PREFACE

This Small Business Project Procedure Manual (SBPPM) presents current procedural information relating to the sequencing and detail of the Small Business design professionals’ activities under their Work Orders with the Department of General Services (DGS).

Activities are explained sequentially through design, bidding and construction stages. The Bureau of Construction Small Business Administrative Procedures describes, in greater detail, the Professionals’ construction administration procedures and responsibilities.

All individuals representing the design firm and its consultants should become thoroughly acquainted with the contents of this manual.

The Engineering & Architecture (E&A) Small Business Project Procedure Manual, with all subsequent amendments/modifications, is incorporated by reference into all standard Agreements for Professional Services made subsequent to the publication of the Manual.

Please obtain these documents from the DGS Internet Website at www.dgs.state.pa.us, under Pennsylvania’s Small Business Procurement Initiative link.

NOTE:

The term “Project Coordinator” is used frequently throughout the SBPPM. The “Project Coordinator” can be either DGS or the Using Agency depending on the specifics of the project. Each individual project Work Order will identify the party assigned to the role of “Project Coordinator.” Any time the term “Coordinator” is used in the SBPPM it refers to the “Project Coordinator.”

Any time the term “DGS Coordinator” is used in the SBPPM, it refers to a specific DGS individual and not Using Agency personnel.

Any time the term “Agency Coordinator” is used in the SBPPM, it refers to a specific Agency individual and not DGS personnel.
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SECTION 100 - INTRODUCTION

100.1 MANUAL’S PURPOSE. The Engineering and Architecture Small Business Project Procedure Manual (‘the Manual’) provides Design Professionals (‘the Professional’) with a guideline of procedures and standards for the design and construction stages of Department of General Services’ (DGS) Small Business Public Works projects. The Manual’s organization reflects the sequence in which services and submissions will normally occur.

100.2 MODIFICATIONS. As necessary, modifications to the Manual will be issued, with revised dates. The Professional should download the current version of this Manual from the DGS website, at the inception of each Project.

100.3 EXCEPTIONS. It is not the purpose of the Manual to establish inflexible rules that hinder practical performance. If a specific situation appears to justify a deviation from the guidelines, it should be brought to the attention of Project Coordinator. Prior written approval is to be obtained before making a deviation.

SECTION 101 - REFERENCE AND STANDARD DOCUMENTS

101.1 MANUAL INCORPORATED INTO PROFESSIONAL AGREEMENTS. This Project Procedure Manual is incorporated into the Professional Agreement and is complimentary to the Agreement and documents incorporated therein.

SECTION 102 - PUBLIC WORKS ORGANIZATION

102.1 PUBLIC WORKS. The DGS Deputy Secretary for Public Works administers improvement projects for most Commonwealth Agencies (Using Agency). Three (3) bureaus operate under the Deputy Secretary; the Bureau of Engineering and Architecture, the Bureau of Professional Selections and Administrative Services, and the Bureau of Construction.

102.2 BUREAU OF ENGINEERING AND ARCHITECTURE. The DGS Bureau of Engineering and Architecture (E/A) administers the professional services and the Project during the design stages for the Department. The DGS Project Coordinator is the Professional’s primary point of contact with the Department of General Services.

102.3 BUREAU OF PROFESSIONAL SELECTIONS AND ADMINISTRATIVE SERVICES. The Bureau of Professional Selections and Administrative Services (BPSAS) provides administrative support to Public Works. Major functions include:

A. It establishes Public Works projects through the receipt of Requests for Project Action (Scope) for Capital Budget authorized projects, and through the receipt of Agency funded work requests, and administers the Professional Selection process.

B. Administers the construction contract Procurement Stage of all projects including, advertising, bulletins, bid openings, and award.
C. Its Fiscal Unit receives and processes all invoices, maintains financial accounts and project funding data.

D. Administers the Claim Resolution process; both Professional and Construction Contractor.

102.4 BUREAU OF CONSTRUCTION. The Bureau of Construction manages most of the professional services and project activities from the award of construction contracts through completion. Unless otherwise instructed, contact with the Department, during construction should be addressed to the Bureau of Construction or the Using Agency if they are administering the Construction Phase. Upon request of the Bureau of Construction, the Bureau of E/A assists with administration of professional services.

SECTION 103 - CORRESPONDENCE

103.1 NUMBER OF COPIES. All correspondence is to be addressed to the Project Coordinator. Unless stated otherwise, the original is to be accompanied by one (1) copy (including all enclosures or attachments) in the same envelope. Mark one of the copies for the Project Coordinator by name.

103.2 ASSOCIATED CORRESPONDENCE. Multiple copies, as specified in 103.1, of all of the Professional’s correspondence to the Agency, the Institution, a regulatory agency, or any other party, are to be sent to the Project Coordinator.

103.3 CORRESPONDENCE FROM THIRD PARTIES. The Professional is to send the Project Coordinator two (2) copies of all correspondence received wherein project decisions, instructions or significant information is contained.

103.4 IDENTIFICATION. All correspondence, faxes, e-mail, and other transmittals must include the DGS Project Number (including Phase and Part when used) and title. The subject of the correspondence should also be referenced.

Example:

Sub: Selection of Paving Stones

Re: Project No. A400-51 Phase 2
Part A – Parking Lot
Student Union Building
Commonwealth University
Harrisburg, Pennsylvania 17120

103.5 E-MAILS. E-mail is acceptable for normal correspondence; however, all e-mail correspondence regarding critical information (i.e. project schedule, cost, contract terms, services, fees, scope of work, critical decisions and directions, etc.) must be followed by a hard copy in letter form and sent to the Project Coordinator for record purposes.

103.6 FAXES. When approved by the Project Coordinator, correspondence may be sent by fax. Limit faxes to urgent correspondence only.
SECTION 104 - MEETINGS, MINUTES AND REPORTS

104.1 MEETINGS. During the Design Stages of the Project, the Professional is required to attend meetings as they deem necessary to produce a design that meets the Using Agency requirements and is within the indicated percentage of the Base Construction Amount.

104.3 RECORD OF MEETINGS AND CONVERSATIONS. Meeting notes, minutes, telephone conversations and formal or informal communications with DGS or other parties, wherein decisions, instructions or pertinent information significantly affecting the design schedule, or services are exchanged, are to be documented by the Professional and confirmed hard copy to the Project Coordinator.

SECTION 105 - PAYMENTS AND FEES

105.1 INVOICE FORMATS. All invoices for Professional Services must be submitted on the appropriate invoice format. Contact BPSAS Fiscal Unit via email; RA-PW fiscal forms@state.pa.us for current invoice templates.

105.2 INVOICES FOR BASIC SERVICES. All invoices for Basic Services during the Design Stages must be submitted in a standard format, one (1) original only, as provided by the Department’s or Agency’s Fiscal Unit.

Invoices for all Construction Administration Services payments during the Construction Stage must be submitted in a standard format, one (1) original only, as provided by the Department’s or Agency’s Fiscal Unit.

105.3 INVOICES FOR ADDITIONAL SERVICES. All invoices for Additional Services, on the appropriate invoice format, are to be sent to the Project Coordinator. Invoices must be submitted separately for each Additional Service, in accordance with the instructions in the specific Work Order. The Professional must review and approve invoices from consultants, included as backup. Final invoices for that service must be marked ‘FINAL’.

105.4 CHANGE ORDERS. The services of the Professional arising from an authorized Change Order, which is not the result of the Professional’s error or omission, shall be compensated at the Basic Services Fee percentage established for the Project, applied to the Change Order amount, with no increase or reduction of fee for Credit Change Orders. The Professional must submit a separate invoice for payment for fees on Change Orders.

105.5 FEES FOR ADDITIONAL SERVICES. All Services beyond Basic Services must be authorized by additional Work Orders. Additional Services are compensated at actual costs, except where otherwise stated in the Agreement General Conditions. The Professional shall submit a not-to-exceed cost proposal for requested services when actual cost is the basis for compensation. No payment will be made in excess of the authorized amount unless there is a change in the scope of work. Payment will be made based on the actual costs or approved not-to-exceed amount, whichever is least.

A. All requests for Additional Services must be approved and executed prior to commencing performance of the Additional Services; unless specifically directed in writing.

B. When reimbursable expenses are permitted, they may not exceed the Commonwealth’s standard allowable amounts.
105.6 **INSURANCE.** No payment for any services will be made without a current certificate of Professional Liability Insurance and a current certificate of General Liability Insurance on file with the Bureau of Administrative Services. It is the Professional’s responsibility to provide current certificates, as the previous certificates expire.

**SECTION 106 - RELEASE OF PROJECT INFORMATION**

106.1 **RELEASE.** No information, finding, result or opinion, concerning the Project, is to be released to any Federal, State or Local, public or private entity, unless specifically authorized in writing by DGS. Inquiries are to be referred to the DGS Coordinator. The DGS Office of Information, c/o the DGS Press Secretary, must review and approve all press releases and information given to the Public.

**SECTION 107 - PROFESSIONALS PERFORMANCE EVALUATION**

107.1 **STAGES EVALUATED.** The Coordinators, and/or Construction Inspector Supervisors may render confidential evaluations of Professionals’ and Consultants’ performance at various stages in the project.

107.2 **USE OF RESULTS.** Evaluations are strictly confidential and maintained only for Department’s use. Complete evaluation results will not be released to Professionals or their Consultants. The Professional will, however, be advised of a less than satisfactory performance evaluation.

**SECTION 108 - SUSPENSION AND REACTIVATION**

108.1 **SUSPENSION AND REACTIVATION.** The Project may be suspended by the Department at anytime during its several stages. If the Project is reactivated, it is the Professional’s responsibility to review all changes in codes, regulations, conditions at the site, governing specifications, specified products and all other conditions that may affect the Project and update the design documents accordingly. Where codes and regulations have changed during a suspension or regulatory approvals have expired, the Professional must obtain updated or new approvals from governing or regulatory agencies.

**SECTION 109 - SELECTION OF CONSULTANTS**

109.1 **SECLECTION OF CONSULTANTS.** Only self-certified Small Design Businesses may be used as consultants on Small Business projects, unless otherwise approved by the Secretary of the Department of General Services, or designee. Any consultant retained by the Professional on a specific Small Business project shall comply with the conditions of this Design Contract to the same extent as the Professional and the Professional should include a clause in its Consultant Contracts to this effect.

**SECTION 110 - SCOPE AND BASE CONSTRUCTION**

110.1 **THE SCOPE.** The Project Scope is as generally described in the project specific Work Order.

110.2 **CHANGES IN SCOPE.** The sole interpreter of the Scope is DGS and no changes from the Scope are permitted without written direction.
110.3 Utility Services. All utilities and services, such as water, sewer, power, telephone, communications and emergency power, etc. needed for proper function of the completed Project are included in the Scope, unless specifically excluded. The design of proper utility services is included as a Basic Service in the Work Order, whether it includes connections to existing systems, on or off the site, or providing new systems at the site.

110.4 Base Construction Amount. The Base Construction Amount is the amount of money available for the construction of the Project. Funds for design fees and contingencies are not taken from the Base Construction Amount. It is the Professional’s responsibility to design the Project within the Base Construction Amount. The Base Construction Amount can be changed only by DGS. Utility service installation and construction to provide an operational facility are to be included within the Base Construction Amount. Loose equipment and furnishings (FF&E) are not generally included in the Project.

110.5 Cost Monitoring. It is essential that the Professional use a cost monitoring system, during the Design Stages to determine if the Project is within the Base Construction Amount. Failure to Cost Monitor may result in the Professional being required to redesign the Project, at its own expense.

SECTION 111 - PROGRAM AND PROJECT DEVELOPMENT

111.1 The Program. Program information, will be provided to the Professional with the Work Order and may be supplemented at the Orientation Conference.

SECTION 112 - APPROVALS AND COMPLIANCES

112.1 DGS Approval. The Department or Using Agency may choose to Approve or Reject a Design Submission. The Professional must receive Approval of each Design Submission prior to proceeding to the next Stage.

112.2 Using Agency Approval. The Schematic Design and Construction Documents Submissions must be approved by the Using Agency. The design should be closely coordinated with the Using Agency/Institution during all phases of the design.

112.3 Regulatory Agencies. The Professional must obtain the design approval of all Local, State, Federal and other regulatory agencies having jurisdiction over the Work of the Project. Permits and approvals required at various stages are covered in more detail in subsequent chapters of this manual. The Professional will be reimbursed the cost of permits, filing fees or similar approvals, obtained during the Design Stages. The Professional shall obtain the necessary Building Permit from Department of Labor and Industry under the PA Uniform Construction Code. Commonwealth projects are exempted from the local building permit approval. Where other permit applications are part of the codes approval process, the Professional shall make application and obtain permits.

SECTION 113 - DEFINITIONS

113.1 Purpose. In order to eliminate ambiguity, and to avoid confusion and dispute, the Professional shall use the following terms with the precise meanings as herein described. Particular care shall be exercised to use these words/definitions in a consistent manner, throughout the Drawings and Specifications. Refer to the General Conditions of the Professional Agreement for more definitions.
A. ‘Base Construction’ or ‘Base Construction Amount’: The amount of money available for the construction of the Project.

B. ‘Department’: The Department of General Services of the Commonwealth of Pennsylvania, or any authorized representative, and is referred to throughout the Contract Documents as if singular in number.


D. ‘Furnish’: To supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

E. ‘Install’: Operations at the Project site, including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations.

F. ‘Institution’: The particular facility at which the work of the Project is located.

G. ‘Professional’: The Architectural or Engineering firm retained by the Department to design and document the work of the Project, or the Professional’s authorized representative.

H. ‘Provide’: To furnish and install, complete and ready for the intended use.

I. ‘Quality Assurance’: Services provided by the Professional as additional services, and performed by an independent Consultant, retained by the Professional and acting on behalf of the Department, to ensure a quality project.

J. ‘Quality Control’: Testing and inspection services required by the specifications, and performed by an agent of the Contractor.

K. “Survey Cost Estimate”: The preliminary scope and budgeting survey conducted prior to project design.

L. ‘Using Agency’: The Department, Board, Commission, State Agency, State University, State-Aided College or University.

SECTION 114 - CONTRACT INTERPRETATION

114.1 PURPOSE. The Professional should understand how the Contract Documents are to be interpreted. Following is a summary of the rules governing interpretation of the Contract Documents from the General Conditions to the Construction Contract:

A. Specifications shall govern over Drawings.

B. Specifications and Drawings shall govern over the General Conditions.

C. Special Conditions shall govern over all Specifications, General Conditions and Drawings.

D. Addenda/Bulletins shall govern over all other Contract Documents.
The Professional must be conscious of the requirements of the General Conditions to the Construction Contract, and Special Conditions, and include no language in his Specifications that will change the intent of the Department’s standard documents.

SECTION 115 - CONTRACTING METHODS

115.1 METHODS. DGS will employ Low-Bid Procurement for construction of Small Business Commonwealth projects. Following is a brief description of the Low-Bid Method

A. Low Bid Projects: Upon completion of the design, qualified Small Businesses are notified of bidding, and sealed bids are received, with the contracts being awarded to the lowest responsible bidders.
CHAPTER 2
GENERAL INFORMATION

SECTION 200 - GENERAL

200.1 SITE VISIT. An Initial Site Visit will provide the Professional the opportunity to review with the Agency’s and Institution’s representatives the Project Description, the Institution’s purpose, the Project feasibility, site location, special design or construction considerations and any additional project information.

SECTION 201 - SURVEY OF EXISTING CONDITIONS

201.1 SITE VERIFICATION. The Professional is to investigate existing site conditions visually and by measurement, as well as by examining available records and drawings, to determine the location and nature of utility lines and all other manmade conditions as well as natural conditions, that may influence the project. As-Built records and any existing survey cannot be relied upon to adequately disclose the pertinent information.

201.2 EXISTING BUILDING CONDITIONS VERIFICATION. The Professional is to survey the existing structures of alteration, addition and renovation projects to determine existing conditions affecting the new work. The survey shall include all HVAC, Plumbing, Electrical, Elevator services and all other conditions necessary for a comprehensive design and complete construction documents. As-Built drawings, if available, are only intended as a guide. DGS assumes no responsibility for their accuracy. Surveys of existing conditions include reasonable cutting of exploratory holes and other investigations to determine the location of existing elements as necessary for coordinating the design. The Agency shall determine if the exploratory hole location is acceptable, considering the facility’s operation and assist with relocation, if necessary. The Agency is responsible for actual cutting and patching of the holes. All existing conditions affecting the work shall be documented on Contract Drawings.

201.3 AS-BUILT AND RECORD DRAWINGS. The Department of General Services (DGS) has in archival storage, As-Built and Record Drawings for some of the projects constructed by the Department and the Former General State Authority (GSA). In addition, the DGS Bureau of Real Estate, Space Management Division, has some of the floor plans for the DGS controlled state office buildings on CAD. Professionals are advised to review the documents available at the Agency or Institution and determine their need for drawings. Review record drawings available at the Institution or DGS. To review record drawings contact the DGS BPSAS Project Administration Division at (717) 787-3674.

201.4 FLOOD PLAIN INVESTIGATION. Prior to starting design the Professional should confirm if the site is within or near the 100-year flood plain elevation. Commonwealth buildings must comply with local ordinances whether they are FEMA dictated minimums or more stringent local requirements. Under no circumstances should the lowest finish floor elevation be below the 100-year flood plain elevation. Project design, including site improvements, must be designed with floodwater elevations considered. Facilities placed in flood plain areas will usually require a permit from the Department of Environmental Protection (DEP). Design approvals of all regulating authorities and executed DEP encroachment permits are to be submitted with the Construction Documents Submission.

A. If there are flood issues, it is the responsibility of the Professional to resolve them prior to doing working drawings. Any redesign required because of failure to comply with requirements of controlling regulators will not be considered wasted design.
SECTION 202 - CODES AND PERMITS

202.1 PROFESSIONAL’S RESPONSIBILITY. The Professional shall design the Project in compliance with all applicable Federal, State and Local Codes, Ordinances, Laws, Regulations and having jurisdiction.

202.2 VARIANCES. Variances to codes and ordinances are to be avoided. When a variance seems to be a desirable option it is to be reviewed with the Project Coordinator. In no case is a variance application to be made without prior approval.

202.3 BUILDING CODES. The Project design and construction must conform to the latest edition of the Pennsylvania Uniform Construction Code (UCC), as adopted and enforced by the Department of Labor and Industry.

   A. The UCC also adopts various standards and codes including International Building Code (IBC) for use throughout the Commonwealth of Pennsylvania. The Department of Labor and Industry will perform code enforcement and enforce the UCC. State owned buildings are exempted from local (Municipal, Township) review of projects for building permit.

      1. PA Uniform Construction Code (UCC) is administered by the PA Department of Labor and Industry.

      2. All Commonwealth projects are exempted from fees for plan review and building permit application.

   B. Other Building Codes and Standards (Local, State and Federal) not listed may also apply.

202.4 ZONING. DGS is required to comply with local land use, setback, height and other local zoning restrictions. Basic Services includes making application, attendance at zoning hearing meetings, and obtaining zoning approval.

202.5 SUBDIVISION AND LAND DEVELOPMENT APPROVAL. The DGS will comply with local subdivision and land development ordinances. The completion of application forms, the design of project construction elements necessary to comply with the regulatory requirements, and obtaining the required approvals/permits are compensated as part of Basic Services. All drawings, compilations of computations, special studies, narratives, attendance at public hearings (including travel expenses), required by the regulatory agency are considered part of Basic Services.

   A. The Professional will be reimbursed the actual fees/amounts paid to regulatory agencies for applications, reviews, approvals, permits, and recordations.

202.6 PERMITS. The Professional is to obtain all other design approval permits, such as those issued by the Department of Environmental Protection (DEP), the Department of Health (DOH), the Department of Labor & Industry (L&I), the Pennsylvania Historic and museum Commission (PHMC), the PA department of Transportation Highway Occupancy Permits, and permission to connect to utility systems. All permits must be secured before a project is cleared for bidding.

SECTION 203 - LAND SURVEY

203.1 INITIAL INFORMATION. Collect all available topographic and other site information available from the Using Agency and DGS, and review, analyze and determine completeness of Project Information.
203.2 OBTAINING A LAND SURVEY. A Property/Topographic survey may be provided by DGS or Using Agency. Professional should obtain confirmation from public records that all existing easements are shown on the land survey.

SECTION 204 - SUBSURFACE AND RELATED SITE INVESTIGATION

204.1 INTENT. The Professional, with a Civil/Structural Engineer, is to obtain data that will yield sufficient information for an accurate evaluation of the existing subsurface and related conditions for the following purposes:

A. Analysis, design and construction of foundation and substructure.
B. Analysis, design and construction of site work such as embankment, slopes, retaining structures, site and subsurface drainage, roads and pavements.
C. Soil Erosion and Sedimentation Control.
D. Analysis and cost estimation of rock and soil excavation and fill.
E. Wetlands and other land use evaluation.
F. Archaeological studies.

204.2 OBTAINING SUBSURFACE AND RELATED INFORMATION. The Professional, with a Civil/Structural Engineer, is to gather available information from any previous studies or reports and by observing the site. Geotechnical Services including borings, test pits, laboratory testing and inspections are considered additional services.

204.3 SUBSURFACE FUEL TANK INVESTIGATIONS. There are specific regulations regarding existing and new fuel storage systems. Unforeseen fuel systems, whether discovered during design or construction, shall be addressed by the Professional in the most appropriate manner so as not to impede the project. The Professional shall use due diligence to determine the presence of or lack of underground tank systems.

204.4 SUBSURFACE UTILITY INVESTIGATION. When it is necessary to locate unobservable utility lines, tanks or other objects, due to complexity or special circumstances of the project, the Professional may be authorized, as an Additional Service, to perform a Subsurface Utility Investigation (sometimes referred to as Subsurface Utility Engineering), to obtain the necessary information through the use of geophysical prospecting techniques.

204.5 SOILS ENVIRONMENTAL ASSESSMENT. The Using Agency shall alert the Department and the Professional of any previous activity, which could have created soil contamination problems. Where the likelihood of contamination is real, the Department and the Professional shall jointly determine if a soils environmental assessment is appropriate. Installing improvements on top of contaminated soil is to be avoided.
SECTION 205 - DESIGN RESTRICTIONS

205.1 GENERAL. For each product specified, indicate the manufacturer’s name and the product/model designation used as a “basis of design”, to establish a standard of quality, appearance, design, function, and performance. In addition, list the names of at least two (2) other manufacturers (product/model designations may be required) who produce products comparable to the “basis of design”, along with the clause “. . . or equal as approved by the Professional”. When additional product/model designations are required, they must be equal products, to the best of the Professional’s knowledge. In the event that three (3) manufacturers cannot be found, two (2) manufacturers may suffice, if approved by the Department. Avoid designs using features specific to just one manufacturer. For requirements regarding approved equals or substitutions, refer to Article 9 of the General Conditions of the Construction Contract.

A. The Professional must use care not to specify any requirements that may unnecessarily restrict bidders; such as geographic location, training by either union or non-union sources, or products that are uniquely-certified. Requirement for training by the product manufacturer is acceptable. If uncertain, discuss with the DGS Project Coordinator.

205.2 PROPRIETARY PRODUCTS. When the Professional or Using Agency wants to restrict acceptable products/manufacturers to one or more specific products/manufacturers, the following procedure for requesting proprietary approval must be followed:

A. The Professional must send a letter to E/A (accompanied by the Using Agency’s endorsement or request) stating that only said specific product(s)/manufacturer(s) meet the requirements and that use of other products/manufacturers would not work for this Project or situation. The letter must also explain how the product(s) best serves the Commonwealth, and giving the compelling reasons why only this particular proprietary product must be used.

B. The Professional must also follow the requirements stipulated in the Proprietary Request Procedures (see Exhibits).

C. DGS will give written notice of its decision.

205.3 RESTRICTED PRODUCTS. DGS does not have a blanket “Buy America” policy. Foreign and Restricted Product restrictions are covered below. Refer to the Instructions to Bidders for specific prohibitions.

205.4 STEEL PRODUCTS. Pursuant to the Steel Products Procurement Act, steel products including approved proprietary products must be composed of steel manufactured in the U.S. Products containing foreign steel are permitted only if 75% of the cost of the product is composed of articles or materials mined, produced or manufactured in the U.S. DGS may grant an exception to the prohibition when it determines that the product is not manufactured of U.S. steel in sufficient quantity for the Project. The Professional is not to knowingly specify a prohibited product.

205.5 ARCHITECTURAL CONCRETE. Cast-in-place concrete as an architectural finish, in all but utilitarian spaces, is prohibited. The use of colored concrete and/or polished concrete as a floor finish is to be avoided, unless specifically approved by the Department. The prohibition does not apply to pre-cast concrete; however, its use must be approved by the Department or Agency.
205.6 ENERGY SOURCE FOR SPACE HEATING. Heating systems or heating units installed in a facility owned by the Commonwealth shall be fueled by coal, consistent with Act 1990-28. Exceptions permitted under the Act appear in Chapter 10.

A. When an alternate fuel source is proposed, justification for not using coal is required. Information for the type of fuel proposed for this Project supporting the justification must be submitted as part of Basic Services.

B. Include such considerations as:

1. Heating system first costs, and life cycle analysis.
2. Space considerations for handling and storage.
3. Space considerations for equipment.
4. Manpower requirements for operation and maintenance of a coal system.
5. State and Federal Air Quality considerations.
6. Aesthetic appeal of the site, building and/or facility.
7. Other information you consider appropriate.
8. Using natural gas from wells located in PA may be an appropriate justification.

C. Information must be specific enough to present a provable argument for using the proposed fuel in place of coal. An extensive report is not required; information can be presented in letter form addressing items listed above.

205.7 DEVIATION FROM CONSTRUCTION CONTRACT GENERAL CONDITIONS. DGS uses its standard General Conditions to the Construction Contract for all projects. The Department also uses Special Conditions, which are supplementary conditions to the General Conditions. The Special Conditions are revised from time to time to cover changes required in the General Conditions items on particular types of projects. The Professional may not deviate from the standard practices and procedures established in the General Conditions and Special Conditions without specific approval from the DGS Coordinator.

205.8 STANDARDS OF QUALITY AND SUBSTITUTION OF MATERIALS. For requirements regarding approved equals or substitutions and use of trade names, refer to the General Conditions to the Construction Contract, and to Chapter 6 of this Manual.

SECTION 206 - MULTIPLE PRIME CONTRACTS

206.1 REQUIREMENT. Separate Prime Contracts for General Construction, HVAC Construction, Plumbing Construction and Electrical Construction are required by Pennsylvania Law. The only exception is when the Base Construction amount is less than $25,000.

206.2 MISCELLANEOUS CONTRACTS. Hazmat abatement, sprinklers, demolition, elevators or other specialties may be separate Prime Contracts at the discretion of DGS.

206.3 DIVISION OF WORK. Division of work among the Prime Contracts shall be in accordance with the list to follow. Work not listed is to be included in the most appropriate contract after checking it with the Project Coordinator.
A. GENERAL CONSTRUCTION CONTRACT (.1):

1. The usual general construction work for buildings and landscaping.
2. Dams and other civil engineering structures.
3. Sewage treatment plants and water treatment plants.
4. Demolition (except where a separate contract is required prior to bidding of other contracts).
5. Roadways and parking areas, including incidental drainage structures.
7. Install roof drains (furnished by PC).
8. Fences (not including fences for transformer stations).
9. Steam and traffic tunnels.
10. Stage equipment (excluding lighting equipment).
11. Laundry and dry cleaning equipment.
12. Kitchen and cafeteria equipment. (Hood systems (fans, duct and hood) by .2)
13. Laboratory equipment. (Package hood systems by .1 – Hood component system by .2).
14. Elevators, dumbwaiters, escalators, chair lifts or by .5 contract.
15. Fire protection and domestic water distribution system, including fire loops and hydrants (beyond 5’-0” outside building line).
16. Water storage reservoirs, elevated tanks, standpipes (NOTE: If desirable this may be a separate .5 contract).
17. Sanitary sewerage systems (beyond 5’-0” outside building line).
18. Storm water systems (beyond 5’-0” outside building line).
19. Well drilling for water supply (if a separate contract is not desirable).
20. Louvers and similar items that affect building appearance (some furnished to GC by other Primes).
21. HazMat abatement including asbestos, lead, PCB, radon and others.
22. Gas distribution system (beyond 5’-0” outside building line).
23. Foundations and/or supports for all heavy equipment.

B. HEATING, VENTILATING AND AIR CONDITIONING CONSTRUCTION (HVAC) CONTRACT (.2):

1. The usual heating, ventilating and air conditioning work, including controls.
2. Boilers, breaching and incidental piping, heaters and pumps.
3. Site distribution of steam, condensate, hot water, and chilled water (tunnels are under the .1 Contract).
4. Heating work for control buildings of sewage treatment plants.
5. Coal and ash handling equipment for boiler plants.
6. Refrigeration equipment (not kitchen refrigeration equipment).
7. Lightweight equipment supports and housekeeping pads.
8. Boiler plant and HVAC equipment controls.
9. Intake and exhaust louvers with or without dampers for .2 work (installed by .1 Contractor where present).
10. Ductwork for interior generators (from generator to exterior wall).
11. Fuel tanks, including fuel lines.
12. Cathodic protection for steel tanks.
13. Furnish and install interior generator exhaust piping with insulation.
14. Install generator muffler (with insulation) furnished by .4 Contractor.
15. Well drilling and pipe installation for geothermal systems.
16. HVAC connections for kitchen equipment, laboratory equipment, dental equipment, laundry equipment and any equipment provided by others that requires HVAC connections.
17. Kitchen hood systems (hood, ductwork, exhaust fan and controls).
18. Laboratory hood systems (hood, ductwork, exhaust fan and controls).
19. HazMat associated with .2 contract work.

C. PLUMBING CONSTRUCTION CONTRACT (.3):
1. The usual plumbing work for buildings including water, sanitary, rain water conductors and gas connections for building system when connected to nearby local mains.
2. Water treatment equipment.
3. Sterilizing equipment.
4. Roof drains (installed by .1 GC).
5. Rain water conductors from roof drains.
6. Fire suppression system if there is not a separate specialty contract
7. Plumbing connections for kitchen equipment, laboratory equipment, dental equipment, laundry equipment and any equipment provided by others that requires plumbing connections.
8. Lightweight equipment supports and housekeeping pads.
9. HazMat associated with .3 contract.
D. ELECTRICAL CONSTRUCTION CONTRACT (.4):
   1. The usual electrical work for buildings.
   2. Electrical distribution system.
   3. Transformer stations complete, including fences.
   4. Electrical work for hazard lighting of elevated tanks and chimneys.
   5. Electrical work in connection with sewage treatment plants (not electrically operated equipment).
   6. Street and/or parking lot lighting.
   7. Electric resistance snow melt system.
   8. Generators and associated equipment including system, tanks, mufflers and exhaust piping, etc.
   9. Electrical connections, overload protection and disconnecting means for all HVAC equipment.
   10. Lightning protection system.
   11. Telecommunications structured cabling systems.
   12. Fire alarm systems.
   14. CCTV systems.
   15. Electrical connections for kitchen equipment, laboratory equipment, dental equipment, laundry equipment and any equipment provided by others that requires electrical connections.
   16. Lightweight equipment supports and housekeeping pads.
   17. HazMat associated with electrical equipment or installation.

E. MISCELLANEOUS CONSTRUCTION CONTRACT (.5)(.6)(used when specialty work is so extensive that a separate contract is warranted)
   1. Sprinkler system.
   2. Demolition,
   4. HazMat – Asbestos Abatement, Lead, PCB, Radon, etc.

SECTION 207 – PROJECT SCHEDULE

207.1 SUBMISSIONS. Each design submission should contain a Project Schedule which includes at a minimum the following activities and durations:

   A. Work Order Execution
   B. Schematic Design Submission to Using Agency
C. Using Agency approval of Schematic Design Submission
D. Construction Document Submission to Using Agency
E. Using Agency Approval of Construction Document Submission
F. Permits Issued
G. Construction Document Submission to DGS
H. DGS Approval of Construction Document Submission (Cleared for Bidding)
I. Project Advertised
J. Bid Opening
K. Bid Award
L. Contract Execution
M. Initial Job Conference (Notice to Proceed)
N. Final Construction Completion
O. Certificate of Final Completion and Record Drawing Approval
CHAPTER 3
SCHEMATIC DESIGN SUBMISSION

SECTION 300 - GENERAL

300.1 PURPOSE. The Schematic Design is to illustrate the concept, scope, scale and relationship of the Project components and the Probable Construction Cost. After the Orientation Meeting, the Professional shall prepare and submit to the Using Agency, the Schematic Design documents, which shall be based upon the proposed solution. Schematic Design documents are to present the design concept based upon the Program, Base Construction Amount, site location and other factors derived from the Using Agency. The Schematic Design is to present the general type of construction proposed, the basic HVAC, plumbing and electrical system concepts and the relationship of the facility to the site.

300.2 SUBMISSION TO USING AGENCY. The Professional is to furnish the Using Agency with three complete sets (hard copies) of Schematic Design Submission documents.

300.3 SUBMISSION TO DGS. The Professional is to provide the DGS Coordinator with only the following Schematic Design Submission Documents. These documents should be delivered to the DGS Coordinator at the same time the entire submission package is delivered to the Using Agency.

A. Copy of Transmittal Letter to Using Agency
B. Probable Construction Cost Summary
C. Project Schedule
D. Code Review/Analysis and Regulatory Approvals
E. Fuel Feasibility Study (only if applicable)
F. Coal Non-Use Justification (only if applicable)
G. Proprietary Requests and Approvals (only if applicable)

300.4 REVIEW CONFERENCE. The Using Agency will determine if a review conference is required. The conference shall be pre-scheduled and held within one week of submission. Even if a review conference is not held, approval or rejection must be given with comments, within one week of submission.

SECTION 301 - SCHEMATIC DESIGN SUBMISSION DOCUMENTS

301.1 SCHEMATIC DESIGN SUBMISSION PACKAGE. On or before the scheduled date of the Schematic Design Submission, the Professional shall deliver the Submission Package, including two (2) copies of each of the following components, to the Using Agency Coordinator:

A. A Transmittal Letter duly checked and filled out as appropriate (see Exhibits).
B. The Schematic Design Submission Probable Construction Cost Summary.
C. Updated Project Schedule
D. Code Review/Analysis and Regulatory Approvals
E. The Fuel Feasibility Study
F. Coal Non-Use Justification
G. List and status of proprietary requests and approvals

H. All Schematic Design Drawings, including Cover Sheet.

I. Additional Items, as applicable:

1. Estimated loads, telephone call reports, and Notification Letters to all Utility Companies (Electric, Gas, Water, Sewer, Telephone, Cable TV, etc. as applicable). Utility Company reply letters confirming service, should be included if available.

2. The Structural Engineers’ Initial Subsurface and Related Site Investigation Reports, and Professional’s Request for Proposals for Geotechnical Services.

3. An Initial Report on Site Restrictions, including zoning, land development, flood plains, wetlands, hazardous materials, water table, sinkholes, endangered species, easements required, etc.

4. A List of Regulatory Approvals/Permits – Status Report that the Professional recognizes as necessary for the Project.

5. The initial contact letter to Pennsylvania Historical and Museum Commission.

6. A Report on Current and Anticipated Additional Services, including but not limited to, Property Survey, Geotechnical Investigation, Hazardous Materials Survey, etc.

7. Other additional items requested by the Project Coordinator, or otherwise determined by the Professional to be required for the Project.

301.2 SITE PLANS. Site plans must include the following information:

A. A small scale Overall Site Plan showing the Project’s relationship to surrounding improvements and conditions, metes and bounds bordering the site, easements, approximate Limit of Contract line.

B. The Utility Plan (if applicable) is to include utilities to be provided by all Contractors, for coordination purposes, with clear notation that the actual work for Contractors other than the GC is shown on their site plans.

301.3 FLOOR PLANS. Plans are to be minimum 1/8” = 1’-0” scale, showing approximate wall thicknesses. A plan for each affected floor and roof must be provided. Renovations, alterations, and demolition plans may be single line drawings superimposed on existing drawings. Floor plans shall show the relative space, size and location of all major mechanical/HVAC, plumbing, electrical, telephone, equipment rooms, and establish space and location for circulation and other non-programmed spaces, as well as all programmed space. The projected ratio of gross square footage to net square footage (e.g. 100,000 gsf : 85,000 nsf) must be indicated on each Floor Plan. Consideration of a suitable foundation and conceptual structural system is to appear on the drawings.
301.4 OTHER DRAWINGS AS APPLICABLE.

A. ELEVATIONS AND SECTIONS. Principle building elevations must be shown. Significant longitudinal and lateral building sections must be shown sufficient to indicate arrangement, volumes and relationship of spaces. Include a typical wall section to show type of construction intended.

B. HVAC, PLUMBING AND ELECTRICAL SYSTEMS. Drawings shall indicate the general arrangements of HVAC, plumbing and electrical system being provided. Statements of reasoning justifying the selection of the proposed systems shall be provided.

C. EXISTING FACILITIES. Where existing facilities are to be retained, altered, or modified, the pertinent information shall be indicated on site plans, floor plans and/or other diagrams.

D. DETAILED SITE PLANS. Plans of adequate scale to show the work, including an Existing Site Plan with site boundaries, metes and bounds bordering the site, existing improvements, existing trees and vegetation, topo and utilities, source and date of survey, multiple benchmarks; a Grading and Drainage Plan showing existing and proposed topographic contours, at maximum two (2) foot intervals, and proposed drainage; a Site Improvements Plan showing proposed and existing structures, and other site improvements such as roads and parking lots, sidewalks, landscape items, etc.; a Utility Plan showing existing and new utilities with points of attachment.

301.5 PROBABLE CONSTRUCTION COST. The Probable Construction Cost shall be submitted on the form provided (see Exhibits). The estimate should be presented in the same or greater level of detail as the Survey Cost Estimate (SCE).

A. If it was necessary to delete portions of the Using Agency’s original Program Scope in order to provide a Schematic Design that meets the cost limitation, the Professional as part of Basic Services shall work with the Using Agency to plan for possible adjustments the design which may become the basis for the Ascending Base Bids required at Construction Documents Stage.

SECTION 302 - REGULATORY APPROVALS

302.1 REQUIREMENTS. The Professional should refer to General Conditions of the Professional Agreement and this Manual, relative to required submittals to applicable agencies in a timely manner.

302.2 DEPARTMENT NOTIFICATION. If a regulatory requirement substantially impacts the Project, or if any required approval is withheld by any agency, the Professional shall immediately notify Project Coordinator.

302.3 LIST OF REQUIRED PERMITS. With the Schematic Design Submission, the Professional shall include a list of all required approvals/permits with a schedule of application dates. Use the form included with Exhibits. Information concerning application documents and other requirements for each approval and permit is to accompany the list. Indicate real and anticipated dates for each step of the submission and approval process (include application, comments received, resubmission with comments addressed, approval), for each required permit/approval.
SECTION 303 - APPROVALS AND POST-CONFERENCE ACTIVITIES

303.1 USING AGENCY APPROVAL. The Using Agency will either approve or reject the submission in writing to the design Professional with a copy going to the DGS Coordinator. The Using Agency approval will also serve as their recommendation for payment to the Design Professional for the Schematic Design Portion of the project. Compensation for the Professional’s effort beyond the Schematic Design Submission will not be made unless the Using Agency has approved the Schematic Design Submission in writing.

303.2 DGS APPROVAL. Upon receipt of Using Agency approval, DGS will review for approval or rejection.

303.3 SUBSURFACE AND OTHER INVESTIGATIONS. Immediately after the Schematic Design approval, the Professional must engage the services of geotechnical, hazardous materials and other consultants, and as necessary to maintain schedule.

303.4 DESIGN MEETINGS. The Professional shall meet with the Using Agency, as frequently as they deem necessary, while developing the project from Schematic Design Stage to Construction Document Stage. These meetings are to obtain the Using Agency’s requirements and instructions, resolve planning and program issues, resolve budgetary issues, and ensure that all needs are addressed.
SECTION 400 - GENERAL

400.1 PURPOSE. The Construction Documents Submission is to provide 100% complete final construction documents, including drawings, specifications, and permits as required for bidding and construction.

400.2 SUBMISSION TO USING AGENCY. The Professional is to furnish the Using Agency with two complete sets (hard copies) of Construction Document Submission documents.

400.3 UCC APPLICATIONS FOR BUILDING PERMIT. Within one week of submission, the Using Agency Coordinator determines if the Construction Documents Submission is acceptable. If submission is not acceptable, the Agency shall reject submission, requiring immediate correction and resubmission. If acceptable, they will immediately direct Professional in writing to submit all the Construction Documents to the Department of Labor and Industry (L&I), with completed UCC Application for Building Permit. Commonwealth projects are exempted from UCC Building Permit Application fees. If the project requires Department of Health (DOH) approval, obtain DOH approval prior to submitting to L&I.

400.4 DISTRIBUTION OF APPROVED L&I DRAWINGS. Three sets of drawings will be submitted by the Professional to L&I. If the project is approved and the permit is issued, L&I will retain two sets and return one original set to the Professional which will include the Permit number and other L&I information. The Professional should take the approved L&I set to the initial Construction Job Conference and deliver it to the Project Administrator (either DGS BOC or the Using Agency). The L&I set must be available during construction if requested of the L&I Inspector. Upon issuance of the L&I Occupancy Permit, the Project Administrator should give the L&I set to the Using Agency Representative.

400.5 SUBMISSION TO DGS. After all permits are obtained, the Professional is to provide the DGS Coordinator with two complete sets of fully permitted Construction Document Submission documents (one hard copy and one electronic (PDF format on CD)). See Chapters 5 and 6 for additional information on the drawing and Project Manual standards and requirements.

400.6 REVIEW CONFERENCE. A conference to review the Construction Documents Submission with the Professional, the Using Agency, the Institution, and DGS will be pre-scheduled if required and held within one week of submission.

SECTION 401 - CONSTRUCTION DOCUMENTS SUBMISSION DOCUMENTS

401.1 CONSTRUCTION DOCUMENTS SUBMISSION PACKAGE. On or before the scheduled date of the Construction Documents Submission (typically 90 days after the execution of the Work Order), the Professional shall deliver the fully permitted Submission Package to DGS.

A. A Transmittal duly checked as appropriate.

B. A copy of the Using Agency Approval Letter
C. Completed Design Professional’s Construction Documents Submission Checklist

D. The Code Review and Analysis, including the highlighting of any changes.

E. The Construction Documents Submission Probable Construction Cost Summary for each Base Bid, with complete cost estimate breakdown for each additional Base Bid.

F. The Project Specifications (single sided, unbound and on white paper) with the Professional’s seal and signature on the Cover Page.

G. All Construction Drawings on vellum, including the Cover Sheet, with the Professional’s seals and signatures on all drawing sheets. Also deliver all drawing in electronic format on a CD in both CAD and PDF formats.

H. The List of Regulatory Approvals/Permits – Status Report, indicating the status of the submission/review/approval process for all required permits and approvals, with copies of all approvals/permits obtained to date.

I. Updated Project Schedule

J. A Construction Schedule Bar Chart, with recommended number of calendar days of construction.

K. Additional Items, where applicable:

1. A Report Summarizing the Status of all Utilities required for the Project (Electric, Gas, Water, Sewer, Telephone, Cable TV, etc., as applicable). If applicable, provide a written estimate for the Utility Company’s cost to extend service to the building.

2. Geotechnical Reports, and all other related reports, including a letter from the Professional, confirming that the Project design is in compliance with the Geotechnical Consultant’s recommendations.

3. A rough draft of the proposed RFP for Quality Assurance Inspection and Testing Services, as required during the construction stage of the Project.

4. Other additional items requested by the Project Coordinator, or otherwise determined by the Professional to be required for the Project.

401.2 PROJECT MANUAL. The Professional must submit the 100% complete Project Manual, including Cover Page, Table of Contents, List of Drawings, Division 1 – General Requirements, and technical specifications of all contracts, describing the type, quality and use of materials, equipment, processes and systems to be incorporated in the work. The specifications must be consistent with the drawings, and coordinated among trades and between prime contracts. All sections must be complete and fully edited. The Cover Page must bear the Professional’s Seal and Signature. Pages shall be unbound, printed single sided on white paper.
401.3 DRAWINGS. Construction drawings are to be 100% complete dimensioned plans, elevations, sections, details, schedules and diagrams of all architectural, landscaping, civil, structural, HVAC, plumbing, electrical and other miscellaneous contract work. All information requisite to accurate bidding and construction must be included. The final set of drawings included in the Submission to DGS must be on vellum. The Professional’s seals and signatures must appear on all drawings. Prints for the Construction Documents Submission shall be assembled as follows:

A. The Professional’s and respective Consultants’ seals and signatures shall be affixed to all drawings.
B. Bind sets as indexed, with Cover Sheet.
C. All approvals from various regulatory agencies shall be noted on Cover Sheet of the drawings.

401.4 FINAL SITE DRAWINGS. Final site development drawings should include the following:

A. General Construction: Provide fully developed Site Drawings.
B. Other Contracts: Site plan of all work included in each Prime Contract.
C. Multi-Discipline Site Drawings may be used only when approved by the Project Coordinator.
D. After approval of the Construction Documents submission, for purposes of Land Title/Lease Confirmation by DGS Legal Unit, the Professional shall provide to the Project Coordinator, an electronic file of the small scale Overall Site Plan (11” x 17” size).

401.5 PROBABLE CONSTRUCTION COST. The Professional shall provide an updated statement of probable construction cost, with Add Base Bids, with a breakdown of estimated construction costs computed at current costs. Cost estimates for each of the separate prime contracts shall be sufficiently itemized (similar or greater level of detail as a Survey Cost Estimate, but without undefined or contingent scope items), with material and labor unit costs, so that a clear understanding of costs is shown. If the Professional proposes to use a different, but similar, format to the Department’s proscribed cost estimate forms, providing a comparable level of detail, the Professional shall submit the proposed cost structure to the Department for written approval, prior to its use. If the Statements of Probable Construction Cost for all Base Bids furnished with this submission are not within the Base Construction amount, the Professional may be required to adjust the design, at no additional expense to the Department to bring the Statement of Probable Construction Cost within the Base Construction amount.

401.6 BASE BIDS. Alternates are not used by DGS. If multiple base bids are submitted, the Professional shall submit a maximum of three (3) Add Base Bids, in ascending value. Each Base Bid shall be provided on a separate Probable Construction Cost Summary form. These add Base Bids must be accepted by the Using Agency prior to this submission.

401.7 UTILITY SERVICES. The Professional shall provide a report summarizing the status of all required utilities for the Project. The report shall indicate the nominal capacity of each service and confirm that each service is adequately sized to serve the Project. The report shall indicate what documents were provided for the DGS Legal to prepare easement agreements and the dates the documents were provided. The report shall also detail what actions are required to obtain services, when the actions are required, and who is to take the necessary actions.
401.8 CONSTRUCTION SCHEDULE. The Professional shall furnish with the submission, on a separate sheet, a construction schedule. This sheet shall only indicate major construction activities or milestones (including long lead equipment times, etc.); Agency required phasing, equipment startup, etc. and shall also contain the recommended number of calendar days of construction time.

401.9 PRE-BID CONFERENCE. As part of the Construction Documents Submission the Professional shall provide a recommendation regarding the need for, or appropriateness of a Pre-Bid Conference.

SECTION 402 - REGULATORY APPROVALS AND PERMITS

402.1 CONSTRUCTION/BUILDING PERMITS. The Professional shall obtain UCC Building Permit from the Department of Labor and Industry. The Department requires the Contractor obtain and pay for all other necessary permits, licenses and certificates required by law for proper execution and completion of its work.

402.2 SUBMISSION REQUIREMENTS. The Construction Documents Submission is to include a list of Regulatory Approval/Permits updated from the Design Development Submission to give current status of all required approvals and permits. Indicate real and anticipated dates for Applications, Comments Returned, Resubmission with Comments Addressed, and Approval. Copies of all approvals and permits obtained, and all applications submitted, that were not previously furnished must be included. Also submit copies of reports from previous submission.

402.3 DEPARTMENT NOTIFICATION. If a regulatory agency requirement substantially impacts the Project, or if any required approvals are withheld by any agency, the Professional must immediately notify the Project Coordinator and the DGS Coordinator.

SECTION 403 - APPROVALS AND POST-CONFERENCE ACTIVITIES

403.1 USING AGENCY APPROVAL. The Professional should be certain that the Construction Documents have the approval of the Using Agency, before the Construction Documents Submission to the DGS Coordinator. The Professional must obtain the Using Agency’s formal approval of the Construction Documents in the form of a letter to the Director of the Bureau of Engineering and Architecture, signed by the Using Agency’s Secretary, or designee, with approval authority. This letter is required prior to DGS Final Approval. The using Agency approval will also serve as their recommendation for payment to the Design Professional for the Construction Document portion of the project.

403.2 DGS APPROVAL. Upon receipt of fully permitted Construction Document Submission, DGS will review for approval or rejection.
CHAPTER 5
DRAWINGS

SECTION 500 - GENERAL

500.1 PURPOSE. This Chapter presents standards and guidelines for drawings prepared for DGS projects. Generally accepted professional practices are to be used, except where different DGS standards or practices are given.

500.2 DRAWINGS STANDARDS. These standards and guidelines apply to the construction contract drawings. Prints for the review submissions are to follow these same standards. All drawings used for DGS review, bidding and construction shall be printed on standard weight bond paper. Bid set should be on Vellum.

500.3 WORKING DRAWINGS. Original drawings may be hand-drawn or CADD-generated drawings. If hand-drawn, ink or pencil may be used. Line and lettering must be dark and large enough for microfilm 1/2 size reproduction. Lettering must be a minimum 3/32” height, and be legible on half-size prints. Signatures and code approvals must be in permanent ink. Except where drawings are diagrammatic, all drawings shall be drawn to scale.

500.4 INFORMATION. Final bidding/construction drawings shall contain adequate information, including schedules, details and pertinent information necessary to perform the work.

500.5 DRAWING COORDINATION. The Professional must exercise care to ensure that there is thorough coordination of the Contract Drawings, between the various contracts and with the Specifications. If a Change Order must be issued due to ambiguity or inconsistency or missing information on the drawings, the Change Order will be deemed to be an error/omission on the part of the Professional, possibly resulting in a monetary assessment against the Professional.

500.6 PROFESSIONAL’S RESPONSIBILITY. It must be understood that the Commonwealth’s review does not function as the Professional’s Quality Control. It is the Professional’s responsibility to check and thoroughly examine their Documents prior to each submission, to ensure that they meet the quality standards of your firm. The Professional must make sure that final Bidding/Construction Documents (including drawings and specifications) form a concise and biddable set of documents. Keep in mind that the Professional’s firm may be assessed for Change Orders deemed to be due to errors and omissions in the documentation.

SECTION 501 - SIZE, FORMAT AND APPROVALS

501.1 DRAWING SIZE AND MATERIAL. Prints for review submissions shall be 24” x 36”; readable half-size drawings may be permitted, if approved by the Project Coordinator. Drawings for Bidding and ‘As-Built’ Record Drawings submissions are to be 24” x 36”. If larger size drawings are necessary to avoid match lines or inappropriate scales, contact the Project Coordinator before proceeding. Drawings for review submissions shall be on paper. The drawings in the Final Construction Document set provided to DGS shall be on vellum (all pages, not just the Cover Sheet).

501.2 COVER SHEET. All projects shall have a Cover Sheet. The Cover Sheet shall adhere to the standards above and in the Exhibits. The Index to Drawings shall list each drawing by contract name and number, sheet number and descriptive title. A separate index sheet may be used if the Drawing Index does not fit on the Cover Sheet. Cover Sheet shall list the existing facility L&I File Number and the L&I Permit Number in the upper right hand corner box. List all Consultants, indicating their discipline.
501.3 TITLE BLOCKS. The title blocks for the Cover Sheet and for individual drawing sheets shall be as shown in the Exhibits. The Professional must submit proposed title blocks, with names and titles, to the Bureau for approval as a component on the drawings at the Schematic Design Submission.

A. Drawing sheets for Construction Documents Submission must have the “Drawn By” and “Checked By” boxes filled in. The person indicated in the “Checked By” box must be a qualified person, experienced in construction methods and document preparation.

501.4 PROFESSIONAL SEAL AND SIGNATURE. For the Construction Documents Submission, the Professional Seal of the Registrant in charge of the work must appear on all drawing sheets, specifications, plats and reports issued by the Professional. The Architect’s Seal must appear on the architectural drawings, the Engineer’s Seal must appear on the engineering drawings, etc. An embossed seal, a stamp of a design identical to the seal, or a reproduction of a stamp identical to the seal, may be used with the Registrant’s signature applied near or across the seal. Likewise, all drawing sheets for Bidding/Construction Sets must be sealed and signed.

501.5 KEY PLAN. The Professional must include a Project Location Plan, a Vicinity Map, and Campus/Key Plan on the Cover Sheet, locating the Project site with reference to identifiable landmarks such as adjacent buildings, roads or other references depending on the nature of the Project.

SECTION 502 - SHEET DESIGNATIONS AND SEQUENCE

502.1 SHEET DESIGNATIONS. Drawing sheets shall be numbered and identified as follows:

A. DGS Standards:

CS-1 - Cover Sheet
C-1, C-2 - Civil, Site Drawing
A-1, A-2 - Architectural Drawings
S-1, S-2 - Structural Drawings
H-1, H-2 - Heating, Ventilating, Air-Conditioning Drawings
P-1, P-2 - Plumbing Drawings
FP-1, FP-2 - Fire Protection Drawings
E-1, E-2 - Electrical Drawings
AHE-1, AHE-2 - Architectural, HVAC, and Electrical Drawings (multi-discipline)

B. Other sheet designations or AIA Standards as may be used, with Project Coordinator’s approval.

502.2 DRAWINGS. All work of each Prime Contractor shall be shown on the drawings for that particular contract. All drawings serve as reference drawings for all Contractors.

502.3 MULTI-DISCIPLINE DRAWINGS. Drawings showing work of more than one (1) contract should have a sheet designation indicating all disciplines involved (e.g. HE-1 or HPE-1). If a Drawing is ‘multi-discipline’ it must be included on the Drawing Lists of all Contracts for which work is indicated, both on the Drawing Cover Sheet and the Project Manual List of Drawings. Multi-discipline drawings shall only be used in exceptional cases, where substantial duplication of drafting can be avoided by their use. Notes on multi-discipline drawings are to be addressed to specific contractors.
502.4 ASSEMBLY. Drawings of all contracts shall be bound in the bidding sets, so that bidders receive all the Project drawings, in order to understand the interface and coordination of the prime contracts. If the drawing set is divided into more than one volume, all volumes must have the cover sheet.

SECTION 503 - SYMBOLS, REFERENCES AND SCHEDULES

503.1 SYMBOLS. The drawings of each discipline shall include a Legend showing all reference symbols and abbreviations with a clear explanation of each. Symbols utilized in the development of drawings shall be those commonly recognized by Professionals throughout the building industry, as being both identifiable and universal in meaning.

503.2 REFERENCES. Industry-recognized reference standards must be used in the preparation of all Contract Drawings. The Department recognizes the following reference standards as the most commonly used reference publications available to the professional building industry. These reference standards are mentioned because of their universal acceptance. It is not the intention of the Department to limit or restrict the use of other industry recognized standards or reference material in the preparation of the contract drawings.

A. Ramsey/Sleeper - Architectural Graphic Standards
B. Time-Saver Standards for Architecture - Design Data
C. ASHRAE - HVAC reference
D. SMACNA - Sheet Metal reference
E. AIA Standard - Numbering Drawings

503.3 SCHEDULES. The Department has no standard format for schedules. It is important to stress that the development of accurate and complete schedules is essential to clear and concise documents. Do not include manufacturers or model numbers in the schedule unless permitted by the Department. Show these names and numbers in the appropriate specification sections. Schedules shall include, but are not limited to:

A. Door schedule, indicating door type, frame type, threshold, hardware set, and rating.
B. Finish schedules, indicating each wall, floor, ceiling, base, etc., with an integral or separate color schedule.
C. Window schedule.
D. Lintel schedule.
E. Hardware schedule shall be in the hardware specification of the Project Manual.
F. Beam and column, and other structural member schedules with design and construction loads and information.
G. Caisson and pile schedules with design and construction information, anticipated bearing elevations and loads.
H. Fixture schedules (all contracts), including design conditions, size of service connections. Fixtures must be identified on the drawings.

I. Ventilation Schedules

J. Equipment schedules (all contracts), including design conditions, size and capacity, motor horsepower and all electrical characteristics.

K. Lighting Fixture Schedule

L. Electrical panel board schedules.

SECTION 504 - MISCELLANEOUS

504.1 GENERAL NOTES. The drawings of each prime contract shall include General Notes, which include areas of responsibilities and any special conditions or instructions relating to the work of that contract and coordinating the work with other contracts.

504.2 STRUCTURAL DRAWING REQUIREMENTS. The general construction contract drawings shall include Structural Information describing, but not limited to, the following:

A. Design live loads, wind loads and other applicable loads, and show plan locations of special heavy loading areas.

B. Strength of structural materials with ASTM designations.

C. Required bearing capacity of bearing strata.

D. Required capacity of piles.

E. Structural design provisions included for future additions and alterations.

F. AISC type of construction.

G. Sufficient details to allow construction.


I. Requirements for special earthwork.

504.3 HVAC, PLUMBING AND ELECTRICAL DRAWING REQUIREMENTS. The following guidelines are to be used, with accommodation for conditions of specific projects.

A. Water, Soil, Waste and Vent Piping:
   1. 1/4” scale drawing of piping for all toilet rooms and kitchens.
   2. Isometric drawing and/or riser diagrams.
   3. Identify and number all stacks, rainwater conductors, hot and cold water risers, cleanouts and floor drains.
4. Detail of safe wastes for refrigerator drains, fountain equipment, coffee urns, vending machine, etc.
5. Clearly indicate all pipe sizes.
6. Show location of shock absorbers.

B. Condensate Drain Piping:
1. Drain line shall be run to a safe waste, slop sink, funnel drain, etc.
2. Detail of connection to drip pan.
3. Riser diagram.
4. Clearly indicate pipe sizes.

C. Fire Protection:
1. Fire protection systems shall be designed in accordance with the current requirements of the NFPA and National Board of Fire Underwriters shall be considered a part of the specifications.
2. Prepare detailed diagrams or drawings which may be required by the Department.
3. Riser diagram of standpipe system showing valved outlets at each floor.
4. Show location of all fire hose cabinets.
5. Show location of any sprinkler heads that require special attention to layout and location.
6. Show all fire protection systems in the building.
7. Clearly indicate location and size of all sprinkler main and risers.

D. Gas Piping:
1. The entire design of gas piping shall be made in strict accordance with the recommendation of the local gas company and the ASME Code for Pressure Piping ASA B 31.1-1955 and American Standard for Installation of Gas Piping and Gas Appliances in Building ASA 221.30.
2. Riser diagram.
3. Clearly indicate location and size of all gas piping.

E. Mechanical, Electrical, and Data Communications Equipment Rooms:
1. Show location and size of all equipment.
2. Show proper clearances of all equipment, conforming to Department of Labor & Industry, “Regulations for Boilers and Unfired Pressure Vessels”.
3. Exit from equipment rooms shall be large enough to remove all equipment without dismantling.
4. Proper clearance for tube removal from all equipment.
5. Proper clearance for electrical equipment in accordance with NEC.
6. Proper clearance around all equipment for maintenance work.
7. Boiler room with section – ¼” scale minimum.

F. Roof Plan:
1. Show location of all roof drains (furnished by PC, set and flashed by GC).
2. Show location of all roof penetrations, curbs, etc.
3. Show location and size of all rooftop equipment.
G. Equipment Pads and Structural Supports:

1. Show steel member sizes and details.
2. Show all dimensions.
3. Show reinforcing size and pattern.
5. Vibration eliminators and isolators.
6. Design to be checked by Structural Engineer.

H. HVAC Equipment, Ductwork and Piping:

1. Show all items of equipment including anchors and support structures and piping.
2. Show all ductwork preferably to scale with duct sizes shown and coordinated to avoid interference.
3. Equipment installation details
4. Control panel locations
5. Roof penetrations
6. Louver locations

I. Electrical Equipment:

1. Show proper distribution riser diagrams.
2. Use DGS standard panel board schedule (See Exhibits).

J. Other Systems: Show location of all equipment and devices of other systems including building automation, temperature control, fire alarm, security, data and telecommunication, and lightning protection.

504.4 USE OF LAND DEVELOPMENT DRAWINGS. The actual drawing sheets from the Land Development Plan submission may not be included as Contract Documents. Provide only the information necessary for the construction documents, as a typical DGS drawing sheet. Text applicable only to the LDP submission, signature blocks, and Professional/Consultant title blocks shall be removed.

504.5 CODE ANALYSIS DRAWINGS. Code analysis drawing sheets shall not include contract requirements that are not shown elsewhere in the Contract Documents.
CHAPTER 6
PROJECT MANUAL

SECTION 600 - GENERAL

600.1 PURPOSE. The purpose of this Chapter is to establish consistency in the submission and formatting of Project Manual which consists of the Project Manual Cover Page, Bidding and Contract Documents for All Contracts, General Requirements, and the Technical Specifications for each contract.

600.2 SCHEMATIC DESIGN SUBMISSION. Full specifications are not required with these submissions, however an outline of specifications or at a minimum, a complete list of proposed materials of construction should be provided.

600.3 CONSTRUCTION DOCUMENTS SUBMISSION. Final specifications, unbound into a Project Manual, must be 100% complete, and in accordance with all other applicable references in this Manual.

SECTION 601 - PROJECT MANUAL FORMAT

601.1 CONSISTENCY. The same specification format must be used for all contracts. The Table of Contents should be approved during the Design Development Review. The preferred format is CSI Master Format/Section Format. The AIA ‘Master Spec’ or similar formats are acceptable, all as adapted for DGS separate prime contracts and indexed as described in this Chapter and in other applicable chapters, as approved.

601.2 FORMAT. Project Manual shall comply with the following:

A. 8-1/2” x 11” page size – printed single side only on white paper

B. All Documents must be unbound.

C. The Project Number only shall be on lower left corner of non-technical pages. (e.g., DGS 406-53 Phase 1 or DGS 406-53 Phase 2)

D. The Project Number including the Contract Number shall be on lower left corner of technical (Division 2-16) specification section pages. (e.g., DGS 406-53 Phase 1.1, or DGS 406-53 Phase 1.2, or DGS 406-53 Phase 1.3, or DGS 406-53 Phase 1.4)

E. Page Numbers shall be on the lower right corner or lower center of all pages. (e.g., 01400-1)

F. All paragraphs and subparagraphs must be numbered or lettered in outline form.

G. Table of Contents must indicate applicable construction contract numbers.

H. List of Drawings must indicate applicable construction contract numbers.
SECTION 602 - PROJECT MANUAL DOCUMENTS AND ORDER

602.1 LIST OF FRONT END DOCUMENTS. The Bidding and Contract Documents applicable to all contracts are to be bound into a Project Manual in the order as listed below:

A. Project Manual Cover Page
B. Notice to Bidders
C. Table of Contents
D. Instructions to Bidders
E. Form of Agreement
F. Contract Bond
G. General Conditions of Contract
H. Prevailing Minimum Wage Predetermination
I. Special Conditions
J. List of Drawings

602.2 LIST OF DIVISION 1 – GENERAL REQUIREMENTS SECTIONS. The General Requirements sections are standard to all DGS projects, and are applicable to all prime contracts.

A. Division 1 sections are available on the DGS Internet web site in PDF format and include the following:

1. Section 01010 - Summary of Work
2. Section 01025 - Unit Prices in Lump Sum Contracts [if applicable]
3. Section 01030 - Base Bid Descriptions
4. Section 01040 - Coordination and Control
5. Section 01110 – Dept. of Corrections - Supplemental Provisions [if applicable]
7. Section 01120 - PHMC Projects-Supplemental Provisions [if applicable]
8. Section 01310 - Sequence of Construction & Milestones
9. Section 01400 - Quality Control Testing and Inspection Services [if applicable]
10. Section 01401 - Quality Assurance Services [if applicable]
11. Section 01450 - Contractor’s Qualification [if applicable]
12. Section 01500 - Temporary Utilities [if applicable]

B. The Professional must carefully examine the General Requirements sections, editing as required for each particular project and adding items appropriate to the Project. The basic provisions and wording of the Division 1 Sections reflect DGS policy. These provisions are to be changed only with the Project Coordinator’s approval.
C. Some provisions included in other pre-written generic specifications are in conflict with DGS’ standard General Conditions. The Professional must carefully coordinate the specifications with DGS’ General Conditions and delete all conflicting language from the specifications. The General Conditions cannot be changed without approval.

D. The Department will provide the Design Professional with an MSWord version of the Division 1 Specification Sections.

602.3 LIST OF TECHNICAL SPECIFICATIONS SECTIONS. Technical Specification Sections for all prime contracts typically shall be as listed below. CSI MasterFormat 2004 and 2010 numbering systems are also acceptable.

A. General Construction Contract (.1)
   1. Division 2 – Site Construction, through Division 14 – Conveying Systems
   2. Division 17 – Hazardous Materials

B. Heating, Ventilating and Air-Conditioning Construction Contract (.2)
   1. Division 15A - Heating, Ventilating & Air-Conditioning

C. Plumbing Construction Contract (.3)
   1. Division 15B - Plumbing

D. Electrical Construction Contract (.4)
   1. Division 16 - Electrical

SECTION 603 - INSTRUCTIONS ON SELECTED FRONT END DOCUMENTS

603.1 PROJECT MANUAL COVER PAGE. This document is to be prepared by the Professional, in conformance with the sample Project Manual Cover Page. For the Construction Documents Submission, the Professional Seal of the Registrant in charge of the work must appear on the Cover Page of the Project Manual, with the Registrant’s signature applied near or across the seal. The Cover Page of all Project Manuals for Bidding/Construction Sets must be sealed and signed by the Professional.

603.2 NOTICE TO BIDDERS. This document will be prepared by the DGS Bidding Unit, of the Bureau of Professional Selections and Administrative Services (BPSAS), and will be issued to the Professional for insertion into the Project Manual, prior to printing for bidding.

603.3 TABLE OF CONTENTS. This document is to be prepared by the Professional, in conformance with the sample Table of Contents.

603.4 INSTRUCTIONS TO BIDDERS, FORM OF CONTRACT, CONTRACT BOND, GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT. These documents will be prepared by the DGS Bidding Unit, of the Bureau of Professional Selections and Administrative Services (BPSAS), and will be issued to the Professional for insertion into the Project Manual, prior to printing for bidding.
603.5 PREVAILING MINIMUM WAGE PREDETERMINATION. This document will be obtained from the Department of Labor and Industry by the DGS Bidding Unit, of the Bureau of Professional Selections and Administrative Services (BPSAS).

A. Certain DGS projects which have federal funding will utilize federal wage rates, as dictated by the Davis-Bacon Act. This document will be obtained from the federal government by the DGS Bidding Unit, of the Bureau of Professional Selections and Administrative Services (BPSAS).

603.6 SPECIAL CONDITIONS. These are standard DGS documents, and will be issued by the Bidding Unit, of the Bureau of Professional Selections and Administrative Services (BPSAS).

A. The Special Conditions section of the specification amends and supplements the Instructions to Bidders and the General Conditions of Construction Contract (standard documents provided by DGS).

B. The standard Special Conditions documents of DGS are to be amended or superseded only when mandated by circumstances peculiar to the project and as directed by the Department. Deviations from DGS’ standard procedures for the convenience of the Professional are not acceptable.

C. Supplementary provisions to be incorporated into the Special Conditions may be provided by the Department during any Design Stage.

603.7 LIST OF DRAWINGS. This document is to be prepared by the Professional, in conformance with the sample List of Drawings.

SECTION 604 - INSTRUCTIONS ON DIVISION 1, GENERAL REQUIREMENTS

604.1 INSTRUCTIONS. These documents are to be prepared by the Professional. All Division 1 sections must be obtained from the Project Coordinator, and edited to suit each particular project.

A. Not all the standard Division 1 Sections apply to every project. Discuss the list of Division 1 sections with the Project Coordinator to determine which sections are applicable to the particular Project.

B. Don’t repeat in Division 1 Sections items already addressed in the General Condition of the Contract for Construction.

C. Edit applicable Division 1 Sections only as necessary to suit the specific Project. Do not change the intent of the sections.

D. Discuss with the Project Coordinator before writing additional Sections for Division 1. If additional sections are necessary, take care not to create conflicts with the General Conditions of the Contract for Construction.

E. The list of requirements in Section 01040 – Coordination and Control must be discussed with the appropriate DGS Bureau of Construction staff, before it can be edited by the Professional.
F. On projects for which the Using Agencies have special requirements, include approved Using Agency generated specification sections in Division 1, General Requirements, as requested.

SECTION 605 - INSTRUCTIONS ON TECHNICAL SPECIFICATIONS

605.1 STANDARD SPECIFICATIONS. Commercially available pre-written generic specifications by CSI or AIA Master Spec or similar are acceptable with certain editing modifications. All paragraphs and subparagraphs must be numbered. DGS Standard Specification Requirements are referenced in Chapter 11. These must be incorporated into the contract specifications, as applicable.

605.2 EDITING. Specifications are to be created to suit the requirements of each individual project. Professionals using a standardized specification shall edit their specifications to exclude all non-pertinent information. Indiscriminate use of generic specifications, without deleting extraneous material, is sufficient cause for rejection of the entire submission. Procedures specified must not conflict with the DGS General Conditions.

605.3 MANDATORY STIPULATION PARAGRAPH. The following stipulation MUST appear as the first paragraph of each and every specification section:

1.1 STIPULATIONS

A. The specifications sections “General Conditions of the Construction Contract”, “Special Conditions” and “Division 1 - General Requirements” form a part of this Section by this reference thereto, and shall have the same force and effect as if printed herewith in full.

605.4 PROPRIETARY SPECIFICATIONS. Proprietary specifications are discouraged, and should not be used without specific written approval.

605.5 BASIS OF DESIGN. For each product specified, indicate the manufacturer’s name and the product/model designation used as a “basis of design”, to establish a standard of quality, appearance, design, function, and performance. In addition, list the names of at least two (2) other manufacturers (product/model designations may be required) who produce products comparable to the “basis of design”, along with the clause “. . . or equal as approved by the Professional”. When additional product/model designations are required, they must be equal products, to the best of the Professional’s knowledge. In the event that three (3) manufacturers cannot be found, two (2) manufacturers may suffice, if approved by the Department. Avoid designs using features specific to just one manufacturer. For requirements regarding approved equals or substitutions, refer to Article 9 of the General Conditions of the Construction Contract.

605.6 MANUFACTURERS' SPECIFICATIONS. Unedited manufacturers’ specifications shall not be used. Specify aspects of the product critical to the desired quality, appearance and function for the required item. Avoid specifying unimportant or unnecessary details that may exclude comparable products by other manufacturers.

605.7 REFERENCED STANDARDS. Entire published standards, such as Pennsylvania Department of Transportation Form 408 or SMACNA are not to be referenced. If only a portion is required, include the applicable text from the standard in the specification. Provide copies of specific portions of applicable referenced standards/codes to the Bureau of Construction, when requested.
605.8 **SPARES AND EXTRA MATERIAL.** Unless specifically requested by the Department, extra maintenance material, such as flooring, ceiling tile and mechanical equipment, is not to be specified to be furnished and turned over to the Department or Institution. Exceptions to this rule are electrical fuses and sprinkler heads (per NFPA 13A) required to get a system back on-line, immediately.

605.9 **CORRELATION.** The Professional shall cross-reference interrelated items. Subcontractors typically only read and bid on their “trade” portion of the specifications. The Professional should precisely specify what is included in each section of the specifications under “work included” and cross-reference related work or materials. For example, if the leveling or plumb coat for ceramic tile is specified under “work included” in the Ceramic Tile Section, the Professional should cross-reference the Plaster Section and the Ceramic Tile Section.

605.10 **QUALITY CONTROL TESTING AND INSPECTION SERVICES.** Quality control tests and inspections to be done by the Contractor are to be included in Section 01400 of the Project Specifications.

605.11 **QUALITY ASSURANCE SERVICES.** Quality Control oversight and check testing and inspection services by the Professional shall be done as required by the Department and by Code, under a Work Order. All testing decisions during design must be coordinated with the Project Coordinator. Quality Assurance Services shall be as required in Section 01401 of the Project Specifications. See detailed requirements for Quality Control and Quality Assurance in Chapter 10.

605.12 **BASIC CODES/REGULATIONS.** Reference to an edited list of the latest edition of design codes shall be made in each appropriate section of each contract specification, as applicable. The following is a partial list, as a guide:


B. Labor & Industry – Uniform Construction Code (UCC)

C. Pennsylvania Code – Department of Health regulations

D. National Electrical Code – NFPA 70


F. ASHRAE

G. Pennsylvania Code – Elevators, lifts, escalators, dumbwaiters, hoists and tramways – Labor & Industry 34 Code Chapters 7 and 8


I. Accessibility Codes - UCC

J. ADA

K. City or Local Municipal Codes
SECTION 700 - GENERAL

700.1 PURPOSE. This Chapter provides information concerning design and drawing standards adopted by DGS as standard for Public Works projects. This section in no way limits the responsibilities of the Professional and its Consultants stated or implied elsewhere. Commonwealth buildings must be designed and constructed with integrity, and substance to perform satisfactorily for a protracted length of time, and materials and methods must be selected accordingly. For existing facilities, conduct a thorough survey of current conditions prior to start of design for all Architectural and Engineering disciplines.

700.2 BUILDING LIFE EXPECTANCY. The anticipated life expectancy for new DGS buildings is as follows:

A. Monumental Buildings: Those buildings in the Main Capitol Complex or similar monumental areas in other locations – 100 year life expectancy.

B. Highly Significant Buildings: Those buildings on campuses or state system and SSHE locations costing over 20 million dollars – 75 year life expectancy.


D. Utilitarian/Storage Buildings, Simple Repairs or Additions to Existing Structures: As designed – 30 year life expectancy.

700.3 ACCEPTABLE DGS PRACTICES. The practices included are both those written by DGS and standards referenced from other agencies. It is not the intent of this Manual to furnish a complete and up-to-date list of all acceptable industry standards. Questions should be discussed with the Project Coordinator and the DGS Coordinator if needed.

700.4 DESIGN RESTRICTIONS. See Chapter 2 for restrictions placed on design, in addition to the standards included in this Chapter.

700.5 STANDARD SPECIFICATIONS. See Chapter 11 for DGS standard provisions and specification requirements.

700.6 FINAL CONNECTIONS OF EQUIPMENT. The General Contractor furnishes and installs architectural equipment including kitchen, laboratory, hospital equipment, laundry equipment, systems furniture, high-density storage, and other general construction items requiring utility connections. Rough-in of all services is installed by the HVAC, Plumbing and Electrical Contractors, as applicable, from “rough-in” shop drawings, approved by the General Contractor and Professional. The following shall be accomplished:

A. The Professional shall coordinate the final connection requirements for all trades as part of the drawings and specifications. The lack of coordination in specifications and drawings between contracts is a frequent cause for Change Orders. The Professional shall also coordinate the final connections requirements for items/systems to be furnished or provided by the Using Agency.
B. The HVAC, Plumbing and Electrical Contractors must cross check the approved “rough-in” shop drawing with those of the other Prime Contractors, before installing any lines or services, and report conflicts and discrepancies to the Professional and General Contractor.

C. Final connections to all plumbing services shall be done by the Plumbing Contractor.

D. Final connections of ductwork for exhaust systems and steam and condensate connections are to be done by the HVAC Contractor.

E. Specify that all wiring of equipment, both internal and external must be in accordance with the National Electric Code. All switches, controls and wiring integral to a specific unit or piece of equipment are to be furnished and installed by the Contractor furnishing that piece. Final connections are to be done by the Electrical Contractor.

F. Likewise, items/equipment furnished and installed by the HVAC, Plumbing and Electrical Contractors which require utility services/connections of other trades shall be accomplished as described above, in a similar manner, with rough-ins and final connections by the appropriate trade.

G. Do not suspend ductwork, conduit, ceiling systems, lighting fixtures or any other miscellaneous equipment or items from metal roof deck

1. All suspended items shall be supported from the structural members or a suspension system supported by the structural members

2. When ponding occurs because of design of secondary drain system, the ponded water load should be included in the live load.

SECTION 701 - ARCHITECTURAL

701.1 PROJECT DESIGN REQUIREMENTS. Architectural design shall be by a by an Architect Registered in the Commonwealth of Pennsylvania and shall comply with all applicable codes, regulations and good architectural practices. Design shall comply with the requirements of the Uniform Construction Code (UCC), and/or The NFPA 101 for Health Care Occupancies, whichever is more stringent.

A. All renovation projects must comply with the current Accessibility codes and standards to the extent feasible as allowed by code.

B. Show code analysis and permit(s) - L&I, DOH, Local Municipality - on drawing Cover Sheet or, if sufficiently complex, on a separate sheet after the Cover Sheet labeled Code Review (CR-#) and indicating pertinent code or code related work issues graphically, e.g. accessible route, rated wall construction, fire-barriers, hazmat barriers, etc.

1. Include a Site Plan of building and a campus plan with building ID numbers; show location plan - all of which can be on the Cover Sheet.

C. New Buildings must comply with the current International Energy Conservation Code-09 TBL 502.2(1) Building Envelope Requirements:
1. This includes partial replacement and/or refurbishment of building components such as windows, exterior doors, walls, roof areas and other exterior elements.

D. Most of the work done under this program will be renovations, repairs, refurbishment or restoration projects and/or maintenance projects.

1. Some of the Commonwealth sites are either on or eligible for inclusion on the National Register of Historic Places. See web site for listed buildings [http://www.nps.gov/nr/research/](http://www.nps.gov/nr/research/)

2. Under these conditions the Preservation Briefs, as published online by the US Department of the Interior, should be consulted as part of the design process. The Using Agency should have a list of facilities that are eligible. This includes some DMVA Readiness Centers, formally listed as National Guard Armories. Consult with the Pennsylvania Historical and Museum Commission (PHMC) Bureau of historic Preservation, as well.

3. Department of Military and Veterans Affairs (DMVA) projects may include window, door and other exterior openings on the Readiness Centers to be upgraded to meet current antiterrorism requirements per The Unified Facilities Criteria (UFC 4-010-01 DOD Minimum Antiterrorism Standards for Buildings) as well as meeting the requirements of the US Department of the Interior requirements for preservation.

E. Floor Plan(s) shall be 1/8" minimum scale showing existing and new work. Indicate partition types, including construction details with fire/smoke rating(s) identified. Show all new work in context with the existing, in plan (and elevation).

F. Show all doors and swings with ID number; coordinate with door/hardware schedule. Provide door and frame elevations and details.

1. Door hardware keying to match existing keying system in use by the facility. This may require proprietary pre-approval from DGS.

G. Show toilets, showers, baths and other built-in features: show layout(s) (and elevations) at 1/4" scale (or larger) indicating equipment and required clearances and mounting heights. Coordinate with fixture schedule.

H. Show all construction details of new work and retrofit work: wall sections at 3/4" scale minimum with detail(s) at 1-1/2" minimum, both in section and plan detail as required. Detail connection(s) to existing building elements.

I. Clearly identify all building elements and fixtures scheduled to remain, to be removed and/or re-installed.

J. Provide room finish schedule with types of finishes identified and coordinated with the specifications.

1. Finish products specified shall meet Low VOC requirements, especially in occupied or partially occupied buildings.
K. Reroofing projects usually include complete tear-off to deck/substrate.

1. Flat roofs usually are Single-Ply Roofing Membranes (SPRM) fully-adhered systems with Manufacturer's 10 year warranty minimum; 15 or 20 year preferred, especially if the reroofing project includes replacing all exposed metal flashings and trim.

2. Roof design minimum: meet FM-I 90 with exposure C typically for most of the commonwealth sites, excluding localized conditions which may be higher.

3. New Roof Structure: provide the minimum slope by sloping the structural framing system, or justify other methods such as sloped insulation.

4. Flat roof insulation is typically R-20 continuous insulation minimum (unless otherwise required by code) with tapers and crickets to provide positive drainage. Roof slopes are permitted to be less than 1/4"per foot per UCC 1510, as long as "positive drainage" is maintained.

5. Verify that roof drains are freely flowing before and after roof work.

6. Replacement Roof Drains: use drain inserts where feasible and as approved by Roof System manufacturer.

7. New roof drains are to be 4” minimum, unless justified otherwise, and are furnished by the Plumbing Contractor - if part of project contracts - and set and flashed by the General Contractor.

8. Interior rainwater conductors, including connection to the drain, are by the Plumbing Contractor. Insulation of the underside of the roof drain is by the Plumbing Contractor, along with the RWC insulation.

   1. New Construction: Provide secondary drainage system such as scuppers if required by Code

L. Steep slope shingle roofing: tear-off to deck, patch holes and typically provide fiber-glass reinforced asphalt shingles with Architectural 30 year minimum manufacturer’s material warranty.

M. Building Envelope: Exterior Wall Construction:

   a. Masonry cavity walls with a continuous air/liquid moisture barrier.

   b. Pre-engineered steel (or wood framed) buildings with metal siding and/or masonry infill construction; metal stud exterior bearing walls (rust potential) are not permitted.

   c. Single wythe insulated cmu walls for storage buildings.

   d. Wood framed structures with acceptable siding such as metal panels, wood or wood composite or vinyl siding or stucco.

   e. Energy efficient wall designs, such as rain-screen EIFS, metal panels, with positive drainage planes.
N. Expansion and control joints are required in partitions, walls, and floors to control cracking.

   a. Structural members must be permitted free movement. It is preferred to keep the main structural members within the building insulation envelope to minimize its expansion and contraction.

O. Fire extinguishers needed for occupancy of the Project (whether in cabinets or loose) are included in the construction project.

   1. Extinguishers are to be the type and size recommended by the National Board of Fire Underwriters’ and shall bear the UL label.

SECTION 702 - CIVIL/STRUCTURAL

702.1 CIVIL. Site design shall be by a Civil Engineer Registered in the Commonwealth of Pennsylvania. Comply with all codes, and federal, state and local regulations and obtain required design approvals. Information to be provided shall include but not be limited to:

   A. Drawings:

      1. Existing site plan with all above ground and underground improvements, property line metes and bounds if the site borders property lines, and site demolition, indicated and described in detail. Locate and describe two (2) or preferably three (3) benchmarks, and indicate the source and date of the survey. Note PA One Call design notification serial number.

      2. Site improvements indicating all visible surface improvements. Provide building layout dimensions from control points. Locate the Contract Limit Line and the Contractor staging and parking areas.

      3. Grading and drainage with existing and new contours or point grades to allow construction. Show stormwater management system. Show all drainage structures with invert and top elevations; provide profiles with pipe crossings indicated.

      4. Utility drawings showing the General Construction work in detail and lines of other Contractors for general site coordination with reference to their drawings for construction.

      5. Landscaping drawings.


      7. Details of all work with section cuts on plans.

   B. Specifications: The Civil Engineer shall write or review the specification sections governing all work that he has designed. Where specifications sections are provided in Division 2 for work (such as concrete paving) which is a sub-category of the main category subsequently specified (Concrete, in Division 3) they shall be fully coordinated, so that requirements of the main specification are required by reference.

702.2 STRUCTURAL. Structural design shall be by a Professional Engineer, licensed in the Commonwealth of Pennsylvania.

   A. General: Design all primary and secondary structural elements and comply with all requirements of the Pennsylvania UCC. Major regional Commonwealth office buildings, potentially subject to future change of use, are to be designed for live load of 125 psf. Where renovating an existing building, the structural adequacy shall be analyzed for code compliance.
B. Drawings: Coordinate with the Architect and verify that all architectural details reflect structural design. Provide design notes with design load criteria and notes on all structural systems. Information shall be provided on drawings, which includes but is not limited to:

1. Foundation Systems: Following the recommendations of the Geotechnical Engineer Consultant, provide a complete design of foundation systems. Fully define the work, providing bearing elevations necessary to establish a clear scope of work for bidding. Consider ground water conditions and accommodate foundation drain and waterproofing systems. Drilled piers requiring inspection are to be a minimum of 30” diameter.

2. Concrete: Design in accordance with applicable current ACI specifications.

3. Structural Steel: Design in accordance with applicable current AISC specifications.

4. Steel Joists: Design in accordance with applicable current SJI specifications.

5. Steel Deck: Design in accordance with applicable current SDI specifications.

6. Cold-Formed Steel Framing: Design in accordance with applicable current AISI specifications.

7. Masonry: Design in accordance with applicable current ACI specifications.

8. Wood framing: Design in accordance with applicable current NDS specifications.

9. Other Systems: Other structural systems shall be designed in accordance with requirements of stated applicable specifications required by Code or, where no code governs, by engineering judgment.

C. Specifications: The Structural Engineer should write or review the specification sections governing the work he has designed. Specifications, not the drawings, are to contain testing requirements. Tests and inspections to occur are to be listed in Sections 01400 and 01401; clarification/details should be included in the technical sections.

D. Performance-Specified Structural Systems: If a structural system or component is selected where the manufacturer or contractor (hereafter referred to as “manufacturer”) does the design instead of the Project structural engineer, it must meet the following criteria:

1. The system must be selected because it is superior to other systems in quality, longevity, efficiency, cost or other features innate to the system. It is not to be selected simply to avoid the effort of design.

2. The Professional may base his design on that of a specific manufacturer/supplier of its choosing, and document that design on the Drawings and in the Specifications, as the “Basis of Design”. The design must be detailed sufficiently by the Professional to clearly indicate intent and functionality. Other manufacturers are to be permitted only to substitute their technology, without changing the design configuration shown, unless specifically permitted.

3. The design criteria and loads must be fully defined in the Contract Documents, including specifics on locally applied loads. The system must be designed using best design practices and comply with all codes and regulations.

4. The system is not to be selected unless the Project structural engineer is capable of checking the manufacturer’s shop drawings for structural adequacy, and when shop drawings are processed the Project structural engineer must state that he has approved the design of the manufacturer and checked it for structural adequacy. His approval need not be based on more analysis than he deems necessary to make this statement.

5. Where there is an industry association which exercises quality control over its members, membership should be required.
6. The manufacturer’s design engineer must be licensed in the Commonwealth of Pennsylvania.

7. The system used as the “Basis of Design”, and the equals named in the specifications, must be available to all bidders. At least three (3) manufacturers/suppliers must be specified.

8. If the system is a complete building system, the specified system and its equals must be available to all bidders.

9. The design of cold-formed studs and joists and other materials manufactured universally according to industry standards shall be by the Professional.

E. Metal Stud Bearing Walls: DGS policy does not allow Commonwealth buildings to be constructed with metal stud bearing walls.

F. Slabs on Grade within Buildings: Slabs are to be designed to allow removal and replacement, without disturbing exterior walls or the supporting structure, unless specifically authorized.

SECTION 703 - HEATING, VENTILATING AND AIR-CONDITIONING

703.1 GENERAL. The HVAC system shall comply with all the PA UCC requirements, including ASHRAE standards and guidelines set forth herein and/or state and local codes.

A. The number of air changes shall conform to recommendations established by PA UCC.

B. Exhaust hoods for kitchens and laboratory facilities shall conform to NFPA requirements and bear the NSF seal of approval, and be UL listed or classified. Hoods shall adequately collect and exhaust air, fumes, smoke and vapors from the area in which the hood is installed. Provide outside air so that the room area is sufficiently ventilated, and maintains the required pressure.

703.2 STEAM AND HOT WATER HEATING SYSTEMS. All equipment used for steam or hot water heating systems shall be constructed and installed in accordance with requirements of the Department of Labor & Industry, Boiler Division and ASME Boiler and Pressure Vessel Codes.

A. Steam and HWHS and HWHR pipes shall be steel per ASTM A 53, A 106 or A 120 Schedule 40. Condensate return pipes shall be steel per ASTM A 53, Schedule 80.

B. All valves for hot water boilers, hot water pressure vessels, high and low pressure steam boilers and pressure reducing stations shall be marked in accordance with ASME, Boiler and Pressure Vessel Code indicating type of service, capacity of valve in BTU/hr or lbs. steam per hour and operating pressure. Pressure relief valve rating shall not exceed the maximum allowable working pressure of the boiler.

C. Pipe joints for steel piping shall be threaded up to and including 2” diameter. Pipes 2-1/2” diameter and over shall be joined by welding or flanged fittings. For 2” diameter or larger, mechanical couplings may be used for low pressure hot and cold water systems only in accessible locations. Seals for mechanical couplings shall be designed for the specified operating and type service. Copper tubing shall be joined by brazing or soldering. For ⅜” diameter to 2” diameter copper piping, press on fittings may be used only in accessible locations.
D. Properly support all piping to permit expansion and contraction.

E. Piping for branches to baseboard radiation, fan coiled units and such other local heating equipment which may require servicing or replacement shall be provided with a union and a shut-off valve on each side of the device.

F. Connections to pumps, circulator, hot water heater and all other equipment which may require servicing or replacement shall be provided with a union and a shut-off valve on each side of the device.

703.3 TESTING, ADJUSTING AND BALANCING (TAB) AGENCY. The services of a qualified TAB agency shall be provided by the HVAC Contractor. Such agency shall have in its employ a Professional Engineer registered in Pennsylvania. The TAB agency shall be certified by AABC or NEBB, and shall have a minimum of five (5) years experience in the testing, adjusting and balancing of all water, hydraulic and air systems.

A. The testing and recording of all data shall in general conform to standards of AABC or NEBB or as may be approved by the Professional.

B. All TAB reports shall be certified by the testing agent and reviewed and approved by the Professional. The report shall make record of any and all deficiencies found by the testing agent prior to, during and after testing. The Professional, prior to approval, shall provide to the Bureau of Construction and Project Coordinator, appropriate comments regarding such deficiencies indicating how such deficiency, if any, was corrected.

703.4 REFERENCE CODES AND STANDARDS. All codes and standards applicable to design, installation and material requirements shall be of the latest date of issue and/or accepted by the Commonwealth of Pennsylvania.

SECTION 704 - PLUMBING

704.1 GENERAL. The design and installation of plumbing systems, including sanitary and storm drainage, sanitary facilities, water supply, fire protection, storm water and sewage disposal, shall comply with the requirements of PA UCC and/or local municipal plumbing codes, whichever is the more stringent.

704.2 SCOPE. The work of the Plumbing (.3) Contract is generally limited to within a point five (5) feet outside the building.

704.3 BASIC REQUIREMENTS. The following provides basic requirements for the design and construction of plumbing systems. This guide does not supersede any state, municipal or other governing agency’s codes and regulations.

A. Toilet Fixtures:

1. All public toilet rooms shall be provided with wall hung lavatories, urinals (for men) and water closets using appropriate fixture carriers. Private toilet rooms may use floor mounted water closets. Provisions for handicapped fixtures shall conform to all applicable codes.
2. Lavatories shall be rectangular (20” x 18” minimum) with combination faucets and pop-up waste stoppers, except in state parks. Use screen guards in state parks. Provisions for lavatories for people with disabilities shall comply in number, position and fixture type, with all applicable codes.

3. The minimum number of fixtures. For the percentage of men and women occupants consult with the Using Agency. Unless otherwise required for particular building types, the number of fixtures for each toilet room shall conform to applicable codes. In places of assembly, the number of fixtures shall be provided so that waiting time for use of the restroom facilities shall not be greater for women than for men.

4. All toilet and bathroom accessories, such as toilet paper holders, towel racks and mirrors shall be provided by the General Contractor.

B. Service Sinks: The number of service sinks required in any building should be determined by the janitorial requirements and the location of the building plumbing. Sinks will be installed in a separate janitor service closet.

C. Water Coolers and Drinking Fountains: Provide chilled drinking water in all buildings, except residences. Coolers are to be lead free in soldering and tank construction.

D. Special Temperature Controls: Hot water for baths and showers in all hospitals, health care centers and other such Institutions shall be provided with temperature-pressure controllers.

E. Emergency Showers and Eyewash Stations: Emergency showers and/or eyewash stations shall be provided and strategically located in all chemical laboratories and other facilities where individuals are exposed to chemical or fire harm. Emergency showers shall be supplied with tempered water.

F. Materials: Unless otherwise instructed, plumbing fixtures shall conform, as a minimum, to the following indicated standards. All fixtures shall be of a water conservation type and conform to applicable codes.

1. Toilet Fixtures: Water closets, urinals and lavatories shall be vitreous china.
2. Service Sinks and Bath Tubs: Shall be porcelain cast iron, or as approved by the Department.
3. Piping and Fittings:
   a) Water Service: Schedule 40 (Type A), galvanized steel per ASTM A 53 or ASTM A 120.
   b) Water Distribution: Copper tubing Type A or Type B per ASTM B 88.
4. Sanitary Drainage System and Vents:
   a) Aboveground: Type A, Type B or Type D (cast iron ASTM A 74 – service weight) (No-Hub).
   b) Underground: Type C (cast iron ASTM A 74 – heavy weight) (Type D) or Schedule 40 PVC.
   c) Vents: Galvanized steel (per ASTM A 53 or cast iron per ASTM A 74 light weight or Schedule 40 PVC). Vents through roof shall not be less than 3” diameter.
5. Rainwater Conductors: Type D (cast iron ASTM A 74 light weight) (No-Hub). 
   NOTE: Downspout and roof gutters are to be within the scope of work of the 
   General Contractor.

6. Storm Sewer: Refer to National Plumbing Code and/or local codes.

7. Pipe Fittings: Malleable iron per ANSI B 16.3.

8. Acid Waste: Shall be a separate system and shall be neutralized before entering the 
   sanitary sewer system. Pipe shall be high silicon alloy iron, or brass pipe and fittings. 
   Borosilicate glass pipe and fittings may be used for acid waste lines within the 
   building only, not below grade or a polypropylene acid waste system can be used.

9. Vent Flashing: Coordinate with the General Contract for material required and Prime 
   Contractor responsibility.

10. Solder: Shall be lead free, 95/5 solders.

11. Water and Fire Protection Piping: Mechanical fittings for pipe sizes 3” diameter or 
    greater may be used in accessible locations, but shall not be used in inaccessible 
    locations, above finished ceilings or light fixtures. Piping for fire protection systems 
    shall conform to NFPA 13 and as may be modified by the Department and/or local 
    codes.

704.4 REFERENCE CODES. All codes and standards applicable to design, installation and/or 
material requirements shall be the latest date of issue. Basic references are:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>IPC</td>
<td>International Plumbing Code</td>
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<tr>
<td>ANSI</td>
<td>American National Standard Institute</td>
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<tr>
<td>ASSE</td>
<td>American Society of Sanitary Engineering</td>
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<tr>
<td>ASTM</td>
<td>American Society of Testing and Materials</td>
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<tr>
<td>MSS</td>
<td>Manufacturers Standardization Society of Valves and Fitting Industry</td>
</tr>
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<td>PDI</td>
<td>Plumbing and Drainage Institute</td>
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<tr>
<td>ASME</td>
<td>American Society of Mechanical Engineers</td>
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SECTION 705 - ELECTRICAL

705.1 REQUIREMENTS. Electrical design shall comply with all applicable codes, regulations and 
good engineering practices. Design and installation of electrical systems shall comply with the 
requirements of the National Electric Code (NEC), latest edition, and the PA UCC, whichever is more 
stringent.

705.2 MINIMUM DESIGN CRITERIA. Electrical design shall meet or exceed the following:

   A. Lighting levels shall use Illuminating Engineering Society (IES) recommendations as 
      maximum and 80% of IES standards as minimum, unless directed otherwise by the UCC 
      or the Department. Construction stage lighting shall meet OSHA, Standards for Light 
      Levels.

   B. Voltage drop in feeders shall not exceed 2%.

   C. Voltage drop in branch circuits shall not exceed 3%.

   D. All specified equipment shall be designed to safety interrupt and/or carry the available fault 
      current at the equipment.
E. Energy conservation shall be a prime consideration in all design.

F. All conduits, raceways, etc. shall be equipped with a green colored insulated grounding conductor. The conduit system shall not be relied upon as the only grounding path.

G. Set screw fittings are not acceptable on Electrical Metallic Tubing (EMT) – use compression fittings.

H. Specify security screws where applicable.

I. Light fixtures and ballasts shall use 10% or less total harmonic-distortion ballasts.

J. Specify 10% spare breakers in all panels, where economically feasible.

K. Provide 15% provisions for installation of future breakers (not just space) in all panels.

L. Panelboard schedules shall include raceway and wire size and equipment ratings.

M. Conduct a thorough survey of existing conditions.

N. Coordinate electrical layouts and plans with layouts and plans of all other design disciplines.

O. Conduit measuring tape shall be included in all empty conduits.

P. Specify methods of controlling spread of fire and smoke. Specify fire-rated sealants and ‘poke through’ fittings.

Q. Emergency lighting levels shall be in accordance with the UCC requirements. Tritium exit signs are not permitted.

R. Maintain adequate working space around and in front of all electrical equipment.

S. Do not attach any electrical items to the metal roof deck.

T. If permission is given to run conductors exposed, specify that they shall be attached firmly to the building structure. They are not to be allowed to lie on the suspended ceiling.

U. Provide resistance heater strips in outside housed switchgear.

705.3 REGULATORY AGENCY AND UTILITY COMPANY APPROVALS. The Professional must meet standards and obtain approval of the following, when applicable, for the Construction Documents Submission:

A. Emergency and Exit Lighting Systems.

B. Fire Alarm and Detection Systems.

C. Service Size, Location, etc.
D. Telephone and Data Communications and Computer Service Entry and Details.
E. Cable TV Service Entry Details.
F. Natural Gas or Propane to Emergency/Standby Generators – Service Location.
G. Diesel Fuel to Emergency/Standby Generators – Service Location.
H. The approval of local regulatory agencies where required.

705.4 IT/DATA/TELECOM. These systems typically will be included in the Project in either of two (2) ways, as described below. The Professional shall confirm specific project requirements with the Project Coordinator and the using Agency.

A. Conduit without Wiring: Include all necessary wall outlet boxes, the conduit/ducts/trays from the wall boxes back to the IT/Data/Telecom room, and terminate inside the room. Include pull wires in conduits. Do not include jacks/outlets. Do not include any racks or equipment in the IT/Data/Telecom room. All racks and equipment in the IT/Data/Telecom room are considered “loose equipment” and are not to be included in the Project.

B. Conduit with Wiring: Include all necessary jacks/outlets, wall outlet boxes, the conduit/ducts/trays from the wall boxes back to the IT/Data/Telecom room, along with the patch panel and the rack that holds it. All other racks and equipment in the IT/Data/Telecom room are considered “loose equipment” and are not to be included in the Project.

SECTION 706 - VERTICAL TRANSPORTATION

706.1 REQUIREMENTS. Elevator, escalator, dumb-waiter, chair lift, etc. design shall comply with all applicable codes, regulations and engineering standards.

706.2 MINIMUM DESIGN CRITERIA. Vertical transportation design shall meet or exceed the following criteria:

A. Car sizes and speeds to comply with Using Agency requests and applicable codes.

B. Light, switch and receptacle to be provided in all elevator pits. Coordinate with Electrical Contract design.

C. Provisions for a sump to be made in all elevator pits. Coordinate with General, Plumbing and Electrical Contract designs.

706.3 DRAWING CRITERIA. Vertical transportation equipment shall be shown on the drawings of the various design disciplines and coordinated between all of the design disciplines, i.e., Architectural, Structural, HVAC, Plumbing and Electrical.

706.4 REGULATORY AGENCY APPROVALS. The Contractor will obtain approval of the Vertical Transportation System(s) by all agencies having jurisdiction; however, the Professional must assure that what he designs and specifies is approvable.
CHAPTER 8
CONSTRUCTION PROCUREMENT

SECTION 800 - GENERAL

800.1 INTRODUCTION. The Construction Procurement Stage encompasses the activities from E/A Construction Documents Clearance to the Award of Construction Contracts. Specific instructions for proceeding with the Construction Procurement stage are given to the Professional following Construction Documents Submission approval.

800.2 ADMINISTRATION. The Bureau of Professional Selections and Administrative Services (BPSAS) is the primary DGS project administrator during the Construction Procurement Stage. Its Project Administration Division is the contact point for bidding schedule, issuing documents and other administration activities. Consult the Project Coordinator on all matters of design, construction contracts and bidding requirements.

800.3 PROCESS. The BPSAS reproduces and distributes the bid documents to the bidders. The BPSAS will designate the construction period and advertise the project on the Department’s eMarketplace website at (www.emarketplace.state.pa.us). The major steps in the Construction Procurement stage are listed below.

A. Bureau of Engineering and Architecture notifies the Professional that the Construction Document Submission is approved.

B. After all approvals and permits are obtained, E/A clears the Project for bidding, and notifies BPSAS.

C. Bureau of Engineering and Architecture will verify that the project construction estimate and all related project costs are within the project budget (funding) prior to clearance for bidding. BPSAS will verify that all required funding is in place.

D. BPSAS establishes the date for Bid Issue, as well as the date, time and place for the Pre-Bid Conference and the Bid Opening, with the Professional. BPSAS also establishes the Plan Deposit amount.

E. BPSAS obtains the Prevailing Wage Rates, prepares the Bid Proposal Forms, and the Notice to Bidders.

F. BPSAS advertises the Project for bidding, on the Departments eMarketplace website, www.dgs.state.pa.us.

G. The Professional responds to bidder inquiries and provides the Project Coordinator with a draft Bulletin. The Project Coordinator will review the Bulletin and forward it to the Director of the DGS Bureau of Engineering and Architecture for signature. BPSAS will distribute Bulletins.

H. The Department receives and opens bids.
I. The Department evaluates the bids.

J. The Department awards contracts or rejects bids, as applicable.

K. If all bids are rejected and rebidding is required, the Department will provide instructions to the Professional.

SECTION 801 - SCHEDULE

801.1 GENERAL. The bidding and construction completion dates in the Professional’s Work Order are tentative. Actual dates are established by the Department during the Construction Procurement stage. The actual dates are dependent upon the Professional’s recommendation, and the Agency’s Occupancy Schedule as determined by DGS. There is no set time period between Construction Documents Submission approval and bidding.

801.2 ADVERTISING. The Date of Issue is determined by BPSAS. The bidding period is generally 4 to 5 weeks.

801.3 PRE-BID CONFERENCE. The Professional must advise the Project Coordinator of the need for a Pre-Bid Conference at the Construction Documents Submission. The Project Coordinator will advise the DGS Coordinator who will then advise BPSAS of the need for a Pre-Bid Conference. BPSAS will coordinate the date and location for the Pre-Bid Conference with the Using Agency and Professional. The date and location of the Pre-Bid Conference appear in the Notice to Bidders and the advertisements.

801.4 BID OPENING. BPSAS sets the Bid Opening Date, Time and Place based on the project complexity and other projects scheduled for bidding. Only BPSAS can change the Bid Opening Date with approval of the Deputy Secretary for Public Works. The Professional shall advise the DGS Project Coordinator and Using Agency Project Coordinator of all circumstances, any time during the Construction Procurement stage that might warrant changing or extending the bid date.

A. Location: Proposals are received and opened at DGS offices in Harrisburg. The Professional is welcome, but not required to attend the Bid Opening.

SECTION 802 - DOCUMENTS

802.1 PROPOSAL FORMS. BPSAS prepares the Bid Proposal Forms. The forms include liquidated damage stipulations, construction period and any particular Contractor stipulations and questionnaires. Any special information in this regard must be given to the Project Coordinator so that it may be considered prior to Bid Proposal Form preparation. Base Bid scopes of work are not included in the Bid Proposal Form; reference is given in the Bid Proposal Form to the appropriate General Requirements paragraph of the Project Manual where the scope of work of each Base Bid is described. Bid Proposal Forms to be filled in by the bidders are not bound into the Manual.

802.2 NOTICE TO BIDDERS. BPSAS prepares the Notice to Bidders for inclusion into the Bidding Documents

802.3 PREVAILING MINIMUM WAGE PREDETERMINATION. BPSAS obtains the wage rates from the Pennsylvania Department of Labor & Industry or US Department of Labor, Wage and Hour Division.
SECTION 803 - DISTRIBUTION

803.1 DISTRIBUTION. Distribution of the Bidding Documents will be by the Bureau of Professional Selections and Administrative Services.

SECTION 804 - PRE-BID CONFERENCE

804.1 PURPOSE. Pre-Bid Conferences are scheduled for critical or complicated projects, or as determined by the Department, Professional and/or Using Agency. Administrative and technical questions about the proposed construction are received from prospective bidders. A tour of the Project site is generally included, when bidders’ access is otherwise restricted. In most cases, it is not mandatory for Bidders to attend the Pre-Bid Conference.

804.2 LOCATION. Pre-Bid Conferences are generally held at the Project site, or closest available facility. The BPSAS makes arrangements for a meeting place with the Using Agency.

804.3 THE PROFESSIONAL. The Professional must attend and chair the Pre-Bid Conference. Consultants’ attendance is at the Professional’s discretion. Attendance records and minutes of the Pre-Bid Conference are to be forwarded to the Department by the Professional within two (2) days following the Conference. The Conference minutes are not to be distributed to Conference attendees, nor are they to be issued to the Bidders in a Bulletin. Only written questions received at or resulting from the Pre-Bid Conference shall be addressed by a Bulletin.

804.4 RESPONSE. Oral clarifications or explanations to prospective bidders during the Conference are informal and non-binding, this must be announced at the conference by the Professional. Bulletins formally clarifying or amending the Contract Documents must be issued as soon as possible following the Pre-Bid Conference, and are to include formal answers to Pre-Bid Conference written questions.

SECTION 805 - MODIFICATIONS

805.1 BULLETINS. All Bulletins items must be reviewed and approved by the Project Coordinator before being sent to BPSAS. The BPSAS initiates all Bulletins dealing with Administrative issues, such as Bid Opening and Proposals. The Professional initiates all Bulletins dealing with Technical issues. See Exhibits for examples of both Administrative and Technical bulletins. Question and answer formats are not desirable. Bulletin items should be clear, concise stand-alone statements. Bulletins should be issued at least seven (7) days prior to Bid Opening Date. BPSAS will distribute all bulletins.

805.2 “EQUAL” PRODUCTS AND SUBSTITUTIONS. Requests for Approvals of “equal” products/systems, or for “substitutions” are not considered until after award. Bidders are to bid the work as specified.

805.3 CONTRACTOR QUALIFICATION. In rare cases, Contractors and/or subcontractors are pre-qualified, or approved prior to receipt of bids. For certain types of projects, contractor qualification standards are further set in the specifications. Contact the Project Coordinator and the DGS Coordinator before including any contractor prerequisite qualifications.

SECTION 806 - BID OPENING/AWARD

806.1 ATTENDANCE. Bids are opened and read publicly by the Department. The Professional and bidders are welcome at the bid opening, but are not required to attend.
806.2 EVALUATION. The DGS Legal and BPSAS evaluate the Bid Proposals. The acceptance of proposals and award of contracts is the sole decision of the Secretary of General Services and/or the Deputy Secretary for Public Works. The Department also sends a tabulation of the Bids to the Professional. The Professional may be asked for an evaluation of the reasonableness of the Bids and unit prices, when applicable.

806.3 TIME. Bid Proposals are good for sixty (60) days. Any extension of time will be requested by the DGS.

SECTION 807 - REBIDDING

807.1 CAUSES. Projects may be rebid when bids received exceed the Base Construction amount; proposals are deemed not responsive or responsible, or other reasons at the Department’s discretion. Instructions for rebidding will be issued by the Department.

807.2 DOCUMENTS. The Department will advise the Professional if any design or document modifications are required for a rebid. Incorporate all Bulletins issued during the initial bidding period into the revised contract documents, by Addendum. Mark all documents (Project Manual Cover, Drawing Cover Sheet, etc.) with the word “REBID” or “REVISED REBID” (as applicable), followed by the new issue date.

807.3 ADMINISTRATION. Rebid, advertising, distribution and all other administration follows the same procedures prescribed for the initial Construction Procurement stage.
CHAPTER 9
CONSTRUCTION CONTRACT ADMINISTRATION

SECTION 900 - GENERAL

900.1 GENERAL. The Professional’s activities during the Construction Contract Administration Stage are presented in general terms. This Chapter should be used in concert with the Professional Agreement, Work Order, the Bureau of Construction’s Administrative Procedures, and the General Conditions of the Construction Contract.

900.2 OVERVIEW OF RESPONSIBILITIES. The Construction Contract Administration Stage commences with the issuance of a Letter of Intent, or a Notice of Award of construction contracts. After the Project is completed and formally accepted by DGS, the Professional shall execute a Certificate of Completion. The Professional shall administer the Construction Contracts and review the Contractors’ work for compliance with the Contract Documents, including the Construction Contract, General Conditions, and Bureau of Construction Administrative Procedures.

900.3 ADMINISTRATION. The Bureau of Construction is the lead Project Administrator during the Construction Stage for most projects. The Using Agency may be assigned this responsibility on some projects. The Bureau of Construction administers projects from three (3) Regional Offices, which are supervised by Construction Regional Director for each District. The Construction Inspector Manager from the Regional Office is the prime contact for the Professional and the Contractors. The Department may, at its discretion, appoint a full-time Construction Manager to assume the Construction Administration.

900.4 ROLE OF THE PROJECT COORDINATOR. The Project Coordinator serves in a support role to the Project Administrator during construction. The Project Coordinator should be copied on all design-related correspondence, except shop drawings and product/material submittals.

900.5 JOB CONFERENCES. The Project Administrator chairs regular bi-weekly Job Conferences at the site. Attendance of all Contractors is mandatory at all Job Conferences, whether it is a regularly scheduled bi-weekly conference or a special meeting. In this regard:

A. The Initial Job Conference generally is held within 30 calendar days of the execution date of the construction contracts. On-site work begins within ten (10) days following the Initial Job Conference. The Professional shall fully familiarize themselves with the appropriate DGs General Conditions of the Construction Contract and Construction Administrative Procedures prior to the Project Initial job Conference.

B. An Orientation Meeting is held in advance of the Initial Job Conference when the Project Administration wants to orient a new Contractor and/or Professional to procedures and forms.

900.6 SPECIFIC TASKS. The Project Administrator details the timing and process of administrative tasks and the distribution of documents and correspondence.
SECTION 901 - PROJECT REPRESENTATION

901.1 BASIC SERVICES. The Professional shall visit the project site during periods of construction. In addition to visits to project site, the Professional is required to attend, as the Project Administrator deems necessary, any/all project site conferences or visits that may be necessary to clarify the Contract Documents. Refer to ‘Construction Contract Administration’ within the Professional Agreement for this and other tasks to be accomplished by the Professional during the Construction Contract Administration Stage. The Professional Agreement and Work Order stipulate the number of meetings that are included in the Basic Services. However, the meetings and visits that are deemed necessary by the Professional to clarify contract documents are not included or counted against the stipulated number of meetings.

901.2 CONSULTANTS. It shall be the duty of the Professional to have his Consultants visit the project site to insure the progress and quality of the work of their respective disciplines and to determine if work is proceeding in accordance with the Contract Documents.

901.3 REPORTS. The Professional must prepare a written report of each site visit, and submit to the Project Administrator within seven (7) calendar days after each visit by the Professional or his Consultants.

901.4 QUALIFICATIONS. The Professional’s Representative (full time or not) must be qualified by training and experience to make decisions and interpretations of the Construction Documents. Registered Architects or Professional Engineers are preferred, but others are acceptable depending on qualifications for the Project. The Commonwealth reserves the right to request the replacement of any Project Representative assigned to the Project who is not performing satisfactorily.

SECTION 902 - DOCUMENTS

902.1 SUBMITTALS. The Professional must promptly review and approve/reject shop drawings, samples and other submissions of the Contractors. The Professional must maintain a shop drawing log.

A. The Professional shall review and return all Submittals within fourteen (14) calendar days of the date of receipt of the Submittals. Resubmissions shall be acted upon by the Professional within ten (10) calendar days of its receipt

1. Review for conformance with the design concept.
2. Review for compliance with the Contract Documents.
3. Review for Contractors’ coordination with other work of that contract and of other Contractors. In critical areas require that all affected Contractors indicate acceptance on the shop drawing.

SECTION 903 - QUALITY CONTROL AND QUALITY ASSURANCE

903.1 GENERAL. The Professional must appraise and direct all specified tests and inspections of materials and equipment that are required, that the Professional recommends, and all tests required by laws, ordinances or regulatory authorities. The Professional must exercise authority to reject and stop non-conforming work by making recommendations to the Project Administrator to stop the work and conduct re-testing or remediation in accordance with the General Conditions of the Construction Contract.
903.2 QUALITY CONTROL TESTING AND INSPECTION SERVICES AND QUALITY ASSURANCE SERVICES. Testing and inspections pertaining to each Contractor’s contract may be performed by one or more testing laboratories or independent agents, retained by the Prime Contractor. The Professional must edit the specification Sections 01400 and 01401, and the RFP for Quality Assurance Services and coordinate testing to assure orderly progression of the work.

A. QUALITY CONTROL TESTING AND INSPECTIONS BY PRIME CONTRACTOR: The Contractor is responsible for primary testing and performance of Special Inspections as required by Chapter 17 in the IBC. The Professional is to review the qualifications of the Contractors’ proposed testing agents, and then review and accept test reports.

B. QUALITY ASSURANCE SERVICES BY PROFESSIONAL: Follow directions in Chapter 10 for contract administration of Quality Assurance Services contracted as Work Orders to the Design Professional’s Agreement. Earthwork monitoring is a separate Work Order to the Professional for the services of a Geotechnical Engineer who, in effect, is acting as the Quality Assurance Agent for earthwork.

903.3 COSTS FOR RE-INSPECTIONS AND RE-TESTING. If routine inspection or testing reveals a failure to comply with the requirements of the Contract Documents or any laws, ordinances, rules, regulation or orders of any public authority having jurisdiction, the Contractor shall bear all costs thereof for re-inspection and re-testing, including the Professional’s Additional Services made necessary by such failure unless Quality Assurance tests are found to be in error.

903.4 CONSTRUCTION ADMINISTRATIVE PROCEDURES. The Professional is to be guided by The Construction Administrative Procedures (AP) for testing procedures. Similar procedures must be used for all tests. Refer to Construction Contract General Conditions, for additional requirements and procedures. All procedures are to be approved by the Department.

903.5 PAYMENT. The Professional must follow Administrative Procedures for payments for testing agents under contract to the Professional. Payments for testing agents subcontracted to the Contractor(s) are included in regular payments for work completed.

SECTION 904 - CHANGE ORDERS

904.1 AUTHORIZATION. Immediately refer Using Agency or Institution requests for Change Orders to the Project Administrator for direction. The Professional shall prepare Change Orders only when properly authorized by DGS. The Professional shall initiate the Change Order Request by completing the required portions of the DGS Change Order Request Form and submitting all related substantiation.

904.2 PROCESS. The Change Order sequence must be followed in detail:

A. The Project Administrator may stop a Change Order at any time in the process. See Construction Contract General Conditions (Changes in the Work) and Administrative Procedures for additional direction.
904.3 EVALUATION. The Professional must evaluate all Change Orders at two (2) steps in the sequence. First, the initial request must be evaluated to determine that it is a valid change and is not work already in the Contract. Second, the reasonableness of the Contractor’s cost must be evaluated. Unreasonable proposals will be negotiated with Contractors if agreement can be reached without delay. If reasonable costs cannot be negotiated, the Professional shall prepare its own independent cost breakdown and recommended cost. The Project Administrator may authorize Force Account Change Orders, but only under very specific conditions and only when normal Change Order methods for accomplishing the work have been determined to be inappropriate.

904.4 COMPENSATION. The Professional should invoice for fees on approved Change Orders on Change Order Fee Payment Invoice.

904.5 ADDITIONAL SERVICES. In extraordinary circumstances, additional compensation may be considered when the Services required for a change are more extensive than will be covered by the set fee. In such a case, the Professional must request additional compensation by letter to the Project Administrator. The Professional shall not hold up initiating or processing change Orders waiting for a response to their request for additional compensation. Work must promptly proceed to avoid any delay to the construction process.

904.6 ERROR/OMISSION. No fee is paid to the Professional, and damages may be assessed, for Change Orders determined to result from Professional error or omission. The preliminary determination is marked on the approved Change Order form. Opinions noted during the approval process are considered, but not binding. A final determination and damage assessment is made with the Professional’s participation after to Project Close-out.

904.7 FIELD ORDERS. Minor changes not involving cost or time, and consistent with the extent of the Work, may be made without a Change Order. Discuss such changes with the Contractor and the Project Administrator. Project Administrator will issue a written Field Order when all agree. See Construction Contract General Conditions, (Minor Change in the Work).

SECTION 905 - PROJECT CLOSE-OUT

905.1 DEPARTMENT OF LABOR AND INDUSTRY “PLAN REVISION” SUBMISSION. The Professional is responsible for submitting to the Department of Labor and Industry a revised set of Construction Documents for approval of design and construction changes made after the UCC Building Permit is issued. This “Plan Revision Submission” is also referred to as the “Department of Labor & Industry Record Drawings” and shall be submitted in accordance with PA L&I and PA UCC requirements. The Professional will provide both the DGS Project Coordinator and the Using Agency Project Coordinator with a CD of the approved L&I Plan Revision Submission in PDF format. Receipt of the approved Plan Revision Submission is required before final payment can be made to the Professional and the project closed out.

905.2 RED-LINE AS-BUILTS. The Professional is responsible for scanning the Contractor’s Red-Line As-Builts onto CD in PDF format and providing a copy to the DGS and Using Agency Project Coordinators.
905.3 OPERATION/MAINTENANCE MANUAL. After Final Inspection the following should be collected from each Contractor: all shop drawings, catalog data, manufacturer’s operating and maintenance instructions, warranties, guaranties, certificates, test reports and other material pertinent to operating and maintaining the facility. They must be correlated and indexed, into an organized Operation/Maintenance Manual by the Contractor. The Professional must review the Operation/ Maintenance Manual for completeness and accuracy. If unacceptable, it is to be returned to the Contractor with specific criticisms. If accepted, forward to the Project Administrator two (2) copies. See the Construction Contract General Conditions, and the Professional Agreement General Conditions.

A. Special warranties, such as roofing warranties, must be reviewed and stamped “Approved” by the Professional, before being submitted to the Department.

905.4 CERTIFICATE OF OCCUPANCY. Inspections required by the code enforcement agencies to obtain Certificate of Occupancy, or Partial Occupancy, must be arranged by the Contractor. The Design Professional will provide assistance on issues such as code interpretations and variances. All permits needed to permit occupancy must be obtained. Refer to requirements in the General Conditions of the Professional Agreement.

905.5 FOLLOW UP INSPECTION. After Closeout Inspection, the Project Administrator is to perform follow up inspections, if required. The Professional may be as requested to attend the inspections and/or meetings, with Consultants as needed.
CHAPTER 10
MISCELLANEOUS INSTRUCTIONS

SECTION 1000 - INTRODUCTION

1000.1 INTRODUCTION. Chapter 10 contains instructions to the Professional on specific topics for which the Department has standards that it wants the Professional to observe, if applicable. Applicability is determined by the nature of the Project and what is included in Basic Services by the Professional Agreement and the Work Order.

SECTION 1001 - QUALITY CONTROL AND QUALITY ASSURANCE SERVICES

1001.1 GENERAL. The Professional is to adopt the DGS system for specifying Quality Control (by Contractor’s Quality Control Agency) and Quality Assurance (by the Professional’s Quality Assurance Agency) testing and inspection. The Professional is to adopt DGS terminology and approach, with the end result of ensuring that all materials deemed to require testing are tested or inspected to ensure a quality project and to comply with requirements of the PA UCC, including Special Inspections in Chapter 17 of the IBC.

A. The Department requires that Professionals follow our strict guidelines regarding testing and inspection in the interest of uniformity of administration by our Construction Division. The Professional is to include our Sections 01400- Quality Control Testing and Inspection Services, and 01401- Quality Assurance Services for structural-related testing and inspections, adopt the Department’s program and Project Manual format and terminology, and assign testing and inspection responsibilities to the recommended parties. QC and QA are not restricted to structural materials; however, non-structural materials and systems which are to be independently tested or inspected are to have the requirements specified within the appropriate technical specifications sections. The Department does not require shop testing during fabrication of structural components, when an appropriate trade association provides independent QC oversight, such as is provided for structural steel fabricators under the AISC Quality Certification Program. The Department does not ordinarily require testing of materials for which manufacturers can provide Certificates of Compliance from independent testing laboratories. These policies are not in conflict with IBC requirements.

1001.2 SCOPE. All testing is to be Quality Control Testing (by the Contractor’s QC Agent) with random check testing under Quality Assurance (by Professional’s QA Agent). Quality Control tests shall be required in accordance with IBC requirements or by specific type and frequency or quantity of tests listed in Section 01400. The exception to this is soils testing. Soil testing is to be Quality Control with no specified quantities or frequencies. The Contractor is to do whatever testing is required, without limitation, to comply with specification standards. Construction monitoring of earthwork and soils testing, which consists of reviewing QC tests, approving soil bearing, and general oversight, is by the Professional’s Geotechnical Engineer, who acts as the QA Agent for soils monitoring work.

A. All Special Inspections required by IBC Chapter 17, and as approved by the Department, are to be Quality Control (by Contractor’s QC Agent).
B. When structural Quality Control Testing is required, the technical specification shall refer to Section 01400 for all testing requirements, where types and frequencies of tests shall be listed in detail. Testing requirements shall not be stated on the Drawings, or in the technical specification sections. Detailed descriptions of testing may be included in the specifications where necessary.

C. When structural Quality Assurance Testing or Inspection is required the technical specification shall refer to Section 01401 for all testing and inspection requirements, where types of tests and inspections only shall be listed. Testing and inspection requirements shall not be stated in the technical specification sections.

D. Paragraph 1705 in Chapter 17 of the IBC requires the Professional to submit a Statement of Special Inspections, where all Testing and Inspections proposed are stated in detail. If this is required, it is recommended that this statement be based upon the Plan required of the Quality Control Agent in Section 01400. This Plan should have the approval of the QA Agents for structures and soils. UCC-6 is entitled “Special Inspections and Observations Statement,” but does not require detailed information.

1001.3 WORK ORDER FOR QUALITY ASSURANCE SERVICES

A. The Professional is responsible, under a Work Order, to provide Quality Assurance Services as an additional service. Based upon Project conditions and Contractor performance and QC test results, the Professional and the Department are to authorize check tests and inspections hours during construction, as deemed necessary to assure the Professional and the Department of Contract compliance, as required by the IBC, including Chapter 17 of the IBC. Tests shall be standard tests that are identified by ASTM or other designation. The budget as well as the low bidder for Quality Assurance Services for the Project will be established by the Work Order which will be based on the accepted Proposal.

B. The Professional shall solicit proposals for the Quality Assurance services sometime during the Project bidding period. Obtain at least three (3) proposals. Submit the proposals to the Project Coordinator with a cover letter indicating a recommendation.

C. The services will be authorized by the issuance of a Work Order for additional services.

D. The Professional is responsible for directing the Quality Assurance program. It shall solicit advice from its Consultants as it deems appropriate. It should approve QA testing and inspection based on need to confirm tests by the QC Agent, and inspection to determine condition of the work or means and methods used to perform work.

E. The Project Administrator shall be consulted prior to implementing any action by the Quality Assurance Agent. The purpose of this consultation shall be to bring areas of concern to the Department’s attention and assure that all involved parties are aware of the rationale being used. The inspection staff shall also bring to the attention of the Professional any items that may be of concern that would require further review and supplemental testing. Implementation of the Quality Assurance Agent shall be a collective effort that must be closely coordinated between the Professional and the inspection staff.
F. The Project Administrator is to coordinate the performing of tests and inspections, ensure that they are authorized by the Professional, are completed as specified, and test data/results are submitted to the necessary parties. When unsatisfactory test results occur, the Department Inspector(s) are to confer with the Professional and ensure that appropriate action is initiated.

SECTION 1002 - UTILITY REQUIREMENTS

1002.1 PURPOSE. The purpose is to outline the procedure for providing utilities.

1002.2 ORIENTATION. Professionals are advised of their responsibility to arrange the installation of all required utilities for the Project.

1002.3 SCHEMATIC DESIGN. During Schematic Design, the Professional estimates a preliminary load for each utility required for the project. The Professional establishes a point of contact with each utility, and describes the proposed project, its location, load estimate, and schedule. The Professional requests utility confirmation that required service can be extended to supply the project. Initial contact by telephone (multiple telephone calls may be required) confirmed with a letter. Professional should advise utilities to respond in writing within 3-4 weeks with proposed service information. Where the utility service is from a campus system, the Using Agency shall determine if the capacity and the distribution system at the point of connection is adequate for the new load determined by the Professional. Where it is determined that service is not available adjacent to the site, the Professional shall determine what is required off-site to provide service, confirm that the utility company has the capacity at the off-site point of connection and, if there is a cost to the Project, include it in the estimate.

1002.4 SCHEMATIC DESIGN SUBMISSION. The Schematic Design submission package should include the Professional’s estimated load for each utility, a telephone call report for each utility contacted, and a copy of the notification letter sent to each utility. The telephone call report should include: name and address of utility company, date called, utility company representative name and telephone number, and a written narrative of the telephone discussion. Utility reply letters confirming service should be included, if available.

1002.5 CONSTRUCTION DOCUMENTS. During Construction Documents, the Professional continues coordination with each utility company for service installation at the proper time. Service arrangements must be completed prior to final submission so bidding will not be delayed. Early in the Construction Documents Stage, the Professional shall contact each utility company and obtain, in writing, a final scope of work for service installation, routing plan (includes right-of-way requirements), meter location, and the utility’s cost to install its service. The Professional should forward this information along with the utility company point of contact to the Project Coordinator for initiation of a utility agreement(s). The necessary drawings for DGS Legal to prepare easement documents shall be included.

A. Construction documents shall include any terms and conditions that the Construction Contractor must coordinate including costs to be paid to the utilities that are not incorporated in a utility agreement(s). Where the costs that the Contractor is to pay are estimated, the difference between actual costs and what is provided in the Construction Documents shall be adjusted by Change Order in accordance with the General Conditions.

1002.6 CONSTRUCTION DOCUMENTS SUBMISSION. The Professional must follow the service requirements of each utility company described in its scope of work. The Professional should show all service work required by DGS contractors on the contract documents, as well as work provided by the utility company.
1002.7 CONSTRUCTION. Service applications are applied for by the Contractors on behalf of the Department, designating the initial payer of use charges according to requirements of the Construction Contract. The Department will authorize changing the name of the payer at the appropriate time, also in accordance with the terms of the Construction Contract.

SECTION 1003 - SUBSURFACE INVESTIGATIONS AND GEOTECHNICAL REPORT

1003.1 SCOPE. The Professional shall obtain assistance from its Civil/Structural Engineer as set forth in these instructions and in other relevant chapters, and be responsible for obtaining subsurface and related data that will yield sufficient information for an accurate evaluation of the existing subsurface and related conditions for the following purposes:

A. Analysis, design and construction of foundation and substructure.

B. Analysis, design and construction of site work, including embankments, slopes, retaining structures, underground structures, site and subsurface drainage, roads and pavements.

C. Soil erosion and sedimentation control.

D. Cost analysis and estimating of ‘Unclassified’ excavation by Professional and Contractor/Bidders.

E. Analysis of excavation and fill conditions.

1003.2 INITIAL SUBSURFACE AND RELATED SITE INVESTIGATION REPORT.

A. Prior to Schematic Design Submission the Professional’s Civil/Structural Consultant shall, with the Professional’s help, contact DGS’s Project Coordinator for relevant data obtained from previous projects. In addition to this, other sources of information shall be explored. The Civil/Structural Engineer shall then visit the site of the proposed project and inspect by visual or physical means the topographical and geological conditions that are prevalent. Particular attention shall be directed to the following items:

1. Evidence of fill material.
2. Outcrops of rock strata.
3. Type of overburden.
4. Features of the terrain.
5. Substructures.
7. Water levels (ground and other).
8. Information pertaining to or observation of, any evidence of buried fuel or other underground storage tanks.
9. Previous boring results and foundation reports on projects in the vicinity of the proposed facility.

B. At Schematic Design the Professional’s Structural Engineer shall submit the Initial Subsurface and Related Site Investigation Report. The Report shall state observed conditions, indicate possible foundation systems and recommend whether Test Borings and/or other site investigations are required. If test borings are required, the Professional and his structural engineer shall prepare Contract Documents for Geotechnical Services. Three (3) copies of the RFP documents shall be included in the Schematic Design Submission for review and approval.
1003.3 CONTRACTING FOR GEOTECHNICAL SERVICES. Geotechnical Services shall include test borings and other subsurface investigation, the Geotechnical Report and Construction Monitoring, all to be quoted at one time by the Geotechnical Consultant.

A. Specifications for Test Borings and the Geotechnical Report shall be based upon best practices, and shall include a test-boring plan based upon the proposed footprint of the work and the expected foundation type to be used.

B. The Geotechnical Report shall include specific recommendations for designing structures, slabs on grade and paving.

C. The Geotechnical Consultant shall be required to submit with the Final submission a sealed statement to the effect that the design drawings and specifications are in accordance with his recommendations.

D. The Professional shall solicit not-to-exceed Proposals from as many Geotechnical Consultants as may be deemed reasonable, not less than three (3). The Geotechnical Consultants shall be qualified and have a minimum of five (5) years of experience doing similar consulting. Principles shall be Registered Professional Engineers in the Commonwealth of Pennsylvania. Solicitation shall not take place until the footprint of the work, and the RFP, have been approved.

E. Upon receipt of Proposals, the Professional shall prepare an analysis consisting of a comparative statement, proposal evaluation and recommendations for contract award. The proposals shall be submitted to the Project Coordinator for written approval to award the Work Order.

F. The Geotechnical Report shall not contain a broad disclaimer that excuses the consultant of responsibility.

1003.4 TIME OF COMPLETION OF INVESTIGATION. The subsurface investigation and Geotechnical Report must be completed prior to, and the results shall be part of, the Construction Document Submission.

1003.5 SUBMISSION OF DOCUMENTS TO THE DEPARTMENT. The Final Report shall be prepared, signed and sealed by a Registered Pennsylvania Professional Engineer.

A. Upon completion of the boring contract, the Geotechnical Consultant shall submit to the Professional four (4) copies of a complete report, covering the field work and laboratory testing, with complete analysis of each boring and with recommendations for soil and rock bearing capacities. The Professional shall retain one (1) copy, submit one (1) copy to its Civil/Structural Consultant, and submit the remaining copies to the Project Coordinator.

1003.6 CONSTRUCTION DOCUMENTS SUBMISSION. The Professional shall submit with the Construction Documents Submission, a letter stating that this Project was designed in accordance with the recommendations of the Geotechnical Consultant. If exceptions are taken, they must be justified.
1003.7 **RELEASING THE GEOTECHNICAL REPORT.** The Test Borings contained within the Geotechnical Report are for the purpose of providing factual data and information for the Professional, as well as the prospective bidders and are incorporated into the construction contract as a Contract Document. The remainder of the Geotechnical Report is subjective, analyzing the data, drawing conclusions and making recommendations for the guidance of the design team. The complete Report, other than the Test Borings, is for informational / guidance purposes only; it is not to be incorporated into the construction contract as a contract document and any conclusions drawn from them are not warranted as accurate. Contractors are permitted to obtain copies of the complete Geotechnical Report; providing they sign the Department’s Receipt for Geotechnical Report form containing disclaimers (see exhibits).

1003.8 **CONSTRUCTION SUPERVISION.** In order to assess the Contractor’s Quality Control Testing program, earthwork monitoring during construction shall be provided by the Geotechnical Consultant. On-site presence and laboratory tests during the construction period shall be provided at rates stated in its Proposal for Geotechnical Services, and in an additional Work Order awarded after the Project proceeds to construction.

**SECTION 1004 - SPECIAL SITE INVESTIGATIONS**

1004.1 **WETLANDS IDENTIFICATION AND DELINEATION.** The Professional's responsibility in site selection and site expansion includes the determination of the presence of wetlands by a qualified wetlands delineation specialist, familiar with state and federal criteria and regulations. This initial investigation is part of “Basic Services.” If wetlands are present the Professional shall notify the Project Coordinator. DGS will accept a letter from the Professional stating that wetlands are not found on the site. The Professional may determine this based on general observations without hiring a consultant and is encouraged to do so where conditions are apparent.

1004.2 **ARCHAEOLOGICAL STUDIES.** The Professional shall, in accordance with Act 1988-72, perform an initial investigation, and contact the Pennsylvania Historical and Museum Commission (PHMC) before commencing any field investigation or project design. If PHMC requires any archaeological investigation, the Professional shall obtain necessary information from PHMC and notify the Project Coordinator.

1004.3 **ENDANGERED SPECIES.** As part of “Basic Services” for all projects, the Professional shall perform an initial investigation, and screen the site with the Pennsylvania Natural Diversity Index (PNDI) maintained by the Pennsylvania Natural Heritage Program in the Department of Conservation and Natural Resources. Provide to the Department, a copy of the findings of the initial investigation. If the screening results in any potential conflicts or impacts on plant or animal species of concern, the Professional shall notify the Project Coordinator.

**SECTION 1005 - HAZARDOUS MATERIALS**

1005.1 **PROFESSIONAL’S RESPONSIBILITIES TO THE DEPARTMENT.** Most major building renovations or additions will encounter some kind of hazardous material (Asbestos, Lead, PCB, Radon, etc.) during the Project. The Professional is responsible for addressing hazardous materials to the extent they may impact the Project. Professional services necessary for the remediation of such hazardous materials will be covered under Basic Services, except as noted below, or in the Survey Cost Estimate, Project Scope and/or Work Order. Prior to beginning of the Project design, the Professional, through consultation with the Department and the Using Agency, determine whether hazardous materials are present on site, requiring a hazardous material study and evaluation. A hazardous material Study and Evaluation (Part One) and Quality Assurance Consultant services (Part Two) are considered Additional Services, and the Project Coordinator will process a Work Order.
SECTION 1006 - PROPERTY AND TOPOGRAPHIC SURVEYS

1006.1 INITIAL DATA AND SITE INSPECTION. Shortly after the Orientation Meeting the Professional shall collect all available Property/Topographic survey information for the site and surrounding area by contacting the Project Coordinator, Using Agency and the Institution. After collection and evaluation of initial data the Professional must inspect the site.

1006.2 REQUEST FOR PROPERTY/TOPOGRAPHIC SURVEY. If the Professional feels that additional survey information is needed they should contact the Project Coordinator.

SECTION 1007 - SUBSURFACE UTILITY INVESTIGATION

1007.1 OVERVIEW. Where the consequences of not knowing precisely where the underground utilities are located may result in substantial Contract Change Orders or may imperil the safety of workers, the Professional’s request for Subsurface Utility Investigation will be considered as an Additional Service.

SECTION 1008 FUEL FEASIBILITY STUDY

1008.1 COAL FUEL NON-USE JUSTIFICATION. State Act 1990-28 requires that any heating system or heating unit installed in a Commonwealth-owned facility use Pennsylvania coal as a source of fuel. The following should also be addressed and expanded when a fuel other than coal is proposed:

A. Using coal as the fuel for the heating system or heating unit would violate existing or reasonably anticipated environmental laws or regulations.

B. Using coal as the fuel for the heating system or heating unit would not be cost effective when compared to using other forms of energy.

C. Using electricity generated primarily from the combustion of coal would be more cost effective when compared to using coal as the fuel for the heating system or heating unit.

D. The principle fuel for the heating system or heating unit would be natural gas from wells located in Pennsylvania or wood from forests located in Pennsylvania, if such fuels were at least as cost effective as using coal as the fuel.

NOTE: In determining cost-effectiveness under Paragraphs B, C, and D, the Professional shall perform a brief life cycle cost analysis.

SECTION 1009 - PREPARATION OF BIDDING DOCUMENTS

1008.1 PURPOSE. The purpose of these instructions is to provide the Professional with guidance in the updating, preparing and handling of Construction Contract Documents during the Construction Procurement Stage. Information contained in these instructions is consistent with and amplifies information contained in Chapter 11 of the SBPPM.

SECTION 1010 - PREPARATION OF STANDARD DRAWINGS AND PROJECT MANUALS

1010.1 DRAWING STANDARDS. Use DGS standard drawing sheet dimensions. The Cover Sheet, Approval Blocks, Title Blocks and Standard Plaque must have the proper names of the approving authorities, the correct names of the Professional and Consultant and the correct Project Number and Title, etc., entered in the appropriate places. Identify on the Cover Sheet the responsibilities of the Consultants.
1010.2 PROJECT MANUAL STANDARDS. The Professional shall use DGS standards for Project Manual Cover Page, Table of Contents, List of Drawings, and Division 1 - General Requirements sections. See Exhibits.

1010.3 TABLE OF CONTENTS. See Exhibits, for the order in which the documents under Bidding and Contract Documents for all Contracts. Professional shall discuss with the Project Coordinator which documents are applicable.

A. Documents listed as ‘To be issued’ will be furnished by the Department

B. Table of Contents, List of Drawings, and all applicable Division 1 sections must be included in the Project Manual.

SECTION 1011 - SUSTAINABILITY GUIDELINES

1011.1 PURPOSE. In order to provide the highest standards of energy efficiency, indoor air quality, and interior working environments in Commonwealth buildings, the Bureau of Engineering and Architecture recommends incorporation of the following sustainable materials, systems, and principles in DGS projects, when the Budget allows.

1011.2 SITE PRINCIPLES.


B. Use of pervious pavement reduces water run-off.

C. Use of landscaping elements to reduce energy consumption and minimize site maintenance.

1011.3 BUILDING PRINCIPLES.

A. Recycled Post-Consumer Insulation Material is required on all DGS Projects; see the General Conditions of the Construction Contract.

B. The International Energy Code (Compliance required by PA Department of Labor and Industry); reduces energy consumption through insulation of the entire building envelope.

C. ‘Light Reflective’ Roofing Membranes; reduce cooling loads in the building.

D. Window systems using thermal breaks, low ‘E’ and insulating glass; reduces heating and cooling loads in the building.

E. Operable windows; allows use of outside, non-conditioned air.

F. Daylighting (skylights, atriums, light shelves); used in conjunction with open floor plans, reduces artificial lighting required by allowing natural light to transfuse through the floor area.
G. Access floor systems (with air distribution); energy savings through lower delivered air temperatures, less fan energy, reduction in size of air handlers, and ‘extended economizer range’.

H. Toilet/Shower stall partitions manufactured from recycled plastic or steel.

I. Recyclable carpet (and carpet with recycled backing material).

J. Use of tile made with recycled glass.

K. Use of products with low V.O.C. emissions.

L. Use of Certified Wood Products (a Pennsylvania renewable resource).

M. Use of natural energy and elements from the environment (solar, wind, and landscaping) to reduce energy consumption.

N. Use of recovered coal fly ash in concrete mixtures.

O. Use of thermal mass of building to reduce heat flow through the building envelope.

1011.4 HVAC PRINCIPLES.

A. HVAC equipment is specified to be in compliance with the latest ASHRAE standards for energy efficiency and environmental impact.

B. Automatic temperature control systems – reduce energy consumption.

C. Use of insulation on piping, ductwork, hot water heaters – reduces heat loss.

D. Economizer cycle for HVAC system – reduces energy consumption.

E. Natural gas for heating fuel (if applicable) – clean burning with low emissions.

F. Use of ozone friendly refrigerants.

G. Use of heat recovery systems.

1011.5 PLUMBING PRINCIPLES.

A. Use of low water consumption plumbing fixtures and automatic faucet controls; reduces water usage and energy necessary to heat water.

B. Select hot water equipment/system for cost-efficient energy consumption.

1011.6 ELECTRICAL/LIGHTING PRINCIPLES.

A. Energy saving electronic light fixture ballasts with T-8 fluorescent lamps; reduces electricity required for lighting.
B. Use of electronic scheduling, occupancy sensors, and daylighting controls to regulate electric lights; reduces electricity used.

C. Use of indirect lighting; reduces energy required due to lower lighting levels required.

1011.7 GENERAL. Incorporate any other proven, cost effective materials or systems that improve indoor air quality standards, enhance the interior working environment, and contribute to the overall sustainability of the Project.

SECTION 1012 - ELECTRICAL EQUIPMENT WIRING RESPONSIBILITIES

1012.1 WIRING RESPONSIBILITIES. The Professional shall develop the Project design and specifications in accordance with the following:

A. Electrically Operated Equipment:

1. The General, HVAC and Plumbing Contractors shall furnish all motors, starters, pushbuttons for local and remote control controllers, pressure switches, aquastats or similar items together with all appurtenances, accessories and control wiring required to operate the equipment furnished under their respective contracts, as necessary to perform the operating functions as specified, shown on the drawings or as otherwise required.

2. The General (.1), HVAC (.2) and Plumbing (.3) Contractors shall set and mount all motors, starters and controls. The Electrical (.4) Contractor shall furnish and install all safety switches and disconnects. All control wiring necessary for the required performance and operation of the equipment shall be installed and connected under each respective and associated contract. Where the starter and/or safety switch is an integral part of the equipment assembly, the assembly shall be furnished with the power wiring being complete between the starter, controller and motor and the Electrical Contractor shall make the power connections only at the unit. The Electrical Contractor shall make the power connections between remote mounted starter/motor control center and the motor.

3. If procurement requirements necessitate a change in the electrical characteristics of any motor or equipment being furnished under the General, HVAC and Plumbing contracts, the respective Contractor shall first obtain approval of such changes from the Professional and the Department. This same Contractor shall also be responsible for all necessary arrangement and shall pay all costs, if any, for all required changes to the Electrical Contract.

B. General Requirements: The Electrical Contractor shall furnish, install and connect all power wiring to all equipment and all associated controls and appurtenances provided under the Electrical contract. In addition, the Electrical Contractor shall furnish, install and connect all power wiring to all equipment, associated controls and appurtenances provided under other contracts, unless otherwise specified herein or indicated on the drawings. All necessary and required control wiring for this equipment and systems shall be furnished, installed and connected by the respective Contractors providing the equipment, unless otherwise specified herein or indicated on the drawings.

C. The Electrical Contractor shall be responsible for proper rotation of 3-phase equipment.
D. Coordinate with Other Contracts (Add to Other Contract Specifications): All wiring and conduit furnished and installed by the Prime Contractors shall be in strict accordance with the appropriate Sections of the Electrical Specifications. The Prime Contractor shall employ workmen who are skilled in the trades involved for the installation of this work.

SECTION 1013 - ARCHAEOLOGICAL AND HISTORICAL REQUIREMENTS

1013.1 PHMC REVIEW. The Pennsylvania Historical and Museum Commission (PHMC) is required to review all renovation work on State-owned buildings for Historical significance, and all excavation work for Archaeological significance. Prior to the Schematic Design Submission, the Professional is requested to contact the PHMC for their review of the location and scope of the work.

A. Inquiries shall be directed to:

Bureau of Historic Preservation
Pennsylvania Historical & Museum Commission
400 North Street, Commonwealth Keystone Building, 2nd Floor
Harrisburg, Pennsylvania 17120-0093
Telephone: (717) 783-9926

B. Upon completion of their evaluation, PHMC will provide a response letter to the Professional, either indicating a finding of no significance, or requesting additional information.

1013.2 ARCHAEOLOGICAL. For their archaeological review process, PHMC generally needs a map (preferably a portion of a geological survey map) showing the Project location and a brief description of any ground-disturbing activity. Even an activity such as parking lot construction can be significant enough to disturb archaeological resources.

A. If PHMC’s evaluation indicates a potential for archaeological resources, they may ask for a Phase I survey to identify any archaeological resources at the Project location. The survey must be done by a person or persons whose qualifications meet certain requirements. PHMC has a list of some qualified people, but this list is not exclusive.

B. Based on the results of the Phase I survey, PHMC may ask for a more intensive Phase II survey to evaluate the archaeological resources at the Project location. In some cases, PHMC may then ask for a Phase III survey to mitigate adverse effects to the site.

1013.3 HISTORICAL. After initial contact with the applicant, PHMC checks whether the building is on, or is eligible for, the National Register. A survey form is used to determine eligibility. The Professional shall complete the form to the best of his ability; a historical analysis or survey is not required for this.

A. If National Registry eligibility is determined, PHMC reviews the Project based on the Secretary of the Interior’s Standards for Rehabilitation. Each step in the review process may take up to thirty (30) days.

1013.4 PROJECTS FOR PHMC. On Projects for which the Pennsylvania Historical and Museum Commission is the Using Agency, the Professional shall include in the Division 1, General Requirements, Specification Section 01120 – Historical and Museum Commission Projects – Supplemental Provisions (available at the DGS Internet website).
A. The Professional shall consult with the Project Coordinator to discuss the extent of editing Section 01120 required to suit the particular Project.

B. All work on Historical facilities shall conform to the Secretary of the Interior’s Standards for Historical Preservation Project.
CHAPTER 11
DGS SPECIFICATIONS REQUIREMENTS

SECTION 1100 – INTRODUCTION

1100.1 PURPOSE. This Chapter contains technical guidelines and requirements documents for reference or use by the Professional. Follow the instructions preceding each document on the specific recommendations or requirements for use of that document.

1100.2 COORDINATION. The Professional shall develop the design and specifications in accordance with the following:

A. Site Utilities: The General Contractor shall be responsible for providing all site utilities beyond a line 5’-0” outside the exterior of the building walls, except for steam and condensate lines, which shall be the responsibility of the HVAC Contractor, and all electrical power and communication lines, which shall be the responsibility of the Electrical Contractor. When correctional facility security systems are included in work of the General Contractor, the site distribution of same is also by the General Contractor.

B. Earthwork and Concrete: Each Prime Contractor shall be responsible for providing all trenching, excavation, filling, backfilling, and concrete work required by their respective contract work, and shall comply with the requirements of the applicable specification sections of Division 2 and Division 3 for same.

C. When one (1) Prime Contractor is required to perform items of work that are normally included under a different Prime Contract, those items of work shall be performed in strict accordance with the appropriate specification sections of that other Division. The specifications shall be written in such a manner as to refer the Contractor to the appropriate sections, rather than including duplicate specifications. For example, if incidental electrical wiring is required of the General Contractor, do not include electrical specifications in the General Contractor’s sections, but rather the General Contractor’s specifications shall be written to indicate that the work should be performed in accordance with appropriate sections of Division 16. Deviations from this instruction must be discussed with the Project Coordinator.

SECTION 1101 - DIVISION 1, GENERAL REQUIREMENTS

1101.1 INTRODUCTION. The General Requirement Sections are standard to all DGS projects and apply to all Prime Contracts, and should be edited as necessary. They are written to compliment the Construction Contract General Conditions and other standard DGS Contract Documents. The Sections are to be included in the order listed. Additional Sections may be inserted between standard Sections where appropriate.

A. All Division 1 – General Requirements Sections may be downloaded from the DGS Internet website at www.dgs.state.pa.us or by contacting the DGS Project Coordinator.

B. Editing Standard Sections: The Professional must edit the Sections to add, delete or modify provisions to suit the individual Project. Each Section, as presented here, includes notes to the specification writer. Remove ‘Notes to Specification Writer’ as part of the editing process. Do not make changes simply to have the Requirements conform to the Professional’s own preferred format or content.
C. Adding/Deleting Sections: Delete Sections not applying to the individual Project. Add Sections to incorporate requirements needed for an individual project that are not covered in the standard Sections. Do not add requirements without verifying that the requirement is not covered in the General Conditions. Do not use Division 1 sections of other published specifications, which may have conflicts with the DGS standard General Conditions of Contract, Division 1 – General Requirements, and Bureau of Construction Administrative Procedures.

D. Do not edit Sections to modify provisions of the General Conditions without specific authorization of DGS.

E. See sample of Table of Contents in the Exhibits for sections listed under Division 1 – Special Requirements. Verify with Project Coordinator, which sections are applicable to the Project.

1101.2 BASE BID DESCRIPTIONS. The following paragraphs explain the Base Bid format to be used on projects with multiple base bids. Add or deduct Alternates are not used. Instead, a sequential series of Base Bids are used to provide bidding options.

A. The Work of each Base Bid shall be adequately summarized in Section 01030 – Base Bid Descriptions, to establish the Scope of Work. The Drawings and Specification shall thoroughly describe and detail the changes required by each Base Bid, to the previous Base Bid.

Example:

❖ Base Bid No. 1 – Shall include all the work as shown on the Drawings and described in the Project Manual except work that is identified as a higher base bid.

❖ Base Bid No. 2 – Same as Base Bid No. 1, except add: _________________________.

❖ Base Bid No. 3 – Same as Base Bid No. 2, except add: _________________________.

C. The number of Base Bids is limited to three (3).

D. Base Bids will be sequentially uniform for all contracts, even if the addition of work in a particular Base Bid does not affect a contract. In other words, Base Bid No. 2 shall apply to all contracts; Base Bid No. 3 shall apply to all contracts, and so on. When a contract is not changed by a particular Base Bid, the description for the contract shall state that the work herein shall be the same as the previous Base Bid description.

E. The Department will prepare the Proposal Form. The form will not describe the work of the various Base Bids, but will make reference to Section 01030 - Base Bid Descriptions of the Division 1 - General Requirements.

1101.3 TEMPORARY UTILITIES. The Professional must assign the responsibility for temporary services during construction to the appropriate party (Institution or specific Contractor) after consultation with the Institution. Responsibilities for each utility temporary service shall be outlined in Section 01500.
SECTION 1102 - EARTHWORK SPECIFICATIONS

1102.1 DGS REQUIREMENTS. There is to be only one Earthwork specification in the Project Manual. Where Sitework or other General Construction specifications require earthwork, it should be specified by requiring compliance to the main earthwork specification. If there are any special earthwork or concrete work requirements for Prime or specialty contractors not covered by the Earthwork specification, they should add these special requirements to their sections without nullifying the requirements of the Earthwork specification.

A. Include the following standard article defining “unclassified:”

BASIS OF CONTRACT

1. Excavation for this Project shall be considered unclassified and shall include all types of earth and soil, any pebbles, boulders, and bedrock, municipal trash, rubbish and garbage and all types of debris of the construction industry such as wood, stone, concrete, plaster, brick, mortar, steel and iron shapes, pipe, wire, asphaltic materials, paper and glass. Unclassified excavation does not include unforeseen concrete foundations, walls, or slabs. All such materials encountered which are identified by this paragraph as unclassified shall be removed to the required widths and depths to create a finished product as shown and/or noted on the drawings and as written in the specifications. No additional compensation shall be made to the contractor for this unclassified excavation. The materials defined by this paragraph as unclassified will not be considered to be concealed conditions or unknown physical conditions below the surface of the ground for purposes of interpreting the language in the General Conditions of the Construction Contract.

B. Include the following standard article on test boring documents:

SUBSURFACE INFORMATION

1. Any available data concerning subsurface materials or conditions based on soundings, test pits or test borings, has been obtained by the Department for its own use in designing this Project. The Test Boring location drawings and the Test Boring Logs, as well as the Laboratory Test Results, contained within the Geotechnical Report are incorporated into the construction contract as a Contract Document. The remainder of the Geotechnical Report, with all other exhibits, is available for informational/guidance purposes only; it is not to be relied on by prospective Bidders. The Report is available to Bidders at the office of the Professional upon signature of a standard form of receipt, whereby the bidder acknowledges and understands that the information and recommendations in the Report is not warranted for accuracy, correctness or completeness, and is not incorporated into the construction contract as a Contract Document.

2. Test Boring logs reflect the conditions at the specific locations of each Test Boring only. The Contractor accepts full responsibility for any conclusions drawn with respect to conditions between Test Borings. Bidders may perform their own investigation of existing subsurface conditions, with the Department’s approval. Excavation for the Project is “Unclassified”, as fully described in the Earthwork Section.
C. Include the following standard article on approval of bearing:

**APPROVAL OF BEARING STRATA**

1. The Contractor shall furnish adequate advance notification to the Department and the Professional of times when footing excavations or paving subgrades are to be completed, so that the Soils QA agent can verify that the bearing quality of the soil has been properly inspected and/or tested by the Contractor. Formwork and concreting shall follow only after approval by the Soils QA agent.

2. Should the bearing at the levels indicated be found by the Professional and the Department to be inadequate, they may order the excavation carried down to sound bearing. Such excavation shall be classed as additional work and payment be made on the basis of an agreed price according to the General Conditions. Should suitable bearing be found at a lesser depth than indicated, the Professional and the Department may order the reduction of excavation specified or shown on the drawings, and the Contractor shall allow a credit for excavation thus omitted on the same basis.

D. Include the following standard article on testing, verbatim.

**QUALITY CONTROL TESTING AND INSPECTION**

1. The Contractor shall perform all necessary Quality Control tests, inspections and procedures for the performance of the work in accordance with Section 01400 and this section, to produce end results specified. The Contractor’s Quality Control Agent shall maintain clear and orderly records of such tests and procedures and make them available for field review and approval of the Professional and the Department. The Contractor’s bid shall include the cost of all Quality Control tests.

2. The Contractor shall submit its plan for Quality Control testing to the Professional and the Department for review and comments.

3. Quality Control tests shall include tests on fill material, optimum moisture content and maximum density and field density tests of fill layers. The Quality Control Testing Agent shall comment on the suitability of all subgrades, and the subgrades shall be acceptable to the Design Professional’s Consulting Geotechnical Engineer.

4. Handwritten copies of field test reports shall be provided to the Contractor. They shall be given to the Contractor and inspector within two (2) hours of completion, but in no event shall the technician leave the site without providing the Contractor and inspector with a copy of the test results. This shall include density, % moisture, plan location, elevation, comments and any other relevant data. Comments shall include any condition that might have an adverse affect on the operations, including weather, drainage, etc.

5. The Contractor shall request consultation with the Consulting Geotechnical Engineer on any problems that arise during construction. Copies of the daily in-place soil density tests shall be faxed to the consultant by the Contractor through the testing agency within twenty-four (24) hours of the time the tests are made.

6. The Contractor shall approve each subgrade and each fill layer before proceeding to the next layer. Any area which does not meet density, % moisture or other requirements at any time, shall be suitably reworked and retested by the Contractor at his own expense.
7. The Professional and/or the Department will perform Quality Assurance Services in accordance with Section 01401 deemed necessary for the assurance of the Professional and/or the Department. This does not relieve the Contractor of his responsibilities. The Department will bear the cost of Quality Assurance tests.

E. Compaction standards are to be based on Modified Proctor standards, as defined by ASTM D1557.

SECTION 1103 - CAST-IN-PLACE CONCRETE SPECIFICATIONS

1103.1 DGS REQUIREMENTS. The cast-in-place concrete specification should be based upon requirements of ACI 301, except samples are to be taken and broken by the Quality Control Agent for each 50 cy. Slump tests and recording of temperature is to occur for each truckload. Air tests are to occur with each sampling that contains air. See recommended tests in table in Section 01400. As with earthwork, there is to be only one Cast-In-Place Concrete specification in the Project Manual. Follow the instructions in paragraph 1402.1 on adding a paragraph in Section 01040. Also, we want to include a penalty for accepted under-strength concrete. Include the following language in the cast-in-place concrete specification:

“If the structural members are accepted on the basis of tests other than the original cylinder tests, the Contractor shall compensate DGS for the Contractor’s failure to meet specified strength requirements by paying to DGS one hundred ($100) dollars per cubic yard for each one hundred pounds per square inch below the specified strength. The original laboratory-cured 28 day test cylinder results only shall be used to determine the difference between specified and furnished strengths.”

SECTION 1104 - ARCHITECTURAL SPECIFICATIONS

1104.1 PURPOSE. To specify construction materials, methods and/or contract requirements, determined to benefit the Department and required to be included in all applicable projects. The following provisions are to appear in all specifications, unless obviously inapplicable.

1104.2 ROOFING WARRANTY. The Professional shall include the following paragraphs in the Roofing Section to specify DGS requirements regarding the Contractor’s warranty for roofing work.

A. Quality Assurance:

1. Manufacturer Qualifications: The manufacturer shall have a minimum of ten (10) years experience in the production of the type of roofing herein specified, and shall be able to show experience with projects of similar size and complexity.

2. Installer Qualifications: The installer shall have a minimum of five (5) years experience installing the type of roofing herein specified, on projects of similar size and complexity.
B. Contractor’s Warranty:

1. Contractor’s Responsibility: The General Contractor shall take, or cause to have taken, any and all corrective measures necessary to keep the roofing system free of all defects, to the satisfaction of the Department, and to maintain the roofing system in a watertight condition. The Contractor shall have the responsibility for said corrective measures for two (2) years after the date of Final Inspection. The Contractor shall be responsible for the removal and replacement of the roofing system, if in the judgment of the Department, removal and replacement is necessary to keep the roofing system free of all defects or to maintain the roofing system in a watertight condition. The Contractor shall also repair, or remove and replace, if the Department deems it to be necessary, any part of the building, including the interior, damaged as a result of leaks in the roofing system. The interior of the building includes, but is not limited to, the furnishings and fixtures. There shall be no limit to the Contractor’s liability for fulfilling the aforementioned responsibilities.

   a. Final Inspection shall include a statement, supplied by the Contractor and signed by an authorized representative of the roofing manufacturer, attesting to the fact that the roofing installation and finished condition is acceptable for warranty by that manufacturer.

2. Exclusions: The Contractor shall not be responsible for repairs to, or replacement of, the roofing system, if repairs or replacement is necessary due to a natural disaster, such as lightning, flood, tornado or earthquake.

3. Notification: The Department will notify the Contractor, as soon as reasonably possible, after it has knowledge of defects in the roofing system. Should the Contractor fail to promptly take corrective measures, the Department may undertake corrective measures. The Contractor shall be responsible for any and all expenses incurred by the Department in undertaking the necessary corrective measures. In addition, the Department’s undertaking of corrective measures shall in no way relieve the Contractor of any of the aforementioned responsibilities.

C. Manufacturer’s Warranty:

1. The General Contractor shall provide the Department with a twenty (20) year warranty, furnished by the manufacturer, which shall warrant that the said manufacturer will repair any leaks in the roofing system, not to exceed the original cost of the installed roof over the life of the warranty, installed by an applicator authorized by said manufacturer.

2. Leaks from the following causes shall be covered by the manufacturer’s warranty:

   a. Defects in the roofing system material.
   b. Workmanship of the authorized applicator.

3. The following exclusions are permitted in the manufacturer’s warranty:

   a. Natural disasters such as lightning, hail, floods, tornadoes or earthquakes.
   b. Damage from traffic or storage of materials on the roof.
   c. Structural failure of roof deck, parapet or coping.
d. Infiltration of moisture in, through or around walls, coping or building structure.
e. Movement or deterioration of metal counterflashing or other metal components adjacent to the roof.
f. Damage to the building (other than roofing and insulation) or its components adjacent to the roof.

4. The warranty shall provide that in the event a leak should occur within the warranty period, and if such leak is within the coverage of the warranty, the warrantor will, at no expense to the Department, make or have made, all necessary repairs to put the roof membrane, base flashing and roof insulation in a dry and watertight condition, using the same materials and specifications as the original application. There will be no limit to the warrantor’s liability for making such repairs over the period of the warranty.

5. The warranty shall provide that if, upon proper notification, the warrantor fails to promptly repair the roof, the Department may make temporary repairs to avoid damage to the facility. Such action shall not be considered a breach of the provisions of the warranty.

6. The Department shall be permitted to make alterations, additions and repairs to the roof, within the written approved guidelines of the warrantor without jeopardizing the unexpired portion of the warranty’s original term.

7. Metal roofs and exposed fasteners shall be warranted against rust. Also, on metal roofs, the manufacturer, upon completion, inspection and written acceptance of the roof installation, shall furnish a warranty covering paint finish against cracking, checking, blistering, peeling, flaking and chipping for a period of twenty (20) years.

1104.3 FINISH HARDWARE. The Professional shall include the following series of paragraphs in the Finish Hardware Section to specify DGS requirements regarding non-proprietary locks and keying. Edit as required for each particular project, but do not substantially alter the intent.

A. All locks shall be furnished with removable core cylinders as manufactured by Best Lock Corporation, Falcon Lock Co., or Arrow Lock Corp., and shall be a factory recorded continuation or extension of an existing keying system previously furnished by these manufacturers for this institution.

1. New building: A new keying schedule shall be started in accordance with Paragraph E. The keying records for both new buildings and existing buildings belong to the Commonwealth of Pennsylvania and on request, in writing, will be furnished in accordance with Paragraph B.

2. Existing system where small quantities of cores are required: The Institution shall specify the keyway required and uncombined cores and key blanks needed. The combinating will be done by the Institution.

3. Existing system where large quantities of cores are required: The Institution shall furnish the keying records to the Director of the Key Record Department of the Lock Company, Best, Falcon or Arrow, so that cores can be combinated in the factory and in accordance with paragraph B.

B. The Key Coding records shall be sent by Registered Mail to the Institution’s Facility Maintenance Manager at the completion of the Project. These records shall go directly from the Manufacturer to the Institution and shall not pass through the hands of the Hardware Distributor.
C. Cylinders shall be furnished complete with collars, construction cores, 7-pin interchangeable cores, and two keys per cylinder. Cylinders shall be of correct type and length, fitted with correct cam or bar for operation of lock, and furnished with back plates and screws where required.

D. Construction cores shall be supplied to the General Contractor during the period of construction. These construction cores shall be returned to the Manufacturer after the permanent master keyed cores are installed.

E. Cores are to be Grand Master Keyed, Master Keyed, Keyed alike in Groups, and/or Keyed individually, as approved by the Institution. A Keying Schedule showing each door location, Manufacturer’s lock number, Manufacturer’s cylinder type number, finish, length, cam or bar type, and keying detail, shall be prepared by the Cylinder Manufacturer’s Representative for the Hardware Supplier, and submitted to the Institution for approval. The Cylinder Manufacturer’s Representative shall provide technical assistance and information to the Institution in establishing the keying system. Masterkeyed cores shall be installed by the General Contractor.

F. Furnish six (6) Master Keys for each group. Furnish six (6) Grand Master Keys and one (1) Control Key, if a new Grand Master Key System is established. The above keys shall be included with the shipment of permanent cores.

SECTION 1105 - HVAC SPECIFICATIONS

1105.1 PURPOSE. To provide information to assist the Professional in the preparation of contract drawings and specification for the Heating, Ventilating and Air Conditioning systems, and to assure consistency in contract documents to reduce errors of omission and/or commission.

1105.2 GENERAL. The Professional shall follow these general guidelines in designing and documenting the HVAC work for all DGS projects.

A. The Professional shall comply with the latest applicable codes, standards and regulations:

1. ASHRAE Handbooks to be used as Industry Standards
2. ASHRAE Published Standards, as appropriate
4. NFPA Published Standards, as appropriate
6. PA Air Quality Act, Title 5 (DEP)
7. Pennsylvania L&I Boiler Code
8. Pennsylvania Code – Health Department
9. PA UCC
10. City and Local Codes, as applicable
11. Other codes and regulations determined to be applicable

B. Energy Conservation – To assure energy conservation in design of space heating and cooling systems in new and renovated buildings, the design criteria set forth in ASHRAE Standards and the International Energy Conservation Code, whichever is more stringent.
C. Vibration and Sound Controls: The Professional is to design HVAC systems with vibration and sound controls as appropriate for the spaces involved. The ASHRAE HVAC Application Manual shall be used as a guide for Vibration and Sound Design Criteria. Use of air-conditioning system condensers, especially air cooled units, are to be discussed with the Agency and the Department relative to sound and vibration criteria. Professional is to monitor design and field changes during construction with the effect of changes on sound and vibration distribution. Contractor shall perform measurements and provide report to Professional for approval.

1. NOTE: The Professional shall consult with the Using Agency and/or Institution to determine requirements for special usage areas. Special attention shall be taken for such areas as auditoriums, conference rooms, classrooms and hospital patient rooms.

D. Seismic and Wind Restraint will be designed where required by Code, or as determined to be applicable.

E. The Professional shall present in his documents flow diagrams for all air systems, indicating hot and chilled water distribution, outside air, exhaust air, supply air and air movement within buildings and spaces. An air flow diagram is to be included in Design Development and all subsequent Submissions.

1105.3 COMMISSIONING, BALANCING AND ADJUSTING HVAC SYSTEMS. The following paragraphs are intended to guide the Professional in preparing the Testing and Balancing (TAB) specifications.

A. The balancing firm’s report shall include a section which will provide all information regarding all problems encountered prior to, during and remaining after test and what action should be taken to correct the problem(s).

B. The Professional must review and approve the final test report. Should problems remain to be resolved, the Professional shall submit the reports for DGS review, with comments as to the nature of the problem and acceptability of the system(s) and/or action which may need to be taken.

C. No Final Reports shall be submitted which indicate that the system(s) is incomplete, inoperative or that unresolved problems exist.

D. Separate commissioning specifications shall be provided when commissioning is required.

1105.4 PIPE AND DUCT PENETRATIONS. In compliance with the requirements of NFPA, it is essential that the Professional determine and indicate locations of all horizontal and vertical fire separations and the hourly requirement of the separation on the contract floor plans and building services.

A. The HVAC plans shall show where ducts, pipes and conduits pierce required fire rated separations with standard symbols for:

1. Duct penetration of vertical separation.
2. Duct or shaft penetrations of horizontal separation.
3. Ceiling dampers for opening protection in a floor-ceiling or roof-ceiling assembly.
4. Location of duct fire dampers.
5. Location of duct smoke detectors.

B. A duct access door shall be specified at each fire damper, and ATC sensor location, for inspection and resetting the fire damper. Typical detail(s) shall be shown on the drawings.

C. There may be occasion where ceiling or wall access panels need to be provided to reach duct access doors or above ceiling pipe valves. In such cases, both the general construction and HVAC drawings shall so indicate where required and typical arrangement detail. All access panels shall be shown on the general construction drawings and the General Contractor shall provide and coordinate the access panel with the HVAC Contractor’s duct shop drawings.

D. Duct smoke detectors shall be provided by the Electrical Contractor, installed into the duct by the HVAC Contractor and wired to the alarm system by the Electrical Contractor.

E. When dampers and detectors are to be controlled by a Central Fire Management System, including sprinkler system monitoring, the HVAC Contractor shall install the dampers and detectors.

F. Approved fire and smoke sealant shall be used at all pipe penetrations of fire rated walls, floors and ceilings.

1105.5 ELECTRICAL EQUIPMENT WIRING.

A. Wiring for Heating, Ventilating and Air-Conditioning:

1. All equipment, unless otherwise indicated, for the heating, ventilating and air conditioning systems shall be furnished and installed under the HVAC Contract. The Electrical Contractor shall however, be responsible for furnishing all labor and materials required for the installation and connection of all electrical power wiring to and for this equipment.

2. In general, all special control equipment required for the heating, ventilating and air conditioning equipment such as water chiller, condenser, condensing units, air handling units, water heaters, pumps and air compressor, will be furnished and installed under the temperature control section of the HVAC contract.

B. Temperature Control Wiring:

1. All interlocking control wiring in connection with the temperature control system for all heating and air conditioning systems shall be furnished, installed and connected under the HVAC contract.

2. The Electrical Contractor shall provide a source of power and make final power connections at each air handling unit and at each apparatus control panel location where noted on the plans. Panels shall be furnished and installed under the HVAC contract.

C. Coordinate with Other Contracts: [Add to HVAC Specifications] – “All wiring and conduit furnished and installed by the HVAC Contractor shall be in strict accordance with the Electrical specifications. The HVAC Contractor shall employ workmen who are skilled in the trades involved for the installation of this work.”
1105.6 ABOVEGROUND STORAGE TANKS (AST) AND UNDERGROUND STORAGE TANKS (UST). The Pennsylvania Storage Tank and Spill Prevention Act of 1989 dictates all installation, modification, removal and inspection activities related to regulated aboveground and underground storage systems. Therefore, the Professional shall prepare associated specifications and drawings to assure that such storage tanks comply with Federal, State and Local Law.

SECTION 1106 - PLUMBING SPECIFICATIONS

1106.1 PURPOSE. The purpose is to provide guide information to assist the Professional in the preparation of contract drawings and specification for the various plumbing systems and fire protection system, and to assure consistency in specifications.

   A. The interior fire protection system would fall within the Plumbing (.3) contract.

   B. The Professional must use care not to specify any requirements that may unnecessarily restrict bidders; such as geographic district, training by either union or non-union sources (specifically training for insulators), or products that are uniquely certified. Requirement for training by the product manufacturer is acceptable. If uncertain, discuss with the Project Coordinator.

1106.2 GENERAL INFORMATION. The work covered by this specification includes the Plumbing Contractor furnishing all labor, material, equipment and services and performing all operations in connection with the plumbing installation, complete, in strict accordance with this specification and the applicable drawings.

   A. The work of the Plumbing contract generally includes the following:

      1. A complete system of cold and hot water piping and equipment with valved connections to all water-consuming equipment.
      2. A complete sanitary drainage system with trapped connections to all fixtures and equipment with extensions to 5’ beyond the building line.
      3. A complete rainwater drainage system with connections to all rainwater conductors within the building. Plumbing Contractor shall provide roof drains to General Contractor for installation. Roof drain selection shall be coordinated with the roof construction.
      4. A complete fire protection system with valved connections, including as applicable; wet and dry standpipe system, sprinkler systems, hose racks, hose valve outlets, siamese connections, and exterior fire hydrants. The Professional shall include and coordinate all sprinkler risers, mains, branch piping, valve stations, and fire pump installations. Any sprinkler requirements that require special attention to layout and location of sprinkler heads shall be noted on the drawings. All hazard classification with flow and area requirements shall also be indicated on the drawings. Results of hydrant flow tests shall be listed on the drawings with the performance date. NOTE: If the fire protection system is of a major size, it is advisable to prepare a separate ‘Fire Protection System’ prime contract.
      5. A complete system of gas piping to all gas consuming fixtures and equipment, including extension to 5’ beyond the building line.
      6. A complete compressed air system including compressors, accumulators, piping and valved connections to indicated equipment.
      7. A complete vacuum system including pumps, piping and valved connections to all vacuum equipment.
8. A complete air-conditioning condensate drainage system with connections to all equipment, with extensions and indirect connections to storm or sanitary sewer system. If the condensate drains are provided under the HVAC Contract, the Plumbing Contractor shall provide appropriate indirect waste connections.

9. Furnishing and installing plumbing fixtures.

10. Furnishing and installing special equipment, complete, including but not limited to water softening equipment, filtering equipment for swimming pools, hydrotherapy pool equipment, and sterilizing equipment.

11. Rough-in only for kitchen, laundry, laboratory and hospital equipment.

12. A complete distilled water system with water still, pumps, piping and valved connections to all distilled water outlets.

13. All screen chambers, oil, grease and lint interceptors and grease traps within the building.

14. Testing, disinfection of water system, adjusting and placing in operation all systems installed.

B. The Professional shall comply with the latest applicable codes and regulations:

1. PA UCC – Pennsylvania Uniform Construction Code.
2. Fire Protection Systems – NFPA
3. Sprinklers NFPA 13
5. Accessibility – UCC
6. Pennsylvania Code – Health Department
7. Other codes, standards and regulations, as applicable

C. The Professional is to design to good engineering practices. The Department reserves the right to direct the Professional to use materials, systems, or equipment that it determines to be in the best interest of the Using Agency, Project, and/or Department even if beyond the code requirements.

D. Electrical Equipment Wiring:

1. All equipment, unless otherwise indicated, for the plumbing system shall be furnished under the Plumbing Contract. The Electrical Contractor shall however, be responsible for furnishing all labor and materials required for the installation and connection of all electrical power wiring to and for this equipment.

2. In general, all starters and special control equipment required for electrically operated equipment furnished under the Plumbing Contract, such as the pumps and the electrical water heaters will be furnished and installed by the Plumbing Contractor.

SECTION 1107 - ELECTRICAL SPECIFICATIONS

1107.1 PURPOSE. To specify construction materials, methods and contract requirements, determined to benefit DGS included in all applicable projects. Information included shall be edited by the Professional to suit the project under design.

1107.2 APPLICABLE CODES AND REGULATIONS. Electrical design shall comply with the latest applicable codes.
1107.3 SPREAD OF FIRE, OR PRODUCTS OF COMBUSTION. The design Project and specifications shall be developed in accordance with the following.

A. All lighting, power, control and fire alarm wiring shall be run in rigid metal conduit, intermediate electrical conduit, electrical metallic tubing, flexible metallic conduit, liquidtight flexible metal conduit, surface metallic raceways, or metal wireways within the parameters established by the National Electrical Code and applicable DGS design parameters.

B. Plastic conduit, which may produce toxic smoke or contribute to the spread of fire, shall not be used without permission from the Project Coordinator. Plastic conduit installed underground or in concrete encasement will be acceptable.

C. Non-metallic sheathed cable or armored cable is not to be used, except with special permission.

D. All telephone, television, electronic data processing, sound and other telecommunication cables shall be run in conduit as specified above, except as follows:

   1. Data processing cables installed under raised floors.
   2. Plenum conductors shall be listed as having adequate fire resistant and low smoke producing characteristics. Conductors insulated with materials that produce toxic smoke are not acceptable. The manufacturer of the cable shall certify that its product complies with the above.

1107.4 SURGE PROTECTION. All electrical systems susceptible to damage by lightning or other surges shall incorporate surge protection to protect the equipment. The equipment shall be protected from surges on the downstream side of the equipment as well as from surges on the incoming lines. Surge protection shall be specified as factory installed on all input and output terminals where the transmitting control panel is interconnected with other buildings for remote annunciation, alarm or data interface.

SECTION 1108 – HAZARDOUS MATERIALS SPECIFICATION

1100.1 EDITING. These specifications are provided for guidance only, and should not be copied verbatim. Edit specifications accordingly to suit project scope and field conditions. All guidance documents are provided to indicate the level of detail that the Department is expecting in the Construction Documents. The use of competent qualified individuals should be used for design.
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<td>F8</td>
<td>Technical Bulletin Format</td>
<td>9</td>
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INSTRUCTIONS FOR OBTAINING A WORK ORDER
FOR ADDITIONAL SERVICES

1. Additional Services are any and all Professional Services determined by the Project Coordinator to be necessary for Project completion, but not included as Basic Services.

2. The need for additional services may be identified by the Department, Professional or Using Agency, but authorization to proceed with the identified services will only come from the Project Coordinator in the form of a written Work Order. If the request originated with the Using Agency, a copy of letter from the Using Agency requesting the additional service should be attached to the Professional's Work Order Proposal.

3. Once the scope of the additional services is established, the Professional shall prepare and submit a proposal to the Project Coordinator, including a detailed scope of services, price and schedule. If the proposal includes services provided by a consultant, the Professional shall request quotes from three (3) qualified firms. Upon receipt of the quotes, the Professional is to attach a cover letter containing its evaluation and recommendation, and forward with the quotes to the DGS Project Coordinator. (Policy is to award to the firm providing the lowest cost proposal; however, if the Professional feels that there are compelling reasons to do otherwise, he may request award to a higher cost firm, with an explanation of his reasons.)

   a. All consultants must be a DGS Certified Small Business.

4. Work Order compensation is normally on a not-to-exceed basis; however, lump-sum Work Orders may be issued in special cases.

   a. All not-to-exceed Work Order proposals must include a breakdown of tasks with anticipated personnel, hours and rates. Reimbursable expenses are to be discouraged, but if included may not exceed current State allowable rates. Receipts are required for ALL reimbursable expenses. Travel logs are acceptable for mileage. Per Diem rates are not allowed. Compensation limits are listed in Exhibit B of the Professional Agreement and Section 4.1.101 of the General Conditions of the Professional Agreement. The Professional may add up to 10% administrative fee on consultant's work. No mark-up of reimbursable expenses is permitted.

5. The Project Coordinator will review the proposals and conduct negotiations with the Professional as needed until the scope, price and schedule are agreed upon.

6. After agreement is reached, the Project Coordinator will prepare the Work Order document for review/approval.

7. If approved, the Work Order will be sent to the Professional for his signature. The Professional must sign to indicate his acceptance of the Work Order and send the signed Work Order back to the Department.

8. The Professional may then commence performance of the Additional Services.

9. In the case of Geotechnical Investigations, QA Services, Hazardous Materials Surveys and Land Surveying, DGS has standard Request for Proposal (RFP) formats. Contact the Project Coordinator if any of these services are required.
DATE:

SUBJECT:  SURVEY COST ESTIMATE
          Project No. DGS
          ___________
          ___________ County, PA

USING AGENCY:  ___________

WORK ORDER (OR REQUEST) REC'D:  ___________

DATE OF SURVEY:  ___________

USING AGENCY ALLOCATION (if established):  ___________

ESTIMATED TOTAL PROJECT COST:  $ ___________

PROBABLE CONSTRUCTION DURATION (DAYS):  ___________

USING AGENCY/OTHER PERSONNEL:
Name         Title         Telephone No.   E-mail Address

PROJECT DESCRIPTION (SCOPE):

INVESTIGATION AND/OR OBSERVATIONS:

AVAILABLE CAD FILES, DRAWINGS AND REPORTS (LIST)
A.  CAD Files
A.  Blue Prints/Drawings
B.  Environmental Studies/Reports
C.  Other Available Information

RECOMMENDATIONS:

ATTACHMENTS:

BASE CONSTRUCTION COST ESTIMATE:
## COST ESTIMATE SUMMARY

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### Construction Costs (from Breakdown)

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**Total Construction Costs**

$ 6,500.00

### Design Costs

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**TOTAL Design and other Soft Costs**

$ 6,500.00

### PROJECT COSTS

- **Project Contingency (10%)**
  - $0.00

**TOTAL PROJECT COSTS**

$0.00

### Date:

<table>
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**COST ESTIMATE SUMMARY**
## COST ESTIMATE BREAKDOWN

**Project Number:**

**Date of Estimate:**

**Project Title:**

**Location:**

**Estimator's Name:**

**Firm:**

**Address:**

**Telephone:**

**Email:**

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**Undefined or Contingent Scope:** 10%

**General Conditions:** Bond, Mobilization, etc.

**TOTAL**

$ -
### Project Number

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<th>Project Title</th>
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### HVAC CONSTRUCTION

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### Undefined or Contingent Scope

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### General Conditions

| Bond, Mobilization, etc. | 0.09 |

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| TOTAL     | $0.00      |

COST ESTIMATE BREAKDOWN
## Electrical Construction

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### Electrical Construction

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**Subtotal**

**Undefined or Contingent Scope** 10%

**General Conditions** Bond, Mobilization, etc.

**Total** $0.00
COST ESTIMATE BREAKDOWN

FIRE PROTECTION/OTHER CONSTRUCTION (.5)

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Date of Estimate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Title:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Estimator's Name:</td>
<td></td>
</tr>
<tr>
<td>Firm:</td>
<td></td>
</tr>
<tr>
<td>Address:</td>
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</tr>
<tr>
<td>Telephone:</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Item Descriptions</th>
<th>Quantities</th>
<th>Material Cost</th>
<th>Labor Cost</th>
<th>Total Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qty. Unit UC Total</td>
<td>UC Total</td>
<td>Unit Total</td>
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FIRE PROTECTION (OTHER) CONSTRUCTION

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

SUBTOTAL

Undefined or Contingent Scope 10%

General Conditions Bond, Mobilization, etc.

TOTAL $0.00

FIRE PROTECTION/OTHER
DATE: (Date)

SUBJECT:  SURVEY COST ESTIMATE
Project No. DGS A123-45
Renovate 2nd Floor
Gebäude State Office Building
Harrisburg, Dauphin County, PA

USING AGENCY:  Department of General Services

WORK ORDER (OR REQUEST) REC'D:  January 2, 2013

DATE OF SURVEY:  January 23, 2013

USING AGENCY ALLOCATION:  $285,000.00  (if established)

ESTIMATED TOTAL PROJECT COST:  $ __________________

PROBABLE CONSTRUCTION DURATION (DAYS):  __________________

USING AGENCY/OTHER PERSONNEL:
Joe Smith  Building Manager GB (123) 456-7890  jsmith@pa.gov
Tom Jones, RA  Architect, ACME Ink (890) 567-1234  tjone@acmeink
Roy Rodgers, PE  MEP, ACME Ink (890) 567-1234  rrodgers@acmeink
Ben Johnson  ACME HAZMAT (890) 123-4567  BJHAZ@acmehaz

PROJECT DESCRIPTION (SCOPE):
The Gebäude Building was constructed in 1920. It is a two story brick structure in downtown Harrisburg PA. Certificate of Occupancy and Use on file with the building manager. The first floor was renovated 25 years ago into a client based office spaces under the fire and panic code. The existing elevator is being upgraded as part of DGS project C123-06. A bid set of these drawings is located in the building manager's office. The second floor which was once a gymnasium has been used mainly for storage.

The second floor has an open space of 9,942± sq ft, two locker rooms 1000± sq ft, one office 200± sq ft, one janitor’s room 226 sq ft, two stairways, one elevator, two phone booths and an electrical – data room. Total floor area to be renovated is 11,368± sq ft. A partial set of blue prints is located in the building manager's office. The existing heat is steam with steel piping and cast iron radiators from the city’s CoGen plant. No central air on second floor. First floor has numerous ductless systems.

The second floor will need to have six (6) offices for management, two (2) conferences rooms, a central file area with a High density rolling file system, a data room and cubicles for 40 staff. Locker rooms shall be converted into two restrooms and a break-coffee room.

INVESTIGATION AND/OR OBSERVATIONS:
A.  General
  ➢  The Gebäude Buildings second floor is currently being used a storage room. Items store there include office furniture, server racks, old files, electric lights, windows, carpets scrapes, computers, printers, paper, printer cartages, acid batteries and cleaning agents. The floor area that could be seen is a combination of hardwood, ceramic and ACM tiles. Widows are single plane with steel frames 1920 vintage. Ceiling is unfinished all utilities are exposed or surface mounted. The lighting is mercury vapor style. The subpanel is a GE 120/240, 200 amp. Existing heating system is steam.
B. Siting
  ➢ The project is located on Commonwealth of Pennsylvania owned property.

C. Code Issues
  ➢ Project must conform to all applicable local, state, and Federal rules and regulations.

D. Utility Services
  ➢ Both temporary and permanent utilities on site within the limitation of the facility.

E. Contaminants/Environmental Issues
  ➢ No issues anticipated. Building had asbestos remediation protection in 1990 to remove all known hazardous materials.

F. Special Conditions
  ➢ The current detection system must remain operational during the time frame of the project. Arrangements and scheduling of outages require prior notice and approval from the Institution prior to commencement of the project. All Contractors have to follow the guidelines and procedures as outlined in Department of Corrections – Volume 6.

AVAILABLE CAD FILES, DRAWINGS AND REPORTS (LIST):

A. CAD Files
B. Blue Prints/Drawings
C. Environmental Studies/Reports
D. Other Available Information

RECOMMENDATIONS:
Comments
Using agency responsible for removing store items from the second floor Prior to construction.
Install temporary construction lighting and power.
Abate the ACM material from the entire second floor.
Shut down, disconnect and remove the existing heating system. Install temporary heat if needed.
Demo the Locker rooms and office area. Keep Janitor's room. Level Floor as needed.
Demo Electrical and heating systems as needed to install new work.
See conceptual floor plan for proposed layout.
No long-lead time equipment required.
Completely remodel the 2nd floor to include; one reception area, one high density file system, two ADA compliant restrooms, one break room, one janitors – storage room, two conference rooms, six offices and 44 cubicles. Note; office furniture, cubicles and file system purchased through Procurement and are not to be part of the construction costs.

ATTACHMENTS:
Certificate of Occupancy and Use Permit
Existing Floor Plan
Conceptual Floor Plan

BASE CONSTRUCTION COST ESTIMATE:
This estimate is good for six (6) months from the date of the estimate
## COST ESTIMATE SUMMARY

<table>
<thead>
<tr>
<th>Project Number</th>
<th>DGS A123-45</th>
<th>Date of Estimate:</th>
<th>02/06/13</th>
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</thead>
<tbody>
<tr>
<td><strong>Project Title:</strong></td>
<td>Renovate 2nd Floor</td>
<td><strong>Location:</strong></td>
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<tr>
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<td>Sq.Ft. or Acres</td>
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<tr>
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<tr>
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<tr>
<td>Renovations</td>
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<tr>
<td><strong>Lead/Chief Estimator:</strong></td>
<td>Tom Jones, RA</td>
<td><strong>Phone:</strong></td>
<td>111.222-3333</td>
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<tr>
<td><strong>Firm:</strong></td>
<td>ACME, Inc.</td>
<td><strong>Address:</strong></td>
<td>PO Box 2828, Pinnacle, PA 12345</td>
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<td>Electrical (.4)</td>
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<td>Fire Protection/Other (.5)</td>
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<td><strong>Total Construction Costs</strong></td>
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<td><strong>Design Costs</strong></td>
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<td>Basic Services</td>
<td>15% of Total Construction Costs</td>
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<td>Additional Services</td>
<td>Land Survey</td>
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<td></td>
<td>Geotechnical Tests/QA</td>
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<td>Permit Fees &amp; Utility Fees</td>
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<td>Environmental Tests</td>
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<td><strong>TOTAL Design and other Soft Costs</strong></td>
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<td><strong>PROJECT COSTS</strong></td>
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<td><strong>Contingency (10%)</strong></td>
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<td><strong>TOTAL PROJECT COSTS</strong></td>
<td>$296,571.07</td>
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**Date:** | | **Professional:** | (Signature) |
# COST ESTIMATE BREAKDOWN

## GENERAL CONSTRUCTION (.1)

<table>
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<tr>
<th>Project Number</th>
<th>Date of Estimate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>DGS A123-45</td>
<td>02/06/13</td>
</tr>
</tbody>
</table>

## Project Title: Renovate 2nd Floor

## Location: Gebaude Sales Office Building, Harrisburg, PA

## Estimator's Name: Tim Jones

## Firm: ACME, Inc

## Address: Harrisburg, PA

## Telephone: 717.787.0200

## Email: Jones@acmeinc

### Item Descriptions

<table>
<thead>
<tr>
<th>Item Descriptions</th>
<th>Quantities</th>
<th>Material Cost</th>
<th>Labor Cost</th>
<th>Total Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SITE CONSTRUCTION</strong></td>
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<td>Site Demolition</td>
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<td>Earthwork</td>
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<tr>
<td>Paving</td>
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<tr>
<td>Site Utilities</td>
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<td><strong>SUBTOTAL</strong></td>
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<tr>
<td><strong>BUILDING CONSTRUCTION</strong></td>
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<tr>
<td>DEMO-PART</td>
<td>720 SF</td>
<td>0.00 $</td>
<td>1.62</td>
<td>$1,166.40 $</td>
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<tr>
<td>DEMO-CT FLR</td>
<td>1000 SF</td>
<td>0.00 $</td>
<td>0.80</td>
<td>$  800.00 $</td>
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<tr>
<td>DEMO-ACT CLOGS</td>
<td>5000 SF</td>
<td>0.00 $</td>
<td>0.50</td>
<td>$  4500.00 $</td>
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<td>ACM-VAT</td>
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<tr>
<td>ACM-COVE BASE</td>
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<td>$   325.00 $</td>
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<tr>
<td>6&quot;x8&quot; GWB PART-METAL STUD (6 1/8&quot;x1&quot;) 8 FT H</td>
<td>720 SF</td>
<td>1.15 $</td>
<td>2.00</td>
<td>$2,268.00 $</td>
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<td>SOUND INSUL-MIN FIB</td>
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<td>0.22</td>
<td>$  123.20 $</td>
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<td>HOLLOW METAL FRAMES</td>
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<tr>
<td>HOLLOW METAL DOORS</td>
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<td>350.00 $</td>
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<td>GLASS/GLAZING DOORS</td>
<td>3 SF</td>
<td>98.00 $</td>
<td>98.00</td>
<td>$  980.00 $</td>
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<td>HARDWARE INTERIOR</td>
<td>6 SET</td>
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<td>120.00</td>
<td>$  1440.00 $</td>
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<td>HARDWARE EXTERIOR</td>
<td>2 SET</td>
<td>1100.00 $</td>
<td>100.00</td>
<td>$  2200.00 $</td>
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<tr>
<td>ACOUSTIC JOINT SEALANT</td>
<td>300 LF</td>
<td>0.09 $</td>
<td>1.15</td>
<td>$  345.00 $</td>
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<tr>
<td>PAINTING WALLS</td>
<td>3380 SF</td>
<td>0.20 $</td>
<td>1.00</td>
<td>$  3380.00 $</td>
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<tr>
<td>PAINTING DR TRIM</td>
<td>6 EA</td>
<td>6.00 $</td>
<td>36.00</td>
<td>$   216.00 $</td>
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<tr>
<td>ACOUSTIC CEILING TILE-8/8&quot; MF</td>
<td>1500 SF</td>
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<td>0.92</td>
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<tr>
<td>4&quot; VINYL COVE BASE (VGB)</td>
<td>1200 LF</td>
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<td>1.20</td>
<td>$  1440.00 $</td>
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<tr>
<td>VCT-12&quot;x12&quot;x1/8&quot;</td>
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<td>1.10 $</td>
<td>1.20</td>
<td>$  1200.00 $</td>
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<td>0.70</td>
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<td>ADA TLT ACCESS</td>
<td>10 EA</td>
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<td>18.00</td>
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<tr>
<td>METAL TLT CUBICLES-ADA</td>
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<td>900.00 $</td>
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<td>$  16200.00 $</td>
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<td>URINAL SCRN-ADA</td>
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<td>250.00 $</td>
<td>115.00</td>
<td>$    365.00 $</td>
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<tr>
<td>FIRE EXTINGUISHER/CABINET</td>
<td>2 EA</td>
<td>250.00 $</td>
<td>100.00</td>
<td>$  700.00 $</td>
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<td><strong>SUBTOTAL</strong></td>
<td></td>
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<td>$  56707.40 $</td>
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## Undefined or Contingent Scope: 10%

<table>
<thead>
<tr>
<th>General Conditions</th>
<th>Percentage</th>
<th>Total Estimate</th>
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</thead>
<tbody>
<tr>
<td>Bond, Mobilization, Paperwork, AsBuilts, etc.</td>
<td>0.05</td>
<td>$ 3,118.91</td>
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**TOTAL**: $65,497.05
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<thead>
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<th>Item Descriptions</th>
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<th>Material Cost</th>
<th>Labor Cost</th>
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</tr>
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<tbody>
<tr>
<td>Steam to Hot Water System</td>
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<td>$3845.00</td>
<td>$7990.00</td>
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<tr>
<td>Fin Tube Radiation</td>
<td>85 LF</td>
<td>$20.00</td>
<td>$1,400.00</td>
<td>$722.50</td>
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<tr>
<td>Split Ductless AC Units</td>
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<td>$1325.00</td>
<td>$10500.00</td>
<td>$1,000.00</td>
</tr>
<tr>
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<tr>
<td>Ductwork - Sup, Ret &amp; Exhaust</td>
<td>398 LB</td>
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<td>Ductwork Insulation</td>
<td>542 SQ FT</td>
<td>$5.45</td>
<td>$1,898.00</td>
<td>$1,435.30</td>
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<td>Flex Connectors</td>
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<td>Outdoor Air Intake</td>
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<td>Exhaust Fan</td>
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<td>1.5&quot; Piping w/hangers &amp; fittings</td>
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<tr>
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**SUBTOTAL**                                                                                     $59,647.19

**Undefined or Contingent Scope**                                                                 $5,964.72

**General Conditions** Bond, Mobilization, Paperwork, AsBuilds, etc.                              $65,611.91

**TOTAL**                                                                                         $68,892.60
<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantities</th>
<th>Material Cost</th>
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</thead>
<tbody>
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<tr>
<td>Rough In</td>
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<td>Water Closets</td>
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<td>Sinks</td>
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<td>Urinals</td>
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<td>310.00</td>
<td>$620.00</td>
<td>75.00</td>
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<td>Flush valves</td>
<td>5 EA</td>
<td>135.00</td>
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<td>49.00</td>
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<td>Fixtures</td>
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<td>Traps and outlet piping</td>
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<td>15.00</td>
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<td>30.00</td>
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<tr>
<td>Waste piping</td>
<td>78 LF</td>
<td>9.87</td>
<td>$768.86</td>
<td>8.12</td>
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<tr>
<td>Vent piping</td>
<td>63 LF</td>
<td>6.78</td>
<td>$427.14</td>
<td>7.61</td>
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<tr>
<td>1&quot; Hot water supply piping</td>
<td>10 LF</td>
<td>2.35</td>
<td>$23.50</td>
<td>4.36</td>
</tr>
<tr>
<td>3/4&quot; Hot water supply piping</td>
<td>35 LF</td>
<td>2.14</td>
<td>$74.90</td>
<td>4.25</td>
</tr>
<tr>
<td>1&quot; Cold water piping</td>
<td>32 LF</td>
<td>2.36</td>
<td>$75.26</td>
<td>4.36</td>
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<tr>
<td>3/4&quot; Cold water piping</td>
<td>74 LF</td>
<td>2.14</td>
<td>$158.36</td>
<td>4.25</td>
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<tr>
<td>Floor drains</td>
<td>2 EA</td>
<td>137.00</td>
<td>$274.00</td>
<td>189.00</td>
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<tr>
<td>Trap Primmer</td>
<td>2 EA</td>
<td>238.00</td>
<td>$476.00</td>
<td>241.00</td>
</tr>
<tr>
<td>Testing</td>
<td>1 LS</td>
<td>0.00</td>
<td>$ -</td>
<td>660.00</td>
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<tr>
<td>Pipe sanitizing</td>
<td>1 LS</td>
<td>120.00</td>
<td>$120.00</td>
<td>430.00</td>
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<tr>
<td>Floor restoration</td>
<td>1 LS</td>
<td>185.00</td>
<td>$185.00</td>
<td>480.00</td>
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</tbody>
</table>

**SUBTOTAL**                                                                 $13,445.12

Undefined or Contingent Scope 10% $1,344.51

General Conditions Bond, Mobilization, Paperwork, AsBuilds, etc. 0.05 $739.48

**TOTAL**                                                                 $15,529.11
# Electrical Construction Estimate

**Project Number:** DGS A123-45  
**Date of Estimate:** 02/08/13

**Project Title:** Renovate 2nd Floor  
**Location:** Gebaude Satte Office Building, Harrisburg, PA

**Estimator's Name:** Tim Jones  
**Firm:** ACME, Inc.  
**Address:** Harrisburg, PA

**Telephone:** 717.787.6200  
**Email:** tjones@acmeinc.com

<table>
<thead>
<tr>
<th>Item Descriptions</th>
<th>Quantities</th>
<th>Unit</th>
<th>Material Cost</th>
<th>Labor Cost</th>
<th>Total Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electrical Construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Sub-Panel</td>
<td>1</td>
<td>EA</td>
<td>2500.00</td>
<td>2,500.00</td>
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<tr>
<td>Wiring</td>
<td>125</td>
<td>LF</td>
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<tr>
<td>Conduit</td>
<td>2000</td>
<td>LF</td>
<td>10.00</td>
<td>2000.00</td>
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<tr>
<td>Switches and Receptacles</td>
<td>80</td>
<td>EA</td>
<td>10.00</td>
<td>800.00</td>
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<tr>
<td>Lights</td>
<td>10</td>
<td>EA</td>
<td>10.00</td>
<td>100.00</td>
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<tr>
<td>Fire Alarm System</td>
<td>11368</td>
<td>SF</td>
<td>0.50</td>
<td>5684.00</td>
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<tr>
<td>Telecom System</td>
<td>120</td>
<td>DROPS</td>
<td>150.00</td>
<td>22200.00</td>
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</tbody>
</table>

**Subtotal**  

**Undefined or Contingent Scope**  
5%  
$5,835.05

**General Conditions**  
Bond, Mobilization, Paperwork, As-Builts, etc.  
0.05  
$3,209.28

**Total**  

$67,394.83
<table>
<thead>
<tr>
<th>Item Descriptions</th>
<th>Quantities</th>
<th>Material Cost</th>
<th>Labor Cost</th>
<th>Total Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRE PROTECTION CONSTRUCTION</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Protection - Modify existing</td>
<td>11368 SF</td>
<td>$5,684.00</td>
<td>$5,684.00</td>
<td>$11,368.00</td>
</tr>
</tbody>
</table>

**SUBTOTAL** $11,368.00

| Undefined or Contingent Scope          | 10%        |                |            | $1,136.80      |
|                                        |            |                |            | $12,504.80     |

| General Conditions                     | Bond, Mobilization, Paperwork, AsBuilds, etc. | 0.05 |            | $625.94        |

**TOTAL** $13,130.04
SCHEMATIC DESIGN SUBMISSION
Probable Construction Cost Summary

| Project Number: _____________________ | Date of Estimate: _____________________ |

**SUMMARY OF COST ESTIMATE AND BREAKDOWN FOR SCHEMATIC DESIGN SUBMISSION**

**PROJECT TITLE:**  
Location:  

**PROFESSIONAL’S FIRM NAME:**  
Address:  

**BASE CONSTRUCTION AMOUNT ....... $________________________**

**SITE AND BUILDING AREA**  
Ground (Bldg. Footprint) Area ............ ________ Sq. Ft.  
Gross Floor Area (New Construction) ........ ________ Sq. Ft.  
Gross Floor Area (Renovations) ............ ________ Sq. Ft.  
Total Improved Area ............ ________ Sq. Ft./Acres  

**SITE AND BUILDING COSTS**
- General Construction (include site) ....... ________ / Sq. Ft. = $________________
- HVAC .............................. ________ / Sq. Ft. = $________________
- Plumbing ........................... ________ / Sq. Ft. = $________________
- Electrical .......................... ________ / Sq. Ft. = $________________
- Other .............................. ________ / Sq. Ft. = $________________

A. **TOTAL CONSTRUCTION COST ........ ________ / Gross Sq. Ft. = $________________**

DATE ___________________ PROFESSIONAL ___________________ (Signature)
### CONSTRUCTION DOCUMENT DESIGN SUBMISSION

**Probable Construction Cost Summary**

**Project Number:** ____________________  **Date of Estimate:** ____________________

---

**SUMMARY OF COST ESTIMATE AND BREAKDOWN FOR CONSTRUCTION DOCUMENT DESIGN SUBMISSION**

**PROJECT TITLE:**

Location:

**PROFESSIONAL'S FIRM NAME:**

Address:

---

**BASE CONSTRUCTION AMOUNT** ................. $ ________________

---

**SITE AND BUILDING AREA**

<table>
<thead>
<tr>
<th>Description</th>
<th>Area</th>
<th>Sq. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground (Bldg. Footprint) Area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Floor Area (New Construction)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Floor Area (Renovations)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Improved Area</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SITE AND BUILDING COSTS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Area</th>
<th>/ Sq. Ft. = $</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Construction (include site)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plumbing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A. **TOTAL CONSTRUCTION COST** ........ __________ / Gross Sq. Ft. = $ ________________

---

**DATE** ____________________  **PROFESSIONAL** ____________________  **(Signature)**
Dear XXXXXXXXXX,

Attached is the complete Schematic Design Submission Package.

<table>
<thead>
<tr>
<th>Item</th>
<th>Copies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Schematic Design Submission Probable Cost Summary</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>2. Project Schedule (Design, Bid, Construction)</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>3. Code Review and Analysis</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>4. Fuel Feasibility Study (w/Coal Non-Use Justification, where applicable)</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>5. List and Status of Proprietary Request and Approvals</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>6. Schematic Design Drawings w/Cover Sheet (bound into a set)</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>7. Notification Letters to All Utility Companies (include reply letters if available)</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>Electric</td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Storm Sewer</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>TV Cable</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
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<tr>
<td>Gas</td>
<td></td>
</tr>
<tr>
<td>Sanitary Sewer</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>8. Structural Engineer’s Initial Subsurface and Related Site Investigation Reports</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>w/Professional’s Request for Proposals for Geotechnical Service</td>
<td></td>
</tr>
<tr>
<td>9. Initial Report on Site Restrictions</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>10. List of Required Regulatory Approvals/Permits – Status Report</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>11. Initial Contact Letter to PA Historical and Museum Commission</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>12. Report on Status of Current and Anticipated Additional Services (if applicable)</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>13. Additional Items called for in Chapter 4 of E/A Procedures Manual, and as applicable</td>
<td>Three (3) copies</td>
</tr>
<tr>
<td>(list items in Transmittal Letter)</td>
<td></td>
</tr>
</tbody>
</table>

- Note: Drawing sets shall be bound. DO NOT bind other items together.
- Note: For more detailed descriptions of the items listed above, see the SBPPM.
- Note: The Professional shall check the box for each item included in this Submission. If any item is not included, provide an explanation for missing items.

Sincerely,

Design Professional

Cc: DGS E/A (Transmittal and Items 1-5.)
Dear Submission Office,

Attached is the complete Construction Document Submission Package.

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Copies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Using Agency Approval</td>
<td>Two (2) copies</td>
</tr>
<tr>
<td>2</td>
<td>Small Business Professional of Record's Design Checklist</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>3</td>
<td>Code Review and Analysis</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>4</td>
<td>Construction Documents Submission Probable Construction Cost Summary (for each Base Bid) w/Project Information Sheet</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>5</td>
<td>Project Specifications (unbound)</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>6</td>
<td>All Construction Drawings w/Cover Sheet (Vellum original)</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>7</td>
<td>CD with pdf version of Submission Drawings and Spec Documents including Division 1</td>
<td>One (1) copy to follow</td>
</tr>
<tr>
<td>8</td>
<td>Building Permits</td>
<td>Two (2) copies</td>
</tr>
<tr>
<td>9</td>
<td>List of Required Regulatory Approvals/Permits – Status Report w/copies of all applications/approvals</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>10</td>
<td>Proposed Construction Schedule Bar Chart, with:</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td></td>
<td>◆ Recommended Number of Calendar Days for Construction</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Report Summarizing the Status of All Utilities w/copies of any Utility Documents</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>12</td>
<td>Geotechnical Report and All Other Reports (as needed)</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>13</td>
<td>Proprietary Approval List w/copies of each Request and Approval</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>14</td>
<td>Land Title Confirmation from DGS Bureau of Real Estate</td>
<td>Two (2) copies</td>
</tr>
<tr>
<td>15</td>
<td>PNDI Approval</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>16</td>
<td>PHMC Approval</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>17</td>
<td>Proposed RFP for Quality Assurance Inspection and Testing Services (as needed)</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>18</td>
<td>If this is a Resubmission, include list of noted deficiencies and corrective actions (one copy)</td>
<td>Original &amp; One copy</td>
</tr>
<tr>
<td>19</td>
<td>Other Required Information</td>
<td>Two (2) copies</td>
</tr>
</tbody>
</table>

Note: All the submission items listed above shall be bound separately. DO NOT bind together.
Note: For more detailed descriptions of the items listed above, see the SBPPM.
Note: The Professional of Record shall check the box for each item included in this Submission. If any item is not included, provide an explanation for missing items.

Sincerely,

Design Professional

CC: Using Agency
**SMALL BUSINESS**  
**DESIGN PROFESSIONAL’S**  
**CONSTRUCTION DOCUMENTS SUBMISSION CHECKLIST**

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Phase</th>
<th>Part</th>
<th>Tier 1 2 3 (Circle One)</th>
</tr>
</thead>
</table>

Project Title

Project Location

Using Agency

DGS Coordinator ____________________ (Print Name)

Using Agency Coordinator ____________________ (Print Name)

Professional ____________________ (Company or Agency)

Tier Dollar Limit $__________

Agency Allocation $__________

---

**Project Costs**

- **Current Const. Estimate (BB #1)** $__________
- **Survey Cost Estimate (SCE) Fee** $__________
- **Design - Basic Services** $__________
- **Design - Additional Services**
  - **Additional Site Visits** $__________
  - **Land Survey** $__________
  - **Geotech** $__________
  - **Permits** $__________
  - **Quality Assurance** $__________
  - **Other** $__________

**Contingency** $__________ (10% of Current Estimate)

**Total Project Cost** $__________

If greater than Tier Dollar Limit or Agency Allocation – STOP and contact the DGS & UA Coordinators

---

Circle YES NO or N/A for each item. Explain any NO responses at the end of the Checklist.

* = Include copies of the document with the Construction Document Submission package.

**SBPPM Reference Paragraph or Exhibit**

[401.4 (D)], [F2] = Small Business Project Procedure Manual [SBPPM]

---

**GENERAL**

1. Project broken down into Contracts. Circle Lead Contractor (1, 2, 3, 4) [206] YES NO N/A
2. Code Review was completed and design complies with code requirements YES NO N/A *
3. Constr. Bar Chart provided (incl. # calendar days constr. duration and temp. heat) [401.1] YES NO N/A *
4. Land title confirmation memo received from DGS Bureau of Real Estate [401.4 (D)] YES NO N/A *
5. Have properly formatted estimates for each Base Bid been prepared [401.5, B4] YES NO N/A *
6. DGS E&A Director approved any Contract Prerequisite Qualifications YES NO N/A *
7. Is the design free of proprietary material and equipment [605.4] YES NO N/A *
8. If proprietary items are listed, have they been app. by DGS Deputy Secretary [205.2, F3] YES NO N/A *
9. L&I Building Permit obtained [112.3, 402.1] YES NO N/A *
10. All other permits obtained (Attach list of Regulatory approvals/Permits) [112.3, F2] YES NO N/A *
11. All utilities have confirmed their ability to provide service [1002] YES NO N/A *
12. All Utility Agreements have been obtained and fully executed by DGS Legal [1002.5] YES NO N/A *
13. All License Agreements have been obtained and fully executed by DGS Legal [1002.5] YES NO N/A *
14. PHMC Final Response Letter received [1004.2] YES NO N/A *
15. PNDI approval received and all restrictions complied with [1004.3] YES NO N/A *
16. If Unit Prices are included, did DGSE/A Director approve? (Attach Director’s approval) YES NO N/A *
17. Was a fuel feasibility study required and was it performed [1007.2] YES NO N/A *
18. If subsurface recommendations were made, does the design follow those rec. [C2] YES NO N/A
19. Does the design comply with DGS Sustainability Guidelines [1010] YES NO N/A

PROJECT MANUAL (SPECIFICATIONS)

1. Is Cover Page in accordance with [D1] YES NO N/A
2. Does Cover Page contain current date and is sealed and signed by the Prof. [401.1, D1] YES NO N/A
3. Is Table of Contents in accordance with [D2] YES NO N/A
4. List of Drawings provided including supplemental drawing statement [D3] YES NO N/A
5. Are the appropriate Division 1 Sections included [604, 1101] YES NO N/A
   [PDF on DGS Website / MSWord Version available from DGS Coordinator]
6. Are the Division 1 Sections appropriately edited versions of the DGS std. sections [1101] YES NO N/A
7. Is there more than one Base Bid? [1101.2] YES NO N/A
8. Have individual temporary service resp. been assigned in Section 01500 [1101.3] YES NO N/A
9. Has DGS Bureau of Construction (BOC) approved the Field Office req. in Section 01040 YES NO N/A
10. Are technical sections in the CSI format [601.1] YES NO N/A
11. Are pages printed on a single side only [601.2] YES NO N/A
12. Are pages color coded as required by [601.2] YES NO N/A
13. Are page headers and footers as required by [601.2] YES NO N/A
14. Do tech. sections ref. the correct DGS General Conditions and Div 1 Sections [604.1] YES NO N/A
15. Are tech. sections free of conflicts with DGS General Conditions and Div 1 [604.1] YES NO N/A
16. Are technical sections fully edited (no Master Spec edit choices remain) [605] YES NO N/A
17. Are the specifications free from unedited manufacturer specifications [605] YES NO N/A
18. Do all Sections start with the mandatory “Stipulations” shown in [605.3] YES NO N/A
19. Are specifications free of spare parts and materials [605.8] YES NO N/A
20. Do specifications comply with DGS Standard Design Practices [Chapter 7] YES NO N/A
21. Are specifications clear that the Contractors are responsible for all Quality Control [1001] YES NO N/A
22. Do earthwork specifications contain the mandatory language in [1102] YES NO N/A
23. Does the Cast in Place Concrete Specification comply with [1103] YES NO N/A
24. Do the requirements for roof warranties comply with [1104.2] YES NO N/A
25. Do the HVAC specifications comply with [1105] YES NO N/A
26. Do the Plumbing specifications comply with [1106] YES NO N/A
27. Do the Electrical specifications comply with [1107] YES NO N/A

DRAWINGS

1. Cover Sheet in accordance with [E1 – E3] YES NO N/A
2. Cover Sheet contains current date and is signed and sealed by the Professional [E1] YES NO N/A
3. Are all drawings signed and sealed by the Professional (and Designer if req.) [501.4, E2] YES NO N/A
4. Do all drawings have the “Drawn By” and “Checked By” boxes filled in (initialed) [E2] YES NO N/A
5. Package includes one complete drawing set in vellum with others on bond paper [501.1] YES NO N/A
6. Are Drawings bound in appropriate order [D3] YES NO N/A
7. Do drawings include a “Limit of Contract” line [301.2 (A)] YES NO N/A
8. Is it clear from the site utility plan which Contractor is responsible for each utility [301.2] YES NO N/A
9. Are building elevations included [501.4] YES NO N/A
10. Are building sections and typical wall sections shown [301.4] YES NO N/A
11. Are drawings at an appropriate scale and is the scale noted [500.3] YES NO N/A
12. Is lettering 3/32" in height minimum [500.3] YES NO N/A
13. Are schedules provided for doors, windows, finishes, fixtures, equipment, lights etc. [503.4] YES NO N/A
14. Are schedules free of manufacturer names and model numbers [503.3] YES NO N/A
15. Do Structural drawings include information required by [504.2] YES NO N/A
16. Do HVAC, Plumbing and Electrical Drawings comply with [504.3] YES NO N/A
17. Are Code Analysis Dwgs. free of any additional info. not shown on other dwgs [504.5] YES NO N/A
18. Are Geotechnical test boring logs and layout plan included [1003.7] YES NO N/A

OTHER

1. Construction Duration ___________ Calendar Days

2. Will Quality Assurance services be needed during construction? If yes, who will provide?

3. Will a Pre-Bid Conference be required? _____ (Pre-Bid conference is chaired by the Design Professional or Designing Agency)

EXPLANATION OF "NO" RESPONSES (List each one separately) (Provide additional sheets if required)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

ADDITIONAL COMMENTS

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

DESIGN PROFESSIONAL APPROVAL

The Design Professional has reviewed the project design, is not aware of any outstanding issues that could negatively impact the project and approves the project to be released for bidding.

______________________________________________ (Printed Name) ________________________________ (Signature)

Design Professional

DO NOT FORGET TO INCLUDE COPIES OF ALL ITEMS MARKED WITH "★" IN THE FINAL SUBMISSION PACKAGE
PROJECT MANUAL

PROJECT NO. DGS 700-38 PHASE 1

Contract No. DGS 700-38 Phase 1.1 – General Construction
Contract No. DGS 700-38 Phase 1.2 – H.V.A.C. Construction
Contract No. DGS 700-38 Phase 1.3 – Plumbing Construction
Contract No. DGS 700-38 Phase 1.4 – Electrical Construction

For

Construction of a Sample Receiving Room
Veterinary Diagnostic Laboratory
Harrisburg, Dauphin County, PA

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

Xxxxxx X. Xxxxxxx, Governor
Xxxxxxx X. Xxxxxxxx, Secretary

Date: (Same as Drawings)

Professional’s Firm Name
1208 Center Drive, Suite 120, Camp Hill, PA 17011
Phone: (717) 555-3620 Fax: (717) 555-362
**TABLE OF CONTENTS**

<table>
<thead>
<tr>
<th>SECTION</th>
<th>TITLE</th>
<th>PAGE NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BIDDING AND CONTRACT DOCUMENTS FOR ALL CONTRACTS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Notice to Bidders</td>
<td>To be issued</td>
</tr>
<tr>
<td></td>
<td>Table of Contents</td>
<td>TC-1 - TC-X</td>
</tr>
<tr>
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<td>Instructions to Bidders</td>
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**GENERAL CONSTRUCTION CONTRACT (DGS XXX-XX PHASE 1.1)**

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**DIVISION 14**

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**DIVISION 17**

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**HEATING, VENTILATING & AIR-CONDITIONING CONSTRUCTION CONTRACT (DGS XXX-XX PHASE 1.2)**

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**PLUMBING CONSTRUCTION CONTRACT (DGS XXX-XX PHASE 1.3)**

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**ELECTRICAL CONSTRUCTION CONTRACT (DGS XXX-XX PHASE 1.4)**

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<td>Section 26010</td>
<td>Requirements for Electrical Work</td>
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LIST OF DRAWINGS

NUMBER AND TITLE OF DRAWINGS

CS-1  Cover Sheet

GENERAL CONSTRUCTION CONTRACT (DGS XXX-XX PHASE 1.1)

CIVIL
C-1  Site Plan

ARCHITECTURAL
AHE-1  Site Utility Plan
A-1  First and Second Floor Plans – Demolition
A-2  Hazardous Materials
A-3  First and Second Floor Plans
A-4  First and Second Floor Reflected Ceiling Plans
A-5  Exterior Elevations
A-6  Building Sections
A-7  Wall Sections
A-8  Room Finish Schedule and Large Scale Plans
A-9  Door Schedule and Details
A-10  Stair Plans and Sections

STRUCTURAL
S-1  Foundation Plan
S-2  Second Floor Framing Plan
S-3  Structural Details and Notes

HEATING, VENTILATING & AIR-CONDITIONING CONSTRUCTION CONTRACT (DGS XXX-XX PHASE 1.2)

HEATING, VENTILATING & AIR CONDITIONING
AHE-1  Site Utility Plan
H-1  H.V.A.C. - Site Plan
H-2  H.V.A.C. – Demolition Plans
H-3  H.V.A.C. – Floor Plans

PLUMBING CONSTRUCTION CONTRACT (DGS XXX-XX PHASE 1.3)

PLUMBING
P-1  Plumbing - Site Plan
P-2  Plumbing - Demolition Plans
P-3  Plumbing - Floor Plans

FIRE PROTECTION
FP-1  Sprinkler Floor Plans
FP-2  Details

ELECTRICAL CONSTRUCTION CONTRACT (DGS XXX-XX PHASE 1.4)

ELECTRICAL
AHE-1  Site Utility Plan
E-1  Electrical - Site Plan
E-2  Electrical - Demolition Plans
E-3  Electrical - Floor Plans
The Following Statement MUST Be Inserted At The End Of The Project Manual List Of Drawings:

The Professional, when directed by the Department, will furnish from time to time, as the work progresses, such supplemental drawings as may be required for further illustrating the details of the work, but these supplemental drawings will not include the shop drawings, all of which are to be prepared by the contractor and submitted as specified for approval before the work is started.

[Note To Professional Regarding Drawing Sheet Designations: Use of the AIA drawing numbering system or other sheet designation systems may be permitted, with the Project Coordinator’s approval.]

[Note To Professional Regarding Common Drawings: Drawings showing work of more than one (1) contract shall indicate the Contractor responsibilities on the Title Block, as shown on the sample Title Block in the Exhibits. If a Drawing is “multi-discipline”, it must be included on the Drawing Lists of all Contracts for which work is indicated, both on the Drawing Cover Sheet and the Project Manual List of Drawings. Multi-discipline drawings shall only be used in exceptional cases, where substantial duplication of drafting can be avoided by their use.]
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
BUREAU OF ENGINEERING AND ARCHITECTURE
HARRISBURG, PENNSYLVANIA

TOM CORBETT, GOVERNOR
SHERI L. PHILLIPS, SECRETARY

PROJECT NO. D.G.S. 888-888
SAMPLE PROJECT NAME D-SIZE (36 x 24) SHEET
SAMPLE PROJECT LOCATION
SAMPLE CITY, SAMPLE COUNTY, PENNSYLVANIA

SHEET INDEX

CS-1  Cover Sheet

General Construction
Contract No. DGS 888-888.1

Civil Sheets
C-1  C-2

Architectural Sheets
A-1  A-2  A-3

Structural Sheets
S-1  S-2  S-3

H.V.A.C. Construction
Contract No. DGS 888-888.2

HVAC Sheets
H-1  H-2  H-3

Plumbing Construction
Contract No. DGS 888-888.3

Plumbing Sheets
P-1  P-2  P-3

Electrical Construction
Contract No. DGS 888-888.4

Electrical Sheets
E-1  E-2  E-3

FIRE PROTECTION SHEETS
FP-1  FP-2  FP-3
PROJECT LOCATION MAP

Use this image in the "Project Location Map" box in the Cover Sheet Title Block. Shade, or otherwise indicate the County in which the Project is located.
# CONSTRUCTION SCHEDULE BAR CHART

**Renovate Pocono Hall**  
**Whitehaven Center, Tioga County, PA.**

**Calendar Days of Construction Time:** 365 Days

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**NOTE:** The schedule shown is intended only as an example. The Professional shall edit the indicated milestones appropriately to represent the work of the project.
# LIST OF REGULATORY APPROVALS / PERMITS – Status Report

Project Number: _______________ Phase _____ Part _____

Project Title: ____________________________________________

Project Location: __________________________ Using Agency: __________________

Professional Firm: _________________________________________

- SCHEMATIC DESIGN
- CONSTRUCTION DOCUMENTS

<table>
<thead>
<tr>
<th>NO.</th>
<th>ITEM</th>
<th>GRANTING AUTHORITY</th>
<th>STATUS REPORT (Incl. anticipated approval date)</th>
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<tr>
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<td>5</td>
<td>Land Development Plan/Subdivision Approval</td>
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<td>6</td>
<td>PA. UCC Approval (incl. Building Permit)</td>
<td>L &amp; I</td>
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<td>Health Department</td>
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<td>18</td>
<td>Domestic Well</td>
<td>DEP/River Basin Commission</td>
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Instructions to Professional: Add additional Permits/Approvals, as applicable, for complete list of all required for the Project. This form is to be submitted with each submission. Attach copies of all approval letters, as applicable.
PROPRIETARY REQUEST PROCEDURES

A. Using Agency sends a letter to the Professional requesting a Proprietary item to be specified in the Contract documents along with justification for making the request.

B. The Professional, after its review of the request from the Using Agency, writes a letter to the Bureau of Engineering and Architecture, Project Coordinator, indicating its approval/disapproval with an explanation of the UA’s request - or the professional may initiate the request. Submit a separate request for each proprietary product/system, unless otherwise approved by the Project Coordinator.

1. When a Professional recommends approval, it must provide along with the explanation (as required by Paragraph 205.2 of the SBPPM), a cost estimate as follows:
   a. What the Non-Proprietary Item costs if specified (Comparative cost)
   b. What the Proprietary Item will cost (Comparative Cost)
   c. Percentage value of the Proprietary Item compared to the total project cost

2. The Bureau of Engineering and Architecture – Project Coordinator reviews and initiates a Proprietary Request to be signed by the Director. (Remember to include all disciplines)
   a. A form memo must accompany the Proprietary Request to the Director stating the Coordinator’s justification and the cost information, and include all disciplines.

3. Upon approval and signature by the Director, the form memo Request will be forwarded to the Deputy Secretary for review and approval by the Director’s staff.
   a. If the Director has questions or disapproves it, it will be returned to the Coordinator, with explanation for disapproval.
   b. If disapproved, Coordinator will be responsible for contacting Professional and UA, indicating that the proprietary request is denied.

4. The Deputy Secretary will obtain review/approval from Public Works Legal Counsel.

5. The Deputy Secretary will approve/disapprove after obtaining Legal’s approval/disapproval.

6. The Proprietary Request memo will be returned by the Deputy Secretary’s Office to the BEA Director’s Office:
   a. The Director’s Staff will log out and give to Division Secretary to distribute.
   b. The Division Coordinator prepares a letter to the Professional notifying of the approval/disapproval of the proprietary Item.
   c. If Proprietary Item is approved – the Professional is to indicate in the appropriate section of specification that this is a proprietary specification by inclusion of the following paragraph:

     “The above item has been approved by the Department as a proprietary item. No other item will be accepted. Section 8.6 and 8.7 of the General Conditions to the Construction Contract does not apply to the above item.”

REMINDER: All Proprietary Request Items need to be submitted to the Project Coordinator prior to Design Development Approval.
RECEIPT FOR
GEOTECHNICAL REPORT

Project No. DGS __________________________________________

Project Title ______________________________________________

_________________________________________________________________

RECEIVED from ____________________________________________,
retained Professional for the above-referenced Project, the Geotechnical Report, which is
accepted by the undersigned under the following terms and conditions:

Any available data concerning subsurface materials or conditions, which is based upon
soundings, test pits or test borings, has been obtained by the retained Professional primarily
for its own use in designing this Project. The Test Boring logs contained within the
Geotechnical Report are incorporated into the construction contract as Contract Documents.
All remaining portions of the Geotechnical Report with exhibits is made available on
condition that its accuracy or completeness is not guaranteed by the Department or the
Professional, and in no event is it to be considered as part of the Contract Documents.
Contractors must assume all risks in excavating for this Project and shall not be entitled to
rely on any subsurface information obtained from the retained Professional, which is not
included in the Contract Documents.

[NOTE TO PROFESSIONAL: THIS FORM IS TO BE EXECUTED BY THE BIDDER,
PRIOR TO RELEASE OF THE GEOTECHNICAL REPORT TO THE BIDDER]

_________________________________________________________________

(Bidder’s Firm Name and Signature)

Dated ____________________________________________
### SAMPLE ELECTRICAL PANEL SCHEDULE

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**TOTAL KILOWATTS PER PHASE**: 7.3 6.5 6.3 2.0 1.4 1.0

**TOTAL A PHASE KILOWATTS**: 9.0

**TOTAL B PHASE KILOWATTS**: 7.9

**TOTAL C PHASE KILOWATTS**: 7.3

**TOTAL 3 PHASE KILOWATTS**: 24.2

**TOTAL A PHASE AMPS**: 75

**TOTAL B PHASE AMPS**: 66

**TOTAL C PHASE AMPS**: 61

**TOTAL 3 PHASE AMPS**: 67
To: Bradley Swartz
   Land Management Division
   Bureau of Real Estate

From: XXXXXXXXXXXX
   Bureau of XXXXXXXXXXXX
   Department of XXXXXXXXXXXX

Date: (Date)

Re: Confirmation of Land Title
   Project No. A XXXXXXXX
   XXXXXXXXXXXXXXXXXXXX
   PA Department of XXXXXXXXXXXX
   XXXXXXXXXXXXXXXXXXXX
   XXXXXXXXXXXXXXXXXXXX Co., PA

The subject project involves xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx which is time sensitive and needs immediate action.

All permits (Occupancy, Building, etc.) have been executed and obtained. Acknowledgement has been obtained and verified below.

Appropriate action by the Bureau of Real Estate is requested to confirm and/or complete land title for the subject project.

Attached is an 11“x17” Site Plan, C-2 by XXXXXXXX, dated XXXXXXXXXX which shows that all work is within Commonwealth property.

Contact Person at Using Agency:
   Name: xxxxxxxxxxxxxxx
   Phone: (717) xxxxxxx

Project Coordinator:
   Name: xxxxxxxxxxxxxxx
   Phone: (717) xxxxxxx
   Signature: ____________________________

If you require additional information, please contact the Project Coordinator.

Attachments
   xc: Public Works Legal
   File
Small Business Project No. D.G.S. XXXXXXXXX
Project Title - Name of Institution - Location
Professional's Name and Address

Bid Date – Wednesday, XXXXXXXXXX
Time of Opening – 2:00 o'clock P.M.

GENERAL CHANGES – ALL CONTRACT
(FOR GENERAL ITEMS THAT APPLY TO ALL CONTRACTS)

SPECIFICATION CHANGES – CONTRACT NO. DGS XXXXXXXX
Item No. 1: Section XXXX, Paragraph XXX, Page XXXXX: Change/Add the following to read:

DRAWING CHANGES – CONTRACT NO. DGS XXXXXXXX
Sheet No. XXXXX:
Delete/Add the following:

XXXXXXXXXXXXXXXXX, DIRECTOR
BUREAU OF PROFESSIONAL SELECTIONS
AND ADMINISTRATIVE SERVICES

Names of those who have secured plans
and specifications are listed on the Department's
www.dgsweb.state.pa.us/building/construction

PLEASE ACKNOWLEDGE RECEIPT WITHIN 24 HOURS BY COMPLETING BOTTOM OF
PAGE AND SEND TO (INSERT DESIGN FIRM’S CONTACT INFORMATION).

NAME ___________________ TITLE ___________________ DATE ___________________

FIRM