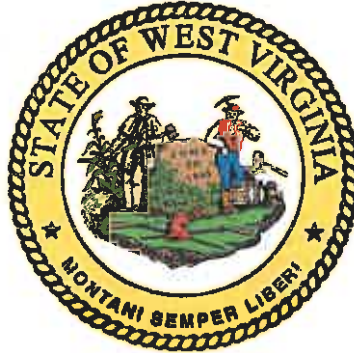

**EXPRESSION OF INTEREST:
BUILDING 13, PARKING GARAGE EXPANSION PROJECT**

FOR:



RECEIVED

2019 MAY 20 PM 12: 30

WV PURCHASING
DIVISION

2019 Washington Street East
Charleston, WV 25305
Department of Administration, Purchasing Division

PREPARED BY:



7406 ALBAN STATION COURT, SUITE B211
SPRINGFIELD, VA 22150



ENGINEERS & ARCHITECTS
CIVIL • STRUCTURAL • MEP • ARCHITECTURE
RESTORATION • PARKING • ENERGY

Ms. Melissa K. Pettrey
Senior Buyer
State of West Virginia
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305

May 17, 2019

RE: Building 13, Parking Garage Expansion Project

Dear Ms. Pettrey,

O&S Associates, Inc. (O&S) would like to thank you for the opportunity to present the State of West Virginia with our experience and qualifications in order to design the feasibility structural analysis of vertical expansion for the Capitol Complex Garage. We believe our specific knowledge of vertical expansions to parking structures and additional experience in garage design make us the most qualified firm to undertake this project.

O&S has designed, managed, planned, evaluated, and supervised over 1,000 parking facility design and restoration projects for owners including Parking Authorities, Municipalities, Hospitals, Universities, Residential, Institutional, and Commercial clients. In addition to our Parking Consulting and Structural Engineering practice, on which the firm was founded, we have since added architecture, MEP/FP engineering, and civil/site design to our in-house capabilities. O&S currently has more than 70 professional and technical personnel, including 27 licensed architects, structural engineers, MEP/FP engineers, and civil engineers.

We trust our submission is complete and worthy of your review. We look forward to working with the State of West Virginia to meet the needs for the feasibility of vertical expansion for the Capitol Complex Garage. Should you have any questions regarding the contents of our proposal or require additional information, please do not hesitate to reach out to our direct contact for this EOI and resultant contract at dellis@oandsassociates.com or at (202) 400-3533.

Respectfully,
O&S Associates, Inc. – Engineers & Architects

Venkitasamy Perumalsamy, PE – President

Duane Ellis, PE – Director of Operations, DC



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Section 1

Description of Firm & Qualifications





Description of Firm & Qualifications

FIRM PROFILE

Founded in 1996, O&S Associates, Inc. (O&S) is a full-service architectural and engineering consulting and design firm. O&S is a Professional Corporation with 70 professional and technical personnel operating out of our six offices located in DC, NY, NJ, PA, OH, and FL. O&S performs architectural and



engineering design and construction administration services on over 150 projects per year with an aggregate construction value of over \$150 million. O&S is privately owned, has no debt, and has an excess of \$1.5 million in healthy cash flow. O&S has worked with many public agencies, including Federal, State, County and Municipal entities across the country since 1996.

O&S is a national leader in a full suite of parking consulting services, including the expansion, new design, and the restoration of garages of all types of structural systems. Our firm currently has active on-call engineering and architectural services contracts with Maryland Stadium Authority, Albany Parking Authority, Pittsburgh Parking Authority, Philadelphia Parking Authority, Pittsburgh Sports & Exhibition Authority, and Lancaster Parking Authority. O&S has designed, managed, planned, evaluated, and supervised over 1,000 parking facility design and restoration projects for owners including Municipalities, Parking Authorities, Hospitals, Universities, Residential, Institutional, and Commercial clients.

In addition to being a national specialist in the design and rehabilitation of a magnitude of parking structures, facilities, plazas, and building envelopes, our restoration services include façade law inspections, roofing, window and public spaces. O&S also provides MEP services including HVAC assessments, design and restoration, fire protection, fire alarm and sprinkler systems, lighting, elevators, back-up power system, security and access controls, waterproofing, energy studies and retro-commissioning, paving, and site civil restoration.



PARKING STRUCTURE DESIGN

- Prime Design
- Structural Engineering
- Architecture
- Electrical/Mechanical

CONSULTING

- Parking Alternatives Analysis
- Traffic Engineering
- Wayfinding/Pedestrian Travel
- Parking Access
- Site Analysis
- Financial Analysis
- Functional Design
- Revenue Control

RESTORATION

- Structural Investigations
- Conditional Appraisals
- Construction Documents
- Roofing
- Façades
- Seismic Retrofit
- Due Diligence
- Upgrades
- Windows

STRUCTURAL ENGINEERING/ARCHITECTURE

- New Construction
- Apartment Transition
- Parks
- Renovations
- Schools

ELECTRICAL/MECHANICAL ENGINEERING

- HVAC
- Fire Alarm & Sprinkler
- Elevator Consulting
- Retrocommissioning
- Benchmarking
- Oil/Gas Conversions
- Water Distribution
- Security & Access Controls
- Energy Audits
- Lighting Design
- Sub-metering
- Co-generation
- Back-Up Power
- Daylighting
- Solar Energy
- Softening Water

INTERIOR DESIGN

- Lobbies
- Mailrooms

WASHINGTON, DC
7406 Alban Station Court, Suite B211
Springfield, VA 22150

***NEW JERSEY**
145 Main Street
Haddonfield, NJ 07601

NEW YORK
520 8th Avenue, Suite 2004
New York, NY 10018

PHILADELPHIA
532 Township Line Road
Blue Bell, PA 19422

COLUMBUS
471 East Broad Street, Suite 910
Columbus, OH 43215

FLORIDA
222 Commercial Blvd., Suite 208
Lauderhill-by-the-Sea, FL 33308

NEW JERSEY
27 Worlds Fair Drive
Somerset, NJ 08873

*Corporate Headquarters



Description of Firm & Qualifications

STATEMENT OF QUALIFICATIONS

O&S is a national leader in a full suite of parking consulting services, including the design of parking garages and the restoration of all types of structural systems. Many of the services we provided for these projects included schematic design, design development, construction documentation, and construction administration. Additionally, we have experience in designing and rehabilitating asphalt and concrete parking lots and roadways. The majority of our garage projects include structural assessment and restoration. We are a full-service Architectural and Engineering consulting and design firm in addition to our primary parking practice. When providing our design and project administration services, our staff of engineers helps to ensure that our projects remain on schedule and on budget throughout the course of the project. Our staff works to limit the inconvenience and potential loss of revenues caused by partial closures of a facility and offers the most effective and safest approach to phasing each project.

O&S has worked with over 750 clients nationwide, including local, state, and federal government agencies; schools, universities, and industrial and institutional clients; parking authorities, healthcare providers, developers, office properties, and attorneys.

O&S is also currently designing the following new or expansion garage projects:

1. **2,000-Space Vertical Expansion of Richmond International Airport North Garage** (\$36 million)
2. **400-Space Somerville Town Center Parking Garage, Somerville, NJ** (\$9 million)
3. **500-Space Vertical Expansion of 40 Danbury Rd. Garage, Wilton, CT** (\$5 million)
4. **500-Space Horizontal Expansion of 50-60 Danbury Rd. Garage, Wilton, CT** (\$5 million)

O&S also currently has on-call professional services contracts with the following Municipal and Parking Authorities to provide architectural and engineering design, bidding, and construction phase services:

- **Maryland Stadium Authority (Baltimore, MD)**
- **Capitol Region Airport Commission (Richmond, VA)**
- **Pittsburgh Parking Authority**
- **Philadelphia Parking Authority**
- **Lancaster Parking Authority (Lancaster, PA)**
- **Pittsburgh Sports & Exhibition Authority**
- **Springfield Parking Authority (Springfield, MA)**

The following are our 10 largest current projects in terms of construction value.

1. **Dayton Beach Co-Op #1 Resiliency Upgrades, Queens, NY** – \$50 million
2. **Richmond International Airport North Garage Expansion, Richmond, VA (2,600 spaces)** – \$36 million
3. **Con Edison Newtown Creek Resiliency Upgrades, Long Island City, NY** – \$10 million
4. **1 Old Country Road Parking Structure Restoration, Carle Place, NY** – \$10 million
5. **Palmetto Health Baptist Taylor Street Garage Restoration, Columbia, SC (1,800 spaces)** – \$7 million
6. **Philadelphia Parking Authority Garage D Restoration (1,650 spaces)** – \$7 million



Description of Firm & Qualifications

7. **Philadelphia Parking Authority Garage C Restoration (1,800 spaces) – \$5 million**
8. **University of Pennsylvania Museum Garage Restoration (650 spaces) – \$4 million**
9. **Little America Garage Restoration, Salt Lake City, UT – \$2.5 million**
10. **401 Merritt 7 Garage Restoration, Norwalk, CT – \$1.9 million**

Section 2

Project Management & Staff



Project Management & Staff

FIRM ORGANIZATION

O&S Associates, Inc. employs highly distinguished members of the structural engineering field to handle complex structural design projects. We are proficient in architectural and engineering design services, current material technologies, testing and design standards, construction cost estimation, and construction means and methods. Our staff is knowledgeable of marketplace trends, regulatory agency mandates, and can respond to the specific needs of specialty contractors.

The professional services of our staff are controlled and managed with a rigorous project management system. Project assignments are performed under the close supervision of Corporate Principals using weekly meetings to ensure that the necessary resources are committed for the various project assignments. The Founder and President of O&S, Venkatasamy Perumalsamy, PE, will act as Principal-in-Charge for the proposed contract. He will be responsible for managing, monitoring, and insuring that all work is done in a timely fashion.

Mr. Perumalsamy is a Professional Engineer with over 35 years of experience in the structural design and rehabilitation of government, commercial, industrial, and residential structures. Mr. Perumalsamy is involved with all aspects of structural design including programming, functional design, cost estimating, schematic design, code requirements, construction documents and construction administration. Mr. Perumalsamy also works collaboratively with other disciplines including architecture, civil, and MEP to ensure that the final project design comprehensively integrates all design elements. He is responsible for the preparation of information regarding design, structure specifications, materials, color, equipment, estimated costs, and construction timelines. He also consults with our clients to determine the requirements of each structure.

The restoration of facilities is a unique activity requiring state-of-the-art knowledge of inspection and testing techniques/procedures, demolition procedures, construction materials and their performance and construction phasing methods to keep the facility operational during the repair. Also, contract documents require special attention because of the unknown nature of actual field conditions. Our awareness of the latest specialized materials, specialty contractors and construction methods enable the firm to develop a restoration program that is best suited for a given project. O&S utilizes in-house, computerized engineering systems and equipment including Computer Aided Drafting (CAD). Experienced CAD operators produce contract documents on the latest AutoCAD software version, which is usually compatible with that of many other CAD system users.



Project Management & Staff

KEY PERSONNEL

O&S Associates, Inc. employs highly distinguished members of the engineering and architectural consulting industry to handle projects of any size or complexity. We are proficient in structural and operational systems, current material technologies, testing and design standards, project costs, and construction methods. Our firm employs 27 licensed engineers and architects.

PRINCIPAL-IN-CHARGE

V.P. SAMY, PE is the founder and President of O&S and oversees all services provided by the firm. Mr. Samy has over 35 years of engineering experience on all types of buildings including commercial, residential, industrial, and parking, among others. Samy will be responsible for all contract obligations and is authorized to act on behalf of the firm.

PROJECT MANAGER

DUANE ELLIS, PE (Project Manager) Mr. Ellis is the director of the Washington DC metro region office and will be the project manager for this project. Mr. Ellis is currently managing several parking garage horizontal and vertical expansion projects including a 2,000-car vertical expansion at Richmond Airport and a 500-space horizontal and vertical expansion at the 40-50-60 Danbury Road Precast Concrete Garages in Wilton, Connecticut.

STRUCTURAL ENGINEERS

SUCHI JAYASENA, PE (Principal/Senior Structural Engineer) is the chief structural engineer of O&S and is responsible for all structural engineering company wide. Suchi has more than 20 years of experience in civil and structural engineering and is responsible for managing and delivering all SP+ garage restoration projects.

JASON BORDEN, PE (Structural Engineer) has more than 15 years of experience and will provide all structural services for this project including evaluation of wind and lateral loads. Mr. Borden is our company's senior structural engineer and restoration project manager and has been with the firm since 2010.

PROJECT ARCHITECTS

ERIC MUHL (Senior Parking Architect) Mr. Muhl is an ambitious Architect with more than 20 years of experience in parking, construction, and engineering. He is proficient in drafting programs AutoCAD and Revit. Mr. Muhl is a strong verbal and written communicator and has excellent construction administration skills. He is also very knowledgeable in permitting, building codes, and bidding procedures.

TARIQ WASTI, RA (Architect) is a Senior Architect with more than 30 years of experience, with notable award-winning LEED projects in many states and internationally. Mr. Wasti is licensed in 10 states and has provided a diverse range of projects from residences to the Metropolitan Museum of Art renovations, and National Conference Center in Dublin. Mr. Wasti worked on the first LEED Platinum



Project Management & Staff

office building in Washington DC. He will provide all architectural services for this project including code review and product selections.

MEP ENGINEERS

PETER CATAPANO, PE, CEM (Senior MEP Engineer) has more than 30 years of experience in project management, design, and supervision of projects involving facilities for Transportation, Healthcare, High Rise Residential, Commercial, and Educational facilities. He has handled major projects for NYCSCA, DASNY, CUNY, Port Authority of NY & NJ, NJSDA, TBTA and various other clients.

KEVIN NGAN, PE (Electrical Engineer/Designer) has over 6 years of experience in engineering and design of electrical systems for transportation, schools, institutional, and military facilities. His experience includes power distribution, lighting, fire alarms, IT, communications, CCTV cameras, and security systems. He is a licensed Professional Engineer in New Jersey.

CIVIL ENGINEER



NANCY WANG, PE (Senior Civil Engineer) has over 25 years of hands-on design experiences in civil and site engineering and landscape design. She has fully established expertise in site engineering design including site layout, grading and drainage design, utility extensions and service connections, hydrology and hydraulic analysis, storm water management design, and erosion and sediment control design. She routinely performs site investigation, utility coordination, assessment study, construction document preparation, and permitting.

SENIOR PLUMBING/FIRE PROTECTION ENGINEER

HEMENDRA BHATTACHARYA, PE (Lead HVAC Engineer/Fire Protection Specialist) has over 30 years of experience in design and construction of all types of mechanical services to buildings, air conditioning, ventilation, heating, refrigeration, automatic temperature control systems, energy conservation, plumbing and sprinkler systems. Completed various project with areas of expertise including all aspects and phases of mechanical services for the new construction and renovation of existing buildings, for various types of commercial, transportation and institutional buildings.

**BUILDING 13, PARKING GARAGE
EXPANSION PROJECT**

STATE OF WEST VIRGINIA
MAY 21, 2019

←---→ **Communication Lines**
— **Reporting Lines**
 **State of West Virginia (Owner)**
 **O&S Associates, Inc. (Prime Consultant)**



President/Principal-in-Charge
Venkitasamy Perumalsamy, PE
("VP Samy")

Project Manager
Duane Ellis, PE

Senior Structural Engineer
Suchi Jayasena, PE

Structural Engineer
Jason Borden, PE

Senior Parking Architect
Eric Muhl

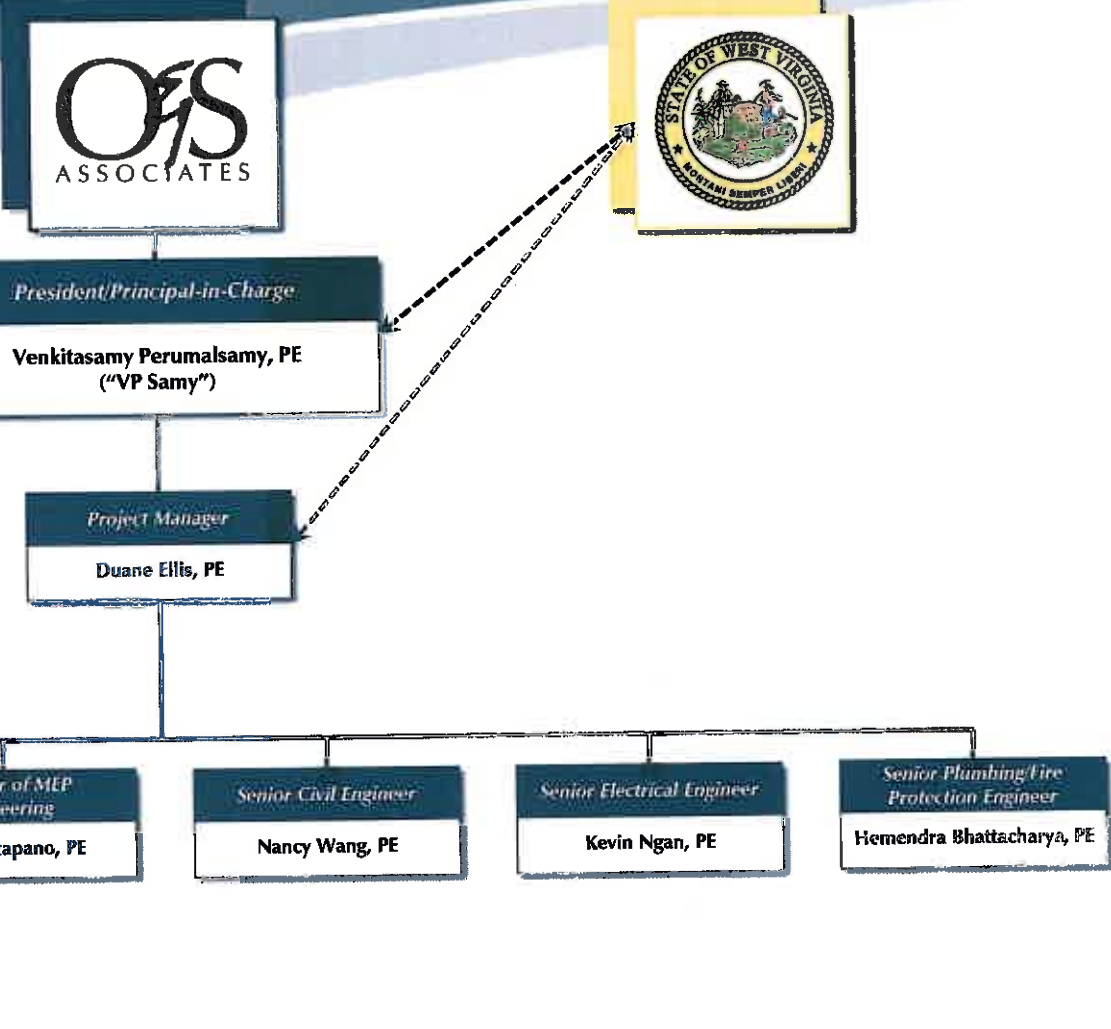
Architect
Tariq Wasti, PE

Director of MEP Engineering
Peter Catapano, PE

Senior Civil Engineer
Nancy Wang, PE

Senior Electrical Engineer
Kevin Ngan, PE

Senior Plumbing/Fire Protection Engineer
Hemendra Bhattacharya, PE





Total Years of Experience

35+

Previous Experience

Desman Associates
(1987-1996)
Sargent & Lundy, Chicago, IL
(1984-1987)
Consulting Engineers Group
International, Omaha, NE
(1980-1984)

Active Registrations

Registered Professional Engineer
State of New York
State of Pennsylvania
State of Connecticut
State of Ohio
State of New Jersey
State of Florida

Education

Master of Science/Civil Engineering
(1980 - South Dakota School of
Mines & Technology)

Master of Science/Structural
Engineering
(1979 - University of Madras,
Madras, India)

Bachelor of Science/Civil
Engineering (1977 - University of
Madras, Madras, India)

Professional Affiliations

Precast Concrete Institute (PCI)
American Concrete Institute (ACI)
International Parking Institute (IPI)
New York State Parking
Association (NYSPA)

Publications

Transportation Research Board -
"Effect on Hot Climate Slump Loss
and Setting Times for
Superplasticized Concrete"

Rehabilitation included precast concrete repairs, concrete topping repairs, waterproofing replacement, and general cosmetic upgrades. Additionally, Samy serves as the Principal in Charge for the ongoing On-Call Parking Services. The PPA selected O&S to rehabilitate the seven garages that it owns at Philadelphia International Airport.

KING OF PRUSSIA MALL PARKING GARAGE RESTORATION, KING OF PRUSSIA, PA - Mr. Perumalsamy provided Structural Engineering and construction management services for the restoration of the three parking structures at the King of Prussia Mall in King of Prussia, PA. O&S Associates provided a structural assessment of all three garages, which included chain dragging and hammer sounding, an assessment of the pedestrian bridge, and more. O&S Associates provided bidding documents, construction documents, bidding services, and construction administration for the project.

EXPERIENCE & QUALIFICATIONS

Mr. V.P. Samy founded O&S Associates, Inc. (O&S) in February 1996. Mr. Samy is responsible for business operations related to project management and administration of our design, restoration engineering, and planning services. Samy's structural and operational background ensures that projects are completed within established timelines and budgets. Mr. Samy is responsible for all phases of professional services, including preparation of technical reports, analysis and design, program development, technical specifications, drawings, bidding services, construction administration, and supervision.

As Principal-in-Charge at O&S, Samy is responsible for supervising all engineering and architectural staff and overseeing production and quality control. Samy directs and coordinates production, operations, and quality assurance. Samy also heads up all hiring, training, and mentoring, and writes performance reviews and solves internal issues.

Mr. Samy has completed multiple facilities for municipal, institutional, and private sector clients and public agencies. A representative list of some of these projects include:

RICHMOND AIRPORT NORTH PARKING GARAGE, RICHMOND, VA - \$33.3 million, 2600 spaces. Principal-in-Charge responsibilities included code review, lateral load analysis, vertical load analysis, foundation design, foundation retaining wall design, column design, post-tensioned slab/beam/girder design, barrier cable, and mildly reinforced bridge/stair tower/crash walls design. Project Manager responsibilities included design coordination across disciplines, permit coordination, bid selection assistance, and construction administration.

BUENA VISTA PARKING GARAGE AND OFFICE SPACE, YONKERS, NY - Principal-in-Charge for the design of the 610-parking spot Buena Vista Parking Structure, including the design of 5,000 square feet of office space for the City of Yonkers, which O&S designed and is currently supervising construction. The O&S design resulted in a 14% project savings to Yonkers.

40-50-60 DANBURY ROAD HORIZONTAL AND VERTICAL EXPANSION, WILTON, CT - \$10 million, 500 spaces. Principal-in-Charge responsibilities included code review, lateral load analysis, vertical load analysis, foundation design, and diaphragm design. Project Manager responsibilities included coordinate architectural, parking, civil, MEP design coordination and construction administration.

PHILADELPHIA PARKING AUTHORITY (PPA) AIRPORT PARKING GARAGE RESTORATION, PHILADELPHIA, PA - Principal-in-Charge for the assessment, investigation, and design repairs of airport parking garage D, a 575,000-square foot precast double-tee garage with approximately 1,650 spaces.



VENKITASAMY PERUMALSAMY, PE
PRESIDENT/PRINCIPAL-IN-CHARGE
35+ YEARS' EXPERIENCE

NATIONAL INSTITUTES OF HEALTH, BETHESDA, MD - 1500 spaces
BLOOMFIELD, NJ PARKWAY LOFTS PARKING GARAGE – 500 spaces
EDISON VILLAGE PARKING GARAGE – 650 spaces
ENGLEWOOD, NJ HOSPITAL – 600 spaces
BLOOMFIELD, NJ GLENWOOD REDEVELOPMENT – 500 spaces
ROWAN UNIVERSITY, CAMDEN, NJ – 1200 spaces
BAY PLAZA J.C. PENNY'S GARAGE – 1100 spaces
COLUMBUS TOWERS EXPANSION – 300 spaces (cast-in-place)
MONTEFIORE HOSPITAL ALBERT EINSTEIN CAMPUS – 350 spaces (steel)
OHIO STATE UNIVERSITY MEDICAL CENTER GARAGE, COLUMBUS, OH – 1200 spaces
NEW JERSEY PERFORMING ARTS CENTER GARAGE, NEWARK, NJ – 1100 spaces
STAMFORD TOWN CENTER GARAGE, STAMFORD, CT – 1100 spaces



DUANE ELLIS, PE
PROJECT MANAGER
18+ YEARS' EXPERIENCE

Total Years of Experience

18+

Previous Experience

VSL Post-tensioning,
Project Manager (2 years)

DESMAN Associates,
Senior Project Engineer/Project
Manager (7 years)

Wilbur Smith Associates,
Senior Structural Engineer
(4 years)

HNTB
Structural Engineer (4 years)

Active Registrations

Registered Professional Engineer
Virginia [REDACTED]
Florida [REDACTED]
District of Columbia [REDACTED]
Maryland [REDACTED]
North Carolina [REDACTED]

Education

B.S. Civil Engineering and
Mathematics Minor, Virginia Tech,
1999

Achievements

NHI/FHWA Course 130055, Safety
Inspection of In-service Bridges,
2004

Memberships

American Concrete Institute,
National Chapter

National Parking Association

International Parking Institute

Post-tensioning Institute

Precast/Prestressed Concrete
Institute

International Concrete Repair
Institute (Baltimore/Washington
DC and Virginia Chapters)

EXPERIENCE & QUALIFICATIONS

Mr. Ellis manages the Washington DC metro region office and supervises all new design parking facility projects provided by O&S. He is responsible for the coordination of multi-discipline (architectural/structural/MEP/civil) efforts and provides professional engineering services for structural design of new parking facilities. He also provides restoration services including evaluation assessment, repair design, and construction administration of existing buildings and facilities. He has hands-on experience with design of new transportation-related structures, including parking garages, mixed-use facilities, and bridges. He has experience in vertical and horizontal expansion of existing parking facilities. He has experience with local building departments as well as state and federal agencies. He is familiar with multiple structural framing systems including structural steel, precast/prestressed concrete, mildly reinforced concrete, and cast-in-place, post-tensioned, bonded and unbonded systems. He also has extensive experience in inspection and structural evaluation of parking garages, facilities, façades, roofs, and existing highway structures including bridges, culverts, and overhead sign structures.

A brief cross section of representative design and restoration projects in which Mr. Ellis was involved over his career includes:

OWNER AGENT PARKING SERVICES PROJECTS

ORIOLES PARK AT CAMDEN YARDS GARAGE FEASIBILITY STUDY, BALTIMORE, MD – \$60 million, 3,000 spaces. Performed site feasibility study and provided functional parking plans with several options at two different site locations to aid in property acquisition and budget development.

MARYLAND TRANSIT AUTHORITY PARKING FEASIBILITY STUDY, HALETHORPE, MD – Conducted site selection and performed functional parking design for potential parking garage locations to serve the MARC train stop.

WESTON CENTER PARKING GARAGE VERTICAL EXPANSION ANALYSIS, SAN ANTONIO, TEXAS – Performed analysis on existing structure utilizing advancements in building code regarding live load reduction and service loads to justify two future floors of expansion.

VIRGINIA TECH PERRY STREET PARKING GARAGE DESIGN CRITERIA DEVELOPMENT, BLACKSBURG, VA – \$21 million, 1,300 spaces. Responsibilities included develop and author RFQ and RFP documents, establish design criteria, develop functional parking plans, assist in design-builder selection, submittal review, on site representation, request for information (RFI) coordination, review and advisement of change order requests, final punch list walk through, and develop maintenance manual.

CITY OF MEDINA COURTHOUSE PARKING GARAGE DESIGN CRITERIA DEVELOPMENT, MEDINA, OH – \$5.1 million, 352 spaces. Responsibilities included preliminary site layout, establish program requirements, develop design-build criteria, short list qualified contractors, review bids, scope leveling, and construction administration to provide oversight and compliance review.

PARKING FACILITY DESIGN PROJECTS

RICHMOND AIRPORT NORTH PARKING GARAGE, RICHMOND, VA – \$33.3 million, 2,600 spaces. Structural Engineering responsibilities included code review, lateral load analysis, vertical load analysis (including accommodations for future vertical expansion of 1,400 spaces), foundation design (precast piles and helical piles), foundation retaining wall design, column design, post-tensioned slab/beam/girder design, barrier cable, and



DUANE ELLIS, PE
PROJECT MANAGER
18+ YEARS' EXPERIENCE

mildly reinforced bridge/stair tower/crash walls design. Project Manager responsibilities included design coordination across disciplines, permit coordination, bid selection assistance, and construction administration. (Mr. Ellis was also the Senior Project Engineer/Design Engineer for the strengthening of columns to accept future expansion in the South Garage. The structural retrofit was designed to eliminate the need to remove precast architectural column covers, saving the Commission significant cost and time during construction.)

TERRAPIN ROW PARKING GARAGE, COLLEGE PARK, MD – \$5.9 million, 489 spaces. Responsibilities included code review, lateral load analysis, vertical load analysis, foundation design (short aggregate piers), foundation retaining wall design, barrier cable, and diaphragm design. Mr. Ellis also authored the project specifications and was responsible for Client invoicing.

40-50-60 DANBURY ROAD HORIZONTAL AND VERTICAL EXPANSION, WILTON, CT – \$10 million, 500 spaces. Structural Engineering responsibilities included code review, lateral load analysis, vertical load analysis, foundation design (spread footings), and diaphragm design. Project Manager responsibilities included coordinate architectural, parking, civil, MEP design coordination, and construction administration.

COMMUNITY OF HOPE PARKING GARAGE, WASHINGTON, DC – \$6 million, 172 spaces.

GERMANNA COMMUNITY COLLEGE PARKING GARAGE, FREDERICKSBURG, VA – \$5.3 million, 365 spaces.

ASHLAND AVENUE PARKING GARAGE, BALTIMORE, MD – \$22 million, 1,500 spaces. Responsibilities included code review, lateral load analysis, vertical load analysis, foundation design (auger cast piles), foundation retaining wall design, column design, post-tensioned slab/beam/girder design, barrier cable, and mildly reinforced stair tower/crash walls design. Mr. Ellis was responsible for construction administration including submittal review, on site representation, request for information (RFI) coordination, review and advisement of change order requests, and final punch list walk through.

ALEXANDRIA POLICE FACILITY PARKING GARAGE, ALEXANDRIA, VA – \$11 million, 504 spaces. Responsibilities included code review, lateral load analysis, vertical load analysis, foundation design (drilled caissons), foundation retaining wall design, grade beam, barrier cable, and diaphragm design. Mr. Ellis was responsible for construction administration including submittal review, on site representation, request for information (RFI) coordination, review and advisement of change order requests, and final punch list walk through.

HOWARD COMMUNITY COLLEGE PARKING GARAGE TWO, COLUMBIA, MD – \$11 million, 725 spaces.

OAK RIDGE NATIONAL LAB ENHANCED PARKING CAPACITY, OAK RIDGE, TN – \$6.5 million, 280 spaces. Responsibilities included code review, lateral load analysis, vertical load analysis, foundation design (drilled caissons), foundation retaining wall design, column design, post-tensioned slab/beam/girder design, barrier cable, and mildly reinforced stair tower/crash walls design. Mr. Ellis was responsible for construction administration including submittal review, on-site representation, request for information (RFI) coordination, and final punch list walkthrough.

UNIVERSITY OF MARY WASHINGTON EAGLE VILLAGE, FREDERICKSBURG, VA – \$18 million, 560 spaces, 20,000-square foot retail space, 44,000-square foot office space.

BRIDGESTONE AKRON TECH CENTER GARAGE, AKRON, OH – \$3.2 million, 320 spaces. Responsibilities included preliminary functional parking design, retaining wall design, layout, and detailing

SALISBURY UNIVERSITY PARKING GARAGE, SALISBURY, MD – \$12 million, 860 spaces.

30TH AND WASHINGTON PARKING DECK, NEWPORT NEWS, VA – \$4.2 million, 220 spaces.

CHRISTIANA HEALTH CARE PARKING GARAGE, WILMINGTON, DE – \$8.2 million, 630 spaces.

SHOPPES AT THE FORT, MCHENRY ROW, BALTIMORE, MD – \$9.5 million, 750 spaces.

DC MLB NORTH GARAGES, WASHINGTON, DC – \$25 million, 1200 spaces.

RESTORATION PROJECTS

RICHMOND AIRPORT 5 GARAGES CONCRETE REPAIRS AND LED RETROFIT, RICHMOND, VA – \$5.5 million.

3170 FAIRVIEW PARK GARAGES B AND C REPAIRS, FALLS CHURCH, MD



DUANE ELLIS, PE
PROJECT MANAGER
18+ YEARS' EXPERIENCE

KETTERING BY THE PARK II CONDOMINIUM MASONRY EGRESS REPAIRS, UPPER MARLBORO, MD

LEE LANDING CONDOMINIUM ROOF REPLACEMENT, FALLS CHURCH, VA

KOHL'S WASHINGTONIAN PARKING GARAGE RESTORATION, GAITHERSBURG, MD – \$220,000. Repairs included waterproofing sealant replacement, partial depth topping replacement, full depth precast flange to flange connector replacement, asphalt repair, cast-in-place load bearing foundation wall stem replacement, plumbing/drainage repairs, curb and topping repairs, and metal railing repairs. Responsibilities included design of repair program, design of repair details, bid assistance, contractor selection, and construction administration project management.

WILLOW POINT CONDOMINIUM WALL ASSESSMENT, FAIRFAX, VA

RIVER MIST CONDOMINIUM PAVEMENT ASSESSMENT, OXON HILL, MD

TAVERN SQUARE EGRESS STAIR NOSING AND CONCRETE REPAIRS, ALEXANDRIA, VA

ONE ATLANTIC CENTER PARKING GARAGE DUE DILIGENCE SURVEY, ATLANTA, GA

HOWARD GENERAL HOSPITAL EARTHQUAKE ASSESSMENT, COLUMBIA, MD

UNIVERSITY OF MARYLAND EARTHQUAKE ASSESSMENT, COLLEGE PARK, MD – Conducted emergency response parking garage structural assessment following earthquake event. Assessment included summary of on-site observations into field reports and recommendations for the University.

CENTER SQUARE FACADE SURVEY AND REPAIR, PHILADELPHIA, PA – Conducted on-site inspection and façade survey of two forty-story commercial buildings. Survey included observations of concrete and windows at each level from suspended work platform system. Observations were summarized into field report and recommendations.



Total Years of Experience

19+

Previous Experience

Thorton Tomasetti Engineers
(1997–2002)

Einhorn, Yaffee, Prescott
(2002–2004)

City College of New York
Adjunct Lecturer

Active Registrations

Registered Professional Engineer
State of New York
State of New Jersey
State of Pennsylvania
State of North Carolina
State of South Carolina
State of New Mexico
State of Rhode Island
State of Ohio
State of Michigan
State of Massachusetts
State of Maryland
State of Wisconsin
State of Illinois
State of Kentucky
State of Virginia

MTA NYC Transit Track Safety
Certification

Education

ME (Structural/ Mechanics)
1997 – City College of the City
University of New York

BE (Civil)
1995 – City College of the City
University of New York

EXPERIENCE & QUALIFICATIONS

Mr. Jayasena joined O&S Associates, Inc. (O&S) in 2004 and is responsible for project management and administration of our parking garage and building restoration engineering projects. Suchi's depth of experience and knowledge of building systems helps to ensure that projects are completed within established timelines and budgets. Suchi is responsible for all phases of professional services, including preparation of technical reports, analysis and design, program development, technical specifications, drawings, bidding services, construction administration, and supervision.

As Project Manager, Suchi is directly responsible for ensuring that project managers make the appropriate decisions during projects as well as providing direct oversight of project managers responsible for managing design and restoration projects and offering solutions to problems during production.

Mr. Jayasena was responsible for all aspects of engineering restoration and design services with his prior firm. Suchi has provided engineering services for all types of structures including exterior building façades, building roofing, curtain wall studies, plaza renovations, parking garage rehabilitation projects, balcony and brick masonry evaluations and restoration.

Representative projects in which Mr. Jayasena served include:

RICHMOND AIRPORT NORTH PARKING GARAGE, RICHMOND, VA – \$33.3 million, 2600 spaces. Project Manager responsibilities included design coordination across disciplines, permit coordination, bid selection assistance, and construction administration.

BUENA VISTA PARKING GARAGE AND OFFICE SPACE, YONKERS, NY – Senior Structural Engineer for the design of the 610-parking spot Buena Vista Parking Structure, including the design of 5,000 square feet of office space for the City of Yonkers, which O&S designed and is currently supervising construction. The O&S design resulted in a 14% project savings to Yonkers.

148–158 ST, PARKING STRUCTURE, TRENTON, NJ – Designed a seven-story parking garage for an apartment building at the cost of \$8 million. The steel frame, CMU shear wall garage included retail space on the ground floor. The design was complicated by the limited area of the lot and the required ramps for vehicular access.

CENTRAL PARKING SYSTEMS, NEW YORK, NY – Provided design and general project oversight for structural repairs and upgrades to Central's inventory of nearly 300 structured parking facilities. Projects include historic preservation, municipal consulting and violation closeout/legalization, renovations, and structural and waterproofing restoration.

THE CITY OF NEW YORK DEPARTMENT OF SANITATION, QUEENS, NY – Project Manager in the performance of a condition assessment, development of a restoration program for the replacement of the roofing system and MEP services for the Queens East Garage.

2460 LEMOINE AVENUE, FORT LEE, NJ – Principal-in-Charge for the vertical expansion and modification. Work included adding a single story on the back of the building which is currently an elevated, structurally supported parking area. O&S is the Structural Engineer of Record on this project.

KING OF PRUSSIA MALL PARKING GARAGE RESTORATION, KING OF PRUSSIA, PA – Mr. Jayasena provided Structural Engineering and construction management services for the restoration of the three parking structures at the King of Prussia Mall in King of Prussia, PA. O&S Associates provided a structural assessment of all three garages, which included chain dragging and hammer sounding, an assessment of the pedestrian bridge, and more. O&S



SUCHI JAYASENA, PE
PRINCIPAL/SENIOR STRUCTURAL ENGINEER
19+ YEARS' EXPERIENCE

Associates provided bidding documents, construction documents, bidding services, and construction administration for the project.

VAN CORTLAND CENTER, RIVERDALE, NY – Designed new Pathmark Supermarket, and above it a six-story parking facility for the Supermarket and Manhattan College at the cost of \$44 million in Riverdale, NY. Work included design of structure using precast concrete and steel in two different options. The work was complicated by the site limitations, such as the adjacent subway line and extensive number of retaining walls which required underpinning. The supermarket requirement of being completely watertight and extending to the property limits also complicated the design.

TRACY TOWERS PARKING STRUCTURE AND PLAZA RENOVATION, BRONX, NY – Mr. Jayasena served as project engineer for the Tracy Towers Renovation project. Since this project is located above the MTA's Jerome Yard, all team members were required to be MTA Track Certified. O&S Associates provided a condition study of the property as well as design drawings and specifications.



JASON BORDEN, PE
STRUCTURAL ENGINEER
18+ YEARS' EXPERIENCE

Total Years of Experience

18

Previous Experience

(2000–2010) The Harman Group

Active Registrations

Registered Professional Engineer
State of Pennsylvania
State of Delaware

Education

Bachelor of Science/Engineering
Drexel University

Professional Affiliations

International Concrete Repair
Institute (ICRI)

Industry Training

Master-Builders/Structural Group
Restoration

EXPERIENCE & QUALIFICATIONS

Mr. Borden joined O&S Associates, Inc. (O&S) in 2010 and is responsible for project management and administration of our parking garage design and building restoration engineering projects. Jason's depth of experience and knowledge of building systems help to ensure that projects are completed within established timelines and budgets. Jason's main focus is on new structure engineering design, yet he is responsible for all phases of professional services, including preparation of technical reports, analysis and design, program development, technical specifications, drawings, bidding services, construction administration, and supervision.

As Project Manager, Jason is directly responsible for ensuring that the appropriate building systems are used and that the decision-making process is verified while serving as quality assurance officer.

Prior to joining O&S, Mr. Borden was responsible for all aspects of engineering restoration and design services with his prior firm. Over his career, Jason has provided engineering services for all types of structures, including exterior building facades, building roofing, curtain wall studies, plaza renovations, parking garage rehabilitation projects, balcony and brick masonry evaluations, and restoration.

Some of his more recent representative projects, in which he served as Structural Engineer, include:

KING OF PRUSSIA MALL, KING OF PRUSSIA, PA – Conducted an assessment of the Court Deck, East Deck, West Deck, and bridge over Mall Boulevard. Developed a repair program that was phased over a five-year period. Also provided bidding services and construction management services for the client, Simon Property Group. Total project size of approximately 1.5 million square feet.

CAPE LIBERTY PARKING STRUCTURE, BAYONNE, NJ – Structural engineering for a 900-space parking structure for Port Authority and Royal Caribbean.

EDISON VILLAGE PARKING GARAGE, EDISON, NJ – Structural Engineering for 650-space parking structure.

GLENWOOD VILLAGE PARKING STRUCTURE, BLOOMFIELD, NJ – Structural Engineering for a 500-space parking structure.

ROWAN UNIVERSITY, CAMDEN, NJ – Structural Engineering for 1,200-space parking structure.

BAY PLAZA MACY'S PARKING GARAGE, NY – Structural Engineering for a 1,100-space parking structure.

BAY PLAZA JC PENNY'S PARKING GARAGE, NY – Structural Engineering for another 1,100-space parking structure.

WATCHTOWER VISITOR'S GARAGE, WALKILL, NY – Structural Engineering for another 300-space parking structure.

NORRISTOWN PARKING GARAGE REHABILITATION, NORRISTOWN, PA – Conducted a condition assessment of the pre-cast garage and developed a rehabilitation plan for the structure. Prepared drawings and specifications for repairs while also providing bidding and construction administration.

CARNEGIE MUSEUMS PARKING GARAGE, PITTSBURGH, PA – Engineering inspection, restoration, and rehabilitation of parking garage and its waterproofing systems. Developed annually phased repair programs to address budgetary issues.



Total Years of Experience

20+

Previous Experience

The Harman Group, Senior
Parking Specialist (2002–2016)

M2 Design, Owner (1998–2002)

Gambone Brothers
Development Company, Project
Manager/Architectural Designer/
CADD (1997–1998)

Joseph A. Zadlo, Architects,
Project Architect, Architectural
Designer/CADD/Building
Inspector (1994–1997)

Sturbridge Homes, Architectural
Designer/CADD (1993–1994)

Howard Kulp Architects,
Architectural Designer (1989–
1993)

Better Homes Construction
Company, Architectural
Designer/Drafter/Estimator/
Construction Manager (1986–
1989)

Diserod & Wolff Architects,
Architectural Drafter (1983–
1986)

EXPERIENCE & QUALIFICATIONS

Mr. Muhl is an ambitious Architect with more than 20 years of experience in construction and engineering. He is proficient in the drafting programs AutoCAD and Revit. Mr. Muhl is a strong verbal and written communicator and has excellent construction administration skills. He is also very knowledgeable in permitting, building codes, and bidding procedures.

A brief cross section of representative parking projects in which Mr. Muhl served as Parking Specialist include:

WEST NEW YORK PARKING SUPPLY AND DEMAND STUDY, WEST NEW YORK, NJ – The Study was conducted on behalf of The Town of West New York, New Jersey, and a private developer. Both parties were mutually interested in determining if the existing municipal parking lot located between 51st and 52nd Streets west of Bergenline Avenue was a suitable location for a mixed-use development, which would include a public parking aspect.

RUTGERS UNIVERSITY ATHLETICS MULTI-USE FACILITY, NEW BRUNSWICK, NJ – The proposed new 500-space parking structure will provide central, state-of-the art training facilities for various athletic teams that are currently scattered around campus in aging and inadequate facilities. Working with the design team, it was possible to demonstrate that an open parking structure was a possibility and more desirous solution, saving the project approximately \$1.5 million by not eliminating the need for ventilation and fire suppression systems.

HUDSON LIGHTS MIXED-USE DEVELOPMENT, FORT LEE, NJ – Early collaboration between the functional parking design and the layout of the other uses created a structural layout that was conducive to an efficient parking design with almost no structural transfers. This resulted in a parking efficiency rate of 330 square feet per parking space, which is extremely efficient and translates to building less structure and saving money for use on other areas of the project.

ST. BARNABAS MEDICAL CENTER PARKING GARAGE, LIVINGSTON, NJ – Barnabas Health desired to expand their healthcare facility in Livingston, NJ, to provide increased services to the surrounding community. The expansion of the facility would displace much of the surface parking, and a structure parking solution was determined as necessary. The 400-car parking garage utilized a precast concrete structural system as a cost-effective way to provide the necessary parking required for the expanded facility in a quick and timely manner.

NOVARTIS PARKING GARAGE, EAST HANOVER, NJ – Early collaboration during the Master Plan process allowed for the garage to be situated in a location that was easily accessible for employees while preserving buildable land for other future development. The precast concrete structure was constructed in conjunction with two new office buildings, expanding the employee population on campus.

CONNELL PARKING GARAGE, SCRANTON, PA – Mr. Muhl was Senior Parking Specialist for the design of this five-level parking garage which replaced the existing Oppenheimer parking garage. The structure is comprised of concrete-topped, precast filigree planks supported on a galvanized steel column and beam frame. The ground floor of the garage was designed for the use of retail space. The parking garage provides parking for the immediate neighborhood, including the adjacent condo conversion of the historic Connell Building.

CONVENTION CENTER PARKING GARAGE, PHILADELPHIA, PA – Served as Senior Parking Specialist for the functional design of this 10-level, open, precast parking garage consisting of a double-threaded helix with “jump” ramps at the end of turning bays. This design was decided based on the length of the site and the garage’s height. A single threaded helix design would have resulted in too many turns to navigate to and from the top levels. The design

incorporates 17,340 square feet of ground-floor retail space that protrudes out to the edge of the sidewalk while the mass of the garage is set back, and a green roof of the ground floor is retail space.

GAYLORD NATIONAL HARBOR GARAGE, NATIONAL HARBOR, MD – Served as Senior Parking Specialist for the functional design of this six-level, precast parking garage, which provides parking for the adjacent Gaylord National Harbor Resort Hotel & Convention Center. The architectural precast features horizontal rib patterns at the top of the spandrels as well as vertical precast column covers. The north end of the garage roof supports planters with full-size trees. The garage is designed to accommodate a three-story horizontal expansion over the existing access road.

HARRAH'S CHESTER DOWNS GARAGE, CHESTER, PA – This eight-level, precast, open parking garage serves the adjacent Harrah's Casino and horse racing complex. The functional design consists of internal speed ramps interconnecting the parking levels with two-way traffic circulation and 90-degree parking stalls. The speed ramps are situated on the interior of the garage. More than 80% of the floor area of the parking garage is flat—sloped only for drainage. The large open areas on the flat floors provide for better passive security and a high level of service for the parking patrons.

MATLACK PARKING GARAGE, WEST CHESTER, PA – Mr. Muhl served as Parking Specialist for the design of This precast parking garage provides student and special event parking at West Chester University. This four-level parking garage is recessed into the sloping site and designed and constructed concurrently with the Sharpless Street Garage.

MOSTELLER PARKING GARAGE, WEST CHESTER, PA – This eight-level, precast parking garage replaced an existing multi-story, cast-in-place posttensioned concrete parking garage on the site. The design is contextual, taking cues from the adjacent historic urban fabric. The garage design incorporates similar materials, scale, rhythm, and proportions of the neighboring building façades. The ground floor parking area is reserved for short-term parking and uses a pay & display system for collecting parking revenue.

RIVERS CASINO PARKING GARAGE, PITTSBURGH, PA – This ten-level, precast, concrete parking garage serves the adjacent Rivers Casino. Each parking level is flat with floors interconnected via Las Vegas-style speed ramps. The large open flat plates provide the parking patrons with a high level of service. Portions of the ground floor of the garage are occupied by casino spaces. The façades of the parking garage are clad with horizontal bands of perforated metal panels that allows for natural ventilation of the parking garage. Outside corners of the garage support large billboards that are illuminated during the nighttime.

SHARPLESS STREET PARKING GARAGE, WEST CHESTER, PA – This precast parking garage provides student parking at West Chester University. This 4 ½-level parking garage is recessed into the sloping site. The functional design of the garage consists of a three-bay, side-by-side single helix arrangement. The elevations are comprised of columns, spandrels, and wall panels. The architectural precast consists of two types of panels: sandblasted and thin brick inlay. The garage elevations have a clearly articulated base, middle, and corniced top. This garage was designed and constructed concurrently with the Sharpless Street Garage.

VILLANOVA UNIVERSITY PARKING GARAGE, VILLANOVA, PA – This parking garage is part of the Lancaster Avenue Housing project at Villanova University. The University intends to create residential housing for approximately 1,160 undergraduate students on its current main parking lots along Route 30/Lancaster Avenue. In addition to the student housing buildings, the proposed plans include this multi-level precast, open parking garage, a new University bookstore, and a Performing Arts Center. The parking spaces of the existing surface lots will be consolidated into the parking structure, freeing up land area for the other project buildings.



Total Years of Experience

33+

Active Registrations

Registered Architect

Alabama – [REDACTED]
Connecticut – [REDACTED]
Florida – [REDACTED]
Georgia – [REDACTED]
Illinois – [REDACTED]
Kentucky – [REDACTED]
Maryland – [REDACTED]
New Jersey – [REDACTED]
New York – [REDACTED]
North Carolina – [REDACTED]
Ohio – ARC [REDACTED]
Pennsylvania – [REDACTED]
Virginia – [REDACTED]
Washington DC – [REDACTED]

NCARB

Home Improvement Contractor's License
State of Connecticut

Education

Bachelor of Science/Architecture
Pratt Institute, 1989

Previous Experience

Lawless & Magione Architects & Engineers LLP
Project Manager (2011–2013)

Kevin Roche John Dinkeloo & Associates, LLC
Architect (1999–2005; 2006–2011)

Herbert S. Newman & Partners, PC
Architect (2005–2006)

Wastico, LLC
Manager/Member (1998–1999)

Preiss Breisemeister PC
Senior Associate (1997–1999)

Tariq S. Wasti, AIA Architect, & Wasti Construction
Owner/Manager (1995–1998)

Alex Kaali-Nagy, AIA
Architect (1991–1995)

EXPERIENCE & QUALIFICATIONS

Mr. Wasti is a registered architect with over 26 years of experience in the design, construction, building, restoration, code compliance, and field supervision for commercial, governmental, and residential structures.

Tariq is responsible for the preparation of information regarding design, structure specifications, materials, color, equipment, estimated costs, and construction timelines. He also consults with our project manager to determine functional and spatial requirements of each structure.

Serving as a Project Architect, Tariq maintains experience with owner's meetings, functional design, integrating structural elements, cost estimating, schematic design, architectural design, code requirements, construction documents, and all phases of construction administration.

Projects in which Mr. Wasti served include:

RICHMOND AIRPORT NORTH PARKING GARAGE, RICHMOND, VA – Project Architect for the 2,000 space, \$37 million vertical expansion of the existing Richmond Airport North Garage. O&S's structural responsibilities include code review, lateral load analysis, vertical load analysis, foundation design of an additional elevator and stair tower (helical anchor piles), foundation retaining wall design, column design, post-tensioned slab/beam/girder design, barrier cable, and mildly reinforced bridge/stair tower/crash walls design.

40-50-60 DANBURY ROAD HORIZONTAL AND VERTICAL EXPANSION, WILTON, CT – Project Architect for this 1000 space expansion project. These two 4-story, 2-bay, 1,000-space parking garages are being expanded an additional 500 spaces to serve the adjacent office building's growing needs. The ramping system is a single-helix arrangement utilizing two-way traffic and 90-degree parking.

CAPE LIBERTY PARKING STRUCTURE, BAYONNE, NJ – Project Architect for a 900-space parking structure for Port Authority and Royal Caribbean.

BAY PLAZA MACY'S PARKING GARAGE, NY – Project Architect for a 1,100-space parking structure.

BAY PLAZA JC PENNY'S PARKING GARAGE, NY – Project Architect for another 1,100-space parking structure.

NEW YORK CITY HOUSING AUTHORITY, NEW YORK, NY – Mr. Wasti provided Architectural services for a five-year IDIQ contract, which included the restoration of 80 building façades and over 100 roofs. Mr. Wasti also assisted in FISP Cycle 7 (Local Law 11) Inspections for 230 buildings throughout New York. Mr. Wasti is also providing architectural services during construction for the Adams development.

LEFRAK NATIONAL 8301 & WETHEROLE BUILDINGS, BROOKLYN, NY – Façade repairs and restoration relating to Cycle 7 Local Law Inspection. Mr. Wasti was the project architect.

UNITED PARCEL SERVICE – MANHATTAN (1 SITE), BRONX (1 SITE), SECAUCUS, NJ – Served as project architect and addressed miscellaneous violations, permit closeouts, exterior wall repairs, parking consulting, structural engineering, floor repairs, waterproofing, and Local law 11.



PETER CATAPANO, PE, CEM
DIRECTOR OF MEP ENGINEERING
38+ YEARS' EXPERIENCE

Total Years of Experience

38+

Active Registrations

Licensed Professional Engineer in the following states:

New Jersey - [REDACTED]

New York - [REDACTED]

Ohio - [REDACTED]

Certified Energy Manager - 20090

Life Member - American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

Life Member - American Society of Mechanical Engineers

EXPERIENCE & QUALIFICATIONS

Mr. Catapano has over 38 years of experience in project management, design, and supervision of projects involving facilities for Transportation, Healthcare, High Rise Residential, Commercial and Educational facilities. He has handled major projects for NYCSCA, DASNY, CUNY, Port Authority of NY & NJ, NJSDA, TBTA, and various other clients.

Projects in which Mr. Catapano served include:

SUCF, STONY BROOK, NEW MART AND BED TOWER - Project Manager for sprinkler, risers, pumps, and associated components for services for this \$275 million project to include a new eight-story, 240,000-square foot research building and new 225,000-square foot, eight-story bed and clinical support tower. The MART contains clinical space, wet and dry laboratories, education, office and conference facilities. The bed tower is expandable, from 8 floors to 18 floors and consists of children's hospital, intensive care beds, cardiac beds, imaging, and dining facilities.

LA SCUOLA D'ITALIA GUGLIELMO MARCONI SCHOOL, NEW YORK, NY - Project Manager for MEP design engineering services for this new English/Italian bilingual school located at 432 West 58th Street, New York, NY to include Pre-K through Grade 12. The 98,053-square foot building consists of 11 floors and an additional two basement level spaces. Scope of work includes mechanical, electrical, plumbing, HVAC, fire protection, low voltage engineering, lighting, power distribution, fire alarm, IT (including data, telephone, security intrusion alarm, public address, AV), and construction support services for this school. Our design will comply with NY State Energy Code requirements for lighting and sustainability for HVAC system.

NJDPMC, MEP UPGRADES, GREYSTONE PARK PSYCHIATRIC CENTER, MORRIS PLAINS, NJ - Project Manager for MEP engineering and design for upgrades to this historic three-story block and steel building approximately 440,000 square feet. Mechanical scope includes survey, boiler system operation upgrades, and water conditioning/treatment. Electrical scope includes field survey of the facility to confirm the size and condition, ratings and arrangement of electrical equipment and power distribution system, assessed the capacity of existing power supply to add additional electrical load to the generator without loss of normal power generator.

NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY, FASHION INDUSTRIES VOC HIGH SCHOOL (M600), MANHATTAN, NY - Project Manager for mechanical, electrical, plumbing and fire protection engineering services for the conversion of existing spaces into Accessibility Upgrade at Fashion Industries VOC High School (M600), 225 West 24th Street, Manhattan, NY. The scope of work includes the renovation of 13 restrooms to include new domestic hot water system, new lighting, new restroom accessories, new fixtures, and plumbing modifications, HVAC and exhaust modifications, fire alarm, notification and suppression system modifications and upgrades.

HUNTERDON COUNTY HEALTHCARE, HAWKE POINT MEDICAL BUILDING, WASHINGTON, NJ - Project Manager for complete MEP engineering design services for approximately 12,500 square feet of existing floor space located at Route 31 and Clubhouse Drive, Washington, NJ. The new space includes exam rooms, offices, nurse stations, waiting rooms, x-ray room, triage room, storage rooms, toilets, and staff break rooms. Maitra's services included HVAC, fire protection, plumbing, lighting, power, fire alarm, IT (including data and telephone), along with construction support services.

FRONTAGE LABS, 200 MEADOWLANDS PARKWAY - SECOND FLOOR FIT-OUT, SECAUCUS, NJ - Project Manager for complete MEP engineering design services for the fit-out of approximately 37,000 SF of existing 2nd floor office space located at 200 Meadowlands Parkway, Secaucus, NJ. New space includes administration offices, exam rooms, nurses station, pharmacy, sleeping/observation rooms, labs, recreation center, showers/toilets, kitchen, and cafeteria. Services included HVAC, fire protection, plumbing, lighting, power, fire alarm, IT (including data, telephone, security intrusion alarm, AV), and emergency power requirements, along with construction support services.



KEVIN NGAN, PE
SENIOR ELECTRICAL ENGINEER
6+ YEARS' EXPERIENCE

Total Years of Experience

6+

Active Registration

Licensed Professional Engineer in the State of New Jersey

Education

BS, Electrical and Computer Engineering, 2010

MS, Columbia University, School of Engineering, Electrical Engineering, 2012

EXPERIENCE & QUALIFICATIONS

Mr. Ngan has over 6 years of experience in engineering and design of electrical systems for transportation, schools, institutional, and military facilities. His experience includes power distribution, lighting, fire alarms, IT, communications, CCTV cameras, and security systems.

A representative list of some of these projects includes:

RICHMOND AIRPORT NORTH PARKING GARAGE, RICHMOND, VA – Electrical Engineer for the 2,000 space, \$37 million vertical expansion of the existing Richmond Airport North Garage. O&S's structural responsibilities include code review, lateral load analysis, vertical load analysis, foundation design of an additional elevator and stair tower (helical anchor piles), foundation retaining wall design, column design, post-tensioned slab/beam/girder design, barrier cable, and mildly reinforced bridge/stair tower/crash walls design.

SOMERVILLE TOWN CENTER PARKING GARAGE, SOMERVILLE, NJ – Electrical Engineer for the Somerville Town Center Urban Renewal project. This new parking garage is a three-level, precast garage which supports mixed-use development also possesses significant exterior features of the façade to maintain the historic look of downtown Somerville.

40-50-60 DANBURY ROAD HORIZONTAL AND VERTICAL EXPANSION, WILTON, CT – Electrical Engineer for this 1,000 space expansion project. These two 4-story, 2-bay, 1,000-space parking garages are being expanded an additional 500 spaces to serve the adjacent office building's growing needs. The ramping system is a single-helix arrangement utilizing two-way traffic and 90-degree parking.

PORT AUTHORITY OF NY & NJ, STEWART INTERNATIONAL AIRPORT, RUNWAY REHABILITATION, NEW WINDSOR, NY – Responsible for design of electrical 480-volt systems to accommodate construction phasing for major runway and taxi lighting project. Plans and specs include removal and reinstallation of breakers and circuits in lighting vault. Prepared electrical single line diagrams.

PORT AUTHORITY OF NY & NJ, GEORGE WASHINGTON BRIDGE, HARLEM RAMPS UTILITY RELOCATION, NY – Electrical design services to relocate conduits and cable for power, lighting, and fiber optics to facilitate structural repairs and modifications on elevated ramps connecting the George Washington Bridge and Harlem River Drive.

PORT AUTHORITY OF NY & NJ, STEWART INTERNATIONAL AIRPORT, HIGH MAST LIGHT REPLACEMENT, NEW WINDSOR, NY – Electrical design services for power, conduit, cable, and lighting fixture calculations and design.

PORT AUTHORITY OF NY & NJ, RELOCATION OF UTILITIES ON THE GEORGE WASHINGTON BRIDGE, NY – Survey and design involving relocation of 5KV conduit for PSE&G and CON Ed feeders, roadway lighting, telecommunications, FO fiber optic cable and conduits, and tie ins to various cameras, devices, and components. Developed specifications and concepts for relocation design plus demolition plans and specs.

NYSTA, AMSTERDAM'S "MOHAWK VALLEY GATEWAY OVERLOOK" PEDESTRIAN BRIDGE, CONTRACT #D213622, AMSTERDAM, NY – Electrical Design Engineer responsible for electrical engineering services, which involved designing a power distribution system for the project site including panels, conduits, cables, manholes/handholes, and pull and junction boxes. Performed voltage drop calculations, and lighting calculations, Security CCTV cameras, electrical snow melting study, and developed the report for solar powered lights along the length of the bridge and approaches associated with the construction of a pedestrian bridge over the Mohawk River in the City of Amsterdam, Montgomery County, New York. This \$16.5 million project connects the south side of the city to the north side and will be known as Amsterdam's "Mohawk Valley Gateway Overlook." The bridge spans 511 feet and is 30 feet wide and provides a landscaped plaza with seating, trees, flower plantings, accent lighting, and pedestrian lampposts supported by solar power.



NANCY WANG, PE
SENIOR CIVIL ENGINEER
25+ YEARS' EXPERIENCE

Total Years of Experience

25+

Education

MS, Civil Engineering,
Tianjin University, China –
May 1988

BS, Civil Engineering,
Tianjin University, China –
July 1982

Advanced Courses in Civil
Engineering, University of
Minnesota – 1989–1990

Active Registrations

Professional Engineer in the
following states:
New Jersey – [REDACTED]
New York – [REDACTED]
Pennsylvania – [REDACTED]

EXPERIENCE & QUALIFICATIONS

Ms. Wang has over 25 years of hands-on design experiences in civil and site engineering and landscape design. She has fully established expertise in site engineering design including site layout, grading and drainage design, utility extensions and service connections, hydrology and hydraulic analysis, storm water management design, and erosion and sediment control design. She routinely performs site investigation, utility coordination, assessment study, construction document preparation, and permitting. She is very familiar with New Jersey land use rules and regulations and has extensive permitting experience with New Jersey Department of Environmental Protection, NJ Department of Community Affairs, High Land Commission, Pine Land Commission, and Soil Conservation Districts throughout New Jersey for wetlands, flood hazard area and waterfront development permitting, storm water management design, water main extension, treatment works approval, ADA design approvals, and erosion and sediment control plan certification.

Projects in which Ms. Wang served include:

DASNY, ROCKLAND PSYCHIATRIC CENTER, SUPPORT SERVICES BUILDING – Civil engineering design and landscaping services for the Rockland Psychiatric Center expansion which will house a 30,000-square foot facility, containing loading docks, a store house, wood shop, paint shop, tin and electrical shop, work control offices, support spaces and reception area. Civil and landscaping design services for the project included site demolition, utility relocations, new facility drop-off and waiting area design, new utility service connections, grading, drainage, and landscaping plantings.

SUCF, STONY BROOK UNIVERSITY, NEW MEDICAL AND RESEARCH BUILDING (MART) AND NEW BED TOWER – Civil engineering for this \$275 million project to include a new 8-story, 240,000-square foot research building and new 225,000-square foot, 8-story bed and clinical support tower. The MART contains clinical space, wet and dry laboratories, education, office, and conference facilities. The bed tower is expandable, from 8 floors to 18 floors and consists of children's hospital, intensive care beds, cardiac beds, imaging, and dining facilities. Provided site design for the site, drainage, grading, infrastructure utilities, storm water management, and access road layout for the 10-acre site.

SAGAMORE CHILDREN'S PSYCHIATRIC CENTER, NEW YORK STATE OFFICE OF GENERAL SERVICES – Preparation of complete construction documents including plans and specifications for the new 750-foot interior road connection and existing driveway widening. The project also includes parking area modifications, storm water design, conveyance and seepage facility design, and site lighting.

DASNY, ENGINEERING TERM CONSULTANT SERVICES, (ELECTRICAL, MECHANICAL, CIVIL, AND STRUCTURAL ENGINEERING), CONTRACT NO. 149032 – Civil engineering and design services as required at various DASNY facilities located in the downstate area of New York. Clients include facilities operated by CUNY, SUNY, NYC Health and Hospital, and various New York State Health agencies.

NYCSCA, PS-303Q, QUEENS, NY – Civil engineering for new \$30 million primary school at 108-55 69th Avenue. The 50,000-square foot facility consists of a partial cellar and five floors. Scope includes civil, site, and landscape drawings, including sanitary and storm water sewer connections and necessary filings with NYCDEP.

NYCSCA, PS-437, NEW PRIMARY SCHOOL, BROOKLYN, NY – Civil engineering for a new \$50 million primary school at 701 Caton Avenue in Brooklyn. The new 106,000-square foot facility consists of a cellar and five floors. The program includes classrooms, cafeteria, loading dock facilities, library, gymnasium, and gymnasium to accommodate 757 new seats for Pre-K through Grade 5 students. The building's footprint is approximately 20,000 square feet and includes play areas and will comply with New York City Green School Guidelines. Scope includes civil, site design, landscape, grading, drainage, utility connections and storm water management design, street curb realignment, sidewalk widening, and water main relocation.



HEMENDRA BHATTACHARYA, PE
SENIOR MECHANICAL ENGINEER
38+ YEARS' EXPERIENCE

Total Years of Experience

38+

Active Registrations

Licensed Professional Engineer in
the State of New York – [REDACTED]

Education

MS, 1979, Indian Institute of
Technology, Kharagpur, India
BS, 1977, Regional Engineering
College, Durgapur, India

EXPERIENCE & QUALIFICATIONS

Mr. Bhattacharya has over 38 years of experience in design and construction of all types of mechanical services to buildings, air conditioning, ventilation, heating, refrigeration, automatic temperature control systems, energy conservation, plumbing, and sprinkler systems. He has completed various project with areas of expertise including all aspects and phases of mechanical services for the new construction and renovation of existing buildings and for various types of commercial, transportation, and institutional buildings.

Projects in which Mr. Bhattacharya served include:

SUCF, STONY BROOK, NEW MART, AND BED TOWER – Responsible for sprinklers, risers, pumps, and associated components for services for this \$275 million project to include a new eight-story, 240,000-square foot research building and new 225,000-square foot, eight-story bed and clinical support tower. The MART contains clinical space, wet and dry laboratories, education, office, and conference facilities. The bed tower is expandable, from 8 floors to 18 floors and consists of a children's hospital, intensive care beds, cardiac beds, imaging, and dining facilities.

NJDPMC, GREYSTONE PARK PSYCHIATRIC HOSPITAL, MORRIS PLAINS, NJ – Mechanical design services for this historic three-story block and steel building, approximately 440,000 square feet. Mechanical scope includes survey, boiler system operation upgrades, and water conditioning/treatment.

DASNY, MANHATTAN PSYCHIATRIC CENTER, VARIOUS UPGRADES – Mechanical, HVAC, plumbing, and fire protection engineering services for a number of projects for the Manhattan Psychiatric Center including Boiler Plant System Repair and Modifications; Power Plant Building No. 122—the existing 188-foot brick smokestack serving four steam boilers was demolished and a new stack installed while maintaining operation of a summer boiler; Secondary feeder/Standby Power to Domestic Water Pumping Station—a redundant feeder for the existing 500,000 gallon water storage tank and an emergency generator were installed; and Buildings 102, 103, 105, and 106—provided with steam and condensate return piping connections.

NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY, ART LEATHER HIGH SCHOOL CONVERSION, QUEENS, NY – Responsible for mechanical/plumbing/ fire protection for \$75 million, 200,000 SF conversion of former warehouse into three high schools, including demolition and construction administration for classrooms, three multi-purpose rooms, two cafeterias, and library.

NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY, PS-331, BROOKLYN, NY – Responsible for HVAC, plumbing, and fire protection for a new \$42-million primary school at 7002-20 4th Avenue in Bay Ridge, Brooklyn. The new 87,000-square foot facility consists of a cellar and four floors. The program includes classrooms, cafeteria, and gymnasium to accommodate 650 new seats. Also included are elevators, wireless LAN, smart boards, and internet access throughout. The building will be fully sprinklered and air conditioned and will comply with New York City Green School Guidelines.

HUNTERDON COUNTY HEALTHCARE, HAWKE POINT MEDICAL BUILDING, WASHINGTON, NJ – Mechanical engineering and design services for approximately 12,500 square feet of existing floor space located at Route 31 and Clubhouse Drive, Washington, NJ. The new space includes exam rooms, offices, nurse stations, waiting rooms, x-ray room, triage room, storage rooms, toilets, and staff break rooms. Services included HVAC, fire protection, and plumbing, along with construction support services.

CUNY, MACAULAY HONORS COLLEGE, ROOFTOP HVAC REPLACEMENT – Responsible for mechanical, plumbing, and fire protection engineering, design, and construction support services for replacement of eight obsolete rooftop HVAC units with two energy efficient HVAC units (480k BTU/hr.) and associated VAV boxes, ductwork, DDC controls, structural platforms, piping electrical along with a condensing boiler (800k BTU/hr.) boiler pumps. The equipment is designed to meet strict New York City noise criteria due to the close proximity to adjacent buildings. In addition, the scope of work includes replacement of the entire roof for this five-story building located at 35 West 67th Street in Manhattan.

Section 3

Project Understanding & Approach



PROJECT UNDERSTANDING



O&S Associates understands that the State of West Virginia wishes to perform an initial phase to test the feasibility to provide additional parking decks on the Capitol Complex Garage. The parking garage, located at the corner of Greenbrier Street and Piedmont Road, is 78,250 square feet and has four above-grade levels and is for employee parking. The State of West Virginia wishes the structural analysis to be nondestructive or invasive to the existing garage structure. O&S can provide report of the feasibility of vertical expansion. If the results of the evaluation deem the expansion feasible, construction documents and construction phase services may be provided. The construction of any renovations resulting from the evaluation will be competitively bid in a multi-phase construction project.

KEY ELEMENTS FOR VERTICAL EXPANSION

The following are key elements that need to be taken under consideration when vertically expanding a precast concrete parking garage:

1. Is precast concrete the most cost-effective solution?
2. Should structural steel framing be considered?
3. What live load was used when designing the original garage? The older codes required a higher 50psf distributed loading with a smaller wheel load. The current code requires 40psf with a higher wheel load. This change in the code in conjunction with code allowed live-load reduction that can save a significant amount of foundation costs.
 - a. Based on the provided drawings the garage was designed using 50psf.
4. What is the existing framing? Can intermediate columns and footings be added to support future floors?
5. What is the foundation system?

Section 4

Previous Experience & References



Providing Our Clients with:

RESTORATION

Structural Investigations
Façades
Seismic Retrofit
Condition Appraisals
Due Diligence
Construction Documents
Upgrades
Roofing
Windows

PLANNING/CONSULTING

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Springfield, VA 22150

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222 Commercial Blvd
Lauderdale by the Sea, FL 33308

Richmond Airport North Garage Vertical Expansion – Richmond, VA



This vertical expansion project was needed to serve the growing airport passenger needs. The ramping system is a double helix arrangement utilizing one-way traffic and 70-degree parking. The structural system is cast-in-place, post-tensioned concrete to provide a large-span, open-feel parking and reduce long-term maintenance costs. The architecture includes precast architectural spandrel panels with brick inset and precast architectural column covers.

O&S was the prime designer for the vertical expansion of this facility. The existing facility was a 4-story, 7-bay, 2,600-space parking garage that was designed for two future floors of vertical expansion. O&S performed a structural feasibility analysis and determined that three additional floors could be constructed providing an additional 2,000 spaces. O&S's structural responsibilities included code review, lateral load analysis, vertical load analysis, foundation design of an additional elevator and stair tower (helical anchor piles), foundation retaining wall design, column design, post-tensioned slab/beam/girder design, barrier cable, and mildly reinforced bridge/stair tower/crash walls design. O&S also performed architectural, parking, civil, mechanical, electrical, and plumbing engineering design services for this project. O&S was responsible for construction administration including submittal review, on-site representation, and request for information (RFI) coordination.

Project Manager: Duane Ellis – dellis@oandsassociates.com

Owner: Capital Region Airport Commission, Richmond International Airport

Number of Spaces: 2,600 spaces with 2,000-space expansion

Year Completed: 2017

Construction Cost: \$37 million

Providing Our Clients with:

RESTORATION

Structural Investigations
Façades
Seismic Retrofit
Condition Appraisals
Due Diligence
Construction Documents
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Roofing
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Buena Vista Parking Garage and Office Space – Yonkers, NY



Relevance to the Project: In September 2018, O&S Associates was awarded the project to provide professional services for the vertical expansion of the Yonkers Parking Authority's Buena Vista Parking Garage located in Yonkers, NY. O&S had originally designed the seven-level, 610-space parking structure. The project is split up into three phases: Feasibility Study; Design Options and Cost Estimates; and Final Construction Design, Bid Solicitation, and Construction Consulting Services. The Feasibility phase has been completed and a vertical expansion is viable to the existing garage, which was reported to Yonkers Parking Authority.

Summary: O&S was responsible for the architectural, structural, mechanical, and electrical design for the 602-parking spot Buena Vista Parking Structure, including the design of 5,000 square feet of office space for the City of Yonkers, which O&S designed and is currently supervising construction. The O&S design resulted in a 14% project savings to Yonkers.

O&S with GRAD Associates designed the 602-car Buena Vista parking structure for the City of Yonkers. This self-park, public parking facility was designed with a long span (column-free parking bays) and an attractive exterior façade, which blended into the historic waterfront area of Yonkers. The \$9 million-dollar Buena Vista parking facility was also designed to meet the budgetary constraints of the city.

Our firm was selected to redesign and value engineer the Buena Vista Parking Garage for the City of Yonkers to reduce the cost of construction by \$1.5 million. Our firm completed the value engineering study and redesigned the parking garage.

O&S designed and supervised the construction of the 602-car Parking Structure and 5,000 square feet of new office space for the Yonkers Parking Authority in Yonkers, New York. The cost per car for this new parking structure was about \$12,450 per space including site work, foundation, structural steel framing, concrete floors, ornate architectural precast concrete façade, concrete stairs, fire protection system, mechanical ventilation for



Project Profiles

below grade level, lighting interior/exterior, and revenue control equipment.

Exterior Façade Design: The Buena Vista parking structure is located in the historic waterfront area of downtown Yonkers. Therefore, a critical component of the design was the blending of the exterior façade with the nearby historic brick masonry and limestone buildings. The exterior building façade incorporated the following detailing:

- Brick Masonry Inlay Precast Concrete Panels.
- Precast Concrete Cornices at the Roof.
- Ornamental Precast Concrete Pilasters.
- Perimeter Ornamental Railings.

Parking Management Techniques: The following parking management techniques were incorporated working closely with the Yonkers Parking Authority:

- Revenue Control System integrated with the YPA computer system.
- Pay on Foot Stations
- Card Access System for Monthly Parkers

In 2018, O&S was retained by the City of Yonkers once again to design a vertical extension to the existing Buena Vista Parking Garage. Currently assessing whether the City of Yonkers wishes to build one or two additional levels. This will increase the parking structures capacity from 610 parking spaces to either 732 or 854 spaces. The feasibility study will also determine if the additional level(s) can be added without closing the facility during any phase of construction and make recommendations for construction of one or two levels. We will perform structural analysis, foundation analysis, electrical and drainage system adequacy analysis for expansion up to two levels including modifications needed to add two levels

Project Manager: Suchi Jayasena – sjayasena@oandsassociates.com

Owner: City of Yonkers

Number of Spaces: 602 spaces

Year Completed: In Progress

Construction Cost: \$6 million

Providing Our Clients with:

RESTORATION

Structural Investigations
Façades
Seismic Retrofit
Condition Appraisals
Due Diligence
Construction Documents
Upgrades
Roofing
Windows

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Somerville Town Center Parking Garage – Somerville, NJ



O&S was retained by Edgewood Properties for the Somerville Town Center Urban Renewal project. Edgewood Properties proposed the task of developing two mixed-use retail and multi-family buildings and a parking garage at the Somerville Town Center in Somerville, NJ. The apartment building and retail building form a U shape, partially wrapping around the garage.

O&S provided Structural and Mechanical, Electrical, Plumbing (MEP) Engineering Services. EP Design, a subsidiary of Edgewood Properties, acted as the Architect of Record and submitted Schematic Drawings to O&S for the construction of a three-level, precast parking garage. This brand-new parking garage which supports mixed-use development also possesses significant exterior features of the façade to maintain the historic look of downtown Somerville.

Project Manager: Eric Muhl – emuhl@oandsassociates.com

Owner: Edgewood Properties

Number of Spaces: 520 spaces

Year Completed: 2017–In Progress

Construction Cost: \$9 million

Providing Our Clients with:

RESTORATION

- Structural Investigations
- Façades
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Ashland Avenue Parking Garage – Baltimore, MD



This 11-story, 3-bay, 1,500-space parking garage was developed to serve the growing on-campus population of the adjacent Johns Hopkins campus and the surrounding science and technology park development. The ramping system is a double helix arrangement utilizing two-way traffic and 90-degree parking. The building includes a 12,000-square foot street front retail space currently occupied by Walgreens. The structural system is cast-in-place, post-tensioned concrete to provide a large span, open feel parking and reduce long-term maintenance costs. The architecture includes brick, curtain wall glazing, and perforated metal panel elements.

Mr. Ellis was the Senior Project Engineer/Design Engineer for this garage. His responsibilities included code review, lateral load analysis, vertical load analysis, foundation design (auger cast piles), foundation retaining wall design, column design, post-tensioned slab/beam/girder design, barrier cable, and mildly reinforced stair tower/crash walls design. Mr. Ellis was responsible for construction administration including submittal review, on-site representation, request for information (RFI) coordination, review and advisement of change order requests, and final punch list walkthrough.

This garage was awarded the Excellence in Concrete Award by the Maryland Chapter of American Concrete Institute in 2014.

Project Manager: Duane Ellis – dellis@oandsassociates.com

Owner: Forest City New East Baltimore Partnership

Year Completed: 2012

Construction Cost: \$22 million

Project Profiles

Providing Our Clients with:

RESTORATION

- Structural Investigations
- Façades
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Terrapin Row Parking Garage – College Park, MD



This 7-story, 2-bay, 489-space parking garage was developed to serve the growing on-campus population of the adjacent University of Maryland campus. The ramping system is a single-helix arrangement utilizing two-way traffic and 90-degree parking. The structural system is precast, prestressed concrete to provide quick erection, utilizing off site system production. The architecture includes brick, waterproofing painted coatings, and green screen.

Mr. Ellis was the Project Manager for this garage. His responsibilities included code review, lateral load analysis, vertical load analysis, foundation design (short aggregate piers), foundation retaining wall design, barrier cable, and diaphragm design. Mr. Ellis also authored the project specifications and was responsible for Client invoicing.

This project was awarded a LEED Silver Certification in September 2016.

Owner: Toll Brothers

Architect: DESMAN Associates

Structural Engineer: Duane R. Ellis, PE

Year Completed: 2016

Construction Cost: \$5.9 million

Project Manager: Duane Ellis – dellis@oandsassociates.com

Providing Our Clients with:

RESTORATION

Structural Investigations
Façades
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Virginia Tech Perry Street Parking Garage – Blacksburg, VA



This 4-story, 5-bay, 1,350-space parking garage was developed to serve the growing on-campus parking needs. The ramping system is a double-helix arrangement utilizing two-way traffic and 90-degree parking. The building includes a 2,800-square foot office space including a parking office, camera room, police room, and lobby. The structural system is precast prestressed concrete to provide quick erection, utilizing off-site system production. The architecture includes “hokie stone” masonry, curtain wall glazing, and louvered metal panel elements. This project was delivered utilizing design-build procurement by Rentenbach Constructors and was the University’s first design-build project.

Mr. Ellis was the Senior Project Engineer/Design Engineer for this garage. His responsibilities included development and authoring of RFQ and RFP documents, establishment of design criteria, development of functional parking plans, assisting in design-builder scoring and selection, submittal review, on-site representation, request for information (RFI) coordination, review and advisement of change order requests, final punch list walkthrough, and development maintenance manual.

Project Manager: Duane Ellis – dellis@oandsassociates.com

Owner: Virginia Polytechnic Institute and State University

Year Completed: 2010

Cost: \$21 million

Providing Our Clients with:

RESTORATION

- Structural Investigations
- Façades
- Seismic Retrofit
- Condition Appraisals
- Due Diligence
- Construction Documents
- Upgrades
- Roofing
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Richmond International Airport Five Garages – Richmond, VA



O&S performed a Structural Condition Assessment of all five garages at Richmond International Airport, which totaled 7,000 spaces and 2.2 million square feet of floor area. The field evaluation was completed in one week, and reports were completed in four weeks. The evaluation and reports were completed in 2018. Below are our findings on two of the five garages.

The Old North Garage is a 1,400-space, cast-in-place, post-tensioned concrete garage constructed in 1995. Our survey included 20% acoustic impact testing (chain dragging) of the supported floors, as well as full visual assessments of the soffits, vertical elements, and exterior elevations. We found that the garage was in good overall condition. We noted very few instances of concrete deterioration, of which none were of structural concern. We did observe that the waterproofing elements, sealant joints and waterproofing membranes, expired needed replacement.

The Rental Car Garage is a 600-space, precast concrete double tee and steel frame garage constructed in 1998. Our survey included 20% acoustic impact testing (chain dragging) of the supported floors and cast-in-place washes, as well as full visual assessments of the soffits, vertical elements, and exterior elevations. We found that the garage was in good overall condition. We noted very few instances of concrete deterioration, of which none were of structural concern. We did observe that the waterproofing elements, sealant joints and waterproofing membranes, expired needed replacement.

Project Manager: Duane Ellis – dellis@oandsassociates.com

Owner: Capital Region Airport Commission, Richmond International Airport

Number of Spaces: 7,000 spaces

Providing Our Clients with:

RESTORATION

Structural Investigations
Façades
Seismic Retrofit
Condition Appraisals
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Roofing
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Cape Liberty Cruise Terminal Garage Design-Build – Bayonne, NJ



Royal Caribbean, in partnership with the Port Authority of New York and New Jersey, is working to revitalize and expand the Cape Liberty Cruise Port in Bayonne, NJ. The public-private partnership between Royal Caribbean and the Port Authority is called Cape Liberty Cruise Port, LLC. The partnership is developing this \$55 million project, which includes construction of a state-of-the-art guest terminal, 900-car parking garage, and pier improvements.

The new terminal is the home for Royal Caribbean's next generation of cruise ships, Quantum of the Seas and Anthem of the Seas, which began service in November 2014 and 2015 respectively.

As part of a Design-Build project, O&S designed the 900-space parking garage as a three-bay precast structure using a single center ramp with two-way traffic and a one-way traffic pattern on the outside bays creating two side by side helixes for the vertical circulation up and down the facility. Garage features include two stair and elevator towers, five lanes of ingress and egress, and PARCS revenue control system. The garage is a five-level facility garage designed with the capacity for a future horizontal expansion.

O&S provided prime design services from conception through construction. O&S performed site analysis, functional design, architectural, structural, and MEP design services for this project.

Project Manager: Venkitasamy Perumalsamy – vpsamy@oandsassociates.com

Owner: Port Authority of NY&NJ

Number of Spaces: 900 spaces

Year Completed: 2016

Construction Cost: \$18 million

Providing Our Clients with:

RESTORATION

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Façades
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Rowan University Parking Garage – Glassboro Township, NJ



As part of the \$300 million Rowan Boulevard Redevelopment Project, O&S provided architectural, structural, and MEP engineering services for a new parking garage. A public-private partnership between Glassboro Township, Rowan University, and Nexus Properties, the garage is designed to serve the parking needs of both the Town and the University.

Our team redesigned existing plans for the garage and eliminated over 2½ levels of structured parking while maintaining the required car count. This new design created a project cost savings of over 30% and made the financing for the project viable. This portion of the redevelopment project also included the E1 classroom building, which is directly adjacent to the garage and separated from it by a precast firewall.

The resulting garage is a six-level, three-bay structure using a single center ramp with two-way traffic and a one-way traffic pattern on the outside bays, creating two side-by-side helixes for the vertical circulation up and down the facility. It was designed with the capacity to add a floor in the future. It's connected to the adjacent E1 building through two stair-elevator cores at both ends of the garage, and these stair-elevator towers serve both the building and the garage. Additionally, a third stair-elevator tower is provided at Bulldog Way Street.

Project Manager: Venkitasamy Perumalsamy – vpsamy@oandsassociates.com

Owner: Nexus Properties, Inc.

Number of Spaces: 1,200 spaces

Year Completed: 2014

Construction Cost: \$15 million

References

Richmond Airport North Garage Vertical Expansion – Richmond, VA

O&S was the prime designer for the vertical expansion of this facility. The existing facility was a 4-story, 7-bay, 2,600-space parking garage that was designed for two future floors of vertical expansion. O&S performed a structural feasibility analysis and determined that three additional floors could be constructed providing an additional 2,000 spaces. O&S's structural responsibilities included code review, lateral load analysis, vertical load analysis, foundation design of an additional elevator and stair tower (helical anchor piles), foundation retaining wall design, column design, post-tensioned slab/beam/girder design, barrier cable, and mildly reinforced bridge/stair tower/crash walls design.



John B. Rutledge

Director Planning & Engineering

Capital Region Airport Commission, Richmond International Airport

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E: jrutledge@flyrichmond.com

Buena Vista Parking Garage and Office Space – Yonkers, NY

O&S was responsible for the architectural, structural, mechanical, and electrical design for the 602-parking spot Buena Vista Parking Structure, including the design of 5,000 square feet of office space for the City of Yonkers, which O&S designed and is currently supervising construction. The O&S design resulted in a 14% project savings to Yonkers.



Vincent A. Massaro

Director of Capital Construction

City of Yonkers Engineering Department

40 South Broadway, Room 115, Yonkers, NY 10701

T: (914) 377-3009

E: vincent.massaro@YonkersNY.gov

Oriole Park at Camden Yards Garage Study – Baltimore, MD

The Maryland Stadium Authority selected O&S to provide project management and civil engineering services for conducting a high-level feasibility study for a 3,000-car parking garage near Oriole Park at Camden Yards.



Philip Hutson

Associate Vice President

Maryland Stadium Authority

333 West Camden Street, Suite 500, Baltimore, Maryland 21201

T: (410) 333-1560

E: phutson@mdstad.com

References

Somerville Town Center Parking Garage – Somerville, NJ

O&S provided Structural and Mechanical, Electrical, Plumbing (MEP) Engineering Services. EP Design, a subsidiary of Edgewood Properties, acted as the Architect of Record and submitted Schematic Drawings to O&S for the construction of a three-level, precast parking garage. This brand-new parking garage which supports mixed-use development also possesses significant exterior features of the façade to maintain the historic look of downtown Somerville.



Gil Rampy

Senior Field Representative

Senior Design Architect

200 Broadacres Drive, Bloomfield, NJ 07003

T: (908) 205-0443

E: grampy@epdesignservices.com

Richmond International Airport Five Garages – Richmond, VA

O&S performed a Structural Condition Assessment of all five garages at Richmond International Airport, which totaled 7,000 spaces and 2.2 million square feet of floor area. The field evaluation was completed in one week, and reports were completed in four weeks. The evaluation and reports were completed in 2018. Below are our findings on two of the five garages.



John B. Rutledge

Director Planning & Engineering

Capital Region Airport Commission, Richmond International Airport

1 Richard East Byrd Terminal Drive, Richmond, VA 23250

T: (804) 226-3017

E: jrutledge@flyrichmond.com

Rowan University Parking Garage – Glassboro Township, NJ

The parking structure for Rowan University was a Public Private Partnership with Nexus Properties who developed and operates the parking structure. The building also provides student space at the first floor.



Michael Ciesielka

Nexus Properties, Inc.

1 Brunswick Circle, Lawrenceville, NJ 08648

T: (609) 656-4401

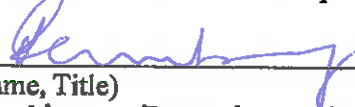
E: mciesielka@nexusparkingsystems.com

Section 5

Required Forms



DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.



(Name, Title)
Venkitasamy Perumalsamy - President

(Printed Name and Title)
7406 Alban Station Court, Suite B211, Springfield, VA 22150

(Address)
(202) 400-3533/(201) 488-7135

(Phone Number) / (Fax Number)
vpsamy@oandsassociates.com

(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

O&S Associates, Inc.

(Company)



(Authorized Signature) (Representative Name, Title)

Venkitasamy Perumalsamy - President

(Printed Name and Title of Authorized Representative)

5/17/2019

(Date)

(202) 400-3533/(201) 488-7135

(Phone Number) (Fax Number)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: GSD190000009

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input checked="" type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

O&S Associates, Inc.

Company



Authorized Signature

5/17/2019

Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: O&S Associates, Inc.

Authorized Signature: [Signature] Date: 6/17/2019

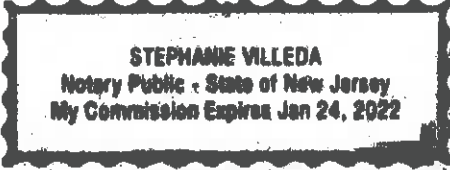
State of New Jersey

County of Bergen to-wit:

Taken, subscribed, and sworn to before me this 10th day of May, 2019

My Commission expires 1-24-22, 20

AFFIX SEAL HERE



NOTARY PUBLIC [Signature]



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 618
Charleston, West Virginia 25305-0430 • (304) 558-3931

March 26, 2019

Mr. Venkitasamy Perumalsamy
O & S Associates, Incorporated
145 Main Street
Hackensack, New Jersey 07601

Dear Mr. Perumalsamy:

Annual Update - DBE Certification

We are pleased to inform you that the documents your firm submitted have been reviewed and approved. Your firm will continue to be listed in the West Virginia Department of Transportation, Division of Highways Contractor's Proposals as a DBE firm certified under the provisions of 49 CFR Part 26.

Please be reminded that as a DBE you must inform this office, within thirty days and in writing, of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, or control requirements or any material change in the information provided in your application form. Failure to do so may result in removal of your DBE certification in accordance with 49 CFR Part 26, §26.83(j) of the Federal Regulation.

Should you have questions or require additional information, please do not hesitate to contact this office.

Sincerely,

A handwritten signature in blue ink that reads "Drema L. Smith".

Drema L. Smith, Acting Director
EEO Division

DLS:Hf