



DGS Public Works, Bureau of Capital Projects - Design
RFQ for DGS C-0583-0023 Phase 1, Ebensburg Center –
HVAC, Sprinkler, Electrical & Misc. Improvements

Technical Response to Request for Quote - Contract No.: DGS 2020-SWCE

April 22, 2022

SKANSKA



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A. Understanding of the Project



A. Understanding of the Project



Detailed Work Statement

Understanding of the Project

We understand that Ebensburg Center is a licensed intermediate care facility that provides support to people with Intellectual Disabilities as they develop and implement the skills needed to lead an Everyday Life in the community. Key elements of the Everyday Life philosophy include person-centered planning, dual diagnosis (treatment of both mental health concerns in conjunction with intellectual disabilities), family empowerment, and community integration. As a result, the Ebensburg Center offers 24-hour supported living, on-staff physicians, pastoral care, therapeutic/vocational services, psychology support, registered/licensed dietitians, and participation in local community events and organizations.

Located on a 70-acre campus in Cambria Township, the Center currently features seven licensed patient buildings that were built starting in the 1950s and that have been modified over the years. The general scope of the proposed construction program includes upgrades to and/or replacements of existing HVAC, plumbing, and electrical systems and the addition of a wet pipe fire protection system in one or more of the seven residential buildings.

Other potential upgrades, scope items, quantities, and priorities will be evaluated during the program development study and throughout the design process, with the overall goal of determining which facilities will become the primary patient buildings at the Ebensburg Center.

Because of the need to develop accurate and durable cost estimates during the Pre-Design Stage of this program, DGS is looking for an experienced construction and cost estimating firm that will prepare estimates as though they were bidding on a Department of General Services construction contract. Because Skanska is a builder, a program/project manager, and a cost estimating consultant, we have all of the attributes and resources required for success on this assignment.

Work Statement Summary

The services requested in your RFQ focus on Pre-Design Stage Services, including Project Budget Validation and Program Development Study. Our initial estimates, even at a programmatic level, will be developed to create a framework for evaluating options as this program moves forward. Baseline quantification and pricing, preliminary phasing and logistics,

and constructability will be established even in these very initial stages. In addition, we are also able to incorporate and maintain a multitude of cost centers and/or breakout values to support decision making and reporting. Our estimates will be built as a tool to support the project as it transitions from the current pre-design stage into subsequent stages.

In-House Estimating Resources

Skanska has a staff of in-house estimators that includes architectural, civil, mechanical and electrical estimators. Software that our estimators employ includes BIM Revit Modeling, Assemble Systems, On Screen Takeoff (OST), SAGE Estimating, and Metriks™ (our national construction cost estimating database). These tools provide a powerful tool for establishing cost.

Our estimating team sets Skanska apart from our competitors. Their sole function is to develop estimates for our projects, work with teams to identify cost saving opportunities and validate the project budget as part of each estimate deliverable. In addition, our preconstruction team's day-to-day interaction with the construction market ensures that the unit pricing is accurate and based on real-time market information. Most of Skanska's estimators started their careers in the subcontractor market and understand the factors that influence bid pricing. This ensures that our deliverables are accurate.

Our in-house estimating team prices projects as though they were bidding on the work and as if they were developing a Guaranteed Maximum Prices (GMP) for a project where our fee was at risk.

This distinguishes us from pure cost estimating firms that do not build. Their initial budget figures are based on "estimates" from prior assignments, not on the final cost of those projects and not on real-time market intelligence.

As a result, we are capable of producing accurate and durable estimates during the pre-design stage of this project. The benefit for DGS and the DHS is that you will not have to request additional funding as this program moves forward into design and construction.

AACE Class	ANSI Classification	Typical Use	Project Definition	Expected Range of Accuracy		Other Terms
				Low Expected Actual Cost	High Expected Actual Cost	
Class 5	Order-of-Magnitude	Strategic Planning; Concept Screening	0% to 2%	-50% to -20%	+30% to +100%	ROM; Ballpark; Blue Sky; Ratio
Class 4		Feasibility Study	1% to 15%	-30% to -15%	+20% to +50%	Feasibility; Top-down; Screening; Pre-design
Class 3	Budgetary	Budgeting	10% to 40%	-20% to -10%	+10% to +30%	Budget; Basic Engineering Phase; Semi-detailed
Class 2	Definitive	Bidding; Project Controls; Change Management	30% to 75%	-15% to -5%	+5% to +20%	Engineering; Bid; Detailed Control; Forced Detail
Class 1		Bidding; Project Controls; Change Management	65% to 100%	-10% to -3%	+3% to +15%	Bottoms Up; Full Detail; Firm Price

Data from Similar Projects: Skanska Metriks™

As stated in your RFQ, estimates in the early stages of this project are expected to utilize data and experience from similar projects. We are well aligned with this expectation because of our experience both developing scope options for and carrying out HVAC, plumbing, electrical, and fire protection systems upgrades in residential and healthcare facilities and because of our national construction cost database, known as Skanska Metriks. We use Skanska Metriks to harvest close to 400 specific, quantified attributes from every project in order to help customers and design firms optimize results.

Because it contains data from similar projects, Skanska Metriks will enable an understanding of the costs and cost drivers in the implementation of your construction program.

We will use our cost benchmarking capabilities during the Project Budget Validation and Program Development Study phases to convey the relationship of program to cost and of cost to value to project stakeholders. Should our involvement continue beyond the Program Development Study phase, we will also use this data to provide continuous, and collaborative input throughout the design process.

Target Value Design Principles

Target Value Design (TVD) is included in the Cost Estimating Criteria for this project. The TVD process will be employed to ensure that your construction program remains within the established budget, while providing the best value for DGS and the DHS. Skanska is one of the few, if not the only, construction management firms that has successfully conducted TVD in a Multiple-Prime environment. TVD principles must be modified in order to comply with Pennsylvania procurement laws.

Our estimators have extensive experience utilizing Target Value Design principals to provide accurate cost estimates for public projects that are under Pennsylvania's Separations Act, Multiple-Prime Delivery System.

The objectives of conducting TVD on a Multiple-Prime project include the following:

1. Open communication
2. Scope/Cost Control
3. Scope refinement/build-ability/contingency reduction
4. Proactive value engineering
5. Design for what is constructible vs. evaluate the constructability of a design after it is designed
6. Strive to reduce the waste and rework in the Redesign/Estimate/Redesign Cycle.

We will look beyond business-as-usual to explore ideas that balance performance, quality and life-cycle cost to deliver the best value for your investment.

Even during the pre-design stage of this project, a TVD process can be effective in solidifying DGS's and the DHS's project values, priorities and constraints, which would be organized within a Value Assessment Matrix that would be used in the development of the cost model.

The benefit for DGS and the DHS of applying TVD principles to the pre-design stage is that it leads to enhanced collaboration, transparency and, most importantly, avoiding surprises downstream.

Target Value Design

Skanska has in-depth experience managing the Target Value Design process for all project types including Multiple-Prime delivery and we will ensure that your project remains within the established budget, while providing the best value for the University.

Cost is typically the value with the greatest influence over the client, but time, location and other project goals must also be met in order to achieve all TVD objectives.

The basic objectives of conducting TVD on a Multiple-Prime project:



Open
Communication



Proactive Value
Engineering/
Constructability



Reduce the
Redesign/Estimate/
Redesign Cycle



Scope/Cost
Control

While TVD focuses on discovering and employing best value solutions, we also understand that the pre-design process needs to be flexible. We are experienced using TVD on collaborative projects, and our approach will not stifle creativity during the development of the Program Development Study.

Key Variables

As part of preparing Cost Estimates, we use our builder's expertise and project management experience to consider the effect of the expected construction schedule on construction costs. We use our estimating experience to take into account such variables as escalation, union and non-union construction, bidding requirements, anticipated number of prime contracts, the nature of construction, and the influence of government regulations on construction costs.

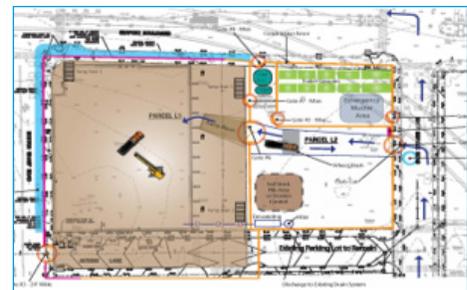
Skanska understands that establishing an accurate budget isn't restricted to construction materials and labor. Other key factors need to be taken into account, including known project risks, owner cost and constraints, logistics/phasing, escalation, market conditions, and schedule.

SKANSKA COST INDEX															
Year	January	February	March	April	May	June	July	August	September	October	November	December	Annual Escalation	5 Year Average	10 Year Average
2022	1.00%	1.38%	1.48%										3.87% year to date	15.11% last 12 months	
2021	0.27%	0.56%	0.84%	1.07%	2.19%	1.85%	1.93%	2.82%	0.21%	0.47%	0.19%	0.50%	12.91%		
2020	0.28%	0.10%	0.06%	0.29%	0.12%	0.17%	0.22%	0.20%	0.55%	0.73%	0.80%	0.88%	4.40%		
2019	0.08%	0.05%	0.07%	0.04%	0.07%	0.15%	0.26%	0.29%	0.05%	0.40%	0.20%	0.36%	2.03%		
2018	0.35%	0.04%	0.21%	0.24%	0.73%	0.20%	0.68%	0.33%	0.39%	0.23%	0.05%	0.24%	3.69%		
2017	0.05%	0.03%	0.23%	1.23%	0.28%	0.04%	0.53%	0.35%	0.22%	-0.06%	0.64%	0.24%	3.79%	5.37%	
2016	0.01%	0.51%	0.36%	0.53%	0.12%	0.03%	0.45%	0.22%	-0.17%	0.47%	0.20%	0.61%	3.33%	3.45%	
2015	0.50%	-0.12%	0.03%	0.29%	0.27%	-0.07%	0.10%	0.12%	0.52%	0.09%	0.39%	0.04%	2.17%	3.00%	
2014	0.01%	0.04%	0.26%	0.44%	0.28%	0.14%	0.19%	0.18%	0.38%	0.66%	0.52%	0.12%	3.21%	3.24%	
2013	0.46%	0.43%	0.10%	0.19%	0.32%	0.31%	-0.05%	-0.03%	0.19%	0.48%	0.20%	0.21%	2.82%	3.06%	
2012	0.15%	0.07%	0.49%	0.15%	0.37%	0.10%	0.04%	0.70%	-0.13%	0.22%	0.04%	0.04%	2.23%	2.75%	4.06%
2011	-0.06%	0.82%	0.09%	0.30%	0.29%	0.52%	0.34%	0.37%	0.04%	0.31%	0.22%	0.06%	3.29%	2.75%	3.10%
2010	0.15%	0.28%	0.03%	0.16%	0.91%	0.66%	0.48%	-0.06%	0.16%	0.78%	0.48%	0.16%	4.17%	3.15%	3.07%
2009	-0.28%	-0.30%	0.07%	-0.08%	0.30%	-0.02%	-0.15%	0.18%	-0.04%	-0.01%	-0.05%	0.84%	0.47%	2.60%	2.92%
2008	0.06%	0.02%	0.04%	0.50%	0.53%	0.93%	1.83%	0.27%	2.02%	0.87%	-0.37%	-1.00%	5.70%	3.17%	3.12%
2007	-0.14%	0.04%	-0.44%	0.14%	1.38%	-0.03%	0.54%	0.47%	0.49%	0.08%	0.55%	0.01%	3.09%	3.34%	3.05%
2006	0.18%	0.10%	-0.12%	0.16%	-0.07%	0.25%	0.42%	0.13%	0.38%	1.34%	0.74%	-0.45%	3.06%	3.30%	3.02%
2005	-0.23%	0.14%	0.39%	1.12%	0.63%	0.27%	0.17%	0.43%	0.33%	1.23%	1.22%	0.52%	6.23%	3.71%	3.43%
2004	0.39%	1.05%	1.62%	1.39%	1.35%	1.14%	0.55%	0.47%	1.99%	0.78%	0.10%	0.00%	10.85%	5.79%	4.19%
2003	0.26%	0.23%	-0.12%	0.12%	0.26%	0.51%	0.20%	0.83%	0.18%	0.79%	0.58%	-0.17%	3.67%	5.38%	4.28%
2002	0.15%	0.04%	0.49%	-0.35%	0.85%	0.37%	0.81%	-0.07%	0.23%	-0.07%	0.12%	-0.34%	2.26%	5.21%	4.28%
2001	-0.04%	-0.21%	0.18%	0.04%	0.21%	0.75%	1.53%	-0.51%	-0.18%	0.18%	-0.12%	-0.49%	1.33%	4.87%	4.08%
2000	0.21%	0.61%	0.41%	-0.01%	0.72%	-0.10%	-0.18%	0.07%	-0.16%	0.27%	-0.13%	0.24%	1.95%	4.01%	3.86%

Recognizing the vital importance of understanding each key variable, our estimates will be accomplished by a narrative that outlines the facts, assumptions, construction logistics, and other insights that form the basis of our order of magnitude estimates, budget estimates, and control estimate.

Logistics Planning:

Logistic greatly impacts the cost of construction. Correctly defining logistics and phasing requirements upfront significantly improves budget certainly by clearly defining requirements to contractors.



Lean Case Study



Contingencies

In support of the collaborative cost estimating process, we will also work with you to develop contingencies to hedge against unforeseen cost events. In past projects, we have devoted one team wide meeting to establish common definitions for each contingency type: Design Contingency, Project Contingency, and Construction Contingency. Given the range of uses and types of contingencies, establishing common definitions up-front creates dialog among all project team members as to key project issues, cost drivers and budgetary constraints.

Conclusion

We will provide accurate, durable estimates to DGS that will enable complete and comprehensive comparisons between scope options for the proposed renovation and upgrade projects at the Ebensburg Center. Our approach will be to:

- Provide you with cost certainty and an exceptional level of accuracy
- Draw upon the experience of Skanska's estimators in developing construction costs for building systems renovation and upgrade projects in residential and healthcare settings
- Utilize Skanska's national database of construction costs
- Utilize Skanska's relationships with vendors and subcontractors to validate pricing
- Factor in escalation
- Establish contingencies commensurate with risks and "unknowns"
- Anticipate the needs of the Ebensburg Center as an evolving organization
- Integrate cost, technical, and qualitative observations into the comparative evaluation process

The result will be a control estimate that will serve as the baseline for assessing and controlling project costs throughout the design and construction of this program.

B. Contractor Prior Experience



County of Lehigh Cedarbrook Senior Care & Rehabilitation Center Allentown, PA



Project Description

Skanska is the program manager for the expansion and phase one renovation of the Cedarbrook Senior Care & Rehabilitation Center facility in Allentown, PA. The existing facility is comprised of multiple wings and separate service buildings.

The project scope includes, but is not limited to, the replacement of all mechanical and electrical systems and the reconstruction of all interior spaces. The new facility will include all systems and infrastructure associated with the operation of a Skilled Nursing Home. The design and construction will be performed to comply with the rules, regulations and advice of the CMS & PADOH. A new Skilled Nursing Wing, referred to as the E-Wing, is to be constructed in front of C and D Wings. The facility is to include 240 beds (four floors of 60 beds each; approximately 28,000-SF per floor), a Partial Basement (approximately 14,000-SF), and a Penthouse (approximately 7,200- SF).

Description of CE Work Engaged In

Skanska worked closely with the designer and owner during preconstruction. Our work included conducting constructability reviews, continuous cost estimating, recommending cost alternatives, identifying Long Lead Items, developing construction schedules, developing Site Logistics and Phasing & Sequencing, and preparing cost estimates and overall project budgets to establish funding requirements.

Lean Project Experience

Lean Tools utilized on the Cedarbrook Senior Care & Rehabilitation Center project included: Target Value Design, Last Planner System, Co-location Space, A3 Reporting & Decision Making, Collaborative Design & Construction Environment, and Material Management.

By implementing Lean methods through design, the team streamlined the overall design schedule eliminating redesign and improving decision making. Weekly meetings among project team members occurred to review open action items and review drawing changes that impacted the project budget. Additionally, Skanska worked closely with Cedarbrook facilities to develop logistics and construction phases. Early phases were identified which allowed for early procurement packages of enabling work. These early phases saved 4 months on the overall schedule and significant cost as well.

Project Information

Start date:
03/01/2021

End date:
06/30/2023

Cost

Gross construction cost:
\$63,000,000

Amount responsible for:
\$63,000,000

Firm's fees:

Total Fee: \$1,402,400
Preconstruction & Cost Estimating
Fee: \$200,000

Reference

County of Lehigh
17 S. 7th Street
Allentown, PA 18101

Richard Molchany
Director of General Services
Phone: 610.782.3001
Email: RickMolchany@lehighcounty.
org

One Montgomery Plaza, Infrastructure Upgrades Project

Norristown, PA



Project Description

Skanska is providing Preconstruction and Construction Management Agency (CMA) services for the complete MEP Systems Infrastructure replacement of One Montgomery Plaza (OMP), a ten-story, 225,000 SF, structure that serves as the county office building for Montgomery County. The project scope includes a multiple phase MEP infrastructure replacement including all new mechanical systems and distribution, new electrical equipment and bus duct risers to feed each floor and plumbing and fire protection enhancements to meet code and improve tenant comfort. The building will remain fully occupied during the entire renovation. OMP currently houses multiple court-related and public service departments, including Sheriff's department, APO, Domestic relations, detectives and health and human services. The use of Lean construction principles will be implemented which will be a central driver in all aspects of project delivery.

Description of CE Work Engaged In

Skanska provided constructability analysis, schedule development, availability of materials and labor, logistics planning and sequencing and cost consulting during design and construction.

Lean Project Experience

Lean construction: Pull-planning, Last Planner, Material Management, A3 Reporting and Target Value Design.

Project Information

Start date:

1/29/2021

End date:

11/23/2023

Cost**Gross construction cost:**

\$19,500,000

Amount responsible for:

\$19,500,000

Firm's fees:

Total Fee: \$650,000

Preconstruction & Cost Estimating

Fee: \$55,000

Reference

Montgomery County, Pennsylvania

One Montgomery Plaza

Norristown, PA 19404

Tom Bonner

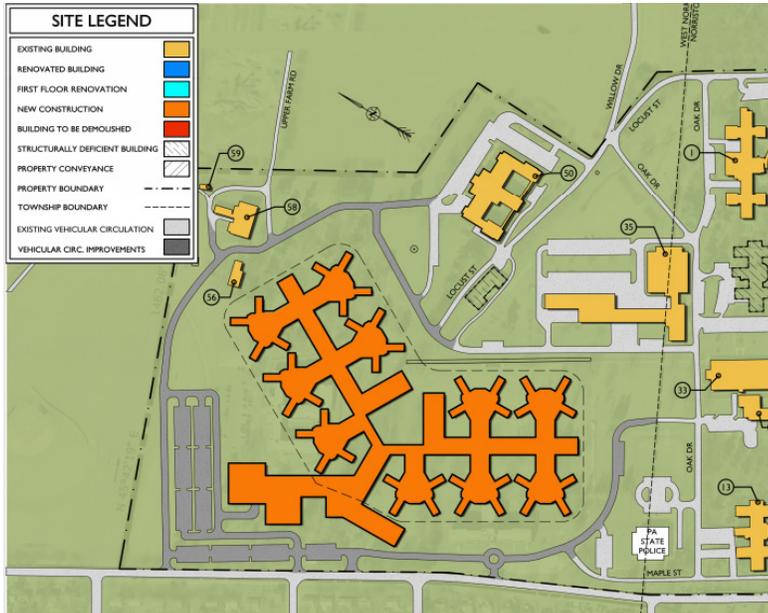
Director of Assets and Infrastructure

Phone: 610.278.3029

Email: tbonner@montcopa.org

Norristown State Hospital Forensic Building

Norristown, PA



Project Description

Skanska provided collaborative cost estimating services for the new \$242 million Norristown State Hospital Forensics Building. Services included cost modeling & estimating, logistics and risks assessment and milestone schedule development. The cost model was developed using preliminary feasibility studies, programming requirements and collaborative discussions during the PDS workshops.

Description of CE Work Engaged In

Skanska provided constructability analysis, schedule development, availability of materials and labor, logistics planning and sequencing and cost consulting during design and construction.

Lean Project Experience

Lean construction: Collaborative planning.

Project Information

Start date:
03/01/2021

End date:
06/30/2023

Cost

Gross construction cost:
\$242,000,000

Amount responsible for:
\$125,000

Firm's fees:

Total Fee: \$125,000
Preconstruction & Cost Estimating
Fee: \$125,000

Reference

PA Department of General Services
Department of General Services,
Public Works, Bureau of Capital
Projects Design
Arsenal Building
18th & Herr Street
Harrisburg PA 17125

Linda Van Sickle, PE
Design Project Manager
Public Services Division
(O) 717.787.7018; (C) 717.480.8227
lvansickle@pa.gov

Additional Relevant Project Experience



**Capital Health Medical Center,
Hopewell Replacement Hospital**
Pennington, NJ



**Capital Health Medical Center,
Offsite Improvements**
Pennington, NJ



**ChristianaCare, Center for
Women's and Children's Health**
Newark, DE



**ChristianaCare, Wilmington
Hospital, Campus Expansion**
Wilmington, DE



**Nemours Alfred I. duPont
Hospital for Children Expansion**
Wilmington, DE



Kingsboro Psychiatric Center
Brooklyn, NY



**UHS Psychiatric Institute of
Washington**
Washington, DC



**Reading Hospital & Medical
Center, C Building Expansion
and Reno, W. Reading, PA**



**Duke Health, Chesterfield Fitup
Program Management Services,**
Durham NC



**Good Samaritan Hospital,
Expansion and Renovation**
Lebanon, PA



**PinnacleHealth System,
Fredrickson Outpatient Center**
Mechanicsburg, PA



**Fulton County Medical
Center Replacement Hospital**
McConnellsburg, PA

C. Contractor Personnel and Qualifications





Christopher Anderson, CEA, LEED AP | Project Executive/VP

PA DGS Statewide Collaborative Cost Estimating Services, Pennsylvania

Multiple projects for PA DGS ITQ for Cost Estimating Services. Projects include: Greensburg State Police DNA Lab Facility, Norristown State Hospital Forensic Building, and the California University of Pennsylvania Science Building.

County of Lehigh Cedarbrook Senior Care & Rehabilitation Center, Allentown, PA

Skanska is the program manager for this new \$57 million facility. Construction will include but not limited to all mechanical systems, electrical systems and interior construction of spaces. The new facility will include all systems and facility infrastructure associated with the operation of a Skilled Nursing Home.

Montgomery County, One Montgomery Plaza Reskin Project, Norristown, PA

Skanska provided construction management agency services for the \$25 million replacement of the facade of One Montgomery Plaza, a ten-story county office building that houses multiple court-related and public service departments. Lean construction principles were a central driver in all aspects of project delivery.

The Pennsylvania State University, Water Treatment Plant Upgrades, University Park, PA

\$60 million, 28,000-SF replacement and reconstruction of an on-campus water treatment facility, including an underground storage tank, pump station, 750,000-gallon wastewater tank and a \$2 million amphitheater/performance space.

Phoenixville Hospital Addition, Phoenixville, PA

\$60.3 million, 150,000-SF hospital addition that includes the expansion of the following departments: surgery, diagnostic imaging/cath lab and women's services.

28 years in industry
18 years with Skanska

University of Maryland
B.S., Electrical
Engineering

Certified Energy
Auditor (CEA)

OSHA 10

LEED AP



James Lane, ASPE | Chief Estimator/VP

PA DGS Statewide Collaborative Cost Estimating Services, Pennsylvania

Multiple projects for PA DGS ITQ for Cost Estimating Services. Projects include: Greensburg State Police DNA Lab Facility, Norristown State Hospital Forensic Building, and the California University of Pennsylvania Science Building.

Children's Hospital of Philadelphia, Inpatient Building, Philadelphia, PA

\$221.8 million, 252,000-SF inpatient hospital, spread over seven stories with an additional 22,000-SF penthouse in King of Prussia, PA. This project also includes renovation of approximately 54,000-SF of the existing Specialty Care Center (SCC). In addition to the new inpatient building and the SCC renovations, the project will also include an expansion to the existing loading dock and a 192-vehicle precast parking garage.

Inspira Health Network, Leading-Edge Cancer Center, Mullica Hill, NJ

New cancer center with multiple settings for patients to receive infusion therapy, including traditional private treatment bays, extra quiet private treatment rooms and a large shared space.

Susquehanna Health, Williamsport Hospital New Patient Tower Expansion, Williamsport, PA*

242,000-SF expansion with new emergency department, surgical, radiology and CT scan suites, joint replacement and spine unit.

Penn State Health Milton S. Hershey Medical Center Children's Hospital Addition Hershey, PA*

252,000-SF addition that included 11 infusion rooms, eight exam rooms, 18 bed in-patient unit for hematology and oncology, a meditation room, green roof terrace, and an interactive learning wall.

34 years in industry
5 years with Skanska

University of
Pittsburgh
B.S., Civil Engineering

Certified Professional
Estimator (ASPE)

OSHA 30

*Previous Experience



Gary Warren, EIT | Senior Project Manager

[PADGS Statewide Collaborative Cost Estimating Services, Pennsylvania](#)

Multiple projects for PA DGS ITQ for Cost Estimating Services. Projects include: Greensburg State Police DNA Lab Facility, Norristown State Hospital Forensic Building, and the California University of Pennsylvania Science Building.

[County of Lehigh Cedarbrook Senior Care & Rehabilitation Center, Allentown, PA](#)

Skanska is the program manager for this new \$57 million facility. Construction will include but not limited to all mechanical systems, electrical systems and interior construction of spaces. The new facility will include all systems and facility infrastructure associated with the operation of a Skilled Nursing Home.

[Northampton County, New Regional Forensic Center, Nazareth, PA](#)

\$10.9 million, 24,000-SF, 2-story facility. Skanska provided construction management and inspection services for the County of Northampton for a new Forensic Center. It is located at the Gracedale nursing home campus next to the county's 911 center in Upper Nazareth Township. The project consists of the construction of the Forensic Center, with associated parking lot, driveway, stormwater detention facilities, and utility connections. The building is two stories, with all office, storage, garage and public areas located on the first floor. A partial second floor was constructed to house mechanical and electrical equipment. The building is steel framed, constructed on shallow strip and spread foundations with slab-on-grade flooring.

[Montgomery County Pennsylvania Emergency Operations Center \(EOC\), Eagleville, PA](#)

Construction Management Services for buildings at the EOC Center which includes a new garage and warehouse facility. The proposed facilities will include: 1. A new garage and warehouse facility. The proposed facilities will include a 15,000 square foot warehouse and 24,000 square foot garage/storage building. Both buildings will be pre-engineered. 2. A new coroner's facility and archives building. The coroner's facility will be a stick-built 20,000+/- SF building, and the archives building will be pre-engineered at 39,000+/- SF.

[Montgomery County, One Montgomery Plaza Reskin Project, Norristown, PA](#)

Skanska provided construction management agency services for the \$25 million replacement of the façade of One Montgomery Plaza, a ten-story county office building that houses multiple court-related and public service departments. Lean construction principles were a central driver in all aspects of project delivery. One Montgomery Plaza Temporary Courts Project: Skanska provided construction management agency services in support of the interior renovation of existing office space on the ninth and tenth floors of One Montgomery Plaza for temporary family courts. The \$5 million, 23,000-SF new facility includes six courtrooms, a law library, and new court reporter offices. The new space serves as the temporary location for the family courts while the new Justice Center across Swede Street is constructed.

[Montgomery County Justice Center and Hancock Square Expansion, Norristown, PA](#)

\$350 million, 455,000-SF project. Skanska is providing construction management agency services to the Montgomery County Board of Commissioners for a project that involves the construction of a new justice center, the renovation of a historic county courthouse and the redevelopment of the existing courthouse plaza known as Hancock Square. The project also involves the demolition of a parking garage, the installation of between 200 and 400 parking spaces and the re-opening of a public thoroughfare that traverses the site.

[The Pennsylvania State University, Water Treatment Plant Upgrades, University Park, PA](#)

\$60 million, 28,000-SF replacement and reconstruction of an on-campus water treatment facility, including an underground storage tank, pump station, 750,000-gallon wastewater tank and a \$2 million amphitheater/performance space. The project also encompassed the rehabilitation of three existing elevated steel water tanks and 100,000-SF of hardscaping and landscaping, such as concrete paving; blue stone pavers; stairs; retaining walls; lighting; stormwater management/drainage systems; and over 500 native trees, shrubs and plants.

13 years in industry
11 years with Skanska

The Pennsylvania
State University
B.S., Structural
Engineering

EIT (Engineer in
Training)

OSHA Hazmat 40

Choose to Save a
Life (Fall Protection)
Training

CPR and First Aid
Training



Mary Judge, AVS | CSA Estimator

[PA DGS Statewide Collaborative Cost Estimating Services, Pennsylvania](#)

Multiple projects for PA DGS ITQ for Cost Estimating Services. Projects include: Greensburg State Police DNA Lab Facility, Norristown State Hospital Forensic Building, and the California University of Pennsylvania Science Building.

[Montgomery County Justice Center and Hancock Square Expansion, Norristown, PA](#)

\$350 million, 455,000-SF project. Skanska is providing construction management agency services to the Montgomery County Board of Commissioners for a project that involves the construction of a new justice center, the renovation of a historic county courthouse and the redevelopment of the existing courthouse plaza known as Hancock Square. The project also involves the demolition of a parking garage, the installation of between 200 and 400 parking spaces and the re-opening of a public thoroughfare that traverses the site.

[Montgomery County Pennsylvania Emergency Operations Center \(EOC\), Eagleville, PA](#)

Construction Management Services for buildings at the EOC Center which includes a new garage and warehouse facility, The proposed facilities will include: 1. A new garage and warehouse facility. The proposed facilities will include a 15,000 square foot warehouse and 24,000 square foot garage/storage building. Both buildings will be pre-engineered. 2. A new coroner's facility and archives building. The coroner's facility will be a stick-built 20,000+/- SF building, and the archives building will be pre-engineered at 39,000+/- SF.

[County of Lehigh Cedarbrook Senior Care & Rehabilitation Center, Allentown, PA](#)

Skanska is the program manager for this new \$57 million facility. Construction will include but not limited to all mechanical systems, electrical systems and interior construction of spaces. The new facility will include all systems and facility infrastructure associated with the operation of a Skilled Nursing Home.

[Children's Hospital of Philadelphia KOP Inpatient Building, King of Prussia, PA](#)

\$220.4 million, 275,000-SF (new); 54,000-SF (renovation), the project consists of a new inpatient hospital located in King of Prussia, PA. The hospital is approximately 252,000-GSF over seven floors, as well as a 22,000-SF penthouse. The project also includes renovation of approximately 54,000-SF of the existing Specialty Care Center (SCC) which involved administrative office suite and full-service kitchen and cafeteria space. In addition to the new Inpatient Buildings and the SCC renovations, the project includes an expansion to the existing loading dock and a 192-vehicle precast parking garage

[Capital Health Medical Center, Hopewell Replacement Hospital, Pennington, NJ](#)

\$359.4 million new 227-bed replacement hospital spanning 596,492-SF is one component of a total healthcare development that included an outpatient imaging/cancer center contained within an attached 328,199-SF medical office building. The project also included a central utility plant and surface parking with extensive water features and decorative landscaping.

[Inspira Health Network, Mullica Hill Campus, Mullica Hill, NJ](#)

\$230 million, five-story, 466,000-SF new hospital with 204 beds. The main tower consists of operating rooms, an emergency department, imaging suites, as well as administrative, dining and support services. The project also includes constructing a new central utility plant, which provides electrical power, steam and chilled water to the new hospital. Sitework included demolition of three small farm buildings, grading, underground and overhead utilities to the site as well as surface parking for the new hospital and future medical office buildings. The new hospital was built under an integrated project delivery (IPD) contract.

[Inspira Health Network, Leading-Edge Cancer Center, Mullica Hill, NJ](#)

\$59 million new center, located on the same 100-acre parcel as the Mullica Hill campus project, brings together medical, radiation and surgical oncologists, creating a new, comprehensive support network in South Jersey. The Leading-Edge Cancer Center has multiple settings for patients to receive infusion therapy, including traditional private treatment bays, extra quiet private treatment rooms and a large shared space.

**23 years in industry
10 years with Skanska**

Community College of Philadelphia
A.S. Applied Science

SAVE International Associate Value Specialist (AVS)

CPR and First Aid Training



Steven Gobac | Fire Protection/Plumbing Estimator

[PA DGS Statewide Collaborative Cost Estimating Services, Pennsylvania](#)

Multiple projects for PA DGS ITQ for Cost Estimating Services. Projects include: Greensburg State Police DNA Lab Facility, Norristown State Hospital Forensic Building, and the California University of Pennsylvania Science Building.

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[Northampton County, New Regional Forensic Center, Nazareth, PA](#)

\$10.9 million, 24,000-SF, 2-story facility. Skanska provided construction management and inspection services for the County of Northampton for a new Forensic Center. It is located at the Gracedale nursing home campus next to the county's 911 center in Upper Nazareth Township. The project consists of the construction of the Forensic Center, with associated parking lot, driveway, stormwater detention facilities, and utility connections. The building is two stories, with all office, storage, garage and public areas located on the first floor. A partial second floor was constructed to house mechanical and electrical equipment. The building is steel framed, constructed on shallow strip and spread foundations with slab-on-grade flooring.

[Montgomery County Pennsylvania Emergency Operations Center \(EOC\), Eagleville, PA](#)

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[UNC Health, Surgical Tower, Chapel Hill, NC](#)

\$330 million, 379,000-SF new seven-story surgical tower, which includes a basement level and will house 26 operating rooms, two hybrid operating rooms, with 56 pre- and post-operating rooms and two floors of ICU space with 80 beds. Skanska will also construct two overhead pedestrian bridges that connect existing parking decks and the Dental School building to the Surgical Tower. The project also includes a three-story service connector and renovation work at the existing Ambulatory Patient Care Facility.

[Inspira Health Network, Leading-Edge Cancer Center, Mullica Hill, NJ](#)

New cancer center with multiple settings for patients to receive infusion therapy, including traditional private treatment bays, extra quiet private treatment rooms and a large shared space.

4 years in industry
4 years with Skanska

Drexel University
B.S., Civil Engineering



Colleen Demark, LEED AP, AVS | Electrical Senior Estimator

[PADGS Statewide Collaborative Cost Estimating Services, Pennsylvania](#)

Multiple projects for PA DGS ITQ for Cost Estimating Services. Projects include: Greensburg State Police DNA Lab Facility, Norristown State Hospital Forensic Building, and the California University of Pennsylvania Science Building.

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[Phoenixville Hospital, Addition and Parking Garage, Phoenixville, PA](#)

\$60.3 million, 150,000-SF new hospital addition that includes extensive sitework, a medical office building, emergency room improvements and a three-level parking garage with 540 new spaces. This project also includes the expansion of the following departments: surgery, diagnostic imaging/cath lab and women's services.

[Inspira Health Network, Mullica Hill Campus, Mullica Hill, NJ](#)

\$230 million, five-story, 466,000-SF new hospital with 204 beds. The main tower consists of operating rooms, an emergency department, imaging suites, as well as administrative, dining and support services. The project also includes constructing a new central utility plant, which provides electrical power, steam and chilled water to the new hospital. Sitework included demolition of three small farm buildings, grading, underground and overhead utilities to the site as well as surface parking for the new hospital and future medical office buildings. The new hospital was built under an integrated project delivery (IPD) contract.

[Capital Health Medical Center, Hopewell Replacement Hospital, Pennington, NJ](#)

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21 years in industry
18 years with Skanska

Pennsylvania State University
B.S., Mineral Engineering

SAVE International
Associate Value Specialist (AVS)

LEED AP

CPR and First Aid Training



Phil Colonna | Mechanical Senior Estimator

[PA DGS Statewide Collaborative Cost Estimating Services, Pennsylvania](#)

Multiple projects for PA DGS ITQ for Cost Estimating Services. Projects include: Greensburg State Police DNA Lab Facility, Norristown State Hospital Forensic Building, and the California University of Pennsylvania Science Building.

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[Inspira Health Network, Leading-Edge Cancer Center, Mullica Hill, NJ](#)

\$59 million new center, located on the same 100-acre parcel as the Mullica Hill campus project, brings together medical, radiation and surgical oncologists, creating a new, comprehensive support network in South Jersey. The Leading-Edge Cancer Center has multiple settings for patients to receive infusion therapy, including traditional private treatment bays, extra quiet private treatment rooms and a large shared space. The center also brings the latest treatment options, including clinical trials, to the campus, as well as consultations with surgical oncologists and cancer risk assessments.

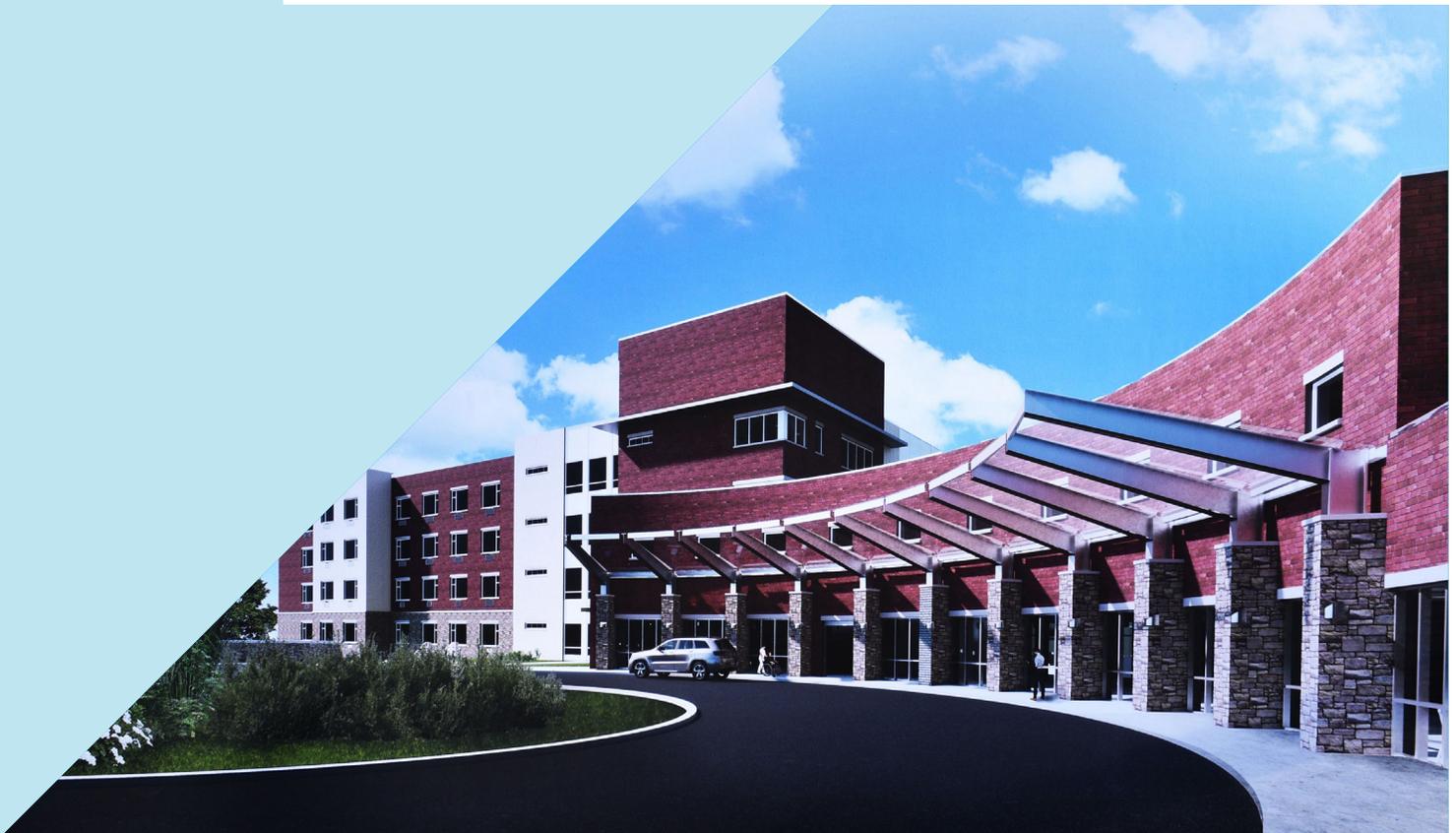
[ChristianaCare, Center for Women's and Children's Health, Newark, DE](#)

\$196 million, 388,000-SF. This new, seven-story addition to the existing women's building, located on the ChristianaCare's campus is primarily focused on inpatient care and expanding current bed availability to support private NICU and post-partum rooms to reduce double patient rooms. The project includes a NICU; high-risk, ante-partum and post-partum rooms; expanded triage; outpatient units; new lab, pharmacy and dietary services. It also required multiple connections to

30 years in industry
21 years with Skanska

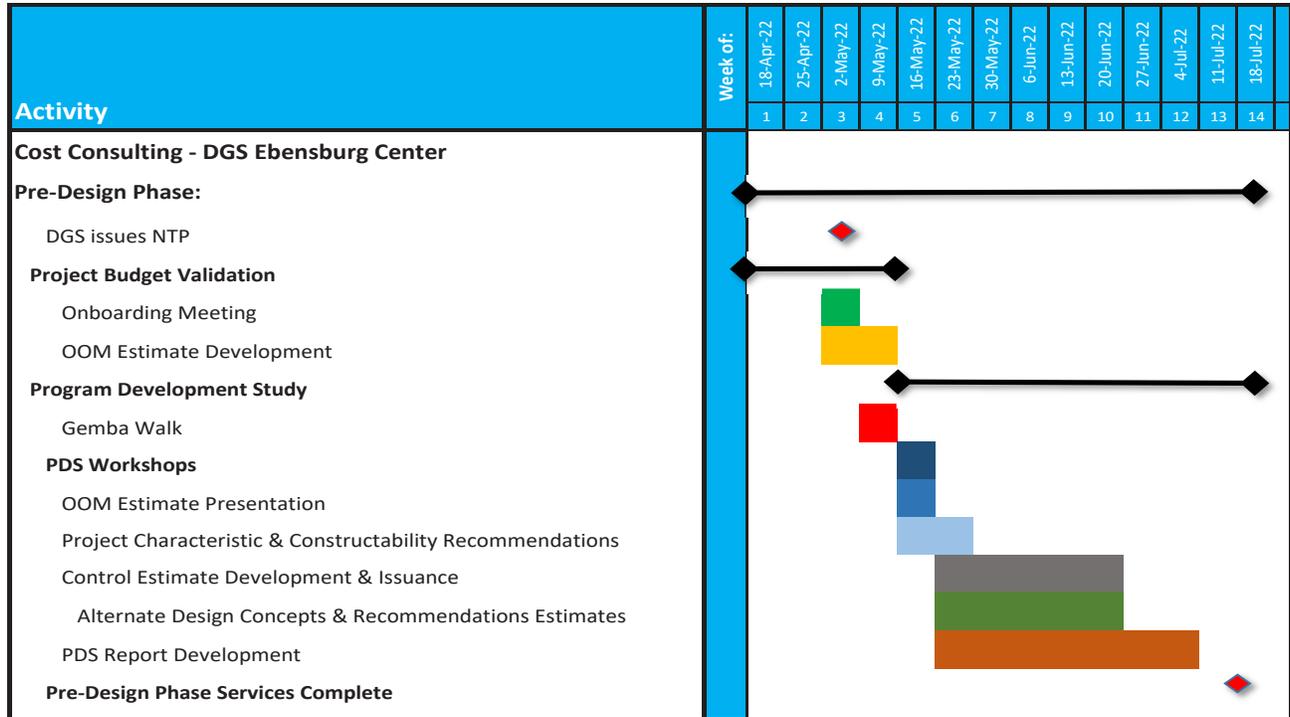
Villanova University
B.S., Mechanical
Engineering

D. Project Work Plan



D. Project Work Plan

I. Utilizing a GANTT or PERT chart, include a high-level summary that shows all the tasks and deliverables to complete the project. Explain your approach to deliverables.



Approach to Deliverables

Skanska’s approach starts with us participating in the initial project Kick-Off meeting. This is where our team will get up to speed on understanding lines of communication, the project goals and in particular the Conditions of Satisfaction (CoS).

Order of magnitude estimate (Cost Benchmarking)

Based on the information gained from the Gemba site walk and the available project information along with our experience and database of healthcare facility construction costs, we can validate cost projections quickly and ensure that the estimate remains valid throughout the project.

Skanska’s benchmarking capabilities are unique in that we not only provide clients with cost and efficiency metrics from comparable projects, we also provide qualitative “data” from this same set of projects and space types. The former is critical to budget validation, evaluation of alternative design approaches, and cost control. The latter is essential for communicating how qualitative parameters factor into the larger equation of creating projects that support a given organization’s mission, goals, and priorities.



Skanska Metriks™ is a benchmarking tool that harvests and compares close to 400 specific, quantifiable attributes from every project we build. Unlike traditional cost benchmarking, Skanska Metriks™ incorporates quantified program and systems information enabling teams to better understand final building product and develop a more accurate cost model. Being able to evaluate the efficiency of building systems relative to similar institutions, teams can also identify attributes to target for improvement long before construction starts or the design is developed.

Our process will begin with the identification in our database, Skanska Metriks™, of recently completed healthcare and other relevant projects that are comparable in scale, space types and complexity to the proposed Ebensburg Facility Renovations. For each project deemed to be truly comparable, we will review final costs to determine the total reported cost of construction.

Perhaps most importantly, benchmarking also saves time and money by enabling the Project Team to “model” costs of various design options while all team members are present in the same room. This approach is preferable to expending design fees to study options and pricing each option on a case-by-case basis and is a highly effective tool in an efficient decision-making environment.



Approach to Constructability Risks

Our interdisciplinary approach to constructability reviews helps eliminate unworkable details within the design. The object is to find any issues early during design and before the start of construction, which helps prevent budget overruns long-term.

During the on-site Gemba walk and throughout the PDS workshops, Skanska will advise on constructability risks the project should avoid or mitigate and determine which construction methods and types are most feasible.

Four main issues that Skanska focuses on when evaluating Constructability risks are:

1. Interdisciplinary coordination. Interdisciplinary coordination seeks to identify clashes between design disciplines, such as structural engineering and mechanical engineering.
2. Build-ability. Build-ability is addressed by reviewing the capability of the local workforce and dimensional issues. We will ask questions to determine if tolerances prescribed are workable or exceed normal conditions of the local workforce. We will also ask whether building components that are scheduled to be installed first create a work area too constrained for subsequent work.
3. Sequencing, phasing, and logistics. The impact of sequencing, phasing and logistics will also be evaluated. One of the key issues we will focus on is whether construction phasing will create unsafe conditions or have negative impacts on the Ebensburg Center Campus.
4. Materials and systems integrity. We will confirm that materials and systems selected for your project are the best choices for the long-term performance.

Continuous Cost Modeling

Skanska regularly collaborates with design partners on streamlining the model-to-estimate process in order to provide real-time cost feedback as the design team explores options. Our team understands the key cost drivers for this type of project and will work to target measure that can provide significant impact.

Throughout the pre-design phase, we will use our cost estimating skills for continuous budget validation and estimate reconciliation. Our team will work closely with DGS to identify, recommend, and price alternative design concepts, systems and material recommendations that provide benefits to the program. Skanska’s estimating team is experienced working on similar projects that have been constructed and can offer unique perspectives that will significantly improve the program

quality. We will provide order of magnitude pricing for each item which will be documented and tracked via our cost log. The cost log will provide detailed breakdowns and assumptions for each item. This provides value as the team evaluates final decisions and formalizes the PDS report.

Dynamic cost modeling with this type of accuracy and reliability is virtually unavailable from other firms.

Conceptual Estimate (control estimate)

Our control estimates, even at a programmatic level, are developed to create a framework for the project moving forward. Baseline quantification and pricing, preliminary logistic, phasing and constructability are being established even in these very initial stages. In addition, as determined by the team we are able to incorporate and maintain a multitude of cost centers and/or breakout values to support decision making and reporting needs. Our estimate is truly built as a tool to facilitate the project on a real time basis throughout the pre-design stage of the proposed Ebensburg Center Renovation project process.

II. Indicate all resources needed to complete the assignment, including staff assignments, consultants, and reimbursements.

All resources needed to complete the assignment, including staff assignments, consultants are indicated in the table below.

Anticipated reimbursements: Skanska anticipates reimbursements for activities such as onsite PDS workshops and onsite Gemba walks according to ITQ NO. DGS 2020-SWCE, Appendix C -REIMBURSABLES Other Direct Costs. The reimbursements would include: Vehicle mileage in excess of 50 total miles roundtrip, Tolls and Travel, lodging and meal costs.

III. Note inefficiencies or risks to successful implementation, and any planning efforts to mitigate issues such as travel distance, schedule conflicts and required coordination.

If the Cost Consultant can attend the PDS Workshop virtually both days along with a virtual Gemba walk. This can eliminate 16 proposed hours along with the anticipated reimbursements indicated above.

IV. Indicate the anticipated number of hours required for each personnel assigned to the project based on task for completion of the work described in the Scope of Work (Attachment A).

Staff Assignment	Project Executive / Senior Project Manager	Chief Estimator	CSA Estimator	Fire Protection /Plumbing Estimator	Electrical Senior Estimator	Mechanical Senior Estimator
Task						
Pre-Design Stage Services						
Project Budget Validation						
Review the Project Charter, and all available documents and known design parameters relating to Project.	2	2	2	2	2	2
Provide an order of magnitude estimate.		8				

Staff Assignment	Project Executive / Senior Project Manager	Chief Estimator	CSA Estimator	Fire Protection /Plumbing Estimator	Electrical Senior Estimator	Mechanical Senior Estimator
Task						
Pre-Design Stage Services						
Program Development Study						
Participate in the on-site Gemba walk with the Project team (Conducted onsite NOT during PDS workshop). If remote or scheduled during the PDS workshop, these hours will be zero.	8	8				
Develop a preliminary order of magnitude estimate based on all project information available.	2	16			8	8
Actively participate in two , full day Program Development Study (PDS) workshops 1 day virtual and 1 day at the project site.	16	16				
Constructability Risk Reviews.	8	8				
Provide budget estimates for alternative design concepts, systems, upgrades, etc.		4	4	4	4	4
Cost consulting services to assist the project team in validating the project scopes.	4	4	8	8	8	8
Participate in the development of the PDS report.	8	8				
Review the finalized PDS report with the project team.	4	4				
Prepare a control estimate.	4	10	32	32	40	40
Total Anticipated Hours	56	88	46	46	62	62



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SKANSKA