We understand this second objective as equal to the first and we’ve worked closely with the Museum to understand how best to adapt schedules, materials, and operations to complete a great project and create a satisfying environment for museum goers.”

CONCLUSION AND RECOMMENDATIONS

Construction for a Livable City is an opportunity to increase the building industry’s efforts to make worksites more attractive and to improve community and public relations.

This report has outlined some of the challenges ahead and makes broad recommendations for ways to begin a site improvement program. But the real work will be done by the industry leaders who take these proposals and apply them to projects Citywide and, through that process, create best practices that can be replicated easily and cost effectively.

To begin this effort, the building industry can:

• Incorporate the checklist into ongoing and future construction projects.
• Improve on the checklist by refining recommendations as implementation reveals challenges and opportunities for site management.
• Document efforts and share information with the industry through the New York Building Congress and/or other industry organizations.
• Participate in efforts to promote Construction for a Livable City, through Building Congress workshops, awards events, or other outlets supported by the industry.
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<tr>
<th>OPERATIONS</th>
<th>YES</th>
<th>NO</th>
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<tr>
<td>Nuts, bolts, and sharp objects (fencing, fencing wire, nails or broken structures) must be properly protected, concealed, or removed.</td>
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<td>Public pathways are flat, fully supported, and clear of obstructions and debris, including water or ice build-up.</td>
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<td>Fencing and barriers are in a state of good repair and fully restrict public access to hazardous conditions.</td>
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<tr>
<td>Fencing and pathways are installed and maintained to encourage pedestrian and vehicular traffic flows.</td>
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<td>Site materials are neatly stacked, protected, and covered.</td>
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<td>Lighting is neatly wired, out of reach, and provides bright nighttime light on pedestrian walkways and prevents glare from disturbing residential neighbors.</td>
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<td>Signage is clear, legible, properly located, and free from damage, dirt, and graffiti.</td>
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<td>Workforce is encouraged to implement and comply with the Checklist.</td>
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<tr>
<td>Arrival, standing, unloading, and loading trucks and equipment are supervised at all times to minimize duration and extent of pedestrian and vehicular traffic interruption.</td>
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<th>ENVIRONMENTAL IMPACT</th>
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<td>All areas and surfaces are organized, neat, clean, and free of damage, inappropriate signage, and graffiti.</td>
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<tr>
<td>Strategies are implemented to reduce or shield the public from noise, vibration, dust, and noxious substances.</td>
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<td>Waste is removed throughout the working day and recycled.</td>
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<td>Oils, paints, and chemicals are properly stored; odors and runoff are contained.</td>
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<td>Dumpsters are in good repair with contents and dust minimized.</td>
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<td>Runoff water is properly routed, drained, and free of waste and pollution.</td>
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<td>Street trees, plants, sidewalk amenities, and furniture are fully protected.</td>
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<th>IMAGE AND DESIGN</th>
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<tr>
<td>Efforts have been made to improve the design and/or installation of overhead sheds and temporary structures to provide a safe, pleasant, and attractive public way.</td>
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<tr>
<td>Temporary structures are simple, organized, and consistent in material, shape, size, and color.</td>
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<tr>
<td>Fencing, fascia, and structures are painted in a consistent color, matching the adjacent or project façade.</td>
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<td>Wood blocking at the base of sidewalk shed columns is minimized in use and limited to spreading structural bearing loads.</td>
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<td>Threaded pipe levelers are used wherever possible.</td>
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<tr>
<td>Barriers, gates, fencing, and fascia surfaces, structural members and scrims are in good repair and free of damage and graffiti.</td>
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<th>COMMUNITY RELATIONS</th>
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<td>General information regarding the site and site contacts are posted and maintained for the community.</td>
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<td>Updates for neighbors and the general public are encouraged and a process for sharing information and responding to concerns is in place.</td>
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<td>Attention has been given to the needs of those with sight, hearing, and mobility difficulties and those with children.</td>
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<td>Work is carried out with attention to the needs of impacted businesses, the community and general public, such as timing of loading/unloading, street closures, etc.</td>
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<td>A standard of conduct of the workforce – especially with the public – should be encouraged and reinforced.</td>
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<td>Portable toilets should be sufficient, accessible and discreet.</td>
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The New York Building Foundation was formed in 1998 to promote the long-term growth and well being of the industry through a program of research, educational, and philanthropic activities. The Foundation is the charitable arm of the New York Building Congress.

The New York Building Congress is a non-partisan, public policy coalition of business, labor, professional, and governmental organizations serving the design, construction and real estate industry.

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