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WV PURCHASING
DIVISION



WDP
& Associates

STATEMENT OF QUALIFICATIONS

*Architectural / Engineering Services
for*

State of West Virginia, Building 13 Parking Garage
Expansion Project

CEOI 0211 GSD1900000009

Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

Attention: Ms. Melissa K. Pettrey, Senior Buyer

WDP & Associates Consulting Engineers, Inc.

Manassas, Charlottesville, Blacksburg, VA | New York, NY | Myrtle Beach, SC
703-257-9280 | www.wdpa.com

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DISQUALIFIED**

*Allyson S. Pettrey
Jessie Chambers*

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Centralized Expression of Interest

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Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Centralized Expression of Interest
 34 -- Service - Prof

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BID RECEIVING LOCATION

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 CHARLESTON WV 25305
 US

VENDOR

Vendor Name, Address and Telephone Number:

WDP & Associates, Consulting Engineers, Inc.
 10621 Gateway Blvd., Suite 200
 Manassas, VA 20110
 703-257-9280

FOR INFORMATION CONTACT THE BUYER

Melissa Pettrey
 (304) 558-0094
 melissa.k.pettrey@wv.gov

Signature X

FEIN # 54-1763349

DATE May 21, 2019

All offers subject to all terms and conditions contained in this solicitation

May 21, 2019



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

Attention: Melissa K. Pettrey, Senior Buyer
Reference: Expression of Interest: Building 13, Parking Garage Expansion Project
Solicitation #: CEOI 0211 GSD1900000009

Dear Ms. Pettrey:

Manassas, VA

Charlottesville, VA

Blacksburg, VA

Myrtle Beach, SC

New York, NY

WDP & Associates Consulting Engineers, Inc., (WDP) is pleased to submit our expression of interest to provide professional engineering services for Building 13, Parking Garage Expansion Project.

WDP is a certified small business, consulting engineering firm with a proven history of investigating existing structural related issues, as well as in the design of repairs to remedy those problems. Building envelope and structural engineering is not just a service that we provide; it's at the heart of our business. Our technical staff has performed these services for public and private sector clients throughout the United States, including West Virginia state agencies. Our experience working in West Virginia has demonstrated the ability and flexibility of both our Manassas and Charlottesville offices to respond to the needs of this project both during the design phase and through construction administration. Our projects have brought us to the state on a weekly basis for the past two years. Additionally, our ability to assess the condition of the existing structures, to conduct testing needed to identify the root cause of problematic conditions, and to design the needed repairs in-house provides a cost-savings to our clients.

Our senior staff are nationally recognized experts that are actively involved on the national level in standard and code development committees, and our involvement includes current Chairs of standard committees that write and develop the standards which are used to test, design, construct, and repair buildings. This engagement brings a level of expertise and insight that will be an invaluable resource for determining the solutions for the problems currently being experienced. We have found our ability to provide scalable or tiered-approach services to be particularly appreciated by our cost-conscious clients working within tight budget constraints.

The attached expression of interest submission clearly and concisely conveys our experience and abilities for the requested services for the State of West Virginia.

Thank you for your consideration, and we look forward to hearing from you.

Respectfully submitted,
WDP & Associates Consulting Engineers, Inc.

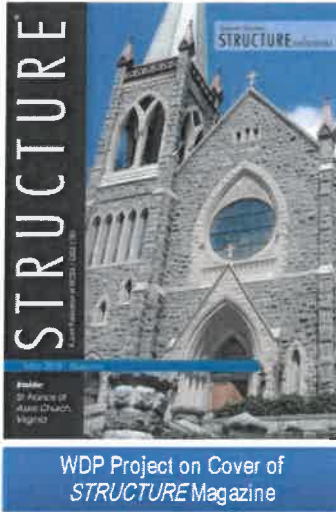
A handwritten signature in blue ink, appearing to read 'RAC', written over a light blue horizontal line.

Rex A. Cyphers, P.E.
Principal

2.0 FIRM PROFILE



WDP & Associates Consulting Engineers, Inc., (WDP) is a SBA-certified (1KZR5), consulting engineering firm founded in 1995 specializing in structural engineering, building envelope consulting and testing, historic restoration and preservation, façade investigation and repair, geotechnical engineering, material testing, and special inspections. Creating lasting solutions that extend the service life of structures is at the heart of our business.



Since the firm's establishment in 1995, WDP's expertise, particularly regarding the evaluation of existing structures and structural repair, has garnered recognition on a national level and makes us uniquely qualified to evaluate and repair the WV DGS Building 13 Parking Garage. Structural evaluation and repair design are the hallmark services of our firm, and our tailored professional services can preserve and enhance the value of client facility assets.

WDP's staff has worked closely with the West Virginia General Services Division (GSD) on multiple projects. We have investigated water intrusion issues at the West Virginia State Capitol Dome as well as designed structural repairs and historic restoration for this structure. In 2018 WDP completed a second condition assessment and provided repair recommendations for GSD's Building 13 precast parking garage. WDP has produced contract documents for repair of this garage and is currently providing construction support services for the implementation of these recommendations. Our ongoing projects at the Capitol Complex for the West Virginia General Services Division and our recently completed project at the Public Service Commission Headquarters building have brought us to Charleston on a weekly basis for the past two years.

Our experience in the state began over 17 years ago with a project at West Virginia University in Morgantown, and we remain dedicated to serving the needs of our West Virginia clients. In the last five years alone, we have worked on more than twelve projects from Charleston to Morgantown to Snowshoe; our services on those projects have included evaluating the structural stability of existing building components, investigating air and water infiltration issues, evaluating the hygrothermal properties of existing wall assemblies, and providing recommendations for repairs.



Companywide, WDP performs around 300 projects every year, with many of them focusing on structural evaluation and restoration. **Structural engineering is not just a service that we provide; it is at the core of what we do.** Our investigative strategies and cost-effective design approaches have addressed countless issues and provided add value to our Client's projects. Our senior staff members are nationally and internationally recognized for their technical expertise, project accomplishments, and involvement in industry organizations and National Design Standards committees.

Our ability to provide a wide range of services in-house minimizes or eliminates the need for numerous subconsultants, translating into cost savings for our clients. Our in-house capabilities include the combination of structural and geotechnical engineers who are proficient in assessment and analysis, non-destructive testing, in-situ field testing, and in-house laboratory testing of materials.

2.0 FIRM PROFILE

Parking Garage Experience

WDP has a history of successfully evaluating, investigating, and providing periodic structural audit services for parking structures, including assessment for vertical expansion, across the United States for over 20 years. Our investigation and repair design work on the Houston Hobby Airport Parking Structure garnered us the 2013 International Concrete Repair Institute (ICRI) Award of Excellence in the Parking Structures Category, and our work at the Champion Parking Garage in Stamford, Connecticut, also received an ICRI Award of Excellence for longevity. In addition, we have extensive experience with precast, pre-stressed, post-tensioned, and reinforced concrete structures in the mid-Atlantic region for entities such as: West Virginia University and the University of Virginia, municipalities such as Arlington and Manassas, Virginia; and most recently, **West Virginia Department of Administration's General Services Division**.

Below is a representative sampling of our related experience performing assessments, analysis, and repairs to various types of parking garages:

Project Name / Location:	Type of Structure:	Brief Scope of Work:
West Virginia DGS, Building 13 Parking Garage <i>Charleston, WV</i>	Precast	Condition assessment, repair recommendations for the observed deteriorations and water infiltration. The condition assessment included visual inspection, sounding concrete for deteriorations, and material sampling and testing. Bid documents and repair drawings were developed to address the deficiencies and a cost estimate was prepared based on the recommended repairs. WDP is currently providing construction support services during construction
West Virginia University Suncrest Parking Garage <i>Morgantown, WV</i>	Precast	Condition assessment, construction/repair document review for a precast parking structure.
West Virginia University Mountainlair Plaza and Parking Garage <i>Morgantown, WV</i>	Post-tensioned	Scope encompassed demolition and redesign of an existing 88,000 sq. ft. multi-use plaza located directly above a 500-car parking garage.
Houston Hobby Airport Parking Structure <i>Houston, TX</i>	Post-tensioned	Condition evaluation, investigation, and development of repair documents for a post-tensioned parking structure. Received the 2013 ICRI Award of Excellence.
University of Virginia McLeod Parking Structure <i>Charlottesville, VA</i>	Cast in place	Condition evaluation, repair documents, cost estimation, and construction administration for a 2-level reinforced, 67,000 sq. ft. waffle slab parking structure.
Anacostia Parking Structure Washington Area Metropolitan Transit Authority <i>Washington, DC</i>	Post-tensioned	Evaluation, restoration design, and construction monitoring services for the 345,000 sq. ft. post-tensioned parking structure.
Arlington Courthouse Parking Structure <i>Arlington, VA</i>	Precast, Cast-in-place, and Post-tensioned	Condition survey and field and laboratory tests to identify existing concrete deterioration.
Skyline House Parking Structure <i>Falls Church, VA</i>	Post-tensioned	Condition assessment and repair recommendations for a 5-level parking structure.
Ballston Public Parking Structure <i>Arlington, VA</i>	Post-tensioned	Visual survey and material sampling and testing for a 5-level reinforced concrete parking structure.
WMATA Parking Structures <i>Washington, DC Metropolitan Area</i>	Post-tensioned	Investigation and remediation design of multiple post-tensioned parking structures. Design/construction documents and construction administration services were also performed.
Architect of the Capitol Parking Structures <i>Washington, DC</i>	Cast in place	Post-earthquake detailed damage assessment survey for two parking structures, East & West House Parking Structure and Canon Building Parking Structure.

2.0 FIRM PROFILE

Project Name / Location:	Type of Structure:	Brief Scope of Work:
Champion Parking Garage <i>Stamford, CT</i>	Post-tensioned	Comprehensive investigation, development of repair design documents, and construction administration services. Project was awarded the ICRI Award of Excellence for Parking Structures (Longevity Category).
Vienna North Washington Area Metropolitan Transit Authority <i>Fairfax, VA</i>	Precast concrete	Evaluation, restoration design, and construction monitoring services for the 615,000 sq. ft. precast concrete parking structure.
Wheaton Plaza Garage <i>Wheaton, VA</i>	Post-tensioned concrete slabs and bonded post-tensioned beams	Structural condition survey, chloride content analysis, concrete material analysis, surface penetrating radar testing, repair option and maintenance cycle analysis, construction cost estimating, contract documents and shoring design for a 292,000 sq. ft. parking structure.
Montebello Condominium Garages <i>Fairfax, VA</i>	Post-tensioned	Condition survey report, repair option matrix, cost estimates, repair contract documents, bid solicitation and full-time construction management for four post-tensioned parking structures, approximately 120,000 sq. ft. total parking.
Fair Oaks Plaza Parking Structure <i>Fairfax, VA</i>	Post-tensioned	Condition assessment and repair design.
College of William & Mary One Tribe Place Parking Garage <i>Williamsburg, VA</i>	Post-tensioned	Forensic investigation and structural analysis of approximately 28,000 sq. ft. parking garage.
George Washington University City Hall Garage <i>Washington, DC</i>	Post-tensioned	Conducted a condition assessment and developed repair documents. Also provided construction administration services during construction.
Hospital South Parking Structure University of Virginia <i>Charlottesville, VA</i>	Precast concrete	Condition evaluation, testing, repair design, and cost estimates for a 440,000 sq. ft., 6-level precast concrete parking structure.
Huntington South Parking Structure Washington Area Metropolitan Transit Authority <i>Fairfax, VA</i>	Post-tensioned	Evaluation, restoration design and construction monitoring services for the post-tensioned parking structure.
Bethesda Metro Center Washington Area Metropolitan Transit Authority <i>Bethesda, MD</i>	Cast-in-place concrete	Evaluation, restoration design, and construction monitoring services for the 45,000 sq. ft. cast-in-place concrete parking structure.

WDP Staff Participation in National Standards Development

WDP's ability to expertly serve our clients is due, in part, to the extensive engagement of our engineering staff with the industry organizations responsible for developing the professional design standards pertinent to evaluating, preserving, and repairing existing structures. Building upon advanced engineering degrees and years of experience, WDP's staff continues to conduct research and analysis of structural material properties and structural behavior. Our Principals, Associates, and Senior Engineers are deeply engaged in the development of the technical requirements of codes, standards, and specifications associated with structural and waterproofing repair for roofing and building envelope systems, structural engineering, and construction testing and inspection services. Our involvement ranges from the Chair and Secretary of the Concrete and Masonry codes to committees that write and develop the standards that are used to design, construct, and repair buildings such as ACI's Concrete Repair code. These organizations include the American Concrete Institute (ACI), the American Society for Testing & Materials (ASTM), The Masonry Society (TMS), the International Concrete Repair Institute (ICRI), the Air Barrier Association of America (ABAA), RCI (formerly Roof Consultants Institute), among others.

Air Barrier Association of America

- Research Committee

American Concrete Institute

- 216 Fire Resistance and Fire Protection of Structures
- 444 Structural Health Monitoring and Instrumentation
- 530 Masonry Standards Joint Committee
- 546 Repair of Concrete

The Masonry Society

- Secretary, TMS 402/602 Building Code Requirements and Specification for Masonry Structures Committee
 - Seismic & Limit State Design Subcommittee
 - Design Subcommittee
- Past Committee Chair, Existing Masonry Committee
- Existing Masonry Committee
 - Façade Task Group
- Standards Development Committee
- Author, Masonry Designers Guide

International Concrete Repair Institute

- 210 – Evaluation

American Institute of Steel Construction

American Society for Testing and Materials

- C-09 Concrete and Concrete Aggregates
- C-09.60 Testing Fresh Concrete
- C-09.64 Non-destructive Testing
- C-09.98 Evaluation of Laboratories
- C-11 Gypsum and Related Building Materials and Systems
- C-12 Mortars for Unit Masonry
- C-15 Manufactured Masonry Units
- C-16 Thermal Insulation
- D-08 Roofing and Waterproofing
- D-18 Soil and Rock
- E-06 Performance of Buildings
- E-06.24 Building Preservation and Rehabilitation
- E-06.41 Air Leakage and Ventilation Performance
- E-06.51 Performance of Windows, Doors, Skylights and Curtain Walls
- E-06.55 Performance of Building Enclosures
- E-36 Accreditation & Certification
- E-36.70 Agencies Performing Construction Inspection, Testing, and Special Inspections

American Society of Civil Engineers

- Structural Engineering Institute
- Architectural Engineering Institute
- Geo-Professional Institute
- Technical Council on Forensic Engineering



DOWNEY & SCOTT, LLC

FIRM OVERVIEW

Downey & Scott, LLC is a Construction Management Services Firm with over 30 years' experience in the industry. Our principle offerings include a comprehensive range of Pre-Construction, Construction and Post-Construction Services, engineered to protect a client's investment by substantially reducing their exposure to risk.



Our highly qualified team of over twenty-two (22) full-time construction experts, possess degrees from respected American colleges and universities and maintain professional certifications through various licensing boards. Seasoned staff members expertise, coupled with state-of-the-art analytical techniques, provides our clients with valuable advice and information at all phases of development.

Each of our estimators have extensive experience with both above and below ground Parking Garages and understand the unique cost considerations to take into account when producing an accurate estimate. Parking is a central part of the designed environments where we live, work, and play. We understand the local market, codes, labor and manufactured materials required when undertaking a parking project of any kind.

Our consulting assignments are as varied as the clients we serve. We have been retained on a broad spectrum of projects that range from parking garages to long-range studies for military agencies, from renovations of historic landmarks to mixed use community developments.

We produce reports, studies and directly manage over \$2 billion in construction annually. Our continuing success and roster of repeat clients are evidence of both the high quality professional work we produce as well as our commitment to client satisfaction. Exceeding expectations and delivering our services and products in a thorough and timely manner are cornerstones of this firm.

- Cost Estimating & Cost Control
- Value Engineering & Life Cycle Cost Analysis
- Constructability Reviews
- Commissioning / Inspections
- Procurement & Bidding Management
- Scheduling
- Utility Coordination Services
- Project / Program Management
- Owner Representation & Documentation

www.downeyscott.com
Warrenton, VA

CONSTRUCTION MANAGEMENT SERVICES
TRUE & TRUSTED ADVISORS

2.1 Goal One

Experience in Evaluation and Structural Analysis of Structures

The West Virginia General Services Division has identified three main project goals for the Building 13 Capitol Complex Garage Expansion Project. Goal number one for this project includes both initial and secondary investigations, structural analysis, and reports of increasing effort. The initial phase will be a noninvasive survey of the garage and review of available documents in order to determine the overall feasibility of a vertical expansion. The secondary phase will include a more detailed investigation, structural and geotechnical analysis, and report to include cost options and illustrations of visual impacts of expansion options.

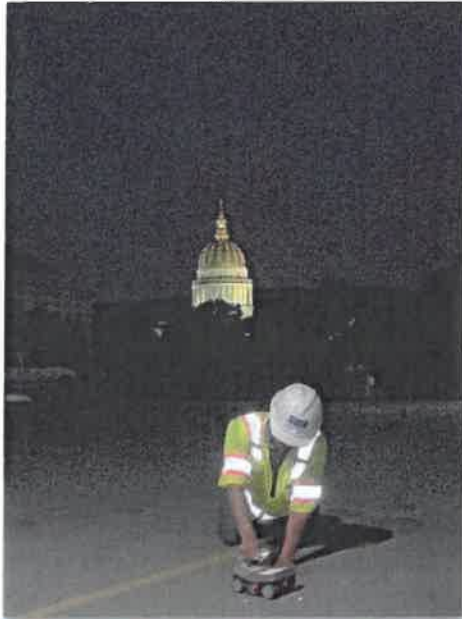


Figure 1 - Surface Penetrating Radar of Building 13 Garage Concrete Slab

WDP has the unique experience of having performed condition assessment surveys of the Building 13 garage in both 2017 and 2018. Following the assessment surveys, the information and analysis was reviewed in detail to develop a restoration plan and bid documents. Considerable consideration was given to phasing the repair work to both provide the Contractor with sufficient access to efficiently perform the work while maintaining reasonable use of the structure to the State. WDP is currently performing construction phase services while the restoration plan is being performed. This experience of the Capitol Complex Parking Garage adds considerable value in that our engineers are already heavily engaged in its history, behavior, and construction, and therefore will minimize the effort required for the requested initial survey. Additional information will be gathered through WDP's range of nondestructive testing capabilities performed in house. A couple of these methods are Surface Penetrating Radar (SPR), commonly used to verify placement of reinforcement, and Impact-Echo (IE) testing, typically used to identify internal concrete flaws.

WDP's engineering staff and laboratory facilities possess the unique qualifications needed to provide the required services entirely in-house. Material sampling and testing is often required for projects of this type,

and WDP's ability to perform both the sampling and testing ourselves presents an advantage to our Clients. Select testing has been completed as a part of our previous assessments of the structure and may be supplemented, if required. Areas that may require additional information may include, strength data of critical members such as columns and footings not previously sampled, or verification of installed reinforcing in select members.



Figure 2 - Extraction of Concrete Cores from Parking Structure

In addition to regularly conducting site studies for long-term clients to evaluate site conditions and prepare geotechnical reports detailing foundation design recommendations, our geotechnical engineers regularly evaluate existing structures for foundation failures and failure potential based on changes in the loading conditions. This in-house capability will provide a clear benefit and cost savings for the secondary investigation phase when a detailed examination of the geotechnical site conditions, existing foundations, and additional capacity will be a critical factor in the feasibility of the proposed expansion.

WDP and our subconsultant, Downey & Scott, have demonstrated experience with performing structural analyses of precast concrete structures for vertical expansion, changes in load conditions, and providing feasibility cost options. We have provided select projects to highlight our past experience: the West Virginia University Mountainlair Parking Garage, the University of Virginia's Battle Building at Children's Hospital, the Charles E. Smith Building at George Washington University, and the Cleveland Clinic parking garage expansion.

2.0 PROJECT AND GOALS

Project Examples

The WVU Mountainlair Parking Garage was constructed in 1968 and provides parking for 500 cars. The garage is the primary parking facility for the downtown campus of the University and also used for a public assembly on the top deck. The garage has two (2) levels and is approximately 90,000 square feet. The garage was constructed primarily of cast-in-place concrete.

A series of analyses were performed to evaluate the structural adequacy of the existing deck structure following a concern raised indicating that the plaza deck might not have adequate strength to allow public assembly occupancy due to excessive loading introduced during a recent plaza renovation. WDP performed the thorough structural evaluation and analysis of overstressed conditions due to the change in loading and provided the Client with appropriate recommendations.



Figure 3 - WVU Mountainlair Parking Garage

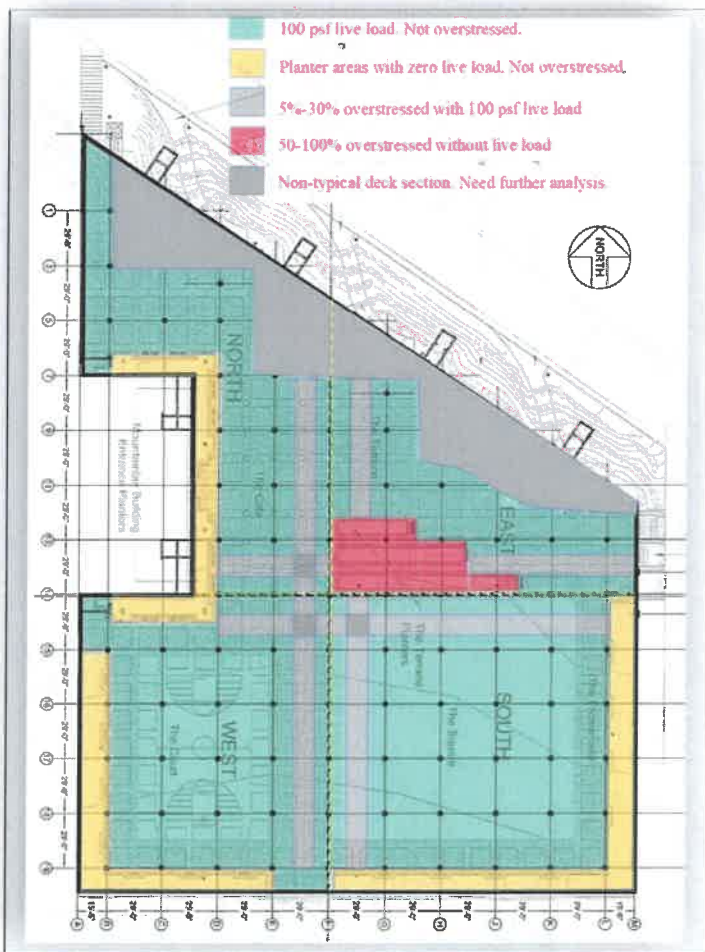


Figure 4 - Summary of Structural Analysis of WVU Mountainlair

Figure 4 illustrates results of analysis performed and overstressed conditions. WDP was able to efficiently perform this analysis, partially due to our involvement at this location years prior. The parking garage had undergone several costly repair programs over the years and continued to exhibit chloride-induced corrosion deterioration as well as failure of a surface-applied traffic bearing membrane. WDP performed an evaluation focused on a repair and maintenance program designed to have a minimum 20-year service life including conventional concrete repair, surface applied corrosion inhibitors and a urethane traffic bearing coating application.

2.0 PROJECT AND GOALS

WDP provided structural peer review service for UVA Battle Building Children's hospital to evaluate the original design of the concrete and steel structure. This review was performed to determine if the design was adequate and if the structure could support a future vertical expansion. Starting with Development Drawings and working through the issuance of Contract Documents, WDP performed several review iterations as the level of detail related to the building structure within the design documents progressed. Each review focused on identifying potential issues within the design based on applicable codes, standards, industry practices, and our experience with similar conditions. Each step was completed in an effort to better the design and minimize the amount of additional clarification required once construction was underway.



WDP performed a forensic condition assessment and structural evaluation of the precast/post-tensioned concrete structural system to assess the feasibility of adding additional structures to the roof at several buildings on the campus of The George Washington University. Several different precast concrete single tee members were investigated with various spans ranging from 55 ft. to 101 ft. No pre-stressing steel and reinforcing steel information on the precast concrete members were found from the structural drawings, therefore nondestructive testing and field measurements were required to evaluate the reinforcing details and the member geometry. Post-tension girders supporting the precast concrete single tees were also evaluated. All of these services were performed in-house, by WDP's structural engineers. Structural analyses were performed to evaluate the existing precast concrete single tee members and the post-tension

girders. Both the strength and serviceability of the existing structure were checked to assess the maximum additional loading that could be added to the roof system.

Downey & Scott was retained for pre-construction services and construction budget development for a \$400,000,000 expansion at the Cleveland Clinic's main campus due to the need for more parking at this world-renowned hospital. This project consisted of a new cast-in-place concrete parking deck that encompasses 1,275,000 sq. ft. to accommodate 4,000 vehicles. Expanded facilities also require more support space and the new 227,000 SF underground service center serves the Clinic's entire main campus. The project also included a 12,000 SF office building to house the IT Department and a 500 ft. underground service tunnel that links the operations center to existing service corridors and distribution centers in basements of various campus buildings. Departments that were spread throughout the campus, such as materials management, food storage and preparation, central sterile supply, and linen storage, are now housed in the operations center, providing a more efficient, central location to better meet the needs of the Clinic.



Cleveland Clinic Parking Garage Expansion Garage

2.2 Goal Two

Approach for Developing Construction Bid Documents

WDP has extensive experience developing Construction Bid Documents for various clients, to include government agencies, that are based on written and photographic documentation collected during a field investigation. We routinely transition from the evaluation of problems into the production of repair and restoration design documents, and we are experienced in the development of design documents that phase or sequence the work to accommodate existing conditions or occupancy requirements to the greatest degree possible. Our engineers are involved in both the development of drawings as well as specification writing and would develop these documents in accordance with applicable codes and design guidelines. We strive to develop construction documents focused on attention to detail and practical constructability. Depending on the level of detail required, our construction drawings can be presented in isometric form or in sequential construction to assist contractors with proper sequencing. We have developed drawings utilizing photographic documentation to convey the scope of work, as shown below. WDP also places special emphasis on providing clear delineation of work items within the bid document, to minimize miscommunication during the bid process and execution of the work. WDP takes pride in the fact that we write project specifications that are unique for each project to ensure project specific requirements are clearly outlined within the bid documents. Our final Contract Documents will be sealed by an Engineer licensed in the State of West Virginia.

The two figures below present two examples of WDP document preparation, illustrating common challenges to be addressed with repair and restoration work. Figure 1 presents a complex scope of work not easily translated to Contractors through drawings and specifications alone. In this case, photographic documentation is incorporated into the documents in order to more clearly convey the scope of work. In other cases, isometric drawings may be used to illustrate complex sequencing required.

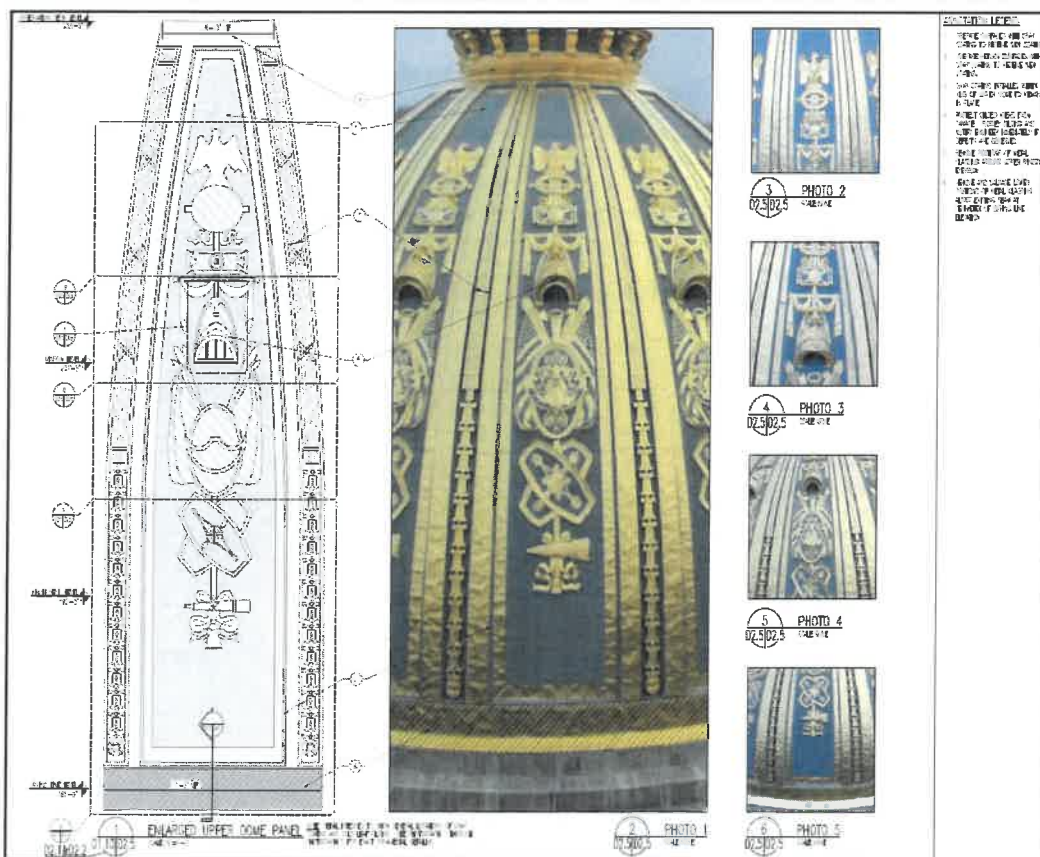


Figure 1 - Example of Construction Bid Documents Utilizing Photographic Documentation to Convey Scope of Work

2.0 PROJECTS AND GOALS

Figure 2 illustrates a partial plan view of restoration work currently underway at the Building 13 garage. For this document set, WDP's survey drawings were produced following our condition assessment and were modified to indicate items for repair. Keyed notes are used on this document set to indicate the location of repetitive repairs. Detail callouts and simple leader notes are used where appropriate for the condition identified. WDP's experience with the WV GSD and the Capitol Complex Parking Garage provides us with intimate knowledge of the project, enabling a seamless transition into the evaluation for vertical expansion.

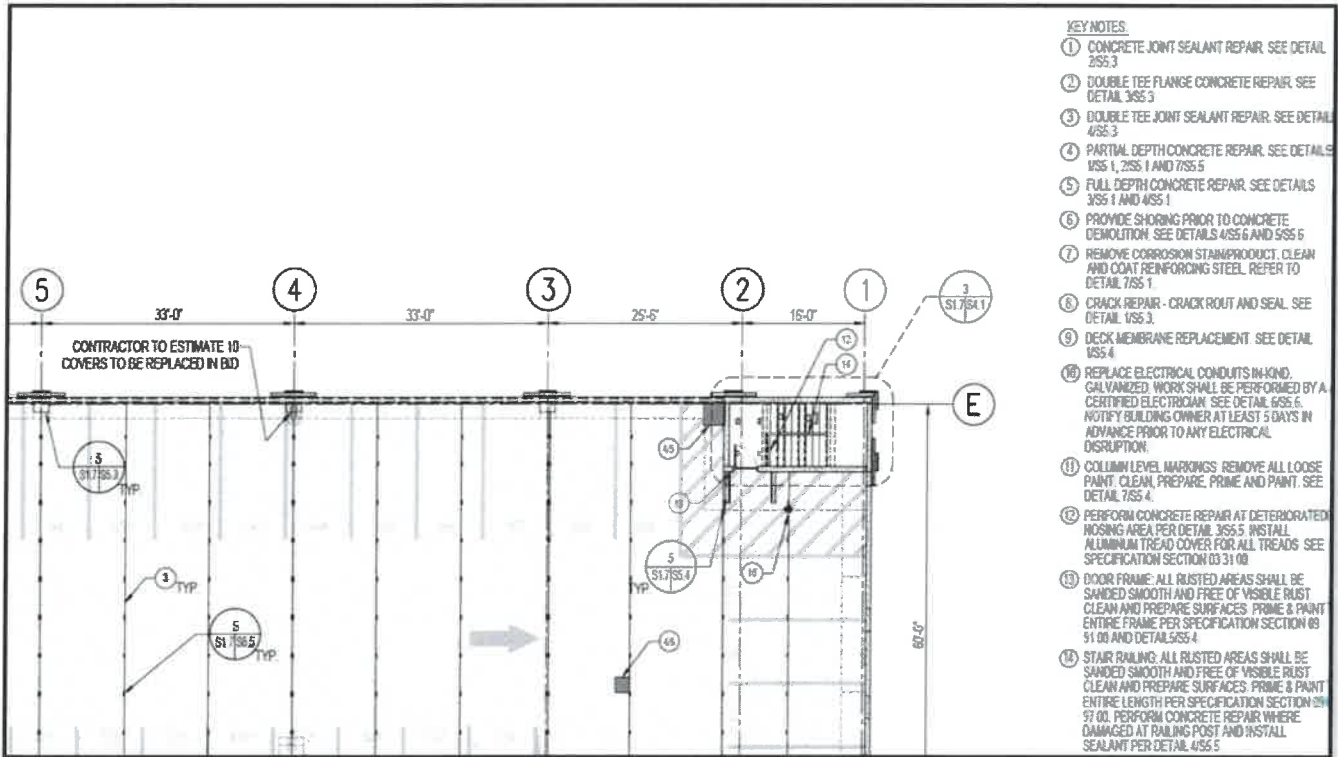


Figure 2 – Partial Deck View, Building 13 Parking Garage Rehabilitation

2.3 Goal Three

Experience Performing Design & Construction Phase Services in Multi-Phase, Occupied Structures

The third stated goal involved experience with multi-phase construction phase services in partially utilized structures. More often than not, our clients desire to maintain occupancy and use of their building(s) throughout the course of the repair or restoration by implementing multiple construction phases and temporary protective measures in order to minimize disruption. WDP seeks to understand any conflicts or restrictions from the Owner's perspective by maintaining communication with the project managers throughout the design and construction phase. As the Engineer of Record, WDP can then incorporate these requirements into the project documents and enforce them with the Contractor. This communication with the Owner's project manager is also key to understanding any projects that will occur simultaneously such that any specific coordination can be included in the Bid Documents.

The repairs executed at the Judge Advocate General (JAG) School at the University of Virginia were performed in coordination with an ongoing project while also maintaining occupancy requirements for the building. The renovation of the building originally focused on the interior spaces under a separate contract, but when structural issues were identified in the exterior walls, WDP was brought on site to evaluate the existing conditions and develop a repair design. Since the exterior of the building was not included in the scope of work, WDP developed a phasing plan and comprehensive pedestrian protection plan such that the building could remain occupied while work was ongoing. WDP also coordinated the exterior work with the interior renovations so as not to disrupt the initial project schedule.



Overhead protection for building occupants at the entrance to the Public Service Commission Headquarters Building during construction

WDP was also the Designer of Record for the Public Service Commission Headquarters project in Charleston, West Virginia, another building that remained occupied during restoration work. The scope of work for this project generally included a complete façade replacement, to include the brick veneer and glazing components. While this work was limited to the exterior, temporary protection measures were included in the Bid Documents for window locations so that windows could be replaced, and exterior work could be ongoing without having to displace building occupants from their offices for the duration of the project. During the project, there were short periods of times where occupants were relocated from their office so that temporary protection could be installed. WDP assisted with the coordination of scheduling such periods to provide the least disruption to the building occupants.



Exterior support buttresses and existing wall section removal at St. Francis restoration

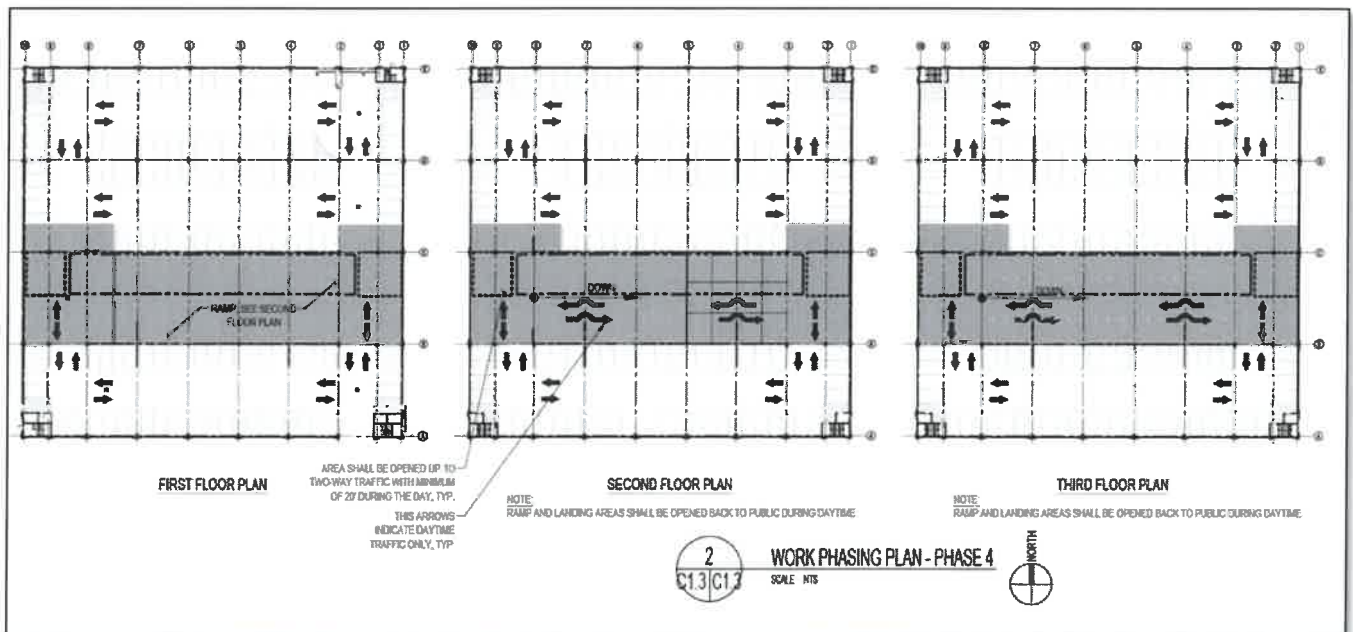
WDP's work on the St Francis of Assisi catholic church was highlighted on the cover of Structure Magazine's May 2018 issue. For this project, multiple structural repair phases were required to execute the removal and replacement of over one half of the mass masonry structural wall thickness, while the main sanctuary and other facilities on the grounds remained completely operational throughout the execution of the Work. WDP's development of an exterior shoring system and detailed demolition/reconstruction phasing plan permitted unrestricted use of the church interior during execution of the facade replacement.

2.0 PROJECT AND GOALS

WDP is currently performing Construction Phase services for both the West Virginia State Capitol Dome and Restoration of the Building 13 Garage. Open communication with the entire project team is always a critical aspect of working in occupied spaces, including coordination with other ongoing projects. To date, open communication with the project team has allowed adjacent work and coordination to proceed on both projects without impact to the ongoing construction efforts.

In the case of restoration work currently underway at the Building 13 garage, the repairs are split into work areas and six phases in order to permit the performance of the structural repairs while continuing use of the remaining garage. The illustration below shows a partial plan for Phase 4. This phase includes repair and restoration work to be performed on the garage ramps and requires the contractor to work after hours, opening up the ramp to two-way traffic during the daytime. Developing repair programs and phasing plans for work required in occupied buildings is not just an occasional task, it is customary with the type of work and projects that WDP performs; the safety of the occupants and users of the facility is always at the forefront. Finding the balance between providing sufficient time and space for the Contractor to efficiently perform the work while maintaining the owner's safe use of the structure can be challenging at times, but it is part of what makes every project unique. These unique challenges and conditions that each project poses are part of what excites and motivates our engineering staff to perform.

WDP will work with the Owner's project manager to understand any limitations for accessing the spaces requiring repairs, such as security requirements or coordination with the Legislative session and will develop a phasing plan to minimize disturbances to the building occupants. WDP also has a thorough understanding of the access requirements on the grounds and can coordinate Contractor access to individual spaces and outline any temporary protection measures that would be required to separate work areas from public areas to ensure occupant safety is held paramount during the execution of the work.



Partial Phase 4 Plan for Rehabilitation work at the Capitol Complex Parking Garage, WV State Building 13

3.1 Staffing Plan of Key Personnel

WDP's project team is comprised of key individuals whose experience and qualifications encompass all aspects of the project scope.

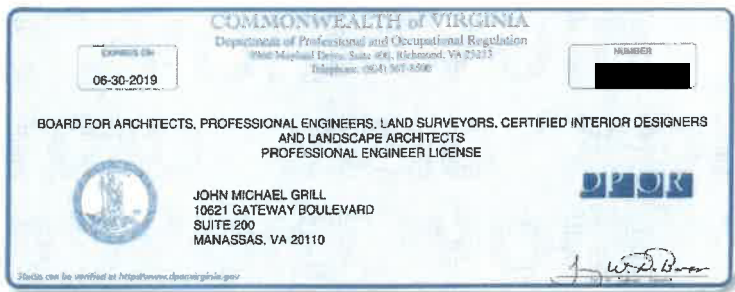
Rex A. Cyphers, P.E., will serve as Principal-in-Charge.



Mr. Cyphers has been with WDP since 2003. His educational background includes a bachelor and master's degree in civil engineering from West Virginia University, along with a graduate certificate in Cultural Resource Management (2003). Rex has extensive experience in the evaluation and repair of existing buildings, particularly the repair of occupied buildings requiring unique solutions to maintain operations during the execution of repairs. Mr. Cyphers has been a leader in the building science field, serving as a task group chair responsible for the development of ASTM Standard E3069, "Standard Guide for Evaluation and Rehabilitation of Mass Masonry Walls for Changes to Thermal and Moisture Properties of the Walls." Additionally, Mr. Cyphers has written numerous papers, including the publication of "Evaluation of the Thermal Performance of

Historic Mass Masonry Walls Utilizing In-Situ Measurements" at the 13th Canadian Masonry Symposium in 2017 and "Evaluation of Strategies to Improve Energy Efficiency in Existing Buildings" for the West Virginia Construction and Design Exposition. He is a registered engineer in the state of West Virginia and has been the driving force in expanding our work there. His recent WV projects include the Building 13 parking garage, West Virginia Public Service Commission, and the West Virginia State Capitol. **Additionally, Mr. Cyphers has been designated by the U.S. Army Corps of Engineers and the General Services Administration as a historic preservationist due to the combination of his educational background and professional experience.**

John M. Grill, P.E., will serve as Project Manager.



Mr. Grill has over 20 years of experience and joined the firm in 1998. He has both participated in and led a wide variety of forensic field laboratory investigations which include structural condition assessments, façade and building envelope investigations, development of design documents, and repair recommendations. He has performed investigations on numerous projects utilizing surface penetrating radar, impact-echo testing, and corrosion evaluation techniques. He specializes in nondestructive testing and repair and rehabilitation of reinforced concrete structures. Mr. Grill is currently a member of the

International Concrete Repair Institute, serving on Committee 210 - Evaluations and formerly served on Committee 150 - Notes on ACI 562 Code Requirements and the American Society for Nondestructive testing. John co-authored a technical article on "The Application and Advantages of Surface Penetrating Radar in Subgrade Void Detection Beneath Slabs-On-Grade" for *Forensics Engineering*. He has given many presentations related to condition assessment and nondestructive testing of concrete and masonry structures.

Gerald (Andy) Dalrymple, P.E., will serve as QA/QC Manager.



Mr. Dalrymple co-founded WDP in July 1995 and has over thirty years of experience in the industry, particularly with masonry failure. He is a nationally recognized expert in his field, and as QA/QC Manager of this project, he will ensure that all tasks undergo WDP's Quality Assurance and Quality Control program in order to maintain a high standard of our professional services. Mr. Dalrymple is involved with a wide variety of structural engineering and building envelope disciplines including failure investigations, rehabilitation of existing structures, development of restoration design specifications, construction management and inspection, and litigation support. He is a registered engineer in the State of West Virginia and is the Secretary for The Masonry Society's committee 402/602, which develops "Building Code

3.0 QUALS, EXPERIENCE, & PAST PERFORMANCE



Requirements and Specifications for Masonry Structures." In 2010, he received The Masonry Society's TMS Service Award and previously received a Facilities Management Recognition Award for "exemplary service during reconstruction of balconies at the historic Pavilions in Thomas Jefferson's Academic Village" by the University of Virginia Facilities Management office.

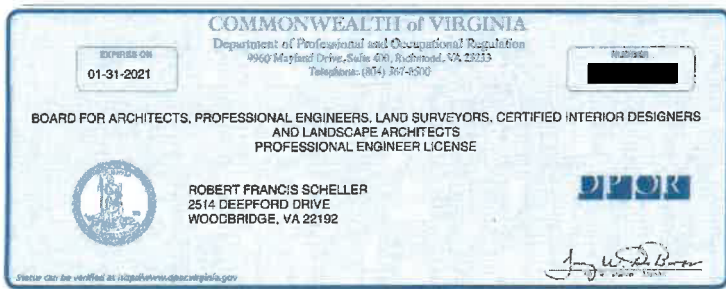
Byoung-Jun (BJ) Lee, Ph.D., P.E., S.E., will serve as Senior Structural Engineer. Dr. Lee has been with WDP since 2006, has



over 15 years of structural engineering experience, and is a registered engineer in the State of West Virginia. Dr. Lee is a Senior Structural Engineer, holding a structural engineering (S.E.) license from the state of Hawaii. He specializes in architectural engineering and structural engineering services including condition assesment, failure investigation, and repair design. He has expertise in structural analysis and repair, evaluation of existing structures, and nondestructive testing of concrete structures. He is involved in forensic field and laboratory investigations, structural analysis and repair, condition assessments, façade and building envelope investigations, development of design documents, and repair recommendations in reinforced concrete, steel, composite, masonry, wood, and cold form steel constructions. BJ has

written over 15 technical papers and articles in nationally recognized journals and proceedings. Topics included analysis of various construction materials such as steel, concrete, and masonry.

Robert F. Scheller, P.E., will serve as Senior Geotechnical Engineer. Mr. Scheller has been with WDP for 22 years and has 30



years of geotechnical engineering and testing experience. He supports projects through the development and management of geotechnical investigations, construction inspection, and laboratory testing programs for public sector projects as well as private sector industrial, commercial, and residential projects. Mr. Scheller maintains WDP's in-house laboratory accreditation and directs the laboratory manager, as well as oversees the training, performance, and certifications of WDP's technicians. Throughout his tenure at WDP, Mr. Scheller's

experience has also included failure and forensic investigations as well as expert witness/litigation support. He has served as the Special Inspections Engineer of Record (SIER) for Prince William County Public Schools since 1997, which is testimony to the dedication and professionalism he has with his Clients. He has twice been the past president of WACEL (Washington Area Council of Engineering Laboratories), is currently its Treasurer, and has been chairman of their certification committee (developing and maintaining their certification tests) for more than 10 years.

He is involved in multiple organizations and committees which have allowed him to be extremely knowledgeable of local, state, and federal building codes.

Mr. Scheller has written an authoritative published article on Special Inspections and is frequently invited by organizations to speak on that topic. Mr. Scheller conducts WDP's presentation on Special Inspections – "What Does it Mean and When is it Required?"

3.0 QUALS, EXPERIENCE, & PAST PERFORMANCE

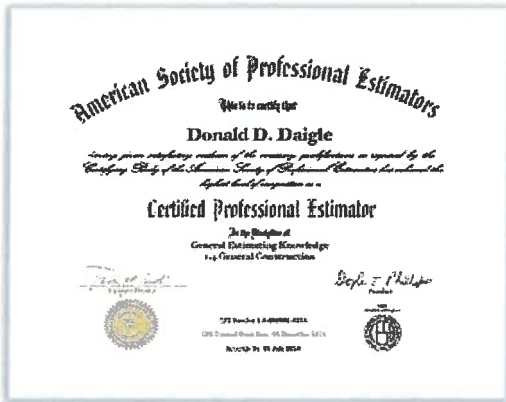


Subconsultant – Downey & Scott

Donald D. Daigle, CPE, CVS, will serve as cost estimator. Mr. Daigle brings an invaluable perspective from his 35 years of Construction Management and Engineering experience. Before joining Downey & Scott, Mr. Daigle worked as an estimator, project/construction manager and was the owner/operator of a firm for nationwide construction projects. He led the successful completion of various public and private construction projects, ranging from college & university campuses to public safety facilities.



He has a wide range of experience in value engineering, cost estimating and cost management, life cycle cost analysis, design, master planning, scheduling, quality control techniques, negotiation and administration of contracts, and supervising office and field employees. His proficiency, professionalism, and team player mentality are reflected in the high quality of the workmanship he puts into every project. He is proficient in networking with client contacts and maintaining the highest degree of professionalism and confidentiality while providing services on sensitive and classified projects. His tenure as a Construction Cost Estimator, Certified Value Specialist, and Project Manager adds a valuable perspective to today's dynamic market



The following is a summary of WDP's project team roles and Staffing Plan.

Key Personnel	Project Role	Qualifications	Total Years of Experience
Rex A. Cyphers, P.E. Principal 335 Greenbrier Drive Suite 205 (434) 245-6117	Principal-in-Charge PRIMARY POINT OF CONTACT	<ul style="list-style-type: none"> MS/2003/Civil Engineering-WVU BS/2002/Civil Engineering-WVU Graduate Certificate- Cultural Resource Management/2003-WVU Professional Engineer – WV, VA 	17 Years
John Grill, P.E. Associate	Project Manager	<ul style="list-style-type: none"> BSE/1997/Civil and Environmental Engineering Professional Engineer – VA, DC, MD 	21 years
Gerald A. Dalrymple, P.E. Principal	QA/QC Manager	<ul style="list-style-type: none"> MS/1985/Civil Engineering BS/1983/Civil Engineering Professional Engineer - WV, NY, NJ, AL, CT, DC, FL, GA, IN, MD, MO, MS, NC, PA, SC, TN, VA 	32 years

3.0 QUALS, EXPERIENCE, & PAST PERFORMANCE



Byoung-Jun Lee, P.E., Ph.D., S.E. Senior Engineer	Sr. Structural Engineer	<ul style="list-style-type: none"> ▪ Ph.D./2003/Civil and Environmental Engineering ▪ MS/1996/Architectural Engineering ▪ BS/1994/Architectural Engineering ▪ Professional Engineering – VA, DC, MD, WV ▪ Structural Engineer-HI 	16 years
Robert F. Scheller, P.E. Associate Principal	Sr. Geotechnical Engineering	<ul style="list-style-type: none"> ▪ BS/1989/Civil Engineering ▪ Professional Engineering – VA, DC, MD, TX 	30 Years
Donald D. Daigle, CPE, CVS Senior Cost Estimator Downey & Scott	Sr Cost Estimator	<ul style="list-style-type: none"> ▪ NVCC, Annandale, A.A.S – Mechanical Engineering ▪ NVCC, A.A.S. – Electro-Mechanical Engineering Technology, 1984 	35 years

3.2 Resumes

Resumes of WDP's project team are included in the following pages.

Rex A. Cyphers, P.E. | Principal-in-Charge



Mr. Cyphers, P.E., is a Principal and Chief Operating Officer with WDP & Associates Consulting Engineers, Inc., working primarily out of the Charlottesville, VA, office. He is responsible for overseeing the work of all WDP divisions, WDP's hiring process, staff development, and company operational decisions.

Mr. Cyphers specializes in the design and repair of masonry structures, historic preservation, and nondestructive testing. He performs forensic field and laboratory investigations, façade and building envelope investigations, structural inspection/analysis and design, architectural retrofit and repair, roofing and waterproofing investigations, and the development of design documents and repair recommendations.

Mr. Cyphers regularly presents and co-authors for various technical publications.

Education

- Master of Science, Civil Engineering, West Virginia University, 2003
- Graduate Certificate, Cultural Resource Management, West Virginia University, 2003
- Bachelor of Science, Civil Engineering, West Virginia University, 2002

Professional Registration

Professional Engineer: VA and WV

Professional Memberships / Committees

- ASTM Committee E06.24 Performance of Buildings-Preservation and Rehabilitation Technology
 - Task Chair, ASTM E3069 – 17 Standard Guide for Evaluation & Rehabilitation of Mass Masonry Walls for Changes to Thermal & Moisture Properties of the Wall
 - Task Chair, "New Guide for Evaluation & Rehabilitation of Mass Masonry Walls for Changes to the Thermal & Moisture Properties of the Wall"

Relevant Experience

West Virginia DGS, Building 13 Parking Garage, Charleston, WV. Principal-in-Charge: WDP performed a condition assessment of a 4-level, 250,000 SF parking garage and developed repair recommendations for the observed deteriorations and water infiltration. The condition assessment included visual inspection, sounding concrete for deteriorations, and material sampling and testing.

Relevant Experience (continued)

Bid documents and repair drawings were developed to address the recommended repairs. The garage structure is currently under construction.

West Virginia University, Suncrest Parking Garage Structural Analysis, Morgantown, WV. Principal-in-Charge: A 56,000 SF precast parking garage was experiencing significant cracking and damage in spite of previous efforts to repair it. WDP was retained to review previous repair documents, conduct a visual survey, and subsequently provide a structural analysis. WDP identified restrained movement as the most likely cause of the damage, a fact overlooked by previous reports, and recommended that a more in-depth investigation and analysis be performed to provide a more thorough understanding of the structure's movement.

West Virginia University, Mountainair Plaza and Parking Garage Feasibility Study, Morgantown, WV. Principal-in-Charge: Scope encompassed demolition and redesign of an existing 88,000 SF multi-use plaza located directly above a 500-car parking garage.

West Virginia Capitol Dome Moisture Intrusion, Charleston, WV. Principal-in-Charge: Oversaw the investigation and subsequent repair design into chronic water leakage of the 1930s-structure designed by architect Cass Gilbert (designer of the United States Supreme Court Building) and listed on the National Register of Historic Places. WDP performed diagnostic water tests, exploratory openings, installation of sensors and instrumentation, and review of prior design documentation to determine the root cause of interior damage. Among other things, bulk water infiltration at intersections of building elements caused supplementary internal drainage elements to freeze and fail, which led to significant damage of interior finishes. WDP developed repair recommendations, construction documents, and provided bid assistance. Construction is in progress, with WDP providing construction administration services.

West Virginia State Capitol Building, Clay Tile Damage Investigation, Charleston, WV. Principal-in-Charge: WDP is currently providing construction administration services for the execution of the work in the Construction Directives. This work is being coordinated with the ongoing Dome Moisture Intrusion Repair Project within the building as well as evaluations of the mechanical system performance. As part of the EPO, WDP also issued Construction Directives for spaces that were identified to have the largest impact to the building occupants and highest risk for further damage.

Gerald (Andy) Dalrymple, P.E. | QA/QC Manager, Principal Engineer



Mr. Dalrymple has over 30 years of experience in the industry and co-founded WDP & Associates in July 1995. Mr. Dalrymple is involved with a wide variety of structural engineering and building envelope disciplines including failure investigations, rehabilitation of existing structures, development of

restoration design specifications, construction management and inspection, and litigation support. As a nationally recognized expert in his field, he has been involved in numerous high-profile projects throughout his career and has served a variety of clients including contractors, architects, engineers, government agencies, school systems, and private sector clients. In 2010, he received The Masonry Society's TMS Service Award and previously received a Facilities Management Recognition Award for "exemplary service during reconstruction of balconies at the historic Pavilions in Thomas Jefferson's Academic Village" by the University of Virginia Facilities Management office.

Education

- Master of Science, Civil Engineering, Clemson, 1985
- Bachelor of Science, Civil Engineering, Clemson, 1983

Professional Registration

Professional Engineer: AL, CT, DC, FL, GA, IN, MD, MO, MS, NC, NJ, NY, PA, SC, TN, TX, VA, WV.

Professional Memberships / Committees

- TMS: Main Committee Secretary
 - 402 Building Code Requirements for Masonry Structures
 - ASTM C-12 Mortars for Unit Masonry
 - ASTM C-15 Manufactured Masonry Units

Relevant Experience

Architect of the Capitol, West Refrigeration Plant Structural Evaluation, Washington, DC. Principal-in-Charge: Performed structural investigation and analysis of the existing concrete frame structure to investigate corrosion damage of structural concrete elements. Visual and sounding surveys were used to define concrete delamination and spalling to develop repair quantities, and surface penetrating radar was utilized to verify reinforcement location, spacing and concrete cover depth. In addition, impact-echo testing was used to verify slab thicknesses over the metal form deck.

West Virginia University, Mountainlair Plaza and Parking Garage Feasibility Study, Morgantown, WV. Senior Engineer: Scope encompassed demolition and redesign of an existing 88,000 SF multi-use plaza located directly above a 500-car parking garage.

College of William & Mary, One Tribe Place Parking Structure, Williamsburg, VA. Project Manager: WDP conducted a forensic structural evaluation of the post-tensioned parking structure, approximately 28,000 SF, to assess failure of multiple tendons. Surface penetrating radar was used to locate tendon groups and produce as-built post-tensioning drawings. Over 100 probe openings were made to assess tendon tensioning. Produced structural repair details to address tendon repairs, tendon replacement, and carbon fiber strengthening of slabs and columns. Based on the results, WDP performed structural analyses to assess the prestress loss due to de-tensioned tendons and developed repair and strengthening recommendations for the garage.

Inman Park Pedestrian Bridges Renovations, Phase 1, Structural Evaluation, Metropolitan Atlanta Rapid Transit Authority, Atlanta, GA. Senior Engineer: WDP was retained to perform a structural analysis and a vibration analysis of the north and south structural bridges serving the Inman Park Metro Station. Phase 1 included a field investigation of the in-service structural and structural/vibration analysis of the bridges. The report included renovation recommendations to address vibration issues and deterioration of the structures.

Washington Area Metropolitan Transit Authority, Vienna North Parking Structure, Fairfax, VA. Principal-in-Charge: Evaluation, restoration design and construction monitoring services for the 615,000 SF precast concrete parking structure. Repairs included precast Tee connection repairs, corbel and bearing pad repairs, expansion joint replacement, concrete repair and sealant joint replacement.

National Institute of Health (NIH) Building - East Wing Renovation, Bethesda, MD. Principal-in-Charge: Building envelope and moisture protection consulting services in support of a 250,000 SF renovation project collaborating with the prime A/E to develop functional design elements to be included in the design documents. Scope of work includes site investigation; document review of previous repairs to the exterior building walls and roof systems; and production of preliminary and schematic design narratives for the building envelope to include assessment of the existing conditions.

John M. Grill, P.E., Associate | Project Manager



Mr. John Grill, P.E., is an Associate Engineer with WDP & Associates Consulting Engineers, Inc. Since joining the firm in 1998, he has both participated in and led a wide variety of forensic field laboratory investigations which include: structural condition assessments, façade and building envelope investigations, and the development of design documents and repair recommendations. He has performed investigations on numerous projects utilizing surface penetrating radar, impact-echo testing, and corrosion evaluation techniques. He specializes in nondestructive testing, repair and rehabilitation of reinforced concrete structures. Mr. Grill is currently a member of the International Concrete Repair Institute.

Education

BSE / 1997 / Civil and Environmental Engineering

Professional Registration

Professional Engineer: VA, DC, MD

Professional Memberships/Committees

- Chairman of WDP Safety Committee
- International Concrete Repair Institute (ICRI)
 - Member of Committee 210 – Evaluation

Relevant Experience

West Virginia DGS, Building 13 Parking Garage, Charleston, WV. Project Manager: WDP performed condition assessments of the 4-level, 250,000 sq. ft. parking garage and developed repair recommendations for the observed deteriorations and water infiltration. The condition assessment included visual inspection, sounding concrete for deteriorations, and material sampling and testing. A cost estimate was prepared for the recommended repairs. Repair and restoration documents were prepared for bid incorporating recommendations and the Owner's requirements. Currently, construction phase services are being provided for the implementation of repairs.

West Virginia University, Suncrest Parking Garage, Morgantown, WV. Project Manager: A 56,000 square foot precast parking garage was experiencing significant cracking and damage in spite of previous efforts to repair it. WDP was retained to review previous repair documents, conduct a visual survey, and provide recommendations for repair. WDP identified restrained movement as the most likely cause of the damage, a fact overlooked by previous reports from other surveys, and recommended that a more in-depth investigation

and analysis be performed to provide a more thorough understanding of the structure's movement.

US Capitol Power Plant, Utility Tunnels Condition Assessments, Washington, DC. Structural Engineer of Record/Project Manager: Initial investigation of several miles of reinforced concrete tunnels of varying cross-sections began in early 2006 and work continues to the present. Leads periodic condition assessments utilizing various nondestructive and destructive test methods including: Surface Penetrating Radar, Impact-Echo, half-cell potential, corrosion rate, compressive strength, petrographic analysis, chloride content, and carbonation analysis. Oversees the incorporation of all test data for the development of design parameters and structural calculations. Prepares reports, repair documents and provides construction administration services.

Architect of the Capitol, US Capitol Power Plant, Structural Assessment of Ash Silo, Washington, DC. Senior Engineer: WDP performed a field survey of the damaged concrete framed Ash Silo on the CPP grounds. The ash silo was constructed in the early 1900's and has exhibited significant deterioration in the form of delaminating and spalling concrete. WDP's tasks included review of provided documents, a field survey, and a series of structural analyses of the East Silo, West Silo, and Conveyor Bridge structures. The final report and recommendations for this project are currently in development.

University of Virginia, McLeod Parking Structure, Charlottesville, VA. Project Manager: Performed a structural evaluation of a parking garage experiencing corrosion deterioration and concrete spalling. Prepared an assessment report with repair recommendations and cost estimate. Construction phase services during construction were also provided by WDP.

Arlington County, Arlington Courthouse Garage, Arlington, VA. Project Manager: Completed a condition assessment survey and development of repair documents for Arlington County Courthouse parking garage consisting of post-tensioned concrete, conventional cast-in-place reinforced concrete, and pre-cast concrete construction.

George Washington University, City Hall Garage, Washington, DC. Project Manager: Led a condition assessment and developed concrete repair documents to address excessive concrete delamination and spalling caused by chloride-induced corrosion of reinforcing steel. Construction administration services during construction were also provided including site observations, material sampling, and approval of contractor pay applications.

Byoung-Jun (BJ) Lee, Ph.D., P.E., S.E. | Sr. Structural Engineer



Mr. Lee has over 16 years of professional experience and joined WDP in 2006. He specializes in architectural engineering and structural engineering services including condition assessment, failure investigation, and repair design. He has expertise in evaluation of existing structures, structural analysis and design,

repair and strengthening, nondestructive testing, and construction services in the areas of reinforced concrete, steel, composite, masonry, wood, and cold-formed steel construction.

Education

- Ph.D., Civil and Environmental Engineering, Lehigh University, 2003
- MS, Architectural Engineering, Kangwon National University, Korea, 1996
- BS, Architectural Engineering, Kangwon National University, Korea, 1994

Professional Registration

- Professional Engineer: VA, DC, MD, WV
- Structural Engineer - HI

Professional Memberships/Committees

- Member, American Concrete Institution (ACI)
- ACI - 216 - Fire Resistance and Fire Protection of Structures Joint ACI-TMS
- ACI - 546 - Guide to Concrete Repair
- Member, American Institute of Steel Construction (AISC)
- Member, Post Tension Institute (PTI)

Relevant Experience

West Virginia DGS, Building 13 Parking Garage, Charleston, WV. Senior Engineer: WDP performed a condition assessment of a 4-level, 250,000 SF parking garage and developed repair recommendations for the observed deteriorations and water infiltration. The condition assessment included visual inspection, sounding concrete for deteriorations, and material sampling and testing. Bid documents and repair drawings were developed to address the deficiencies, and a cost estimate was prepared based on the recommended repairs. The garage structure is currently under construction.

West Virginia University, Mountainlair Plaza and Parking Garage Feasibility Study, Morgantown, WV. Senior Engineer: Scope encompassed condition assessment and structural analysis of an existing 88,000 SF multi-use plaza located directly above a 500-car parking garage. Performed structural analysis to evaluate the structural adequacy of the existing plaza deck structure to allow a public assembly occupancy in addition to excessive loading introduced during the renovation.

College of William & Mary, One Tribe Place, Williamsburg, VA. Project Engineer: Performed a forensic investigation and structural analysis to evaluate the existing post-tensioned garage slabs and the stability of the structure. Developed strengthening options and repair documents to strengthen the existing PT slab.

City of Morgantown, City Hall Initial Investigation, Morgantown, WV. Senior Engineer: Conducted a field survey of the masonry façade of Morgantown City Hall building to assess cracking and displacement in the masonry façade and their effect on the stability of the existing exterior masonry wall system.

West Virginia University, South Agricultural Sciences Building, Morgantown, WV. Senior Engineer: Developed contract documents to replace the existing metal panel façade of the building. Numerous structural and moisture related problems were present in the building that had to be overcome in the design including exterior wall stabilization due to lateral loads, cold form steel repair, supplemental framing design, and anchorage design. The design allowed for the existing lab and research spaces to remain in operation while the exterior of the building was removed and replaced.

University of Virginia, Judge Advocate General (JAG) School, Charlottesville, VA. Project Engineer: The Judge Advocate General (JAG) School is a concrete framed structure with brick infill constructed in the early 1970s. Conducted investigation into the cause of the concrete cracking and severe moisture related damage. Provided design services for structural repair and façade replacement. Developed repair drawings and provided construction administration services. The project was awarded the 2nd place Outstanding Repair Award from the Baltimore-Washington, DC Chapter of ICRI in 2012.

Robert F. Scheller, P.E. - Associate Principal | Sr. Geotechnical Engineer



Mr. Scheller has been with WDP for 22 years and has 30 years of geotechnical engineering and testing experience. He supports projects through the development and management of geotechnical investigations, construction inspection and laboratory testing programs for public sector projects as well as private sector industrial,

commercial, and residential projects. Mr. Scheller maintains WDP's in-house laboratory accreditation and directs the laboratory manager, as well as oversees the training/performance/certifications of WDP's technicians. Throughout his tenure at WDP, Mr. Scheller's experience has also included failure and forensic investigations as well as expert witness/litigation support. He has served as the Special Inspections Engineer of Record (SIER) for Prince William County Public Schools since 1997.

He is involved in multiple organizations and committees which have allowed him to be extremely knowledgeable of local, state, and federal building codes.

Education

Bachelor of Science, Civil Engineering, Virginia Polytechnic Institute and State University, 1989

Professional Registration

Professional Engineer: VA, DC, MD, TX

Professional Memberships/Committees

- Fairfax County Engineering Standards Review Committee, 2006 to present
- Fairfax County Geotechnical Review Board since 2014
- American Society of Civil Engineers (ASCE)
- American Society for Testing & Materials (ASTM)
 - Committee C09 Concrete/Concrete Aggregates
 - Committee D18 Soil and Rock
 - Committee E36 Conformity Assessment
- WACEL
 - President, 2009-2010 and 2002-2003
 - Board of Directors, 1998 to present
 - Treasurer, 2015 to present

Relevant Experience

PWC Libraries, Prince William County Term Contracts for Geotechnical & Structural Engineering Services, Gainesville & Montclair, VA. Senior Geotechnical Engineer: Design/feasibility-phase geotechnical engineering investigation and analysis.

Relevant Experience

Virginia Tech Term Contract, McComas Hall, Building Façade Restoration Analysis Services, Blacksburg, VA. Senior Geotechnical Engineer: Performed a geotechnical investigation to determine the cause of settlement, provided geotechnical recommendations to prevent future additional movement, and monitored the underpinning installation.

University of Virginia Term Contracts for A/E Services, Bookstore Expansion, Charlottesville, VA. Senior Geotechnical Engineer: Performed a geotechnical investigation to determine the cause of distress/settlement and provided geotechnical recommendations to prevent future additional movement.

Loudoun County Public Schools, Independence High School (HS-11), Term Contract for Geotechnical Engineering and Construction Testing Services, Brambleton, VA. Sr. Geotechnical Engineer/Project Manager: After providing a design-phase geotechnical investigation, WDP was retained to manage and supervise the construction materials testing and inspection services on this new two-story 294,000 SF high school with associated parking areas, bus loop, football stadium, baseball stadium, softball stadium, sports lighting, tennis courts, other miscellaneous ball fields, and site utility improvements.

Prince William County Public Schools' Term Contract for Architecture and Engineering Services and Related Services - Geotechnical Engineering and Soil Scientist Services Chris Yung Elementary School, Bristow, VA. Sr. Geotechnical Engineer/Project Manager: WDP performed the design phase geotechnical investigation as well as special inspections and testing for the one and two-story structure, framed with structural steel and load-bearing masonry walls, supported by conventional shallow foundations with on-grade slabs. Associated parking areas, bus loop, stormwater management pond, play areas, and site utility improvements were also included. Fog Light Way (VDOT road) was also extended to provide the main entrance to the school.

Prince William County DPW, Western District Police Station Pavement Distress Investigation, Manassas, VA. Sr. Geotechnical Engineer: WDP evaluated the existing asphalt pavement that was showing signs of distress and performed a geotechnical investigation that included core drilling, soil hand augers, and Dynamic Cone Penetrometer (DCP) testing along with associated laboratory testing. A geotechnical report with repair recommendations for the dis-stressed pavement was then submitted.

Donald D. Daigle, CPE, CVS | VP of Pre-Construction / Sr. Cost Estimator



Mr. Daigle brings an invaluable perspective from his 35 years of Construction Management and Engineering experience. Before joining Downey & Scott, Mr. Daigle worked as an estimator, project/construction manager and was the owner/operator of a firm for nationwide construction projects. He led the successful completion of various public and

private construction projects, ranging from college and university campuses to public safety facilities.

He has a wide-range of experience in value engineering, cost estimating and cost management, life cycle cost analysis, design, master planning, scheduling, quality control techniques, negotiation and administration of contracts, and supervising office and field employees. His proficiency, professionalism, and team player mentality are reflected in the high quality of the workmanship he puts into every project. He is proficient in networking with client contacts and maintaining the highest degree of professionalism and confidentiality while providing services on sensitive and classified projects. His tenure as a Construction Cost Estimator, Certified Value Specialist, and Project Manager adds a valuable perspective to today's dynamic market.

Education

- NVCC, Annandale, A.A.S – Mechanical Engineering
- A.A.S. – Electro-Mechanical Engineering Technology, 1984

Professional Registration

- Certified Value Specialist (CVS [REDACTED]),
- SAVE International
- Certified Professional Estimator (CPE # [REDACTED])
- American Society of Professional Engineers (ASPE)

Relevant Experience

Arlington County Trades Center Parking Structure Addition, Arlington County, VA. Senior Estimator: Downey & Scott provided cost estimating services for the Arlington County Trades Center Parking Structure addition project located in Arlington County, Virginia. Total hard construction cost was \$2.5 M with a total size of 54,000 GSF.

Virginia Western Community College, New Parking Garage, Roanoke, VA. Certified Value Specialist (CVS): Downey & Scott conducted a Value Engineering Study of the Parking Garage for the campus of the Virginia Western Community College (VWCC). The construction cost estimate for this project is approximately \$11,735,000, and the project budget is \$11,050,000 and is currently 4.5% over budget. The workshop resulted in full development of eighteen (18) Design Alternatives (some mutually exclusive) that offer an estimated \$2,053,759 in potential first cost savings.

Wiehle / Reston Station Metro Parking Structure, Fairfax County, VA. Senior Estimator: Downey & Scott performed a study / analysis that took into account various high cost areas of construction for the Wiehle / Reston Station Metro Parking Structure. Our report included a cost benefit summary along with supporting cost and informational details so Fairfax County can make more informed decisions regarding this project.

Arlington Public Schools Warehouse Parking Garage, Arlington County, VA. Senior Estimator: Downey & Scott provided cost estimating services for this comparison of three (3) possible configurations for conversion of an existing warehouse building to also serve as a parking garage. Total hard construction costs ranged by option from \$579,738 to \$1,068,568.

Parking Structure, Newport News, VA. Senior Estimator: Downey & Scott provided cost estimating services for this 517,900 GSF parking garage project with a total estimated project budget of \$26,318,000.

3.3 Project Write-Ups

University of Virginia, Hospital South Parking Garage Charlottesville, VA

Owner

University of Virginia
Facilities Management Department

Client

University of Virginia

Project Manager Contact

Shannon Barras-Espie
Senior Project Manager
434-982-5912 / jsb9s@Virginia.EDU



WDP's Role

Structural Engineering Service

Project Detail/Project Type

- Parking Garage
- Condition Assessments
- Structural Analyses
- Repair Recommendations

Downey & Scott's Project Example

Cleveland Clinic Parking Garage and Underground Support Center Cleveland, OH

Owner

Cleveland Clinic

D&S Client

Donley's Inc

Project Manager Contact

Greg Consolo
Regional Vice President Donley's Inc.
(216) 524-6800
✓ Acceptable to Contact



WDP's Role

Cost Estimating

Project Detail/Project Type

- Parking Garage Expansion and underground service center

University of Virginia, Children’s Hospital (Battle Building) Structural Review Charlottesville, VA

Owner
University of Virginia Health Systems

WDP Client
University of Virginia Health Systems

Project Manager Contact
Mashal Afredi
Senior Project Manager
(434) 982.5821 / ma4g@virginia.edu
✓ Acceptable to Contact

WDP’s Role
Building Envelope and Structural
Consultant

- Project Detail/Project Type**
- Structural design review
 - Integration with existing structure
 - Construction phase services
 - Building envelope design review



George Washington University, Feasibility Studies, Structural Analysis Washington, DC

Owner
George Washington University

WDP Client
George Washington University

Project Manager Contact
Nancy Balph
2025 F Street, NW
Washington, DC 20052
(202) 345-3843 / NBalph@gwu.edu

WDP’s Role
Structural Engineering Consultant

- Project Detail/Project Type**
- Feasibility Study
 - Condition Assessment
 - Forensic Condition Assessment
 - Structural Analyses



3.0 QUALS, EXPERIENCE, & PAST PERFORMANCE



U.S. Capitol Power Plant Utility Tunnels and West Refrigeration Plant, Structural Assessments, Non-Destructive Testing, Repair Recommendations, and Contract Documents Washington, D.C.

Owner

The Architect of the Capitol (AOC)

WDP's Clients

2014 through present:

Affiliated Engineers, Inc. (AEI)
200 International Circle, Suite 5888
Hunt Valley, MD 21030
(410) 229-0090

2005 through 2014:

Entech Engineering (Entech)
201 Penn Street, Suite 300
Reading, PA 19603
(610) 373-6667

Project Manager Contact

Mr. Jacob Edwards
Program Manager
Ford House Office Building
Washington, DC 20515
(202) 226-6629/ jedwards@aoc.gov
✓ Acceptable to Contact

WDP's Role

Structural Engineering Consultant

Project Details/Project Type

- Structural analysis, formulation of repair recommendations, and construction observation
- Rapid response during emergency situations
- Condition assessment surveys
- Nondestructive and destructive testing
- Material sampling
- Water infiltration
- Structural Design
- Occupied Structure


Project Tasks*

AOC Project/Facility Name	1	2	3	4	5	6	7	8
2006, 2008, 2009 Utility Tunnel Assessments	✓	✓	✓	✓	✓	✓		
2010 Y Tunnel Assessment	✓	✓	✓	✓	✓			
2011 Utility Tunnel Assessment & CVC Tunnel Repairs	✓	✓	✓	✓	✓	✓	✓	✓
2012 and 2014 Utility Tunnel Condition Assessments	✓	✓	✓	✓	✓	✓	✓	✓
2016 Utility Tunnel Condition Assessments & Y Tunnel Curtain Grouting Project	✓	✓	✓		✓	✓	✓	✓
2017 Utility Tunnel Condition Assessments & 2018 Priority Repairs	✓	✓			✓	✓	✓	
2018 Utility Tunnel Condition Assessments & Repairs to Non-Walkable Tunnels	✓	✓			✓	✓	✓	✓
Y Tunnel Initial Repairs					✓	✓	✓	✓
B & V Tunnel Improvements	✓	✓	✓	✓	✓	✓	✓	✓
Evaluation of Alternate Repair Strategies: R-Tunnel Repair	✓	✓	✓	✓	✓			
R Tunnel Survey of Exterior Walls from Test Pits	✓	✓	✓	✓	✓			
R and G Tunnel Concrete Repairs, Phases I - IV 2010 - 2012	✓	✓		✓	✓	✓	✓	✓
Y Tunnel Repairs & Supplemental Supports	✓	✓	✓	✓	✓	✓	✓	✓
R Tunnel Concrete Repairs & Supplemental Supports	✓	✓		✓	✓	✓	✓	✓
G, R, Y Tunnel Concrete Repairs	✓	✓		✓	✓	✓	✓	✓
Capitol Tunnel Markings	✓	✓						
Tunnel Improvement Program (On-Call)	✓	✓	✓	✓	✓	✓	✓	✓
Tunnel Repair CA Services (Various Tunnels)								✓
Earthquake Damage Tunnel Assessments	✓	✓		✓	✓			
Phase 2 Support Service								✓
V Tunnel Soil Settlement	✓	✓	✓		✓	✓	✓	
Preliminary Condition Assessment of the West Refrigeration Plant	✓	✓	✓		✓			
Concrete Condition Assessment of the West Refrigeration Plant	✓	✓	✓	✓	✓			
WRP Concrete Repair Documents						✓	✓	✓
Initial Survey of Boiler Plant and Generator Building	✓	✓						
Capitol Power Plant Chemical Treatment Room	✓	✓	✓	✓	✓			
Capitol Power Plant Baghouse Visual Survey	✓	✓			✓			
Capitol Power Plant Buildings Structural Assessment	✓	✓			✓			
CA Services for Phase 3.1 WRP Repairs								✓
US CPP Southwest Fifth Floor Parapet Evaluation	✓	✓			✓			
CPP Boiler Building Prototype Repairs	✓	✓	✓	✓	✓	✓	✓	
US CPP Electric Shop Concrete Evaluation	✓	✓			✓			
Update of WRP Concrete Repair Documents - Towers 3 and 4					✓	✓	✓	
Structural Assessment of Ash Silo	✓	✓	✓	✓	✓	✓		
CA Services for Phase 3.4 WRP Repairs		✓						✓

*Project Tasks Description

1. Structural Evaluation
2. Field Survey / Sampling
3. Nondestructive / Destructive Testing
4. Structural Analysis
5. Solution / Repair Recommendation
6. Structural Design
7. Contract Documents
8. Construction Observation / Administration

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)
Rex Cyphers, P.E., Principal

(Printed Name and Title)
335 Greenbrier Drive, Suite 205, Charlottesville, VA 22901


(Address)
434-245-6117 / 571-292-9842

(Phone Number) / (Fax Number)
rcyphers@wdpa.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.

WDP & Associates Consulting Engineers, Inc.

(Company)


(Authorized Signature) (Representative Name, Title)
Rex Cyphers, P.E., Principal

(Printed Name and Title of Authorized Representative)
May 21, 2019

(Date)
434-245-6117 / 571-292-9842

(Phone Number) (Fax Number)

**ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:**

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 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.

WDP & Associates Consulting Engineers, Inc.

Company



Authorized Signature

May 21, 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: WDP & Associates Consulting Engineers, Inc.

Authorized Signature:  Date: May 21, 2019

State of Virginia

County of Prince William, to-wit:

Taken, subscribed, and sworn to before me this 21 day of May, 2019.

My Commission expires October 31, 2019.

AFFIX SEAL HERE



NOTARY PUBLIC



Purchasing Affidavit (Revised 01/19/2018)