

**LEADER SEPTEMBER 2018**

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## NEW YORK METHODIST HOSPITAL - CENTER FOR COMMUNITY HEALTH

Location: Brooklyn, NY  
Client: New York Methodist Hospital  
Architect: Perkins Eastman  
Partner: CBRE  
Services: Geotechnical, Site/Civil

### OVERVIEW

Located adjacent to New York Methodist Hospital in Brooklyn's historic Park Slope community, this seven-story ambulatory facility provides 480,000 SF of space. Building features include a cancer center with a radiation/oncology department, 10-room surgery suite, health education center, wound care facility, community outreach services, and faculty offices. Langan investigated subsurface conditions and developed recommendations for foundation support and other geotechnical aspects of design and construction. Site/civil engineering services included site-wide sidewalk, roadway, and landscaping design. Langan coordinated directly with local regulatory agencies including New York City Department of Buildings, Department of Transportation, Department of Environmental Protection (DEP), and Department of Parks and Recreation for permitting and approvals.

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## TRIBUNE TOWER VOLUNTARY SEISMIC RETROFIT

Location: Oakland, CA  
Client: Harvest Properties  
Services: Geotechnical, Earthquake/Seismic

### OVERVIEW

The iconic Tribune Tower in Oakland was erected in 1906 and is registered with the National Register of Historic Places. The steel 19-story office building structure is over two basement levels with a lower basement level finished floor about 21½ feet below sidewalk grades. In 2017-2018, a seismic evaluation and voluntary seismic retrofit was performed on the structure. The retrofit also involved strengthening the adjacent Breuner Building, which is a 6-story concrete building over one basement level. The intent of this retrofit is to lower the Probable Maximum Loss (PML) to below 20 percent for the two buildings. As the geotechnical engineer of record, Langan performed an investigation of the soil conditions and reported our findings and recommendations, including detailed recommendations for a performance based design approach for the retrofit. We also performed a site-specific seismic hazard analysis to develop site-specific horizontal response spectra and earthquake time series. Because of the close proximity of the site to the Hayward fault, we developed response spectra and associated time series in the fault normal and fault parallel directions.

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## BRICKELL FLATIRON

Client: CMC Group  
Architect: Revuelta Architecture International  
Partner: DeSimone Consulting Engineers, Moss Associates  
Services: Geotechnical

### OVERVIEW

Brickell Flatiron is a mixed-use high-rise development located in the Brickell section of downtown Miami. The development consists of a 64-story tower (approximately 700-feet-tall) and a total gross area of approximately 1.65 million SF. Langan provided geotechnical engineering services including subsurface exploration, hydrological study, geotechnical engineering study, and foundation design, oversight during installation and load testing of pile foundations, and construction administration. Project challenges included very high gravity, uplift and lateral building loads; a relatively large tower footprint with minimal setbacks on a small site; compressible ground conditions; construction adjacent to the elevated guideway structure for the automated Metromover system; and limited construction area on a dense urban setting.

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## THE ALLEN

Location: Houston, TX  
Client: DC Partners  
Architect: HOK  
Services: Site/Civil, Traffic & Transportation

### OVERVIEW

Langan is providing traffic and civil engineering services for this mixed use project that sits on 6.4 acres along the Allen Parkway adjacent to Buffalo Bayou Park. The multi phase project includes a luxury hotel, condominiums, retail, fitness and office. Langan is work closely with the project architect, HOK.

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## PARK 5TH

Location: Los Angeles, CA  
Client: MacFarlane Partners  
Services: Geotechnical, Environmental

### OVERVIEW

Langan is providing geotechnical engineering and environmental services for a proposed residential development. The development will include a mid-rise 7-story residential building and a high-rise 23-story residential tower. The project site is located on an approximately 98,900-SF foot lot in the Historic Core neighborhood in the City of Los Angeles. Project challenges include proximity of the proposed development to the limits of the site and adjacent historic structures and below grade tunnel constructions.

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## CONFIDENTIAL SITE, NY - ENVIRONMENTAL REMEDIATION

Location: New York State  
Client: Confidential  
Services: Environmental

### OVERVIEW

Langan provided environmental remediation services for the redevelopment of a former distribution center site spanning over 27,000 SF into a new residential and commercial space. Langan's environmental team performed soil, soil vapor, and groundwater sampling analysis, as well as prepared a conceptual site model. Groundwater at the site was impacted with both petroleum-related and chlorinated volatile organic compounds (VOCs). Langan recommended a combined remedial approach entailing the direct injection of NaOH-activated persulfate followed by the injection of liquid activated carbon (PlumeStop®) through a network of underground piping below the new building slab. The on-going performance monitoring showed that the process resulted in complete removal (100%) of all petroleum related VOCs and two orders of magnitude reduction of chlorinated VOCs.

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