

GP-5

CONTROL OF WORK

GP-5.01 AUTHORITY OF THE ENGINEER

- 5.01.1 The County Engineer shall decide all questions which may arise as to the quality and acceptability of materials furnished and Work performed and as to the rate of progress of said Work; all questions which may arise as to the interpretation of any or all Plans and Specifications; and all questions as to the acceptable fulfillment of the Contract on the part of the Contractor.
- 5.01.2 The County Engineer shall have the authority to suspend the Work wholly or in part due to the failure of the Contractor to carry out provisions of the Contract.
- 5.01.3 The County Engineer shall have the authority to suspend the Work wholly or in part due to the failure of the Contractor to correct conditions unsafe for the workmen or the general public; for failure to carry out orders; for such periods as the County Engineer may deem necessary due to unsuitable weather; for conditions considered unsuitable for the prosecution of the Work; or for any other condition or reason deemed to be in the public interest.

GP-5.02 COMMUNICATIONS WITH THE CONTRACTOR

The mailing, in a United States post office box, of any written communication or order, addressed to the Contractor at the Contractor's business address filed with the County or to the Contractor's office at the site of the Work, shall be considered as sufficient service upon the Contractor of such communication, notice, or order and the date of said service shall be the date of such mailing.

GP-5.03 WORKING DRAWINGS

The approved Plans will be supplemented by such working drawings as are necessary to adequately control the Work. It is mutually agreed that all authorized alterations affecting the requirements and information given on the approved Plans shall be in writing and approved by the County Engineer. When at any time reference is made to the Plans, the interpretation shall be the Plans as affected by all authorized alterations then in effect. Contractor shall provide at the Contractor's expense all necessary and required working drawings and shall have them adequately checked, after which they shall be submitted to the County Engineer for review. The County Engineer may reject or prove such drawings and return them for revisions, in which case the Contractor shall submit new additional or revised drawings as required. No items involving such drawings shall be incorporated in the Work until those drawings have been accepted for use by the County Engineer, but such acceptance shall not relieve the Contractor of any responsibility in connection therewith.

All working drawings shall be prepared in accordance with current County Standards. A copy of the approved plans, approved working drawings, current County Standard Details, current County Specifications for Construction, and all applicable permits must be present onsite during any time

of construction.

GP-5.04 SHOP DRAWINGS**5.04.1 General**

The Contractor shall submit to the County Engineer the specified number of copies of shop drawings for approval. At the time of submission the Contractor shall call to the County Engineer's attention, in writing, any deviations that the shop drawings may have from the requirements of the Plans and Specifications. All shop drawings shall be submitted with an Index and a cover letter for approval within the time frame specified.

5.04.2 Submittals

The Contractor shall submit the shop drawings with a cover letter marked as either "Submitted as Specified" or "Submitted as Equal to Specified."

Each shop drawing submission shall cover only one specification section, which shall be identified in the cover letter. Each copy of the shop drawings shall be marked to identify all options or features the equipment will contain.

All shop drawings, regardless if "Submitted as Specified" or "Submitted as Equal to Specified," shall be furnished with complete, specific, detailed information from the manufacturer or supplier of the material or equipment the Contractor proposes to furnish, in which the requirements of the Specifications are clearly shown to be met. This shall include a point by point comparison with the detail requirements of the Specifications.

Where any article is specified by trade name or name of manufacturer with or without the clause "or County approved equal", it is intended to establish the quality of the article. If the Contractor proposes to use material or equipment of another manufacturer as an "or County approved equal" to materials or equipment specified, all shop drawings shall conform to the following requirements, conditions, and procedure:

Substitution of equipment or materials other than those specified will be considered, providing, in the opinion of the County Engineer, such equipment or material is equal to, or better than that specified. The decision of the County Engineer with respect to approval or disapproval of any material or equipment proposed to be substituted as an "or County approved equal" is final. The Contractor shall have no claim of any sort by reason of such decision.

If the Contractor proposes to substitute materials or equipment as "or County approved equal" to those specified, it shall be the Contractor's responsibility to furnish, in addition to the information discussed above, a point by point comparison of the material or equipment specified under the Contract and that proposed to be substituted. The burden of responsibility in furnishing this information is with the Contractor.

If incomplete or irrelevant data is submitted as evidence of compliance with this section of the Specifications, the data will be returned and the request for approval

will be denied.

5.04.3 **Approval**

The County Engineer will review and stamp the shop drawings in one of the following ways:

- A. Accepted as Specified
- B. Accepted as Equal to Specified
- C. Accepted as Noted
- D. Revise and Resubmit
- E. Rejected
- F. Informational Purposes Only

The County Engineer's comments will include specific details as to why or where the shop drawings do not comply with the Contract drawings or specifications. The County Engineer may review only such data and details as are transmitted to the County Engineer by the Contractor. The Contractor shall coordinate between all suppliers and Subcontractors.

The specified number of copies of the accepted shop drawings will be returned by the County Engineer.

5.04.4 **Plan and Specification Conformity**

Corrections or comments on the shop drawings during the County Engineer's review do not relieve the Contractor from compliance with the requirements of the drawings and specifications. The County or County Engineer will not be responsible for errors or omissions on drawings furnished by the Contractor, even though drawings containing such errors or omissions are inadvertently approved. The review is only general conformance with the design concept of the Project and general compliance with the information given in the Contract Documents. The Contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; and in performing this in a safe manner. If the shop drawings deviate from the Contract Documents, the Contractor shall advise the County Engineer of the deviations, in writing accompanying the shop drawings, including the reasons for the deviations, and shall request a deviation from the Contract Documents.

5.04.5 **Fabrication**

The Contractor's attention is specifically directed to the fact that no items shall be fabricated, nor equipment or materials ordered nor any construction performed, prior to approval by the County Engineer of shop drawings applicable thereto. However, to expedite the Project, the Contractor may request in writing authorization from the County Engineer to order critical items before formal approval of drawings. Items ordered or fabricated without such authorization or until drawings are approved by the County Engineer which are subsequently rejected are the responsibility of the Contractor and may not be the subject of a claim for compensation.

5.04.6 **Payment**

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5.04.7 **As-Built Drawings**

The Contractor shall maintain one set of Plans clearly marked to show all field modifications and other changes. The Contractor is responsible for recording and advising the County Engineer promptly of any necessary field modifications and ensuring accurate as-built drawings. Physical measurements must be furnished for each surface structure from manholes, hydrants, building corners or other County approved points.

As-builts shall be furnished to the County by the Developer's engineer for Developer Projects. The Contractor shall submit to the County Engineer the specified number of copies of as-built drawings for approval.

- a. Water & Sewer - Two (2) sets of prints and upon approval one (1) set of Mylar reproducables.
- b. Roads - One (1) set of prints and upon approval one (1) set of Mylar reproducables.
- c. Grading/Stormwater - One (1) set of prints and upon approval one (1) set of Mylar reproducables.

5.04.8 **Operation and Maintenance Manuals**

5.04.8.1 General

The Contractor shall furnish and submit to the County Engineer the specified number of Operation and Maintenance (O&M) Manuals, as stated in Section GP-5.04.8.3, for approval. The O&M Manual shall cover all products, equipment, and systems provided and installed under this Contract.

5.04.8.2 Manual Preparation

Manuals shall include both a comprehensive shop drawing submittal log as well as equipment operation and maintenance data.

The Contractor's prepared manual may be supplemented by additional operational data prepared by the design engineer as directed by Charles County. The inclusion of engineer prepared information shall not relieve the Contractor of completing the Contractor's requirements as described in the Contract documents.

The shop drawing submittal portion of the manual shall contain a complete set of all approved shop drawing submittals for the Project. A typed table of contents shall be prepared by the Contractor indicating the submittal number and submittal description. All submittals shall be indexed by a reinforced divider with a typewritten tab indicating the submittal number.

Operation and maintenance information shall be included for all mechanical and electrical equipment. The compiled data shall consist of assembly drawings, brochures, bulletins, catalogs, catalog cuts, installation guides, lubrication

schedules, operator's/owner's/maintenance manuals, recommended spare parts inventory and ordering information, trouble-shooting guides, warranty information, as-built wiring diagrams and other related data necessary for the operation, preventative maintenance and repair of equipment installed under this Contract.

As a minimum the Contractor furnished O&M Manual shall include the following information:

1. Title page giving name and location of facility, Project number, Contract number, general Contractor (name, address, and phone number), and design engineer (name, address, and phone number) and date.
2. Tabbed index dividers with the name, address, and phone number of the equipment manufacturer, supplier, subcontractors, installer, and authorized representative for parts and service. In addition, all equipment nameplate data and serial numbers shall be reproduced on the front of the divider.
3. Performance curves with operating points identified where applicable.
4. Manufacturer's shop cuts and dimension drawings of each piece of equipment with assembly details of replacement parts.
5. Manufacturer's installation, operation, maintenance, and lubrication instructions for all equipment.
6. Manufacturer's trouble-shooting guides presented in the format of "decision trees."
7. Complete wiring diagrams of all individual pieces of equipment and systems including one-line diagrams, schematic diagrams, and interconnection and terminal board identification diagrams.
8. Piping and interconnecting drawings.
9. Complete parts list with parts assembly drawing, names and addresses of spare parts suppliers, and a list of recommended spare parts to be kept in stock. In addition, a complete listing of spare parts included in the original equipment purchase order and turned over to Charles County shall be included.
10. Instructions with diagrams for disassembling and re-assembling the equipment for repairs or overhaul.
11. Completed Equipment File Maintenance Forms for each piece of equipment furnished under the Contract. The County will provide blank equipment forms with instructions for Contractor use.
12. Test results and certifications including infrared tests, load tests and vibration signatures.

All information for the manuals shall be organized and assembled in loose-leaf 3-

ring binders with black plastic-coated or vinyl covers. Where necessary, more than one binder may be used to assemble the data. When two or more binders are used, each book or volume shall be titled to indicate its particular book or volume number and the total number of volumes per set (i.e., volume 2 of 12). The Contractor shall plan manual contents and shall "break" the data between volumes at reasonable locations so no loss in continuity of data presentation occurs.

Tabbed index dividers shall be typewritten for legibility. Dividers shall be reinforced on the binding edge. The indexing system shall allow easy identification and retrieval of information. The indexing system shall be consistent throughout the entire manual.

All data for inclusion in the manuals shall be printed on an 8-1/2" X 11" sheet size. Where drawings or schematic diagrams cannot be reduced and maintain legibility, they may be folded to a size of 8-1/2" X 11". Folded drawings shall be bound into the manuals by using file pockets or sheet protectors with manufactured three-hole binding edges.

Illegible data due to any cause, including poor copy quality or reduction, will not be accepted. Manuals with illegible data shall be rejected and returned to the Contractor for correction.

5.04.8.3 Approval

While Work is in process, but prior to the 50 percent completion, the Contractor shall deliver three (3) copies of the O&M Manual in preliminary draft form to the County Engineer for review.

Prior to completing the Work and prior to the 80 percent completion, the Contractor shall provide three (3) copies of the final draft O&M Manual to the County Engineer for approval. All comments generated by the County Engineer during review of the preliminary draft manual must be adequately addressed by the Contractor prior to submission of the final draft manual. The final draft O&M Manual must be received by the County Engineer prior to scheduling the Substantial Completion Acceptance inspection and issuance of Substantial Completion Acceptance.

Upon approval of the final draft O&M Manual by the County Engineer the Contractor will submit (10) copies of the final O&M Manual, prior to the Final Acceptance inspection and issuance of the Final Certificate of Acceptance.

There will be no deviations from these requirements.

GP-5.05 CONFORMITY WITH CONTRACT REQUIREMENTS

All Work performed and all materials furnished shall be in conformity with the Contract requirements.

In the event the County Engineer finds the materials or the finished product in which the materials are used or the Work performed is not in reasonably close conformity with the Contract requirements and has resulted in an inferior or unsatisfactory product, the Work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor.

In the event the County Engineer finds the materials or the finished product in which the materials are used is not in strict conformity with the Contract requirements, but that acceptable Work has been produced, the County Engineer shall then make a determination if the Work shall be accepted.

GP-5.06 COOPERATION BETWEEN CONTRACTORS

5.06.1 Separate Contractors on adjoining or overlapping Work shall cooperate with each other as necessary. Such cooperation shall include:

A. arrangement and conduct of Work;

B. storage and disposal of materials, etc. by each in such manner as to not unnecessarily interfere with or endanger the progress of the Work being performed by other Contractors.

Contiguous Work shall be joined in an acceptable manner.

5.06.2 The County shall have the right at any time to Contract for and perform other Work on, near, over or under the Work covered by this Contract. In addition, other Work may be performed under the jurisdiction of other Contracting agencies. In such cases, when a dispute arises among the Contractors, the County will decide who will have jurisdiction over said dispute. The Contractor shall cooperate fully with such other Contractors and carefully fit the Contractor's own Work to such other Work as may be directed by the County Engineer.

5.06.3 The Contractor agrees that, in event of dispute as to cooperation, the County Engineer will act as referee, and decisions made by the County Engineer will be binding. The Contractor agrees to make no claims against the County for any inconvenience, delay or loss experienced because of the presence and operations of other Contractors.

5.06.4 In the event of disputes or claims between Contractors on the Project, the County shall have no liability regarding any claims of the Contractors against one another. In such event, said Contractors shall hold the County harmless with regard to the Contractors' disputes or claims against one another.

GP-5.07 INSPECTORS' AUTHORITY AND DUTIES

Inspectors shall be authorized to inspect all Work done and all material furnished. Such inspection may extend to all or any part of the Work and to the preparation, fabrication, manufacture or testing of the materials to be used. The Inspector is not authorized to revoke, alter or waive any requirements of the Contract, nor is the inspector authorized to approved or accept any portion of the complete Project. The inspector is authorized to call the attention of the Contractor to any failure of the Work or materials to conform to the Contract. The Inspector shall have the authority with the approval of the County Engineer to reject materials or suspend the Work until any questions at issue can be referred to and decided by the County Engineer. Inspectors shall perform their duties at such times and in such manner as will not unnecessarily impede progress on the Contract.

The Inspector shall in no case act as foreman or perform other duties for the Contractor, nor interfere with the management of the Work by the latter. Any advice which the Inspector may give

the Contractor shall not be construed as binding the County Engineer or County in any way, or releasing the Contractor from fulfilling all of the terms of the Contract.

Where there is a disagreement between the Contractor (or the Contractor's representative) and the Inspector, the Inspector will immediately direct the County Engineer's attention to the issue of disagreement and if the Contractor still refuses to make correction, comply or suspend Work, the County Engineer will prepare and deliver in writing to the Contractor, by mail or otherwise, a written order suspending the Work and explaining the reason for such shutdown. The Inspector shall deliver the shutdown order to the Contractor, and shall immediately leave the site of the Work. Any Work performed during the Inspector's absence will not be accepted and the County may require any such Work to be removed and disposed of at the Contractor's expense.

GP-5.08 INSPECTION OF WORK

All materials and each part or detail of the Work shall be subject at all times to inspection by the County Engineer. The Contractor will be held strictly to the Contract and allowable tolerances in regard to quality of materials, workmanship and the diligent execution of the Contract. Such inspection may include mill, plant or shop inspection and any material furnished under the Contract is subject to such inspection. The County Engineer shall be allowed access to all parts of the Work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection. The Contractor shall notify the County Engineer at least 48 hours prior to beginning Work or re-mobilizing after a period of inactivity on the Project.

If the County Engineer requests it, the Contractor, at any time before acceptance of the Work, shall remove or uncover such portions of the finished Work as may be directed. After examination, the Contractor shall restore said portions of the Work to the standards required by the Contract.

When the United States Government or any railroad, corporation or other agency is to pay a portion of the cost of the Work covered by this Contract, their respective representatives shall have the right to inspect the Work.

The Contractor is not relieved of any obligation under the Contract due to any of the following:

- A. Work is not inspected.
- B. Work, or any part thereof, is inspected.
- C. Lack of presence of any County representation on the Project site.
- D. The presence of any County employee on the Project site.
- E. Approval or acceptance of any Work performed or approval of materials and equipment for use in Work under the Contract.

If Work, materials or equipment is found to be defective and not in conformance with Contract Document requirements at any time after completion of Work, the Work may be rejected, in whole or in part.

The County shall not assume expenses incurred on Developer Projects.

5.08.1 Additional Testing and Inspections

If, during the course of the work it is determined by the County that additional tests, testing, and/or inspection is required because of failures or defects due to improper or faulty construction, materials, and/or equipment furnished and/or installed by the Contractor, or for other reason(s) attributable to the Contractor's performance of Work under the terms of this Contract, or because of lack of preparation for the inspection by the Contractor, or because of the lack of timely delivery of documentation required by this Contract, all costs of County personnel, equipment, utilities, and services associated with the inspection(s) and/or retest(s) will be reimbursed to Charles County by the Contractor.

GP-5.09 DEFECTIVE WORK REMOVAL

All Work and materials which do not conform to the requirements of the Contract will be considered unacceptable, unless otherwise determined acceptable under the provisions in GP-5.04.

Any defective Work, whether the result of poor workmanship, use of defective materials, damage through carelessness or any other cause, found to exist shall be removed and replaced by Work and materials which shall conform to the Specifications or shall be remedied otherwise in an acceptable manner authorized by the County Engineer.

Upon failure on the part of the Contractor to comply promptly with any order of the County Engineer, made under the provisions of this Section, the County Engineer shall have authority to cause defective Work to be remedied or removed and replaced and unauthorized Work to be removed.

GP-5.10 MAINTENANCE OF WORK DURING CONSTRUCTION

5.10.1 The Contractor shall maintain the Work during construction and until Substantial Completion Acceptance unless otherwise specified. This maintenance shall be continuous Work accomplished when and as required, with adequate equipment and forces, to the end that all parts of the Work are kept in a presentable, workable and safe condition at all times.

5.10.2 Particular attention shall be given to drainage, both permanent and temporary. The Contractor shall use all reasonable precautionary measures to avoid damage or loss that might result from accumulations and concentrations of drainage water, and material carried by such waters and such drainage shall be diverted or removed when necessary to prevent damage to excavation, embankments, surfacing, structures or property. Suitable measures shall be taken by the Contractor to prevent the erosion of soil in all construction areas where the existing ground cover has been removed.

5.10.3 In the event that the Contractor's Work is ordered shutdown for failure to comply with the provisions of the Contract, the Contractor shall maintain the entire Project as provided herein and provide such ingress and egress for local residents or tenants adjacent to the Project site, for tenants of the Project site, and for the general public as may be necessary during the period of suspended Work or until the Contract has been declared in default.

5.10.4 On Projects where traffic flow is maintained, the Contractor shall be responsible for repair of all traffic damages to the Work, either partially or totally completed, until such time as the Work is conditionally accepted by the Engineer. Responsible, as used here shall mean the responsibility for restoration and the cost thereof, unless

otherwise expressly provided for in the Special Provisions.

GP-5.11 FAILURE TO MAINTAIN ENTIRE PROJECT

Failure on the part of the Contractor, at any time, to comply with the provisions of GP-5.09 will result in the County Engineer immediately notifying the Contractor to comply with the required maintenance provisions. In the event that the Contractor fails to remedy unsatisfactory maintenance within 24 hours after receipt of such notice, the County Engineer will immediately proceed with adequate forces and equipment to maintain the Project; and the entire cost of this maintenance will be deducted from monies due the Contractor.

GP-5.12 ACCEPTANCE**5.12.1 Substantial Completion Acceptance**

Whenever, in the course of performance of a Contract, the Contractor shall consider the Work to have been properly completed and ready to be accepted and/or placed into service by the County, the Contractor shall make a written application for Substantial Completion Acceptance for the Contract.

Upon receipt of such application, the County Engineer will make an inspection of the work, along with representatives from the Charles County Department of Public Facilities, representatives from the Contractor and the Project Inspector. Upon completion of all repairs or replacements by the Contractor which may appear at that time in the judgment of the County Engineer to be necessary, the County will process and issue to the Contractor a Certification of Substantial Completion Acceptance.

If, at the conclusion of the Substantial Completion Acceptance inspection requested by the Contractor as described above, additional tests, testing, and/or reinspection is required because of failures or defects due to improper or faulty construction, materials, and/or equipment furnished and/or installed by the Contractor, or for other reason(s) attributable to the Contractor's performance of Work under the terms of this Contract, or because of lack of preparation for the inspection by the Contractor, or because of the lack of timely delivery of documentation required by this Contract as a condition to Substantial Completion Acceptance, all costs of County personnel, equipment, utilities, and services associated with the reinspection(s) and/or retest(s) will be reimbursed to Charles County by the Contractor.

5.12.2 Final Completion Acceptance

Whenever, in the course of performance of a Contract, the Contractor shall consider the Work to have been properly completed, the Contractor shall make a written application for a Final Completion Inspection of the Work under the Contract. Upon receipt of such application, the County Engineer will make an inspection of the work, with representatives from the Charles County Department of Public Facilities, representatives from the Contractor and the Project Inspector. If at such inspection, all construction provided for and contemplated by the Contract is found completed, such inspection shall constitute the Final Inspection and the County Engineer shall make the Final Completion Acceptance as of that date and the Contractor shall be notified of such acceptance in writing within 10 days. After Final Completion

Acceptance the County will assume responsibility for maintenance, repairs, and/or replacement except where otherwise provided by the Contract.

The date of this Final Completion Acceptance certification will be the beginning of a one year guarantee period, during which the Contractor shall at the Contractor's own cost and expense, make all repairs and replacements which, in the judgment of the County Engineer, may become necessary during the guarantee period on account of any failures or defects due to improper construction or materials furnished by the Contractor. During the guarantee period, should the Contractor fail to make needed repairs and replacements within 14 calendar days of service of notice by the County, the County shall be empowered to make any repairs or replacements and the cost of the required repairs or replacements shall be the financial responsibility of the Contractor. To insure the County against the nonpayment of such costs, the County will either require the retainage of 10 percent of the total value of the construction bond plus the value of Work remaining at the time of Final Completion Acceptance or require the Contractor to post an equivalent Maintenance Bond in accordance with GP 5.12.3.

5.12.3 Maintenance Bond

If approved by the County Engineer, the Contractor shall, at the time of Final Completion Acceptance, furnish a Maintenance Bond in favor of the County in the amount of 10 percent of the total value of the Contract. Such bond shall be in a form and with collateral approved by the County, binding the Contractor as principal, and the Surety, to promptly and properly replace any improper Work or materials that may become apparent within the guarantee period one year following the date of the Final Completion Acceptance certification for the Work under the Contract. The allowable forms of collateral are irrevocable letters of credit, cash escrow, or surety company. Upon acceptance by the County at the end of the guarantee period the sum retained by the County will be returned to the Contractor.

GP-5.13 DISPUTED WORK AND CLAIMS**5.13.1 Claims by Contractor**

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5.13.2 Claims by Subcontractors and Suppliers

No claims shall be brought against the County by any of Contractor's subcontractors or suppliers. The Contractor shall not act as a conduit for claims by subcontractors against the County, and any appeals provision in any Contract between the Contractor and any subcontractor or supplier to which the Contractor agrees to present to the County any claim or any subcontractor shall be invalid.

GP-5.14 LINES, GRADES, ELEVATIONS

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GP-5.15 OTHER GOVERNMENT AGENCY INSPECTION

When the United States Government pays all or any portion of the cost of a Project, the Work shall

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be subject to the inspection of the appropriate Federal Agency. Such inspection shall in no sense make the Federal Government a party to this Contract, and will not interfere, in any way, with the rights of either party thereunder. The State of Maryland, public utilities, railroads, etc. shall have rights of inspection for construction activities in their rights-of-way in accordance with the provisions of their agreements with the County to conduct such Work. Copies of these agreements are incorporated in the Contract Specifications.

END OF SECTION