

## ARTICLE XIII

### SEWER EXTENSION REQUIREMENTS

13.01

#### GENERAL SEQUENCES OF AUTHORITY APPROVAL FOR EXTENSIONS

A. Approval for the construction of an extension to the system owned by the Spring-Benner-Walker Joint Authority shall follow, in general, a planning approval and a construction design approval:

1) Planning Approval - Commitment of Service

a. The Owner shall submit a written request to the Authority for public sewer service for his project site. If appropriate, the request should include two (2) copies of a Land Development Plan or Sketch Plan. The Sketch or Land Development Plan must at least show the proposed lot layout within the subdivision. Draft copies of Sewage Facilities Planning Modules (in duplicate) as may be required by the municipality and/or the Department Environmental Protection shall accompany the Land Development Plan or Sketch. As a minimum, the Land Development Plan and/or Sketch Plan must contain the following information:

- i. The name of the proposed subdivision or land development.
- ii. North Arrow
- iii. Graphics Scale
- iv. Day, month, year plan prepared and/or revised.
- v. Name and address of Owner
- vi. Name and address of individual or firm preparing the plan.
- vii. Key map showing location of proposed subdivision and land development.
- viii. Total acreage of property

- ix. Location and widths of rights-of-way and cartways.
- x. The layout of each lot.
- xi. Utility, drainage and other easements.
- xii. Point of connection to existing sewer system
- xiii. Preliminary layout of proposed sewage facilities
  - a. The Authority shall take into consideration the Owner's request for planning approval, and, if appropriate, shall authorize execution of the Sewage Facilities Planning Modules. If the Authority deems the submission for planning approval to be incomplete, additional action necessary by the Owner to gain planning approval shall be indicated at the meeting when the request for planning approval is considered.
  - b. The Authority's approval of Owner's request for planning approval shall not constitute approval to construct any sewers in the proposed subdivision or land development project.

2) Design/Construction Approval

- a. The Owner and/or his Engineer shall present to the Authority a design of sanitary sewers required to provide service to his subdivision or project which is to be developed. The Owner is referred to Section 13.02 - Plans and Specifications for requirements of the final design when submitting same to the Authority for review and approval. The design shall encompass

all of the lots in the proposed development.

- b. The Owner or his Engineer shall provide the Authority with a copy of the Department of Environmental Protection's approval of his Sewage Facility Planning Modules, or exemption approval, if applicable.
- c. The Owner shall present to the Authority for its consideration a fully executed (in duplicate) Sewer Extension Agreement as contained in Appendices D and/or E attached hereto.
- d. Based upon the content of the submittal for final design approval, the Authority will either approve the submission or make recommendations which will indicate what action must be taken by the Owner prior to the Owner receiving approval of final design of the extension to the wastewater collection system. If additional information is required, the Owner shall be so notified.
- e. Construction of sanitary sewers may not commence until final approval has been granted by the Authority.
- f. The Owner shall pay all fees, premiums, royalties, etc. necessary for the construction as well as for the processing of applications for the proposed project. Where required, the Owner shall have his Engineer prepare the application for a Water Quality Management Permit to be issued by the Department of Environmental Protection. The Permit shall be prepared in the name of the Authority together with all required modules. These documents shall be delivered to the Authority in triplicate for review and approval.

The Owner shall pay all premiums for bonds even if the Authority must obtain a bond prior to the commencement of construction. The Owner shall provide the necessary blasting bond if such is

required by the Commonwealth of Pennsylvania, Department of Transportation.

The Owner is also responsible for the following permits and approvals and any associated fees.

- i. PennDOT Highway Occupancy Permit and Maintenance Bond
- ii. Township/Borough Road or Street Occupancy Permit
- iii. Stream Encroachment Permit
- iv. Soil Erosion and Sedimentation Control Approval
- v. Earth Disturbance Permit
- vi. Any other Permits required by any Agency

If so required by the Authority, the Owner shall obtain the Permits in the name of the Authority.

The Owner shall pay the Authority for all costs of design reviews and inspection of the construction of extensions to the sanitary sewer. The Authority will provide a fee schedule for inspection to the Owner.

## 13.02 PLANS AND SPECIFICATIONS REVIEW & APPROVAL

- A. The Owner and/or his Engineer shall submit three (3) complete sets of Plans and Specifications of the proposed wastewater collection construction project for review and approval by the Authority. One (1) marked or approved set will be returned to the Owner after review by the Authority. Plans shall be prepared by a Professional Engineer, registered in the Commonwealth of Pennsylvania, and shall bear the original impression seal and signature of the Engineer who prepared the Plans on the front cover of each set of plans.
- B. After design plans and specifications have been revised (if necessary) and approved by the Authority, the Owner shall provide the Authority with three (3) sets of Plans and Specifications for its use, prior to the start of construction.
- C. In addition to the Plans and Specifications called for above, the Owner shall provide three (3) sets of any other plans, catalog cuts and specifications, as might be furnished for his project by a material or equipment manufacturer, whether it be a material,

installation or maintenance specification.

13.03

MINIMUM STANDARDS FOR DESIGN

- A. Reference is made to the Minimum Standards for Construction Drawings contained herein and Section 13.04 for design standards not specified below. Reference is also made to the SBWJA Technical Specifications (attached hereto) and the Sewerage Manual published by the Commonwealth of Pennsylvania, Department of Environmental Protection, Bureau of Water Quality Management, latest edition. In the event these specifications require stricter standards than the Sewerage Manual promulgated by the Commonwealth, these specifications take precedence.
- B. No mainline sewer pipe shall be less than eight inches (8") in diameter with the exception of service laterals which shall be six inches (6") in diameter.
- C. The following are the minimum slopes which shall be provided:

<u>Pipe Size (inches)</u>	<u>Minimum Slope in Feet per 100 Feet</u>
8	0.48
10	0.34
12	0.27
14	0.22
15	0.19
16	0.18
18	0.15
21	0.12
24	0.10
27	0.086
30	0.074
36	0.058

- D. The maximum distance between manholes shall be four hundred feet (400'). A manhole shall be provided at every change in horizontal and/or vertical alignment. No curvilinear sewers will be permitted.
- E. When required by the Authority, any Owner desiring to discharge non-domestic wastewater to the sanitary sewer shall install a suitable control manhole or manholes on each connecting sewer or sewers (or each lateral connection) to facilitate observation, sampling, and measurement of the flow of non-domestic wastewater. At the discretion of the Authority the Owner must

plumb his building so as to separate domestic and non-domestic wastewater. Such control manhole or manholes shall be accessible and safely located and shall be constructed in accordance with the plans approved by the Authority. The manhole or manholes shall be installed by the Owner at his expense and shall be maintained by the Owner so as to be safe and accessible to the Authority or its authorized representatives at all times.

- F. All commercial establishments with cooking or food preparation facilities shall install and maintain a grease trap to remove oils and grease. Floor drains in these food preparation areas must pass through this grease trap prior to introduction into the public sewer system.

MINIMUM STANDARDS FOR CONSTRUCTION DRAWINGS

- A. The Plans for construction shall include the following:
1. A cover sheet which details the name of the project for which the plans have been prepared. On the cover sheet, the Engineer's name shall be shown together with the name of the Authority which owns the collection system. The name of the Township in which the project is located shall be shown. Centre County, Pennsylvania should also be shown on the drawings. The date the drawing was prepared and any revisions shall be shown. A key map showing the location of the project shall be shown on the cover sheet. An extract from a USGS map may be used for the key map with the area of project defined on the key map. The permit number which covers construction of the sanitary sewers shall be shown on the cover sheet, if applicable. During the design phase, the permit number shall be left blank but shall be completed at the record phase in drawing production. The front cover of each set of drawings shall bear the Engineer's original impressed seal and signature.
  2. The second sheet of the folio of drawings shall be the table of contents with the contents of each page definitively shown. The Engineer's standard table showing changes, individuals who designed, checked, drew and surveyed the information shall be shown. Each subsequent page in the folio of drawings shall contain the name of the project, the name of the engineer, and the name of the Authority. If the drawings are record the word "Record" shall appear.
  3. The third sheet in each set of drawings shall be a general plan of the entire project showing the locations of all lots (if appropriate) and the location of sanitary sewers in streets and rights-of-way (graphically correct) together with lot numbers, roads, streets, etc. The scale shall be such that the majority of the sheet is used to depict the project.
  4. The plans shall be at a scale of 1 inch = 50 feet. In congested areas a scale of 1 inch = 20 feet may be used with prior approval from the Authority. Uniform sheet size shall be 24" x 36". A profile of the street and existing ground surface over the centerline of the sewer shall be shown. In addition, an existing ground profile at the

building setback line shall be shown. The profile shall be drawn at a horizontal scale of 1 inch = 50 feet and a vertical scale of 1 inch = 5 feet.

5. Detail Sheets (Plan and Profile): The following items shall be included thereon:
  - a. Location of each existing or proposed building with elevation of the existing or proposed basement (Plan View).
  - b. Sewer ties to existing permanent and semi-permanent features (Plan View).
  - c. Top elevations of manholes (Profile View).
  - d. Manhole numbers corresponding to those on Index Map (Plan View and Profile View).
  - e. Distance between manholes (Profile View).
  - f. Grade of proposed sewer (Profile View).
  - g. Size and type of proposed sewer (Profile View).
  - h. Location, size and elevation of all existing and proposed underground utilities (Plan View and Profile View).

Submit the following information as a supplement to the construction drawings:

- a. Number of persons to be served initially.
  - b. Number of persons to be served in the future.
  - c. Number of acres to be served initially.
  - d. Number of acres to be served in the future.
  - e. Initial and future sanitary sewer flows if the development is other than residential.
6. Inverts of sewers in and out of at manholes and manhole top elevations shall be shown. A one-tenth (1/10) foot drop is required between in and out inverts of the manholes. The datum shall be that of the Authority's system. Benchmark elevations shall be supplied. A minimum of one (1) benchmark shall be shown on each sheet of the construction plans.
7. Structures to be served shall be located in plan and profile with the basement and first floor elevations clearly indicated. It is the policy of the Authority to serve the basements of all structures within its service area unless basement service proves unfeasible. The Authority shall be the sole judge as to whether basement service may be

eliminated.

8. Proposed lateral connections shall be shown. "Wye" connections shall be stationed along the center line of the sewer between manholes from the downstream manhole.

A lateral shall be constructed to each lot within a subdivision. Lateral ends shall be stationed to a point along the line perpendicular to the lateral end; a direction (left or right facing upstream) and offset distance shall be given.

9. A North arrow and flow direction of all sewers shall be shown on each sheet. Plans for construction are expected to be completed using straight edges and standard drawing templates for letters, numbers and symbols. No free hand lettering or numbering will be permitted. The Owner and his Engineer are advised to examine drawings which are available at the Authority's offices so they may clearly understand what standards are acceptable for construction drawings. In addition, a checklist for construction drawings and specifications is contained in Appendix B.

13.05

MINIMUM STANDARDS FOR RECORD DRAWINGS

- A. The Owner shall furnish to the Authority a set of reproducible mylar Record drawings (Coversheet to state "Record Drawing") and three (3) sets of Record prints of all facilities for which Authority acceptance is being requested. The Record drawings are to show the system as installed with all revisions. Manholes, wyes, and laterals are to be correctly stationed with respect to center line of manholes with depth, length of laterals, and invert elevation at the end of the lateral noted. Pipe material and angles of sewers at the manholes shall be shown.

A 4" x 4" pressure treated post is to be placed at the end of the lateral and shall extend from the invert of the lateral to a minimum of three (3) feet above the ground. The top of the post shall be painted with sewer green for at least a distance of 12" from the top of the post. The total distance from the top of the post to the invert of the lateral shall be indicated on the Record drawings and on the post at the proper center line station either left or right. The Record drawings shall contain thereon the same information required for the design drawings corrected to Record conditions and shall include the locations of all streets and utilities (both main lines and laterals) that parallel or cross the installed sanitary

sewers. The location of the lateral end, shown in the plan view, shall be graphically correct with respect to property corners, manholes, utility poles, etc. Each drawing shall be marked "Record" and dated. Appendix C contains a checklist for record drawings and specifications.

- B. The Owner and Engineer are advised that since the Record drawings become the property of the Authority and an official part of their public records, the Authority expects nothing less than the most professional engineering and drafting work. The Authority prides itself in having clear and neat records available to the public for future reference.
- C. All Record drawings are expected to be completed utilizing straight edges and standard drawing templates for letters, numbers and symbols. No freehand lettering or numbering will be permitted. The Owner and his Engineer are advised to examine existing Record drawings, which are available at the Authority's Offices, so that they may clearly understand what standards the Record drawings must meet.
- D. The reproducible mylars of the Record drawings are to bear a seal of a Registered Professional Engineer, registered in the Commonwealth of Pennsylvania. The registered professional engineer shall certify that the Record information is true and correct. The mylar Record drawings shall be signed and dated by the Registered Professional Engineer.
- E. In the event more than one Engineer is retained by the Owner over a period of time to produce Record Drawings on a piece-meal basis, it will be the responsibility of the Owner when all sewers covered by permit have been constructed to retain one Engineer to produce a complete set of drawings showing Record conditions of all sewers.

13.06 PLANS TO CONTRACTOR

- A. A sufficient number of Plans and Specifications shall be made available by the Owner to the Contractor or Contractors performing the work.

13.07 SCOPE OF WORK

- A. The work included in the proposed sewer construction shall be defined in detail and be complete in scope so that in no way shall the Authority be held responsible for any interconnection work or

maintenance of roadway paving after final inspection and acceptance of the work.

- B. The Owner or the Contractor under the construction contract with the Owner, if such be the case, shall furnish all plant, materials, equipment, supplies, labor, transportation, fuel, power, water and air necessary to complete and test the work properly in accordance with the Specifications and Plans thereof.
- C. The work shall be complete and all the work, materials, and services not expressly called for in the Specifications or not shown on the Plans, which are necessary and required for the proper construction and operation of all items of work and equipment specified and shown, shall be performed, furnished and installed to the satisfaction of all regulatory agencies and governing bodies and the Authority.

13.08 QUANTITIES AND AMOUNTS OF WORK

- A. For purposes of establishing a book value of the sewer system of the Authority, copies of all lump sum and unit prices given to the Owner by the Contractor (Contractor's proposal to complete the work) shall be given to the Authority.
- B. Field changes in the work requiring more or less of the items for which prices are stipulated in the Proposal, may be made upon written approval of the Authority. The "scope of work" must remain such that the Owner provides a complete, operational system.
- C. Records of final (Record) quantities along with lump sum or unit price tabulations shall be given to the Authority.

13.09 CONTRACTOR TO CHECK PLANS AND DATA

- A. The Contractor is required to check all dimensions and quantities on the Plans or Schedules given to him by the Owner's Engineer, and the Contractor shall notify the Engineer and Owner of all errors, omissions, conflicts, and discrepancies found therein. Contractor will not be allowed to take advantage of any error or omission in these Specifications, as full instructions shall be furnished to the Owner by the Authority should such errors or omissions be discovered, and the Owner shall carry out such instructions as if originally specified. Figures marked on the Plans shall, in general, be followed in preference to scale measurements.

Large scale drawings shall, in general, govern small scale drawings. In all cases where dimensions are governed by conditions already established, the Contractor shall depend entirely on measurements by himself. As a condition of overall approval and acceptance by the Authority, the Owner must agree to save harmless the Authority from any damage resulting from errors or omissions.

13.10 INSPECTION REQUIREMENTS

- A. The Authority and/or Authority Engineer will review all plans for accuracy and completeness at the owners expense. Upon completing the review all correction will be noted and returned to the owner for correction

13.11 WRITTEN REQUEST FOR AUTHORITY TO ACCEPT DEDICATION OF IMPROVEMENTS

- A. A written request must be provided to the Authority by the owner requesting dedication of the new system extension. Upon completion of all requirements the Authority, at its sole discretion, will accept ownership of said infrastructure.