

**RULES AND REGULATIONS GOVERNING
CONSTRUCTION OF AND CONNECTION TO
SANITARY SEWERAGE FACILITIES
IN
KENNETT TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA**

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SECTION 1

GENERAL PROVISIONS

1.1 Purpose

These rules and regulations govern the connection to all sanitary sewerage facilities to be installed in Kennett Township, Chester County, Pennsylvania, provide specifications for the design and construction of sanitary sewerage facilities, and establishes the prohibited discharge standards. The rules and regulations are promulgated pursuant to Ordinance Chapter 180, Sewers, which ordinance among other things requires connection to the Township sewer system and establishes other regulations and charges relative to the use of the said sewer system.

SECTION 2
DEFINITIONS

2.1 Meaning of Words

The following words and phrases shall be defined as stated herein.

As used these rules and regulations, words in the singular include the plural and those in the plural include the singular. The word "person" includes a corporation, unincorporated association, and a partnership, as well as an individual. The work "may" is permissive; and the words "shall" and "will" are mandatory.

Act or "the Act". The Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. 1251, et. seq.

Authorized Representative of the Industrial User.

- 1) If the Industrial User is a corporation, authorized representative shall mean:
 - the president, secretary, treasurer, or a vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation;
 - the manager of one or more manufacturing, production, or operation facilities employing more than 250 persons, if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- 2) If the Industrial User is a partnership, or sole proprietorship, an authorized representative shall mean a general partner or proprietor, respectively.
- 3) If the Industrial User is a federal, state, or local governmental facility, an authorized representative shall mean a director or highest official appointed or designated to oversee the operation and performance of the activities of the governmental facility, or his/her designee.
- 4) The individuals described in the preceding paragraphs above may designate another authorized representative if the authorization is in writing, the authorization specifies the individual or position responsible for the overall operation of the facility from which the discharge originates or having overall responsibility for environmental matters for the company, and the written authorization is submitted to the Township.

Biochemical Oxygen Demand (BOD). The quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure, five (5) days at 20 degrees C, expressed in terms of weight and concentration (milligrams per liter (mg/l)).

Building Sewer. The sewer extension from the sewage drainage system of any structure to the service lateral of a sanitary sewage system.

Categorical Standards. National Categorical Pretreatment Standards or pretreatment standards.

Collection Sewer. A collection sanitary sewer located under highways, roads, streets, or rights of way with branch service laterals that collects and conveys sanitary sewage or industrial wastes or a combination of both; and into which the introduction of storm, surface and ground waters or unpolluted industrial waters or liquids are prohibited.

Community Sewage System. A system, whether publicly or privately owned, for the collection of sewage of a liquid nature from two or more lots, and for the treatment or disposal of the sewage on one or more of the lots or at any other site.

Connecting Sewer. A sanitary sewer specifically used to convey sanitary sewage or industrial wastes or a combination of both from a development to a connecting point with an existing sanitary sewer and into which the introduction of storm, surface and ground water or unpolluted industrial waters or liquids are prohibited.

Control Authority. The term shall refer to the Borough of Kennett Square, since the Borough has an approved pretreatment program under the provisions of 40 CFR 403.11.

Cooling Water. The water discharged from any use, such as air conditioning, cooling, or refrigeration, or to which the only pollutant added is heat.

Direct Discharge. The discharge of treated or untreated wastewater directly to the Waters of the Commonwealth of Pennsylvania.

EDU. Equivalent Domestic Unit with the following wastewater characteristics:

Flow	250 gpd
Ammonia - Nitrogen as N	25 mg/l
BOD	250 mg/l
Phosphate as P	10 mg/l
Suspended Solids	250 mg/l
TKN	40 mg/l
Oil and Grease	100 mg/l

Environmental Protection Agency (EPA). The U.S. Environmental Protection Agency or, where appropriate, the term may also be used as a designation for the Administrator or other duly authorized official of said agency.

Existing User. Any source of discharge, the construction or operation of which commenced prior to the publication by EPA of proposed categorical pretreatment standards, which will be applicable to such source if the standard is thereafter promulgated in accordance with Section 307 of the Act.

Grab Sample. A sample which is taken from a wastestream or a one-time basis with no regard to the flow in the wastestream over a period of time not to exceed 15 minutes.

Holding Tank Waste. Any waste from holding tanks, such as vessels, chemical toilets, campers, trailers, septic tanks, and vacuum-pump tank trucks.

Improved Property. Any property upon which there is erected a structure intended for continuous or periodic habitation, occupancy or use by human beings or animals and from which structure, wastewater shall be or may be discharge.

Independent Community Sewage System. Any sewage disposal system serving three or more lots or discharging 1,000 gallons per day or more of sewage effluent and not connected to the Kennett Township sanitary sewage system.

Independent Sewage Treatment Plant . A sewage treatment plant independent of the Kennett Township sanitary sewage system and serving a commercial or industrial property regardless of the flow capacity of the plant or any sewage treatment plant not connected to the Township sewage system serving one or two residential properties and exceeding 1,000 gallons per day of capacity.

Indirect Discharge. The discharge or the introduction of pollutants into the POTW including holding tank waste discharged into the system and any non-

domestic source regulated under Section 307(b),(c), or (d) of the Act and at 40 CFR 403.3(i).

Industrial User. An industrial source of indirect discharge.

Industrial Wastes. Any solid, liquid or gaseous substance discharged, permitted to flow or escaping in the course of any industrial, manufacturing, trade or business process or in the course of the development, recovery or processing of natural resources, as distinct from sanitary sewage.

Interference. A discharge which alone or in conjunction with a discharge or discharges from other sources: (1) inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use, or disposal; and (2) therefore, is a cause of a violation of the Borough of Kennett Square's NPDES Permit or of the prevention of sewage sludge use or disposal in compliance with any of the following statutory/regulatory provisions or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act; the Solid Waste Disposal Act (SWDA), including Title II commonly referred to as the Resource Conservation and Recover Act (RCRA); any state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA; the Clean Air Act; the Toxic Substances Control Act; and the Marine Protection, Research and Sanctuaries Act.

Kennett Township Sanitary Sewage System. A sanitary sewage system owned and operated by Kennett Township and served by a public sewage treatment plant either located in Kennett Square, East Marlborough Township, or hereinafter to be constructed, owned and/or operated by Kennett Township.

National Categorical Pretreatment Standard or Pretreatment Standard. Any regulation containing pollutant discharge limits promulgated by the EPA at 40 CFR, Parts 401-471, in accordance with Section 307(b) and (c) of the Act (33 U.S.C. 1317) which applies to a specific category of Industrial Users.

National Pollution Discharge Elimination System or NPDES Permit. A permit issued pursuant to Section 402 of the Act (33 U.S.C. 1342).

National Prohibitive Discharge Standard or Prohibitive Discharge Standard. Any regulation developed under the authority of 307(b) of the Act and 40 CFR Section 403.5.

New Source. Any building structure, facility or installation from which there is or may be a discharge of pollutants, the construction of which commenced

after the publication of proposed pretreatment standards under Section 307(c) of the Act which will be applicable to such source if such standards are thereafter promulgated in accordance with that section, provided that:

- 1) The building, structure, facility or installation is constructed at a site at which no other source is located; or
- 2) The building, structure, facility or installation totally replaces the process or production equipment that causes the discharge of pollutants at an existing source;
or
- 3) The production or wastewater generating processes of the building, structure, facility or installation are substantially independent of an existing source at the same site. In determining whether these are substantially independent, factors such as the extent to which the new facility is integrated with the existing plant and the extent to which the new facility is engaged in the same general type of activity as the existing source will be considered.

Construction on a site at which an existing source is located results in a modification rather than a new source if the construction does not create a new building, structure, facility, or installation meeting the criteria of Section (2) or (3) above but otherwise alters, replaces, or adds to existing process or production equipment.

Construction of a new source as defined under this paragraph has commenced if the owner or operator has:

- 1) Begun, or caused to begin as part of a continuous on-site construction program
 - (i) Any placement, assembly, or installation of facilities or equipment, or
 - (ii) Significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or
- 2) Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase, or contracts that can be terminated or

modified without substantial loss, or contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this paragraph.

North American Industry Classification System (NAICS). A standard issued by the Executive Office of the President, Office of Management and Budget, adopted in 1997.

On-Lot Disposal Systems. For the purposes of these regulations, on-lot disposal systems shall include the following:

- 1) Individual on-lot subsurface disposal systems serving one property only.
- 2) Combined on-lot subsurface disposal systems serving two lots by a single system.
- 3) Sewage disposal systems consisting of a sewage treatment plant treating less than 1,000 gallons per day with stream discharge or spray irrigation for one or two lots.

Owner. The term shall mean any Person vested with ownership, legal or equitable, sole or partial of any improved property.

PADEP. Pennsylvania Department of Environmental Protection.

Pass Through. A discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES Permit (including an increase in the magnitude or duration of a violation)

Person. Any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, the United States and its agents, any other legal entity or their legal representatives, agents, or assigns. The masculine gender shall include the feminine, this singular shall include the plural where indicated by the context.

pH. The logarithm (base 10) of the reciprocal of the concentration of hydrogen ions expressed in grams per liter of solution.

Plan, Official. A Sewage Facilities Plan for the Township of Kennett, prepared

in accordance with the requirements of Chapter 71, Title 25 Regulations, of the Pennsylvania Code, as it may be supplemented or revised by Kennett Township.

Pollutant. Any dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt, or industrial, municipal, and agricultural waste discharged into water.

Pollution. The manmade or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

POTW Treatment Plant. That portion of the POTW designed to provide treatment to wastewater, including recycling and reclamation of municipal sewage and industrial wastewater.

Pretreatment or Treatment. The reduction of the amount of pollutants, the elimination of pollutants, the alteration of the nature of pollutants, or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to, or in lieu of, discharging or otherwise introducing such pollutants into a POTW. The reduction or alteration can be obtained by physical, or chemical, or biological processes, or process changes by other means, except as prohibited by 40 CFR Section 503.6(d).

Pretreatment Standards. Pretreatment standards shall mean prohibited discharge standards, categorical pretreatment standards, and local limits.

Publicly Owned Treatment Works POTW. The treatment works as defined by Section 212 of the Act (33 U.S.C. 1292) which is owned by the Borough of Kennett Square, East Marlborough Township, or hereinafter to be constructed, owned and/or operated by Kennett Township. This definition includes any sewers that convey wastewater to the POTW treatment plant, but does not include pipes, sewers, or other conveyances not connected to a facility providing treatment.

Sanitary Sewer. A sewer that conveys sewage or industrial wastes or a combination of both; and into which the introduction of storm, surface, and ground waters or unpolluted industrial wastes are prohibited.

Sanitary Sewer Plan. A plan or map showing all present and proposed

sanitary sewers and facilities for a sanitary sewage system.

Sanitary Sewage System. All facilities, as of any particular time, for collecting, pumping, treating and disposing of sanitary sewage and industrial waste situated in the sewered area.

Service Lateral. That part of the sewage system extending from the collection sewer to a property line of the property to be served.

Sewage Treatment Plant. A facility which receives sanitary sewage and treats such sewage to reduce the organic and other pollutants to a degree and by such methods as are permitted by the Pennsylvania Department of Environmental Protection and/or the Chester County Health Department. Sewage treatment plants may include primary treatment in septic tanks, and secondary and tertiary treatment systems recognized and approved by the Pennsylvania Department of Environmental Protection and such additional facilities as are required to provide subsurface, spray irrigation or stream discharge disposal of treated effluents.

Sewerage. The system of sewers and appurtenances for the collection, transportation, pumping, treating and disposing of sanitary sewage and industrial wastes.

Sewered Area. That portion of Kennett Township designated on the Official Plan of the Township in which there is, or shall be, constructed a public or privately owned sanitary sewage system in accordance with plans approved by the Township, as from time to time constructed and extended.

Shall. is mandatory; May is permissive or discretionary. The use of a singular shall be construed to include the plural and the plural shall include the singular as indicated by the context of its use.

Significant Industrial User. This term shall apply to: (a) Industrial Users subject to categorical pretreatment standards; and (b) any other Industrial User that (i) discharges an average of 25,000 gpd or more of process wastewater, (ii) contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant, or (iii) is designated as "Significant" by the Township on the basis that the Industrial User has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.

Significant Non-compliance. A User is in significant non-compliance if its violations meet one or more of the following criteria:

-Chronic violations of wastewater discharge limits, defined as those in which sixty-six (66) percent or more of all the measurements taken during a six-month period exceed (by any magnitude) the daily maximum limit or the average limit for the sample pollutant parameter.

-Technical review criteria (TRC) violations, defined as those in which thirty-three (33) percent or more of all the measurements for each pollutant parameter taken during a six-month period equal or exceed the product of the daily average maximum limit or the average limit times the applicable TRC (TRC = 1.4 for BOD, TSS, fats, oil, and grease and 1.2 for all other pollutants except pH).

-Any other violation of a pretreatment effluent limit (daily maximum or longer-term average) that the Control Authority determines has caused, alone or in combination with other discharges, interference or pass through (including endangering the health of POTW personnel or the general public).

-Any discharge of a pollutant that has caused imminent endangerment to human health, welfare, or to the environment or has resulted in the POTW's exercise of its emergency authority to halt or prevent such a discharge.

-Failure to meet, within 90 days after the schedule date, a compliance schedule milestone contained in a local control mechanism or enforcement order for starting construction, completing construction, or attaining final compliance.

-Failure to provide, within 30 days after the due date, required reports such as baseline monitoring reports, 90-day compliance reports, periodic self-monitoring reports, and reports on compliance with compliance schedules.

-Failure to report non-compliance accurately.

-Any other violation or group of violations that the Control Authority determines will adversely affect the operation or implementation of the local pretreatment program.

Spray Irrigation. The disposal of treated sewage by spraying on the surface of the ground, designed and permitted in accordance with the regulations of the Pennsylvania Department of Environmental Protection.

State. Commonwealth of Pennsylvania.

Stormwater. Any flow occurring during or following any form of natural precipitation and resulting therefrom.

Stream Discharge. The discharge of treated sewage wastes to a stream or to the surface water of the Commonwealth, designed and permitted in accordance with the regulations of the Pennsylvania Department of Environmental Protection.

Subsurface Disposal System. The discharge and disposal of sewage wastes treated by septic tank or other means through a buried piping system and directly into the soil beneath the surface of the ground.

Suspended Solids. The total suspended matter that floats on the surface or is suspended in water, wastewater, or other liquids and, that is removable by laboratory filtering.

Township. Kennett Township, Chester County, Pennsylvania.

Toxic Pollutant. Any pollutant or combination of pollutants listed as toxic in regulations promulgated by the EPA under the provision of Section 307 (33 U.S.C. 1317) of the Act.

Trunk Sewer. A main sewer located under highways, roads, streets or rights of way with branch collection sewers that collects and conveys sanitary sewage or industrial wastes, or a combination of both, and into which the introduction of storm, surface and ground waters or unpolluted industrial waters or liquids are prohibited.

User. Any person who contributes, causes, or permits the contribution of wastewater into the Township's POTW (excluding purely domestic users).

Wastewater. The liquid and water-carried industrial or domestic wastes from dwellings, commercial buildings, industrial facilities, and institutions, together with any groundwater, surface water, and stormwater that may be present, whether treated or untreated, which is contributed into or permitted to enter the Township's POTW.

Waters of the Commonwealth. All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems, and all other bodies or accumulation of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the State or any portion thereof.

Will is mandatory; May is permissive or discretionary. The use of a singular shall be construed to include the plural and the plural shall include the singular as indicated by the context of its use.

2.2 Additional Definitions

The definition of words and terms in Ordinance No. 40 (later revised and adopted as Ordinance 62), the ordinance requiring occupied buildings to connect to the sewage system among other things, shall apply to the same words and terms contained in these regulations. Similarly the definition of words and terms defined in the Kennett Township Subdivision and Land Development Ordinance shall apply where appropriate to the same words and terms in this ordinance.

2.3 Definitions of Standards

Where the following abbreviations are used in these regulations, they shall stand for the institute, society or association listed thereafter.

ANSI:	American National Standards Institute
ASTM:	American Society for Testing Materials
AWWA:	American Water Works Association
BOD:	Biochemical Oxygen Demand
CFR:	Code of Federal Regulations
EPA:	U.S. Environmental Protection Agency
gpd:	Gallons per day
l:	Liter
mg:	Milligrams
mg/l:	Milligrams per liter
NPDES:	National Pollutant Discharge Elimination System
POTW:	Publicly Owned Treatment Works
RCRA:	Resource Conservation and Recovery Act
SIC:	Standard Industrial Classification
SWDA:	Solid Waste Disposal Act, 42 U.S.C. 6901, et. seq.
TSS:	Total Suspended Solids
USC:	United States Code

SECTION 3
CONSTRUCTION AND MANAGEMENT OF SEWERAGE FACILITIES
IN KENNETT TOWNSHIP

3.1 Official Plan

The Official Plan of Kennett Township shall be published and, from time to time, revised by resolution of the Board of Supervisors to show the sewerage areas of the Township and the major trunk sewers, pumping stations, treatment plants and community sewage systems proposed to serve these areas. The said Official Plan shall be appended to and made a part of these regulations.

3.2 Installation of Sewerage Facilities

The development of a subdivision or land development including Planned Residential Development within the sewerage areas shown on the aforesaid Official Plan shall not proceed without a sanitary system as herein set forth.

When a Kennett Township sanitary sewage system is available within one thousand (1,000) feet of a proposed subdivision or land development, all collection sewers, all service laterals, and all necessary building sewers as shown on the approved final plan shall be installed and connected to the existing Township sanitary sewer system by the developer, at his expense, subject to inspection and approval thereof by the Township.

When a Kennett Township sanitary sewage system is not available within one thousand (1,000) feet of a proposed subdivision or land development in the sewerage areas, then the Board of Supervisors shall require one of the following:

- 1) A sanitary sewage system complete with collection sewers, service laterals and building sewers shall be installed and connected to the Kennett Township sanitary sewage system with the connecting sewer, trunk sewer and/or pump station between the proposed subdivision or land development and the Kennett Township sanitary sewage system to be installed by the developer. These sewers and service laterals shall be installed before the streets and roads shown in the approved final plan are constructed; or

- 2) In the event that the Board shall determine the said Kennett Township sanitary sewage system is not available or, if it is available, the connection thereto would create unnecessary hardship on the developer; and that the Board shall determine that the sites proposed for development are suitable for on-site sewage disposal in accordance with the regulations of the Chester County Health Department and the Pennsylvania Department of Environmental Protection, then the Board may require that a sanitary sewage system complete with collection sewers and service laterals, and with the sewer and service laterals capped in accordance with these rules and regulations, be installed by the developer in addition to the installation by the developer of temporary on-lot sanitary disposal systems. These collection sewers and service laterals shall be installed before the streets and roads shown in the approved final plan are constructed. The aforementioned determinations of the Board shall be made at a public meeting of the Board.

Where the proposed development is in the sewerred area but the Kennett Township sanitary sewage system is not available within one thousand (1,000) feet or where the development of land by an option selected under the Kennett Township Zoning Ordinance requires the provision of public sewage service; in lieu of the foregoing procedures provided in Subsections 1 and 2 above, the Board may approve by resolution the construction of an Independent Community Sewage System or Independent Sewage Treatment Plant to be installed by the developer in accordance with the Official Plan. Collection sewers and service laterals shall be installed before the streets and roads shown in the approved final plan are constructed. The Independent Community Sewage System or Independent Sewage Treatment Plant shall be installed according to the provisions of Section 2 of the Ordinance.

Any sewage disposal system serving three or more lots or discharging 1,000 gallons per day or more of sewage effluent and not connected to the Kennett Township Sanitary Sewage System shall be considered an Independent Community Sewage System and subject to the provisions of Paragraphs 3.2 through 3.19 of these regulations. On-lot disposal systems shall be subject to the provisions of Paragraphs 3.20 and 3.21. The Township shall be co-permittee for all independent Community Sewage Systems designated as Independent Community Sewage Systems in accordance with Department of Environmental Protection regulations.

3.3 Extension of Sewer Service by Other Parties

Persons requiring public sewer service to existing buildings may apply to the Township for permission to extend the Kennett Township sanitary sewage system within the sewerred areas shown on the Official Plan. Said extension shall be made on the same terms and conditions as those applicable to developers of subdivision or land development.

3.4 Revisions to the Official Plan

Persons owning land outside of the sewerred areas on the Official Plan of Kennett Township may request that the Official Plan be revised to provide for an Independent Community Sewage System or Independent Sewage Treatment Plant or for extension of the Kennett Township sewage system in accordance with the rules and regulations of the Pennsylvania Department of Environmental Protection, as administered by the Chester County Health Department. Such parties shall obtain the necessary forms or modules from the Pennsylvania Department of Environmental Protection pertaining to the revisions to the Official Plan. Revisions shall be considered by the

Board of Supervisors at a public meeting in accordance with the rules and regulations of the Pennsylvania Department of Environmental Protection. Revisions calling for the discharge of sewage to the Kennett Borough or East Marlborough sewer system shall be subject to the availability of capacity under the terms of the sewage treatment agreements with the respective municipalities and to the other terms of those agreements.

3.5 General Requirements

The specifications and details of design and construction of all items of the sanitary sewage system to be constructed shall be in accordance with the latest requirements and standards for sewerage facilities of the Pennsylvania Department of Environmental Protection, and in accordance with the design standards established by the rules and regulations contained herein. Since the Township is co-permittee on all applications for Independent Community Sewage Systems governed by these regulations, the Township shall have the absolute right to review all plans and specifications relative to such systems and require such reasonable changes as may be necessary to provide an effective and efficient design and to protect the public interest in preventing odors or discharge of incompletely treated waste. In no case shall the design standards which are applied be less than those imposed by the Pennsylvania Department of Environmental Protection.

All construction work of the sanitary sewage system shall be completed under the

inspection of the Township. Construction work requiring inspection and testing shall not be backfilled without approval of the Township, and construction work backfilled without such approval or consent shall be uncovered, the cost of uncovering and replacing to be borne by the applicant or his contractor.

3.6 Sanitary Sewer Plan

Prior to the start of construction, the applicant shall furnish a Sanitary Sewer Plan of the sanitary sewage system and treatment plant (if any) for the proposed subdivision or land development for review and written approval by the Board of Supervisors.

The Sanitary Sewer Plan and Profile shall include the following:

- 1) Sheet size for all plans shall be 30" x 42". The minimum horizontal scale shall be
1" = 50'.

Vertical scale for profiles shall be at a ratio of 10:1 with the horizontal scale.
- 2) All streams, large trees or tree masses, exposed rock and other significant features manmade or natural.
- 3) Location of existing and proposed streets, property lines and current property owners.
- 4) Location of existing and proposed utilities should be shown on both plan and profile including individual on-lot sewage disposal systems within the development property and on all properties adjacent to the development or to the line of connecting sewers.
- 5) Location of existing and proposed buildings, each identified by lot number or other means.
- 6) Location of point of connection to Kennett Township sewer system or end of capped sewer, where applicable.
- 7) Project location on a vicinity map, suggested scale 1" = 800'.
- 8) The profile and plan shall be on the same sheet, corresponding portions of the profile below the plan.

- 9) The ground line on the profile shall represent the elevation along the centerline of the proposed pipeline. Indicate where final grade will differ from present grade.
- 10) Basement and first floor elevations of all buildings to be served shall be shown on the profile, locations on the plan.
- 11) Indicate lengths of runs between manholes, slope (in percent), and size and type of Pipe.
- 12) Indicate special features such as drop manholes, concrete encasement, special bedding materials, waterproof manhole covers, special fill, etc.
- 13) Indicate all invert elevations to two (2) decimal points.
- 14) Indicate any special paving or sod replacement.
- 15) The applicant must design and build the system to the point of connection to the Township system or to the sewage treatment facilities to be provided by the applicant.
- 16) Laterals shall be built to property line and at least three (3) feet inside curbs.
- 17) An Erosion and Sediment Control Plan prepared in accordance with criteria established by the Chester County Conservation District.
- 18) Plans for sewage pump stations and sewage treatment plants, including conventional sewage treatment systems discharging into surface waters, spray irrigation systems or subsurface disposal systems, shall be prepared in accordance with the requirements of the Pennsylvania Department of Environmental Protection, but shall be subject to review and approval by the Board of Supervisors as provided in Section 2 of the Ordinance. The Board may require such reasonable changes in design as are required to provide an effective and efficient design and to protect the public interest in preventing odors or discharge of incompletely treated wastes.
- 19) If any rights of way are required for the proposed construction, legal descriptions, an indication of ownership, and a report of status of negotiations for acquisition shall be included with the Sanitary Sewer Plan.
- 20) Before proceeding to final design, a preliminary report, should be made to the Township in each instance of the proposed use of a sewage treatment and/or disposal system. The preliminary report shall outline the treatment concept and contain data showing the feasibility of the proposed treatment system for the purpose intended.

In addition, where connection is to be made to a Kennett Township sanitary sewage system, the preliminary report shall address the following:

- a) The applicant shall determine the following:
 - 1) The proposed point of connection.
 - 2) Anticipated initial flow.
 - 3) Rate and frequency of discharge.
 - 4) Anticipated ultimate flow.

- b) Where connection to the sewer system served by the Borough of Kennett Square is contemplated:
 - 1) Type of control and/or metering device.
 - 2) Estimated cost of downstream improvement, if required.
 - 3) Available capacity of receiving sewers.

- c) If any industrial waste is to be discharged to Kennett Borough, the following is required:
 - 1) A detailed description of origin and nature of waste. A process plan for pretreatment of waste if required to bring it to Township or Borough of Kennett Square specifications and any applicable state and federal requirements.
 - 2) A plan for construction of plant (consult the Township Engineer).
 - 3) A plan for operation of plant and testing of effluent.

- d) No point of interconnection will be approved where the proposed discharge will overload the receiving sewer unless there is an agreement to compensate adequately the party receiving the flow for corrective measures necessary to make the receiving sewer adequate for the proposed discharge. If limited, receiving discharge will be limited to the available spare capacity until such time as adequate capacity is made available. The applicant shall consult with the Township in this regard.

- e) The consulting engineer of the Borough shall have the right to approve the plans and to inspect the manner of the making of such connections between the Borough and the Township sewers; the same shall not be used until such time as the Borough shall receive written notice from the Borough's consulting engineer that the construction of such connections has been accomplished in accordance with the approved plans and specifications.
- 21) Each application shall include a realistic estimate of the cost of the sewerage project (materials, cost of installation, including excavation and restoration of unpaved surfaces and repaving of existing roads, engineering, supervision and inspection).
- 22) All plans must be prepared under the supervision of or by a Pennsylvania registered professional engineer acceptable to the Township whose seal, signature and registration number shall appear on each sheet of the plans.

3.7 Permits

Before the construction or installation of any sanitary sewage system, a permit shall be obtained from the Pennsylvania Department of Environmental Protection and from any other governmental authorities having jurisdiction. If facilities are to be dedicated to the Township, the applicant shall prepare permit applications in the name of Kennett Township and shall submit the same, with the necessary application fees and supporting documentation to the Board of Supervisors for review and execution. If by agreement with the Township an Independent Community Sewage System is to be constructed, said applications shall be prepared and

3.8 Guarantees, Construction of Sanitary Sewage Systems

Upon approval of final plans, the applicant shall be/required to post a bond or monies in escrow with the Township equal to one hundred ten (110) percent of the construction costs plus Township inspection fees as estimated by the Township Engineer to assure satisfactory completion of the proposed sanitary sewer system. Said bond or escrow shall be valid for one year after approval. The Township may increase the guarantee in part or in total by an amount not to exceed ten (10) percent each year thereafter.

The applicant shall construct the sanitary sewage system without cost to the Township in accordance with the approved plans and specifications and under the inspection of the Township as hereinbefore provided.

3.9 Inspection by the Borough of Kennett Square

The Borough has reserved the right to inspect and test all sewer extensions and house connections to the Township collection system where these connections drain to the Borough. Said inspections will be conducted in accordance with a schedule to be mutually agreed upon by the Borough, the Township and the applicant. If an inspection uncovers any improprieties, then the costs of such inspection shall be paid by the applicant. If no improprieties are found, then the Borough shall pay all the costs of the inspection.

3.10 Acceptance of Sanitary Sewage Systems

It is the intention of Kennett Township that all extensions to the Kennett Township sanitary sewer system, be owned and operated by Kennett Township including service laterals to the property line, collection and connecting trunk sewers and pumping stations. Such extended portions of the Kennett Township sanitary sewer system shall be offered for dedication as provided herein.

Upon final inspection and approval by the Township of any sanitary sewage system,

Said system shall be offered for dedication to the Township in its entirety, including collection lines, laterals and rights of way and easements for said system without charge to the Township. The Township may, at its option, accept dedication of the system but shall not be required to do so at any given time.

The Board shall require that an eighteen (18) month guarantee, in the form of a bond, be provided from the date of acceptance of all sewerage facilities to be dedicated to the Township.

The bond shall be furnished under such conditions and form with surety as shall be approved by the Board to guarantee the maintenance of these facilities against failure due to improper workmanship for eighteen (18) months and shall be in the amount equal to fifteen (15) percent of the cost of such improvements or Five Thousand Dollars (\$5,000) whichever is greater.

3.11 Costs to be Borne by Applicant

The costs of all reviews and approvals by the Township and all inspection required and for the construction work for the sanitary sewer system for the proposed construction shall be paid by the applicant.

Each applicant must include a deposit of two (2) percent of the estimated cost of the project against which will be charged any engineering and legal expenses of checking the application, processing permits, etc. The minimum fee is One Hundred Dollars (\$500) for one (1) EDU, One Thousand Dollars (\$1,000) for two (2) or more EDUs. Fees in excess of this amount will be billed to the applicant and will be required to be paid to the Township before authorization is given to begin construction. Amounts not required will be refunded.

3.12 Safety Requirements

The applicant and/or his contractor is responsible for all matters pertaining to construction safety and all rules and regulations appurtenant thereto.

3.13 As-Built Drawings

A condition for acceptance of dedication of sanitary sewerage facilities by the Township will be the preparation and submission to the Township of a mylar reproducible drawing(s) or CD showing the as-built condition of the facilities. Among other things, the drawing(s) shall show the actual distance between manholes, actual invert elevations and the location and type of each lateral connection to the sewer.

3.14 Ownership of Independent Community Sewage Systems and Independent Sewage Treatment Plant

In the event that the Independent Community Sewage System is not to be accepted and operated by the Township, a Homeowners Association consisting of the residents of the community or development served by the Independent Community Sewage System shall be formed by the applicant and placed into operation to take the ownership of and be responsible for the operation of the said Independent Community Sewage System. The organization of such a Homeowners Association shall be subject to the review and approval of the Township but at a minimum shall provide for:

- 1) Continuing operation of all facilities related to the sanitary sewage system including service laterals, collection lines, connecting sewers, trunk sewers, treatment plant and disposal facilities and to continue to operate and maintain in good order such facilities making such replacements as are required, and properly collecting, treating and disposing of sanitary sewage within their service area.
- 2) The establishment of an operating budget to provide sufficient funds for the proper operation of the Independent Community Sewage System including the accumulation of funds necessary to provide for replacements of portions of the system on a schedule to be determined by the applicant or the Homeowners Association and approved by the Township.
- 3) The collection of such fees and other charges as are appropriate and sufficient to maintain the sanitary sewage system and to provide for replacement of the various elements of the collection and/or treatment system that may be required. The Homeowners Association, in its formulation, shall be given the right to lien properties to collect the appropriate fees.
- 4) The inspection and proper operation of the facilities and the submission of required report to the Township and to the Pennsylvania Department of Environmental Protection.

In the event that an Independent Sewage Treatment Plant is not to be accepted and operated by the Township, the name of the person, partnership, corporation or other entity designated to own and operate the facility shall be submitted to and approved by Kennett Township. This submission shall include the name of the person or persons responsible for overseeing the daily operation of the sewage treatment plant as well as the responsible person within the owning organization. This report of names shall be updated annually and submitted to the Township in January of each year.

3.15 Operation, Maintenance and Inspection Plan for Sanitary Sewage Systems

Before completion and dedication of an Independent Community Sewage System by the developer or applicant to the Township and/or to a Homeowners Association or before completion and commencement of operation of an

Independent Sewage Treatment Plant, the applicant shall deliver to the Township a maintenance, operating and inspection plan which shall consist of and include the following:

- 1) An as-built plan of all facilities constructed including sewage collection lines, pumping stations, treatment and disposal facilities and elements of the system designed to provide for monitoring of the operation. Such a plan shall include the physical parts involved and a description of their function and operation, including copies of the operating manuals.
- 2) A list of all reports required by the Pennsylvania Department of Environmental Protection including a description of the report and a copy of the report in form and a listing of the frequency of submission of the reports required. Upon review of this information, the Township may require the submission of such additional reports as are deemed necessary to assure the proper operation and functioning of the system.
- 3) A recommended schedule of inspections and duties required by a qualified operator including a description of the purpose and extent of frequency of such inspections and duties. In preparing such a schedule, care should be exercised in defining the scope of duties of the operator to provide that the system is adequately checked to determine its proper operation and that such duties are performed as are required for the regular maintenance of all equipment and other elements of the system.
- 4) A recommended budget for the operation and maintenance of the system including a schedule of replacement of the various elements of the system, their estimated cost and the amounts of money to be set aside in each operating year to provide for replacement.

Operators shall be licensed by the Commonwealth of Pennsylvania as an operator of the class required to operate a treatment plant of equivalent complexity.

The Homeowners Association designated to own and operate an Independent Community Sewage System or owner of an Independent Sewage Treatment Plant will be required to enter into an agreement with the Township guaranteeing the proper operation and maintenance of such systems and providing that the Township may inspect such systems on a monthly or quarterly basis. Upon discovering any malfunctioning in the operation of such systems and after notice to the property owners and the failure of the said property owners to make the necessary repairs or replacement, the Township may enter upon the property, perform the necessary steps to restore the system to proper operation. If, in the opinion of the Township or Township Engineer a malfunction within the collection, treatment or disposal system of any Independent Community Sewage System or Independent Sewage Treatment Plant represents a hazard to the public health, the Township may proceed without notice to take immediate action to remedy such malfunction, subject to such notice to the Homeowners Association or property owner involved as is practical under the circumstances. Any costs for providing this service shall be reimbursed to the Township by the responsible party. The agreement shall have the form and content of a typical installation and maintenance agreement for Community Wastewater Disposal Systems incorporated as an appendix in these Rules and Regulations.

3.16 Inspection of Independent Community Sewage Systems

Where an Independent Community Sewage System is owned and operated by a Homeowners Association or an Independent Sewage Treatment Plant is privately owned and operated, the Township shall have the right to conduct such regular and reoccurring inspections as may be required to assure that the system is being properly operated and maintained. The scope of such inspections shall be established for each sanitary sewage system depending upon the type and complexity of the proposed system. For this purpose, the Township shall appoint an inspector, which inspector may be a person or company or firm skilled and, where appropriate, licensed in the construction and operation of sanitary sewer systems and treatment plants.

The cost of such inspection shall be borne by the party owning and operating the sanitary sewage system.

3.17 Submission of Budgets and Reports

The Homeowners Association owning and operating an Independent Community Sewage System shall upon formulation of its annual budget submit a copy of such budget to the Secretary of the Township for approval by the Board of Supervisors. This budget must be supplied in January of each calendar year. The budget shall include among other things:

- 1) The anticipated fees per household or other connection, to be collected by the Homeowners Association.
- 2) The total income anticipated.
- 3) A breakdown of estimated operating and maintenance costs
- 4) The addition to, payments anticipated from, and balances in-accounts set aside for replacement of the various elements of the sewage collection and treatment system.

3.18 Assurance

In the event that an Independent Community Sewage System or Independent Sewage Treatment Plant is not to be accepted and operated by the Township, the property owner and/or the developer responsible for construction agrees to provide security to the Township in the amount of fifteen (15) percent of the cost of the system, as verified by the Township Engineer, to ensure the performance of all requirements of these Rules and Regulations. Such security shall be in the form of cash, securities, surety bond or letter of credit as approved by the Township and shall be deposited in escrow with the Township. All interest or dividends accruing on the security shall be made part of the escrow. The security shall be provided for a period of five (5) years at which time it shall be replaced by a cash fund provided by the property owner, the developer and/or the Homeowners Association of the project being constructed equivalent to fifteen (15) percent of the cost of the permitted sewage facilities. The fund shall be held in escrow by the Township and shall be available to the Township for performance of any and all maintenance and repairs to the Independent Community Sewage System not performed by the property owner, the developer and/or the Homeowners Association.

The fund shall be supplemented as necessary by the property owner, the developer and/or the Homeowners Association to the extent it is reduced by authorized expenditures there from by the Township.

3.19 Acceptance of Independent Community Sewage Disposal Systems

The Township may act to accept any Independent Community Sewage System at any time that the Board deems it to be in the public interest to do so; in which the case, the operation and maintenance responsibilities of the owners shall cease. In such a case, the Township will establish an independent sanitary sewage district and establish sewer rates in accordance with Section 10 of the Township Ordinance, Chapter 180, said rates to be sufficient to provide for all of the operating, maintenance and replacement requirements of the system. The collection of said rates shall be in accordance with the terms of the ordinance.

3.20 Individual On-Lot Subsurface Disposal System

The operation and maintenance of an individual on-lot subsurface disposal systems shall be the responsibility of the lot owner and will not be subject to the continuing surveillance and inspection of the Township. The Township however reserves the right to require property owners served by individual on-lot disposal systems to take steps to abate the malfunctioning of such systems including but not limited to the replacement of the system, the pumping of septic tanks or the repair or replacement of any defective elements of such systems.

This is in addition to any remedies available to the Chester County Health Department or Pennsylvania Department of Environmental Protection. The construction and/or replacement of individual on-lot disposal systems shall be subject to the issuance of appropriate permits by the Chester County Health Department.

3.21 Combined on-Lot Disposal Systems (Serving Two Lots) and On-Lot Disposal Systems Utilizing Treatment Plant and Stream Discharge or Spray Irrigation for Effluent Disposal

The following regulations shall apply to the construction and operation of any combined on-lot subsurface disposal systems or the construction and operation of any individual on-lot disposal system serving one or two lots which relies upon stream discharge or spray irrigation for disposal of less than 1,000 gallons per day of effluent.

- 1) The construction and operation of such systems shall be subject to the issuance of appropriate permits from the Chester County Health

Department and/or the Pennsylvania Department of Environmental Protection.

- 2) Before making application for such permits, plans for the proposed system shall be submitted to Kennett Township for the review by the Township Engineer.
- 3) The construction of such systems shall be subject to the inspection and approval of the Township Engineer as well as appropriate Chester County Health Department and/or Pennsylvania Department of Environmental Protection personnel.
- 4) The Township may require background testing of wells in the vicinity of any proposed combined on-lot subsurface disposal system and may also require the testing of any stream flows or ground water through monitoring wells appropriate to determine the background conditions of stream flow and ground water prior to the construction of stream discharge or spray irrigation systems.

Such background testing shall generally be in conformity with the Pennsylvania Department of Environmental Protection regulations whether or not required by the Pennsylvania Department of Environmental Protection.

- 5) The property owner or owners of combined on-lot disposal system or small sewage treatment plant as provided in this Section 3.21 shall make a deposit in escrow of the funds required under Section 3.18 of these regulations
- 6) The Township may require effluent to be discharged to streams or spray irrigation systems to be tested on a monthly basis until such time as the effective operation of the system is established after which the Township may reduce such testing intervals to quarterly.
- 7) The Township may require that sand filters be installed as a last step of effluent treatment before discharge to combined subsurface disposal systems or to stream discharge or spray irrigation systems.
- 8) The property owner or owners of combined on-lot disposal system or sewage treatment plant as provided in this Section 3.21 shall be required to enter into an agreement guaranteeing the proper operation and maintenance of such a system provided in Section 3.15.

SECTION 4

DESIGN

4.1 General

The design of sanitary sewerage facilities will conform to the Standards of the Pennsylvania Department of Environmental Protection as contained in the Sewerage Manual or to these Specifications whichever is most restrictive. The design shall also conform to the requirements of Sections 3.5 and 3.6 of these regulations.

4.2 Location of Sewers and Force Main

To the maximum extent possible, sewers and force mains shall be located within the right-of-way lines of public streets. Where this is not feasible, the facilities shall be located in easements provided for this purpose.

4.3 Easements

Easements for sanitary sewers and force mains shall have an overall width of twenty (20) feet centered in the facility. Additional widths to a total of thirty (30) feet shall be acquired as a temporary easement for construction purposes.

4.4 Relationship to Facilities Being Served

To the maximum extent possible, gravity sewers shall be located at an elevation which will provide service by gravity for plumbing fixtures in the lowest floor or basement of the houses or establishments being served. If, however, this requirement would require the sewer to be unreasonably deep to serve one or two houses or if some similar undesirable situation would be created, the sewer may be designed to serve by gravity only the first floor and above. A household sewage pumping facility to pump up to a sewer may also be considered in extreme cases.

Each situation where full service by gravity is not practical will be considered on a case by case basis and will be subject to the approval of the Township Engineer. Plans should clearly indicate those facilities where there is some limitation to complete service by gravity.

4.5 Minimum Cover

The minimum cover over gravity flow sanitary sewers shall be five (5) feet and over force main shall be four (4) feet.

4.6 Service Laterals

Service lateral wye-fittings and the laterals shall be a minimum of four (4) inch diameter when installed for single family residential properties. Service laterals for multifamily, commercial or industrial properties shall be sized according to projected flows subject to the approval of the Township Engineer. All service laterals shall stop at the property line which they serve or three (3) feet beyond an existing or proposed curb, whichever is the greater and shall be suitably capped for air pressure testing. Where the sewer is in an easement outside of the street right-of-way, the service lateral connections shall be a wye-fitting, suitably capped.

4.7 Building Sewers

Building sewers and fittings shall be a minimum of four (4) inch diameter when installed for single family residential properties. Building sewers for multi-family, commercial or industrial shall be sized according to projected flows subject to the approval of the Township Engineer. Building sewers shall include an approved clean out within ten (10) feet of the building wall. Where building sewers are longer than fifty (50) feet, an additional clean out shall be installed for each fifty (50) feet or part thereof of length. Building sewers shall run straight from the inside of the wall of the building which they serve to the sanitary sewer and on a grade of not less than one quarter (1/4) inch per foot unless approved by the Township Engineer.

4.8 Township Standards

The various elements of the sewage collection system shall conform to the standards contained in the Appendix.

SECTION 5

GENERAL REQUIREMENTS FOR CONSTRUCTION

5.1 Application of Regulations

These requirements shall apply to all construction of sewerage facilities in Kennett Township whether intended for dedication to the Township or for ownership by a private party or homeowners association as provided in Section 3 of these regulations.

5.2 Selection of Contractor

The Applicant and/or Developer shall select a Contractor to construct the sewerage system who is skilled in the work proposed to be done and who is equipped in all respects to insure the proper and complete construction of all elements of the system. The word Contractor used here and after shall mean the contractor selected by the Applicant and/or Developer.

5.3 Township Engineer's Duties, Examination and Inspection

The Township Engineer and his assistants are the representatives of the Township during the construction of the work. The word Engineer as used here and after shall mean the Township Engineer for Kennett Township or his authorized representative. When so authorized by the Township, it shall be the duty of the Engineer to see that all materials and work are properly inspected and that all such materials and work conform fully to the requirements of these Specifications, as well as the designs, specifications and conditions of permits issued by other governmental agencies and/or approved by the Township. He shall in no case act as foreman or perform other duties for the Contractor or Applicant nor interfere with the management of the work by the Contractor.

The work shall at all times be subject to the examination and inspection of the Engineer, who shall have free access to the work, and be furnished by the Contractor with every reasonable facility for examination of the work, to the extent of uncovering, testing or removing finished portions thereof. The Contractor shall provide all labor and equipment necessary for such examination. The Engineer may require the Contractor to uncover for examination, or to remove any work done or placed in violation or disregard of instructions issued to the Contractor by the Engineer.

All inspections and tests shall be performed without unnecessarily delaying the

work. The Engineer shall have the right to reject defective material or workmanship, or require its correction. Rejected workmanship shall be satisfactorily corrected and rejected and shall be satisfactorily replaced with proper material and the Contractor shall promptly segregate and remove rejected material from the premises.

Failure or neglect on the part of the Engineer to condemn or reject any bad or inferior work or materials shall not be so construed as to imply an acceptance of such work or materials. If the Specifications, the Engineer's instructions, laws, ordinances, or any public authority requires the work to be specifically tested or approved, the Contractor shall give the Engineer timely notice of its readiness for inspection.

The Engineer shall have full authority to decide all questions which may arise under the Contract relative to the quality and acceptability of materials furnished and the manner, quality and acceptability of work performed, and the interpretation of any or all Plans and Specifications.

In case of any dispute relative to the quality of materials or work, or the manner of performing the work, the Engineer shall have authority to reject materials or suspend the work. He shall not be authorized to revoke, alter, enlarge, relax or release any requirements nor to approve or accept any portion of the work or issue instructions if such actions are contrary to these Specifications or any other approved plans, specifications, permits or other regulations which may properly apply.

5.4 Drawings and Specifications

The Drawings and Specifications are complementary, and the requirements of any one shall be considered as the requirement of all.

At all times, the Contractor shall keep on the Project, available to the Engineer and his representatives, one (1) copy of the Drawings, Specifications and permits.

Where appropriate, shop drawings shall be submitted in quadruplicate to the Engineer by the Contractor with such promptness as to avoid delay in the work. After review of these drawings by the Engineer, the Contractor shall make any corrections required, filing with the Engineer five (5) corrected copies thereof, and such other copies as may be needed for proper prosecution of the work. The Engineer's approval of shop drawings shall not relieve the Contractor from responsibility for errors or discrepancies in such drawings. All shop drawings shall be identified with the name of the Project and Contractor, and numbered in consecutive order.

The Contractor, when submitting the shop drawings for approval, shall do so with the understanding that he is considered to have checked the drawings before

submitting them, and that he is satisfied that, in their present state, they not only meet the requirements of the Plans and Specifications, but will present no difficulties in erection and completing his work and shall clearly note his approval on all shop drawings prior to their submission to the Engineer. Failure of the Contractor to note his approval on shop drawings will be reason for the Engineer to return such submission to the Contractor unchecked.

The approval of shop drawings will be general and shall not relieve the Contractor from the responsibility for proper fitting and construction of the work nor from furnishing materials and work required which may not be indicated on the shop drawings when approved.

5.5 Engineering Stakes

The Contractor shall furnish, set and maintain suitable stakes, grade boards, temporary structures, templates, and other materials for establishing and maintaining points, marks and lines, and shall furnish the Engineer with such assistance as he may require in setting or checking such points, marks or lines, and in making or checking measurements necessary in the prosecution of the work. The Contractor shall be held responsible for the preservation of all stakes and marks.

5.6 Materials

The Contractor shall furnish the Engineer with a complete statement of the origin, composition, and manufacture of all materials to be used in the construction of the Project. Only materials conforming to the requirements of the Specifications and Plans shall be used in the work.

5.7 Observance of Laws

The Contractor at all time shall observe and comply with all Federal and State laws and regulations, and local bylaws, ordinances and regulations in any manner affecting the conduct of the work or applying to employees on the Project, as well as all safety precautions and orders or decrees which have been promulgated or enacted, or which maybe promulgated or enacted, by any legal bodies or tribunals having authority or jurisdiction over the work, materials, equipment, or employees; such observance and compliance shall be solely and without qualification the responsibility of the Contractor without reliance on superintendence or direction by the Township or Engineer. The duty of enforcement of all of said laws, ordinances, regulations, orders or decrees lies with the body or agency promulgating them, not with the Township or Engineer.

5.8 Regulations of the Department of Labor and Industry

Special attention is drawn to the regulations of the Pennsylvania Department of Labor and Industry relating to trenches and excavations, tunnel construction, equipment, materials, labor, safety, sanitation, and other regulations on which the Contractor shall be fully informed and with which he shall fully comply. Observation of and compliance with said regulations shall be solely and without qualification the responsibility of the Contractor, without reliance or superintendence of or direction by the Township or Engineer. The duty of enforcing such laws and regulations lies with the said Department, not with the Township or Engineer.

5.9 Sanitary Conveniences

Sanitary conveniences complying with the regulations of the Pennsylvania Department of Health or other bodies having jurisdiction therewith, shall be provided for the use of the workmen and their exclusive use strictly enforced or temporary conveniences provided under this Article shall be removed.

5.10 Permits and Licenses

The Contractor or Applicant and/or Developer shall, unless otherwise specified elsewhere herein, procure all necessary permits and licenses, pay all charges and fees therefore, and shall give all notices necessary and incident to the proper and lawful prosecution of the work.

If the Pennsylvania Department of Transportation requires any of their personnel to be on hand during the construction of the work, payment for such personnel shall be borne by the Contractor, Applicant or Developer.

Where work is to be done by the Contractor in placing any pipe or other construction under railroad tracks, or within the right-of-way of any railroad company, the Contractor shall be governed by the requirements of the railroad company involved, and shall consult with the officials thereof relative to the installation. If the railroad company requires any of their personnel to be on hand during the construction of the work, payment for such personnel shall be borne by the Contractor, Applicant and/or Developer.

5.11 Care of Public and Private Property

The Contractor shall take all necessary precautions to prevent damage to all overhead and underground structures and to protect and preserve property within or adjacent to the Project and shall be responsible for damage thereto. Attention is directed to the provisions of Act 287 of 1974 as amended of the Commonwealth of Pennsylvania, and full compliance therewith is required. Special care must be used

by the Contractor in the prosecution of the work in order to avoid interference or damage to any operating utilities or plants; however, where there is any possibility of such interference or damage, the Contractor shall make satisfactory arrangements with responsible officers or with the owners of the utilities or plants, covering the necessary precautions to be used as safeguards during the performance of the work by the Contractor. Such arrangement shall be made before work is started. The Contractor shall protect all land monuments and property markers which will be affected by the construction until they have been correctly referenced. Monuments and markers which are disturbed by the Contractor during the construction of the Project or otherwise, shall be satisfactorily reset by him when directed.

5.12 Preliminary Inspection

Unless the requirement is waived by the Engineer prior to the start of actual construction operations, the Contractor or his authorized representative shall go over the Project accompanied by the Engineer or his designated representative, and shall observe for himself, with the approved Drawings before him, all pertinent conditions relative to the construction, including the status of rights-of-way and structures, obstructions or other objects to be removed, altered and changed.

5.13 Safety Requirements

The Contractor shall furnish, erect and maintain at closures, intersections and throughout the Project, all necessary approved barricades, suitable and sufficient red lights, torches, approved reflectors, danger signals, warning, and closure signs, provide a sufficient number of watchmen and take all necessary precautions for the protection of the work and safety of the public. All barricades, danger signals, warning signs and obstructions shall be illuminated at night and all lights shall be kept burning from sunset until sunrise. All materials and safety devices (i.e., barricades, flashing warning lights, torches, reflectors and signs) which the Contractor provides for the purpose of protecting the work and safety of the public and for maintaining and protecting traffic must conform to the requirements specified in Section 901 of the current edition of the Commonwealth of Pennsylvania

Department of Transportation Specifications, Publication 408 Section 901 and to the requirements specified in the current edition of The Pennsylvania Bulletin Volume 43.

If, and when the use of explosives is necessary for the prosecution of the work, the Contractor shall observe the utmost care, so as not to endanger life or property. The contractor shall make every effort to perform work without blasting. Blasting is ONLY permitted when approved by the Township. All explosives shall be stored in a secure and safe manner in strict conformity to all State and local regulations, and all such storage shall be clearly marked "DANGEROUS EXPLOSIVES", and shall be in care of a competent watchman at all times. All required permits for blasting shall be obtained.

The safety provisions of applicable laws, and regulations of the Pennsylvania Department of Labor and Industry, and building and construction codes shall be observed. Machinery, equipment, and other hazards shall be guarded in accordance with the safety provisions of the "Manual of Accident Prevention in Construction", published by the Associated General Contractors of America, to the extent that such provisions are not in contradiction of applicable State and local laws.

The provisions of the "Occupational Safety and Health Act of 1970" of the U.S. Department of Labor and Industry shall be complied with in the performance of all work. Observance of and compliance with said act shall be solely and without qualification the responsibility of the Contractor, without reliance on superintendence of or direction by the Township or Engineer. The duty of enforcement of the provisions of the act lies with the U.S. Department of Labor, not with the Township or Engineer. Site safety is the Contractor's responsibility.

5.14 Competent Workmen

The Contractor shall employ only competent and efficient superintendents, foreman, clerks, timekeepers, equipment operators, laborers and mechanics or artisans for every kind of work. These requirements shall not operate against the employment of physically handicapped persons, otherwise employable, where such persons may be safely assigned to work which they can ably perform.

5.15 Notice

The service of any notice by the Township or Engineer to the Developer or Contractor shall be considered accomplished upon completion of any one of the following procedures.

- 1) When delivered, in writing, to the person in charge of the office used by the addressee to conduct business;
- 2) When delivered, in writing, to the addressee or any of his authorized agents in person;

- 3) When delivered, in writing, to the addressee or any of his agents at the office used by the addressee to conduct the business of the Contract at or near the Site of the Work;
- 4) When deposited in the United States Mail, postpaid, and addressed to the party intended for such service at his office used for conducting the business of the Contract at the Site of the Work, or his last known place of business; or
- 5) When emailed to the addressee or any of his agents at the email address given for conducting the business of the Contract at the Site of the Work.

5.16 Cleaning Site

The Contractor shall at all times keep the Project Site free from accumulations of waste material or rubbish caused by the work. Before the work will be considered as having been completed, the Contractor shall clean and remove from the Project and adjacent property all surplus and discarded materials, equipment and temporary structures. The Contractor shall also restore all cultivated lawns and shrubbery which he may have damaged in the course of construction.

5.17 Building Sewers and Connections

- 1) A separate and independent building sewer shall be provided for every building.
- 2) Old building sewers may be used in connection with new buildings only when they are found, on examination and test by the Township to meet all requirements of this ordinance. Old laterals will require video inspection and testing.
- 3) Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. In all buildings in which any building drain is too low to permit gravity flow to the collection sewer main, wastewater carried by such building drain shall be lifted by an approved means and discharged to the building sewer.
- 4) No person shall make connection of sump pumps, roof downspouts, foundation drains, areaway drains, or other sources of surface runoff or groundwater to a building sewer or building drain which in turn is connected directly or indirectly to the POTW unless such connection is approved in writing by the Township for purposes of disposal of polluted surface drainage.

- 5) The applicant shall notify the Township when the building sewer is ready for inspection and connection to the POTW. The connection to the POTW and testing shall be made under the supervision of the Township Engineer or his representative.

5.18 Existing Privy Vault

No privy vault, cesspool, sinkhole, septic tank or similar receptacle shall be used or shall be maintained at any time upon any improved property that has been connected to a sewer. They shall be abandoned, cleansed and filled, at the expense of the owner of such improved property, under the direction and supervision of the Township Engineer.

SECTION 6

MATERIALS AND INSTALLATION METHODS

6.1 General

All materials used in the construction of sanitary sewerage collection facilities shall conform to the following specifications. Exceptions to the material specifications will be considered but only at the time of submission of the sewerage plans to the Township for review. All plans shall clearly indicate the materials to be used.

6.2 Sewage Treatment and Disposal Facilities

Materials and installation methods for construction of sewage treatment plants, pumping stations, subsurface disposal systems, spray irrigation systems or other sewage treatment and disposal facilities shall be in accordance with permit conditions, plans, and specifications approved by the Township, the Chester County Health Department and/or the Pennsylvania Department of Environmental Protection.

6.3 Gravity Sewer Pipe

Gravity sewer pipe shall be ductile iron or PVC and shall conform to the following specifications.

6.4 Ductile Iron Pipe

Ductile iron pipe shall be centrifugally cast in metal molds or sandlined molds in accordance with latest revisions ANSI A21.51. The pipe length shall be in nominal 16 foot, 18 foot or 20 foot lengths. The minimum wall thickness shall be in accordance with latest revisions ANSI A21.50, Class 50, laying Condition Type 2.

Underground ductile iron pipe joints shall be either of the mechanical joint or push-on joint conforming to ANSI A21.11 of latest revision.

All exposed pipe, unless otherwise specified, shall have flanged joints and flanges shall be faced and drilled 125# standard in accordance with latest revisions ANSI Designation B16.1 or A21.10.

Fittings shall conform to the latest revisions ANSI Designation A21.10, Class 250, minimum. Joints for pipe and fittings shall be mechanical joint or push-on, ANSI A21.11.

Push-on joint for bell and spigot pipe shall be of short body type conforming to latest revision ANSI Designation A21.10 (Fittings) Class 250, and ANSI A21.11 (AWWA C-111) Rubber Gasket Joints. In certain cases, long pattern fittings conforming to AWWA Specifications G100, Class D, may be used.

Ductile iron pipe shall be laid at such places as shown on the plans, as called for in these Specifications, or as may be directed by the Engineer. Either bell and spigot pipe with the gasketed joint, or mechanical joint pipe may be used but all pipe placed shall be of the same type.

6.5 PVC Sewer Pipe

PVC sewer pipe and fittings shall conform to current ASTM Specification D-3034, SDR 35.

Joints for 4 inch and 6 inch diameter pipe shall be bell and spigot rubber gasketed or twin gasket couplings. Joints for pipe 8 inch in diameter and greater shall be bell and spigot rubber gasketed.

PVC pipe shall be installed in accordance with all applicable specifications contained herein and as recommended by the manufacturer.

6.6 Bedding Conditions

Pipe bedding and backfill around pipe shall be in accordance with the provisions of Section 7.4 of these Specifications. Stone bedding shall consist of 2A Modified Stone, as specified by the Pennsylvania Department of Transportation.

6.7 Laying Sewer Pipe

All pipe shall be laid in strict accordance with the details shown on the drawings. The laying of pipes in finished trenches shall be commenced at the lowest points so that the spigot end is pointing in the direction of flow. All pipes shall be laid with ends abutting and true to line and grade. They shall be fitted and matched so that when laid in the work, they will form a sewer with a smooth and uniform invert. Sockets shall be carefully cleaned before pipes are lowered into trenches. The pipe shall be set firmly according to line and grade.

At all times when the work is not in progress, all open ends of the pipes and fittings shall be securely closed with tight stoppers so that no water, earth or other substances will enter the pipe or fittings. Any section of pipe already laid and found to be defective shall be taken up and replaced with a new pipe at no additional cost to the Owner.

6.8 Building Sewers

Pipe materials and installation methods used in the construction of building sewers shall conform to specifications applicable to materials and installation or sanitary sewer mains.

In connecting house laterals to the Y-branch in the main sewer, an approved fitting shall be used. Open ends of house connections shall be securely closed with stoppers so that no trench water, earth or other substance will enter the pipe or fittings.

Where it is necessary to install a building sewer where no Y-branch has been furnished, the connections must be made with an approved type saddle and encased in Class C concrete.

Where curb is available, the Contractor, installing building sewers, shall mark the locations of curb ends by cutting into the stone or concrete curb directly above it. This work shall be done neatly and with care, so as to disfigure the curb as little as possible, but shall be cut large enough to be permanent and easily visible.

6.9 Manholes

Manholes shall be constructed at the point shown on the plans. Manholes shall conform to the specifications set forth on the plan for sanitary manholes contained in the Appendix to these Specifications. Deviations to this specification must be approved by the Engineer.

6.10 Manhole Channels

The invert channel shall be smooth and accurately shaped to a semi-circular bottom conforming to the inside of the adjacent sewer section. The size of the inverts will vary to suit the size of the pipe with a depth of at least one half (1/2) diameter of the pipe.

Changes in grade shall be made gradually and evenly. Changes in the direction of the sewer and entering branch or branches shall have a true curve of as large a radius as the size of the structure will permit and will be constructed in accordance with the details on "Sewer Construction Details". Changes in pipe shall be made gradually and evenly by dropping the invert in the manhole a distance equal to the difference in diameter of the pipe entering and leaving the manhole. At no time should the elevation of the top of the incoming pipe be lower than that of the outgoing pipe. All elevations given on the plans indicate the invert elevation of the center of the manhole. Pipe connections to existing manholes shall be made by

coring a hole in the wall of the manhole. Special care shall be taken to form channels with curved shapes that will provide the best hydraulic conditions for smooth flow. Benches shall be sloped to drain to the waterways. Concrete used in forming waterways shall be a stiff, rich mix, and shall be given a steel trowel finish.

6.11 Drop Connections

Where the drop in sewer inverts across a manhole exceeds two feet, an outside drop connection shall be provided as shown in the standards in the Appendix. Drop connections shall be fabricated from pipe and fittings of the same material as the sewer pipe and shall be encased in 2500 psi concrete to support the piping against undisturbed soil.

6.12 Force Main

Force main shall be ductile iron pipe, Class 52, conforming to ANSI A21.51 with bitumastic lining conforming to AWWA C104. Joints shall be push-on or mechanical joint.

6.13 Meters

All sewage flow meters and/or water meters to be used for determining the amount of sewage entering the Township sanitary sewage system to be treated at the Borough of Kennett Square treatment plant, shall be installed in accordance with standards and specifications as determined by the Borough of Kennett Square.

SECTION 7

EXCAVATION AND BACKFILL

7.1 General

The Contractor shall perform all excavation of every description and of whatever substances encountered in the lines and grades indicated on the Drawings and specified herein, or as directed by the Engineer. Excavation shall be made by open cut, unless written permission to excavate in tunnels is given by the Engineer or is specifically shown on the construction Drawings.

7.2 Stripping

The Contractor shall remove all paving, sub-paving, curbing, gutters, brick, paving block, granite curbing or flagging, or grub and clear the surface over the area to be excavated and shall, properly classify the materials removed, separating them as required. Where pipe trenches underlie permanent paving surfaces, the surface material shall be machine cut before excavation is begun.

The Contractor shall properly store, guard and preserve material as may be required for future use in backfilling, surfacing, repaving, etc. All materials which may be removed and all rock, earth and sand taken from the excavation shall be stored, if practical, in certain parts of the roadway or such other suitable place. The Contractor shall be responsible for any loss or damage to the said materials because of careless removal or neglectful or wasteful storage, disposal or use of these materials.

In case more materials are created from any trench that can be backfilled over the completed pipe or stored in the street, leaving space for traffic, the excess material shall be removed to some convenient place provided by the Contractor. The Contractor shall bring back as much of the material so removed as may be required to properly refill the trench, if of the proper kind, or if so directed by the Engineer, he shall furnish such other material as may be necessary.

7.3 Width of Trench

Pipe trenches shall be sufficiently straight between designated angle points to permit the pipe to be laid true to line in the approximate center of the trench. The trench widths shall be such as to provide a free working space on each side of the pipe as laid, but shall not exceed the outside diameter of the barrel of the pipe plus sixteen (16) inches at a point one (1) foot above the top of the pipe.

Where sheeting and shoring are used, the maximum allowable width shall be measured between the closest interior faces of the sheeting or shoring as placed.

If the Contractor is required to excavate the trench to a width greater than that specified above, because of slides, caves, obstructions, or by reason of the condition and character of the material, he shall refill any cavities so caused with suitable and satisfactory material, including concrete or other masonry if so directed.

7.4 Depth of Trench

The Contractor shall excavate all materials to the depths indicated on the plans. For ductile iron pipe, the depth of trench shall be sufficiently below the invert of the pipe to account for pipe walls and bells. Bell holes shall be excavated to insure the pipe resting for its entire length upon the trench bottom. In earth trenches, the bottom thereof shall be carefully rounded to fit the bottom of the pipe for a depth of at least 1/6 of the outside diameter of the pipe and so that the lower partial circumference of the pipe, determined by such depth, shall rest firmly on undisturbed soil. Where PVC pipe is used, excavation shall be made to a point four (4) inches below the outside of pipe bells and pipe shall be bedded in stone beneath, along sides and for four (4) inches above the top of the bells with crushed stone as specified in Section 6.6 of these regulations. Bedding shall be thoroughly compacted to support the sides of the pipe. Care shall be taken not to excavate below the depths specified, and any such excess excavation shall be refilled with crushed stone bedding and compacted. When rock is encountered, it shall be removed below the outside of the bell of the pipe, to a depth of six (6) inches. When the material encountered at subgrade is unstable and in the opinion of the Engineer does not afford a sufficiently firm foundation, the contractor shall excavate to such increased depth as may be directed and then shall bring the bottom of the trench to the required level with crushed stone bedding compacted to the satisfaction of the Engineer. When the pipe is to be laid in fill, the embankment shall be brought to a height of at least nine (9) inches above the proposed top of the pipe before the trench is excavated. If rock below the specified grade is shattered due to excessive drilling or blasting or other negligence of the Contractor, and if in the opinion of the Engineer it is unfit for foundations, such shattered rock shall be removed and the area backfilled to the proper grade with crushed stone bedding.

7.5 Length of Trench

No trench shall be opened more than 200 feet in advance of the pipe lines laid, without the permission of the Engineer, who reserves the right to limit the length or distance through which a trench may be opened. Where rock excavation is

encountered, all trenches must be fully opened at least 30 feet in advance of any pipe being laid.

7.6 Rock Excavation

All blasting operations shall be conducted in a safe and satisfactory manner. All buried or exposed pipe lines or other utilities and other structures shall be carefully protected from the effects of blasts and any damage done to them by blasting shall be properly repaired by the Contractor, at his own expense. Sufficient warning shall be given to all persons in the vicinity of the work before blasting. The site of the blast shall be covered with heavy timbers, blasting mats or other devices to prevent damage from flying rock. Blasting shall be performed by experienced persons.

7.7 Pumping and Draining

The Contractor shall remove by pumping, draining, or otherwise, any water which may accumulate in the trenches and other excavations and shall build all dams and do all other work necessary to keep the trenches or other excavation as free from water as possible. While the pipe lines are being laid, the Contractor shall at all times have sufficient pumping machinery ready for immediate use. All surface waters shall be prevented from entering the open ditches or excavations by proper grading of the ground surface in the vicinity of the excavation or by temporary curbs.

7.8 Maintenance of Gutters

The Contractor shall at all times keep the gutters open so that the storm or other waters shall not have their flow obstructed, if, in any case, the material excavated from the trenches must temporarily extend over the gutters, it shall be the duty of the Contractor to plank or bridge over the gutters so that the flow of water is not impeded.

7.9 Maintenance of Traffic

Work at all times shall be so conducted as to cause a minimum of inconvenience to pedestrian and vehicular traffic and to private and public properties along the line of work. It shall be the duty of the Contractor during the progress of the work to maintain crossing, walks, sidewalks, and other roadways open to traffic, and in a satisfactory condition, to keep all fire hydrants, water valves, fire alarm boxes, and letter boxes accessible for use. Whenever it is necessary to maintain pedestrian traffic over open trenches, a timber bridge of at least three (3) feet in width and equipped with side railings shall be provided. Where the trench is so close to the curb line that the excavated material would encroach upon the sidewalk, or private property, the Engineer may order planking together with other necessary lumber to be placed so as to keep the sidewalk clear.

In important thoroughfares, highways, or in narrow streets, the material excavated from the trench shall, if the Engineer so directs, be removed from the site of the work as soon as excavated, in order to provide suitable space for traffic. The Contractor shall bring back as much of the material as necessary to properly refill the trench if of the proper kind or if so directed by the Engineer, he shall furnish such other suitable materials as may be necessary.

7.10 Sheeting and Shoring

The Contractor shall furnish material for and do all timber shoring, bracing, and sheeting necessary to perform and protect the excavation in accordance with all laws, ordinances, rules and regulations bearing thereon. Such sheeting and shoring shall be removed as the work progresses, but where, in the opinion of the Engineer, damage may result through removal, it shall be left in place. The right of the Engineer to order sheeting and shoring left in place, shall not render the issuance of such orders obligatory on the part of the Engineer. All sheeting shall be arranged so that it may be withdrawn as the trenches are backfilled, without injury to the pipe and its appurtenances and without injury to, or settlement of adjacent structures and pavements. All voids caused by withdrawal shall be immediately filled with sand or other satisfactory material and compacted by ramming or other methods satisfactory to the Engineer.

7.11 Trench Backfilling

Backfilling shall be started immediately after preliminary alignment inspection is made and shall continue without interruption to completion.

Where PVC is used, the following standards shall apply to backfill placed above bedding required by Sections 6.6 and 7.4 of these regulations.

The side fills and a minimum depth of eighteen (18) inches above the top of the pipe shall be filled and clean earth placed in six (6) inch layers and carefully compacted with pneumatic or hard tampers. Above the point to a depth of twelve (12) inches below the finished grade, the backfill material shall be Pennsylvania 2A Modified Stone. The remaining twelve (12) inches of backfill shall consist of clean earth with a minimum of six (6) inches of topsoil as required to provide proper restoration.

Where a sewer or force main is installed in an existing public street, backfill shall consist of Pennsylvania 2A Modified stone placed and compacted in eight (8) inch layers. In the case of PVC sewers, modified backfill will begin above bedding required by Sections 6.6 and 7.4 of these regulations.

Restoration of paving and other surface areas shall be in accordance with Section 11 of these regulations.

The satisfactory compaction of all backfills shall be the responsibility of the Contractor regardless of the methods used and he shall protect the Township from any loss, damage or claims occasioned by trench settlement.

7.12 Backfill Around Structures

The ground around structures shall be brought to the grades shown on the plans or as directed by the Engineer. Generally, backfilling shall be made in accordance with the Specifications for backfilling trenches, except where practical, compacting may be performed by rolling. Grading shall be done by ploughing, harrowing, scraping or by other methods to bring the ground to the required elevations in preparing the ground for deposition of the topsoil. When the site has been properly grade to provide drainage, the topsoil shall be placed to a depth of six (6) inches and then harrowed to provide a reasonably smooth surface, ready for seeding. Where compaction is made by rollers, the rollers shall weigh not less than ten (10) tons and shall not be permitted within eight (8) feet of any wall or structure or where damage may result to existing underground piping.

The Contractor shall be responsible for the stability of the fill and shall replace any portion thereof damaged by natural causes, or by careless or negligent work.

Sufficient grading shall be done during the progress of the work so that no water is allowed, at any time to flow towards the walls or structures or to accumulate in large puddles on the project site.

7.13 Leveling and Clean Up

Whenever the trenches have not been properly filled, or if settlement occurs, they shall be refilled, compacted, smoothed off and finally made to conform to the surface of the ground. Trenches in streets, sidewalks, alleys, etc., shall be refilled with crushed stone graded as shown on the plans. Trenches in open fields or unpaved plant areas shall be mounded with clean earth to a minimum depth of three (3) inches. As the work is completed, the Contractor shall remove and dispose of all surplus earth, stone or other material from the work in such manner and at such point or points as he may select or provide and shall leave all roads, sidewalks and other places free, clear and in good order.

SECTION 8

CONCRETE WORK

8.1 Materials

The Contractor shall furnish 3500 PSI Class AA Cement Concrete and reinforcement steel as specified in the latest edition of the Pennsylvania Department of Transportation Specifications, Publication 408 (PennDOT Publication 408).

8.2 Preparation of Equipment and Place of Deposit

Before placing concrete, all equipment for mixing and transporting the concrete shall be cleaned, all debris and ice shall be removed from the places to be occupied by the concrete, forms shall be occupied by the concrete, forms shall be thoroughly wetted (except in freezing weather) or oiled, and masonry filler units that will be in contact with concrete shall be well drenched (except in freezing weather) and the reinforcement shall be thoroughly cleaned of ice or other coating.

Water shall be removed from place of deposit before concrete is placed unless otherwise permitted by the Engineer.

8.3 Mixing of Concrete

The concrete shall be mixed until there is a uniform distribution of the materials and shall be discharged completely before the mixer is recharged.

For job-mixed concrete, the mixer shall be rotated at a speed recommended by the manufacturer and mixing shall be continued for at least one (1) minute after all materials are in the mixer.

Ready-mixed concrete shall be mixed and delivered in accordance with the requirements set forth in PennDOT Publication 408.

8.4 Conveying

Concrete shall be conveyed from the mixer to the place of final deposit by methods which will prevent the separation or loss of the materials.

8.5 Depositing

Concrete shall be deposited as nearly as practicable in its final position to avoid segregation due to handling or flowing. The concreting shall be carried on at such a rate that the concrete is at all times plastic and flows readily into the space between the bars.

No concrete that has partially hardened or been contaminated by foreign material shall be deposited on the work, nor shall retempered concrete be used.

When concreting is once started, it shall be carried on as a continuous operation until the placing of the panel or section is completed. The top surface shall be generally level. When construction joints are necessary, they shall be made in accordance with these Specifications.

All concrete shall be thoroughly compacted by approved mechanical vibration during the operation of placing, and shall be thoroughly worked around reinforcement and embedded fixtures and into the corners of the forms.

Where conditions make compacting difficult, or where the reinforcement is congested, batches or mortar containing the same proportion of cement to sand as used in the concrete shall first be deposited in the forms.

8.6 Finishing

Immediately after removal of forms, all unsightly ridges of lips shall be removed and undesirable local bulging on the surfaces shall be remedied. All voids and holes left by the removal of the tie rods shall be reamed and neatly filled with dry-patching mortar (Pre-shrunk). The cement used in the mortar shall be a blend of Portland Cement and White Portland Cement properly proportioned so that the final color of the cured mortar will be the same as the color of the surrounding concrete. Defective concrete shall be repaired by cutting out the unsatisfactory material and placing new concrete which shall be formed with keys, dovetails or anchors to attach it securely in place. Concrete for patching shall be drier than the usual mixture and shall be thoroughly tamped into place. All finishing, filling of voids and tie-rod holes and patching of exposed surfaces shall be performed immediately after the forms are removed. All unformed surfaces of concrete that are not to be covered by additional concrete or backfill, shall have a wood float finish without additional mortar and shall be true to elevation shown on the Drawings.

Care shall be taken to see that all excess water is removed before making any finish. Other surfaces shall be brought to the specified finish elevation and left true and regular. Joints shall be carefully made by a jointing tool. Every precaution shall be taken by the Contractor to protect finished surfaces from stains or abrasions. Surfaces or edges likely to be injured during the construction period shall be properly protected.

8.7 Curing

Provision shall be made for maintaining concrete in a moist condition for at least seven (7) days after the placement of the concrete.

8.8 Cold Weather Requirements

Adequate equipment shall be provided for heating the concrete materials and protecting the concrete during freezing or near-freezing weather. No frozen materials or materials containing ice shall be used.

All concrete materials and all reinforcement, forms, fillers, and ground with which the concrete is to come in contact shall be free from frost. Whenever the temperature of the surrounding air is below 40 degrees F, and adequate means shall be provided for maintaining a temperature of not less than 70 degrees F for three (3) days or 50 degrees F for 5 days except when the high-early strength concrete is used for temperature shall be maintained at not less than 70 degrees F for two (2) days or 50 degrees F for three (3) days. No dependence shall be placed on salt or other chemicals for the prevention of freezing.

8.9 Removal of Forms

Forms shall be removed in such a manner as to insure the complete safety of the structure. In no case shall the supporting forms or shoring be removed until the members have acquired sufficient strength to support safely their weight and the load thereon.

8.10 Design of Forms

Forms shall conform to the shape, lines and dimensions of the members as called for on the plans and shall be substantial and sufficiently tight to prevent leakage of mortar. They shall be properly braced or tied together so as to maintain position and shape.

8.11 Cleaning and Bending Reinforcements

Metal reinforcement, at the time concrete is placed, shall be free from rust scale or other coatings that will destroy or reduce the bond. Bends for stirrups and ties shall be made around a pin having a diameter not less than two times the minimum, thickness of the bar. Other bends shall be made around pins having a diameter not less than six times the minimum thickness of the bar; except that for bars larger than one (1) inch, the pin shall not be less than eight (8) times the minimum thickness of the bar. All bars shall be bent cold.

8.12 Placing Reinforcement

Metal reinforcement shall be accurately placed in accordance with the plans and shall be adequately secured in position by concrete or metal chairs and spacers.

8.13 Splices in Reinforcements

All splices in reinforcement shall be according to the latest ACI Code, and as shown on the Drawings or as directed by the Engineer.

8.14 Concrete Protection for Reinforcement

The metal reinforcement shall be protected by the thickness of concrete indicated in the plans. Where not otherwise shown, the thickness of the concrete over the reinforcement shall be as follows:

- 1) Where concrete is deposited against ground without the use of forms, not less than three (3) inches.
- 2) Where concrete is exposed to the weather, or exposed to the ground but placed in forms, not less than two (2) inches for bars more than five eighths (5/8) inches or less in diameter.
- 3) In slabs and walls not exposed to the ground or to the weather, not less than three-quarters (3/4) inches.

- 4) In all cases the thickness of concrete over the reinforcement shall be at least equal to the diameter of round bars and one and one-half (1-1/2) times the side dimension of square bars.

Exposed reinforcement bars intended for bonding with future extensions shall be protected from corrosion by concrete or other adequate covering.

8.15 Construction Joints

Joints not indicated on the plans shall be so made and located as to least impair the strength of the structure. Where a joint is to be made, the surface of the concrete shall be thoroughly cleaned. In addition, vertical joints shall be thoroughly wetted and slushed with a coat of neat cement grout immediately before place of new concrete.

SECTION 9

CONTROL OF EROSION, SEDIMENTATION, AND WATER POLLUTION

9.1 Erosion Control

Each Contractor shall be responsible for complying with the provisions of the latest edition of Chapter 102 - "Erosion Control", as contained in the Rules and Regulations of the Department of Environmental Protection. The provisions of this Chapter 102 impose requirements on earthmoving activities which create accelerated erosion or a danger of accelerated erosion. Intended conservation practices will be submitted in a soil erosion and sedimentation control plan. The Contractor shall be responsible for carrying out erosion controls contained in the plans as approved by the Township.

Where applicable to this project, temporary control measures to conform with Chapter 102, shall be for the duration of the project. All materials shall be as deemed necessary to effectively control land erosion and water pollution.

In the event of conflict between these requirements and pollution control laws, rules and regulations of other agencies, state or local, the more stringent shall apply.

9.2 Excavating, General Standards for Sanitary Sewer Trenches

The following general standards apply to all sanitary sewer construction. Any special potential erosion problems and erosion controls for the specific site are explained in the soil erosion and sedimentation control plan for the project.

- 1) Reduce as much as possible the area subjected to a potential erosion hazard by disturbing the smallest possible area during excavation.
- 2) Be familiar with the pertinent engineering characteristics of the soil series being excavated as explained in the soil erosion and sedimentation control plan.
- 3) During one day's construction, the length of trench excavation shall not exceed the distance required for each day's pipe installation (200 foot maximum open trench during working hours).

- 4) Trenches shall be backfilled at the end of each day's work except at the last section of pipe as needed to facilitate the next day's operations.
- 5) All backfilled trenches will be stabilized on a regular schedule as soon as a segment of trench has been backfilled. On pavement and stabilized road shoulder, the backfilled trench will be stabilized temporarily with crushed stone and asphaltic hot mix. In unpaved areas, the soil shall be stabilized by grass seeding and mulching.
- 6) All temporarily stockpiled fill at the construction site will be covered or other suitably stabilized to prevent washoff when precipitation is imminent.
- 7) Where pumping is necessary, discharge shall be over extensive vegetation or discharge shall be against a strawbale sediment trap.

9.3 Control of Wind Erosion and Dust

Where dust and wind erosion is a problem, the unstable surface will be sprinkled or a dust suppressor shall be applied.

Prompt establishment of vegetative soil cover will minimize wind erosion and dust problems.

9.4 Dewatering Sanitary Sewer Trenches

When using a pump, make use of one of the following methods, whichever is most applicable:

- 1) Discharge over areas with extensive vegetation. Check for signs of soil removal over discharge area. If so, discontinue pumping and use one of the following methods:
- 2) Construct a strawbale sediment trap. Bales should be staked with two (2) 2" x 2" x 3' wooden stakes or #6 reinforcing bars. Effluent of the sediment trap should be over a vegetated area.
- 3) Construct a temporary lagoon (silt holding basin) for pumping discharge or apply silt laden runoff. Allow for the following conditions:

- a) A detention time of approximately two (2) hours.
- b) A two (2) foot freeboard.
- c) Prevent short circuiting with the use of plywood baffles.

9.5 Stream Preservation

The Contractor shall use all due care to preserve the stream, prevent siltation and pollution of the waters of the Commonwealth of Pennsylvania during the construction of this project.

Where sewer construction crosses a waterway, its banks shall be rock riprapped in the disturbed area. Surrounding disturbed areas shall be seeded and jute netting applied to protect critical areas.

In small streams or runs, the Contractor shall pump around the sanitary sewer stream crossing to minimize erosion. Where it is not possible, cofferdams must be constructed. Care must be taken in the construction of such obstacles so that maximum sedimentation control will be maintained.

SECTION 10

TEST

10.1 General

During construction and at the completion of the work, the contractor shall make tests as may be directed by the Engineer to ascertain if the pipe is properly aligned and the joints are tight. The Contractor shall furnish all apparatus required in order to perform the air and infiltration tests that may be deemed necessary. Defective work shall be repaired immediately.

10.2 Gravity Sewers

After installation, gravity sewers shall be given the following inspections and tests:

- 1) A visual inspection for correct alignment and cleanliness.
- 2) A low pressure air test of the sewer pipe.
- 3) An infiltration test of the pipe and manholes.

The Engineer shall be notified twenty-four (24) hours in advance of all inspections and tests.

The visual inspection shall be made by shining a light from one manhole through the pipe to an adjacent manhole. The sewer shall be free of all foreign material, if this is not so, it shall be flushed until clean. The visual inspection shall also determine that uniform grade and alignment has been provided. If, in the judgment of the Engineer, significant deviations from the proper grade and alignment exist, corrections will be required.

For the air test, low pressure air shall be slowly introduced into a sealed section of pipe sewer line until the internal air pressure reaches four (4) psig greater than the average back pressure of any groundwater that may be over the pipe. To establish the assumed back pressure from groundwater, the maximum height in feet between the invert of the pipe sewer and the existing ground surface in the section of pipe sewer to be tested shall be determined, and this height shall be divided by 2.3. After this differential pressure of four (4) psig is obtained, allow at least two (2) minutes for the air pressure to stabilize adding only the amount of air required to maintain pressure.

After the stabilization period (3.5 psig minimum pressure in the pipe), the air supply shall be disconnected, and then the rate of air loss shall be determined by measuring the time interval required for the differential pressure to decrease from 3.5 psig to 2.5 psig.

The requirements of this specification shall be considered satisfied if the time required in seconds for the differential pressure to decrease from 3.5 psig to 2.5 psig is not less than shown for the given diameters in the Air Test Tables included in the Appendix.

In addition to the above, an inspection for infiltration of groundwater shall be made of the complete system. Where infiltration is found, it shall be measured and shall not exceed 100 gallons per inch of pipe diameter per mile of pipe per day.

If the sewer system fails any of the above inspections or tests, the source of the problem shall be determined and repaired in a manner satisfactory to the Engineer.

10.3 Force Mains

All force mains shall be tested by subjecting them to a pressure of 50 psig in excess of working pressure as measured at the pump for a period of time not less than two (2) hours, using water as the test medium. During this time, the pressure drop in the force main shall not exceed 2 psig.

All defects found in force mains shall be repaired with new materials and no caulking of threaded joints, cracks or holes will be allowed. Where replacement of a piece of pipe becomes necessary, in the opinion of the Engineer, the replacement shall be of the same length, material, and thickness as the pieces being replaced. Upon repair of all defects disclosed by the tests, the test procedure shall again be applied until all defects are repaired and the test conditions are met.

All piping shall be adequately braced and supported during the testing so that no movement, displacement or damage shall result from the application of the test pressures. All equipment used in the testing shall be subject to the approval of the Engineer and shall be suitable to properly develop, maintain, and test the pressures specified.

SECTION 11

RESTORATION AND RESURFACING

11.1 Restoration of Township Streets

After the trench has been backfilled to a depth of eleven (11) inches below the surface of the street, the Contractor shall fill the trench with eight (8) inches of 25 mm Superpave Base Course conforming to the latest edition of PennDOT Specifications Section 309 of Publication 408.

Upon completion of this installation, the Contractor shall install two (2) inch depth of 9mm Superpave Asphalt Wearing Course, properly rolled, to match the adjacent paving. Paving joints shall be sealed.

11.2 Restoration of State Highways

The Contractor shall restore state highways including shoulders in accordance with the terms of the permit issued by PennDOT and subject to inspection and approval by the Department.

11.3 Concrete Sidewalk Resurfacing

Where the pipe underlies a concrete sidewalk, the entire slab between scorings or joint shall be carefully removed to avoid damaging adjoining slabs. After backfill, the entire area exposed by removal of sidewalk shall be temporarily resurfaced, as specified hereinbefore, to a depth of three (3) inches below the finished grade.

The concrete sidewalks shall be constructed of Class A 3500 PSI concrete, minimum 4' wide or match existing, 4" thick on a 4" crushed stone base (at driveways use 6" thick concrete with 6 X 6 welded wire fabric), and finished similar to that of the existing sidewalk. Slabs shall be separated by transverse pre-molded expansion joints one-quarter (1/4) inch thick for the full depth of the concrete and joints shall be placed adjacent to existing structures where directed. The slabs between joints shall be divided into blocks five (5) feet in length by scoring transversely for a depth of at least one third (1/3) of the thickness of the slab with an edger having one-quarter (1/4) inch radius.

Any defects which become evident within a period of twelve (12) months after completion of the work, such as settlement, cracks, deterioration of surface, etc., must be repaired by removing the entire block and replacing the new concrete.

11.4 Concrete Curbing

Whenever the pipeline crosses or underlies concrete curbing, the Contractor shall replace any damaged portion of such curbing with new curbing constructed of Class A 3500 PSI concrete finished in a manner similar to the existing curbing. If the Contractor damages any curbing not underlying or crossing the sewer trench, he shall replace all such curbing.

11.5 Select Trench Backfill

Wherever so directed, the Contractor shall install selected backfill. Such backfill shall commence at a point above pipe bedding or halfway up the pipe barrel, at the sides and above the pipe for the entire width of the trench, a minimum depth of eighteen (18) inches of cover over the top of the pipe and a maximum depth as directed by the Engineer. The material shall consist of Pennsylvania Department of Transportation #2A Modified.

11.6 Landscaping

The Contractor shall grade and seed all disturbed areas and all other adjacent areas that have been damaged, compacted or otherwise disturbed during construction. All work to be performed by qualified landscape workmen. All disturbed areas to be replaced to a condition similar to the condition that existed prior to the initial construction.

11.7 Maintenance of Unpaved Areas

The Contractor shall be responsible for establishing a complete cover of growth and shall resod, reseed or apply additional lime and fertilizer so as to establish good coverage. The Contractor shall correct any settlement and rutting that may occur by regrading, reseeding or resodding.

11.8 Unimproved Areas

All unimproved areas such as woods, pastures, unused field, unopen streets and creek banks shall have all construction material and excess dirt removed and left in a smooth graded condition. The backfill shall be mounded over the trench. The excavated material shall be graded and shaped, before loosening to a depth of at least two (2) inches by plowing, discing, or harrowing. All stones or debris over six (6) inches in any dimension shall be removed and then reseeded.

11.9 Improved Areas

All improved areas such as lawns shall be prepared as specified for the

unimproved areas with the exception that the backfill shall not be humped and will be flush with the surrounding area. Any debris, such as sticks and stones, greater than two (2) inches in any direction shall be removed. The Contractor shall stockpile the existing topsoil and supplement as necessary or supply new topsoil in sufficient quantity to provide six (6) inches of topsoil. After tilling, fertilizer and lime shall be applied along with an approved lawn mix or seed. Within 48 hours of seeding, the area shall be covered with a mulch at a rate of two and one-half (2-1/2) tons per acre in order to provide a uniform continuous blanket. After grass has been established, the Contractor shall remove excess mulch.

SECTION 12

DISCHARGE STANDARDS

12.1 Purpose

The establishment of these standards sets forth uniform requirements for direct and indirect contributors to the sanitary sewerage facilities of Kennett Township which enables the Township to comply with applicable state and federal laws required by the Clean Water Act of 1977 and the General Pretreatment Regulations (C40 CFR Part 403) and intermunicipal agreements.

12.2 Prohibited Discharge Standards*

No user shall contribute or cause to be contributed, directly or indirectly, any pollutant or wastewater which will cause pass through or interference. These general prohibitions apply to all such users of the recipient POTW, whether or not the user is subject to national categorical pretreatment standards or any other national, state, or local pretreatment standards or requirements. A user may not contribute the following substances to the POTW:

- 1) Any liquids, solids, or gases which by reason of their nature or quantity are, or may, be sufficient either alone or by interaction with other substances to create fire or an explosive hazard or be injurious in any other way to the POTW or to the operation of the POTW including, but not limited to, wastestreams with a closed-cup flashpoint of less than 140 degrees F (60 degrees C) using the test methods specified in 40 CFR 261.21. At no time shall two successive readings on an explosion hamrd meter at the point of discharge into the system (or at any point in the system) be more than five (5) percent, nor any single reading over ten (10) percent of the Lower Explosive Limit (LEL) of the meter. Prohibited materials include, but are not limited to, gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides and sulfides.

- 2) Solid or viscous substances which may cause obstruction to the flow in a sewer or pass through or cause other interference with the operation of the wastewater treatment facilities or collection system, such as, but not limited to, grease, garbage with particles greater than one-half (1/2) inch in any dimension, animal guts or tissues, paunch manure, bones, hair, hides, fleshings, entrails, whole blood, feathers, ashes, cinders, sand, mud, spent lime, stone or marble dust, metal, glass, straw, shavings, grass clippings, rags, spent grains, spent hops, waste paper, wood, plastics, tar, asphalt residues, residues from refining or processing of fuel or lubricating oil, and residues from grinding, or polishing processes.

* The text in this section was taken from the Borough of Kennett Square Code of Ordinances, Chapter 15, Sewers and Sewage Use Disposal, Article II, Section 15-4 revised to make it applicable to Kennett Township.

Any wastewater having a pH less than 5.0 or greater than 10.0, or wastewater having any other corrosive property capable of causing damage or hazard to structures, equipment, and/or personnel of the POTW or the wastewater collection system.

- 3) Any wastewater containing toxic pollutants in sufficient quantity, either single or by interaction with other pollutants to injure or to cause interference with any wastewater treatment process, to constitute a hazard to humans or animals, to create a toxic effect in the POTW or the receiving water, or to exceed the limitation set forth in a categorical pretreatment standard. A toxic pollutant shall include, but not be limited to, any pollutant identified pursuant to Section 307(a) of the Act.
- 4) Any noxious or malodorous liquids, gases, or solids which wither singly or by interaction with other wastes are present in sufficient concentrations to create a public nuisance or hazard to life, or are sufficient to prevent entry into the sewers for maintenance and repair.
- 5) Any substance which may cause the POTW's effluent or any other product of the POTW, such as residues, sludges, or scums, to be unsuitable for reclamation and reuse, or to interfere with the reclamation process. In no case shall a substance discharged to the POTW cause the POTW to be in noncompliance with sludge use or disposal criteria, guidelines, or regulations developed under Section 405 of the Act; any criteria, guidelines, or regulations affecting sludge use or disposal developed pursuant to the Solid Waste Disposal Act, the Clean Air Act, the Toxic Substance Control Act, or State criteria applicable to the sludge management method being used.

- 6) Any substance which alone, or in conjunction with other discharges will cause a pass through at the POTW or cause the POTW to violate its NPDES Permit or the receiving water quality standards.
- 7) Any wastewater with objectionable color not removed in the treatment process such as, but not limited to, dye wastes and vegetable tanning solutions.
- 8) Any wastewater having a temperature which will inhibit biological activity in the POTW treatment plant or collection system resulting in interference. In no case shall wastewater have a temperature at the introduction into the POTW which exceeds 40 degrees C (104 degrees F).
- 9) Any wastewater containing pollutants, including oxygen demanding pollutants (CBOD, BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration which either singly or by interaction with other pollutants will cause interference to the POTW or any wastewater treatment or sludge process, or which will constitute a hazard to humans or animals. In no case shall a sludge load have a flow rate or contain concentrations or quantities of pollutants that exceed for any time period longer than 15 minutes more than five (5) times the average 24-hour concentration, quantities, or flow during normal operation. This slug load provision does not relieve the user from meeting the specific pollutant concentrations as identified in Table 1.
- 11) Any wastewater containing any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the Township in compliance with applicable state or federal regulations.
- 12) Any wastewater which causes a hazard to human life or creates a public nuisance.
- 13) Stormwater, surface water, groundwater, artesian well water, roof runoff, subsurface drainage, swimming pool drainage, condensate, deionized water, noncontact cooling water, and unpolluted industrial wastewater.
- 14) Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through.
- 15) Any pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems.

- 16) Any trucked or hauled waste.
- 17) Any sludges, screenings, or other residues from the pretreatment of industrial wastes.
- 18) Any medical wastes, except as specifically authorized by the Township and/or Borough of Kennett Square in a permit.

Grease, oil, and sand interceptors (traps) shall be provided when, in the opinion of the Township, they are necessary for the proper handling of liquid wastes containing floatable grease in such amounts as to cause obstruction to the flow in a sewer or other interference with the operation of the wastewater treatment facilities, or any flammable wastes, sand, or other harmful ingredients, except such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the Township and shall be located as to be readily and easily accessible for cleaning and inspection. In the maintaining of these interceptors, the owner(s) shall be responsible for the proper removal and disposal by appropriate means of the captured material and shall maintain records of the dates and means of disposal which are subject to review by the Township. Any removal and hauling of the collected materials not performed by owner's (owners') personnel must be performed by currently licensed waste disposal firms.

Whenever the Township determines that a user is contributing to the POTW any of the above enumerated substances in such amounts as to cause interference with the operation of the POTW, the Township shall advise the user of the impact of his contribution on the POTW and develop effluent limitations for such user to correct the interference to the POTW.

12.3 Federal Categorical Pretreatment Standards

Upon the promulgation of the federal categorical pretreatment standard under Section 307 of the Clean Water Act for a particular industrial subcategory, the federal standard, if more stringent than limitations imposed under these rules and regulations, shall apply. Each user shall be responsible to notify the Township of changes to their status under the federal, state, or local regulations.

12.4 Specific Pollutant Limitations

The following pollutant limits are established to protect against pass through and interference. No person shall discharge or cause to be discharged, wastewater containing in excess of:

SPECIFIC POLLUTANT LIMITATIONS

TABLE I

Max. Conc. from Industrial Parameter	Connections to POTW (mg/1)
Aluminum	1.10*
Antimony	5.0
Arsenic	0.42
Barium	4.0
Boron	1.0
Cadmium	0.02
Chlordane	0.000121
Chloroform	0.002
Chromium (hexavalent)	0.1
Chromium (total)	1.0
Copper	0.09**
Cyanide (total)	0.18
Diazinon	0.00053
Iron	5.0
Lead	0.032
Lindane	0.00018
Manganese	1.0
Mercury	0.0014**
Napthalene	MO*
Nickel	1.0
Pentachlorophenol	MO*
Phenols (total)	0.22
Selenium	0.04
Silver	0.01
Tin	3.0
Nanadium	3.0
Zinc	0.11**
Total Halogenated Organics	5.0
Toxic Pollutants Listed in Section 307, Clean Water Act	5.0 - for any single parameter total 30.0 - for all toxic parameters on list.

*MO - monitor only.

**Current domestic loadings alone will result in an effluent concentration that exceeds the water quality criteria established for the receiving stream (Red Clay Creek) by PADEP. Thus, the Borough of Kennett Square must seek to reduce the current levels of these pollutants from all sources, domestic and industrial. Until the time when all possible sources can be identified and controlled, the

12.10 Discharge of Hazardous Wastes

Each user must notify in writing, the Township, the PADEP, and the EPA of any substance which, if otherwise disposed of, would be considered a hazardous waste under 40 CFR, Part 261. The notification must include the name of the hazardous waste as set forth in 40 CFR, Part 261, the EPA hazardous waste number, and the type of discharge (continuous, batch, or other). If the user discharges more than one hundred (100) kilograms of such waste per calendar month to the POTW, the notification should also contain the following information to the extent such information is known and readily available to the user: an identification of the hazardous constituents contained in the wastes, and an estimation of the mass of constituents in the waste stream expected to be discharged during the following 12 months. All notifications must take place within 180 days after the discharge of the hazardous waste. Any notification under this paragraph need be submitted only once for each hazardous waste. The notification requirement in this section does not apply to pollutants already reported under the self-monitoring requirements.

Users are exempt from the above requirements during a calendar month in which they discharge no more than fifteen (15) kilograms of hazardous wastes, unless the wastes are acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e). Discharge of more than fifteen (15) kilograms of non-acute hazardous wastes in a calendar month, or of any quantity of acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e), requires a one-time notification. Subsequent months during which the user discharges additional quantities of such hazardous waste do not require additional notification.

In the case of new regulations under Section 3001 of RCRA identifying additional characteristics of hazardous waste or listing any additional substance as a hazardous waste, the user must notify the Township, the EPA Regional Waste Management Division Director, and PADEP hazardous waste authorities of the discharge of such substance within ninety (90) days of the effective date of such regulations. If a new substance is classified as hazardous under the Resource Conservation Recovery Act (RCRA), the user must notify the Township, PADEP, and EPA of the discharge of such substances within ninety (90) days of the effective date of the rule. In the case of notification made, the user shall have a PADEP certified program in place to reduce the volume or toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

12.11 Notice to Employee

A notice shall be permanently posted on the user's bulletin board or other prominent place advising employees whom to call in the event of a dangerous discharge. Employers shall ensure that all employees who may suffer from, or cause such a dangerous discharge to occur are advised of the emergency notification procedures.

12.12 Wastewater Contribution Approval

- 1) All users proposing to connect to and contribute to the POTW shall obtain Township approval including obtaining all necessary permits and paying established fees before connecting or contributing to the POTW. Non-residential users wanting to connect to the Township's system that drains to the Borough of Kennett Square system will, in addition to obtaining Township approval, be required to satisfy Borough of Kennett Square permit requirements as stated in the Borough's Sewer Use Ordinance.

Where a user becomes subject to a new national categorical pretreatment standard, but has not previously applied for approval as a Significant Industrial User, the user shall apply for approval within one hundred eighty (180) days after the promulgation of the applicable national categorical pretreatment standard.

- 2) The Township shall require a non-residential user of sewer services to provide information needed to determine compliance with these rules and regulations or other applicable local, state, or federal laws, rules, or regulations. These requirements may include:
 - a) Wastewater discharge peak rate and volume records over a specified time period.
 - b) Information on raw materials, processes, and products affecting wastewater volume and quality.
 - c) Quantity and characteristics of specific liquid, sludge, oil, solvent, or other materials to be discharged to the wastewater system.
 - d) A plot plan of sewers on the user's property showing sewer facility locations and all proposed sewer connections to these facilities.

- e) Details of systems to prevent and control stormwater from entering the Township's sewer system. All expenses of providing the required information shall be paid by the user of the sewer services in addition to other charges and sewer rentals.
- 3) All measurements, tests, and analyses of the characteristics of waters and wastewaters to which reference is made in this ordinance shall be determined in accordance with procedures established by the EPA pursuant to 40 CFR Part 136 and amendments thereto.
- 4) The user shall be responsible for submitting all applicable county, regional, state, or federal permits or planning documents required for approval of sewer connection.

12.13 Reporting Requirements

1) Compliance Date Report:

Within ninety (90) days following the date for final compliance with applicable pretreatment standards or, in the case of a new source, the following commencement of the introduction of wastewater into the POTW, any user subject to pretreatment standards and requirements shall submit to the Township a report indicating the nature and concentration of all pollutants in the discharge from the regulated process which are limited by pretreatment standards or requirements. The report shall state whether the applicable pretreatment standards or requirements are being met on a consistent basis, and if not, what additional O&M and/or pretreatment is necessary to bring the user into compliance with the applicable pretreatment standards or requirements. This statement shall be signed by an authorized representative of the user and certified by a qualified professional engineer, who is registered in the Commonwealth of Pennsylvania. The following certification statement as specified in 40 CFR 403.6(a)(2)(ii) shall be included on the report:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitted false information, including the possibility of fine and imprisonment for knowing violations."

Written reports will be deemed to have been submitted on the date postmarked. For reports which are not mailed, postage prepaid, into a mail facility serviced by the U.S. Postal Service, the date of receipt of the report by the Township shall govern.

2) Periodic Compliance Reports:

- a) Any user subject to a pretreatment standard after the compliance date of such pretreatment standard or, in the case of a new source, after commencement of the discharge to the POTW shall submit to the Township during the months of June and December, unless required more frequently in the pretreatment standards or by the Township, a Baseline Monitoring Report (BMR) or Periodic Compliance Report indicating the nature and concentration of pollutants in the effluent which are limited by such pretreatment standards. In addition, this report shall include a record of all daily flow which, during the reporting period, exceeded the average daily flow allowed in the permit. At the discretion of the Township and in consideration of such factors as local high or low flow rates, holiday, budget cycles, etc, the Township may agree to alter the months during which the above reports are to be submitted. This report shall be signed by an authorized representative of the user and certified by a qualified professional engineer, who is registered in the Commonwealth of Pennsylvania.
- b) The Township may impose mass limitations on users where the imposition of mass limitations are appropriate. In such cases, the reports required by subparagraph (1) of this section shall indicate the mass of pollutants regulated by pretreatment standards in the effluent of the user. These reports shall contain the results of sampling and analysis of the discharge, including the flow, nature, concentration, production, and by mass where requested by the Township, of pollutants contained therein which are limited by the applicable pretreatment standards. The frequency of monitoring shall be prescribed in the applicable pretreatment standard.

All analysis shall be performed in accordance with procedures established by the EPA pursuant to Section 304(g) of the Act, and contained in 40 CFR Part 136 and amendments thereto, or with any other test procedures approved by the EPA. Sampling shall be performed in accordance with the techniques approved by the EPA.

Written reports will be deemed to have been submitted on the date postmarked. For reports which are not mailed, postage prepaid, into a mail facility serviced by the U.S. Postal Service, the date of receipt of the report by the Township shall govern.

12.14 Monitoring Facilities

The Township shall require monitoring facilities to be provided and operated at the user's own expense to allow inspection, sampling, and flow measurement of the user's building sewer and/or internal drainage systems. The monitoring facility shall be situated on the user's premises, unless otherwise approved by the Township.

There shall be ample room in or near such sampling manhole or facility to allow accurate sampling and preparation of samples for analysis. The facility and the sampling and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the user.

The sampling and monitoring facilities shall be provided in accordance with the Borough of Kennett Square requirements and all applicable local construction standards and specifications. Construction shall be completed within ninety (90) days following written notification by the Township.

12.15 Inspection and Sampling

The Township and/or Borough of Kennett Square may inspect the facilities of any user to ascertain whether the purpose of these rules and regulations is being met and all requirements are being complied with. Persons or occupants of premises where wastewater is created or discharged shall allow the representative of the Township and/or the Borough of Kennett Square ready access at all reasonable times to all parts of the premises for the purposes of inspection, sampling, records examination and copying or, in the performance of any Township/Borough duty. The Township, Borough of Kennett Square and/or EPA shall have the right to set up on the user's property such devices as are necessary to conduct sampling inspection, compliance monitoring, and/or metering operations.

Where a user has security measures in force which would require proper identification and clearance before entry into his premises, the user shall make necessary arrangements with his security guards so that upon presentation of suitable identification, personnel from the Township, Borough and/or EPA will be permitted to enter, without delay, for the purposes of performing their specific responsibilities.

12.16 Pretreatment

Users shall provide necessary wastewater pretreatment as required to comply with these rules and regulations and shall achieve compliance with all federal categorical pretreatment standards within the time limitations as specified by the federal pretreatment regulations. Any facilities required to pretreat wastewater to a level acceptable to the Township shall be provided, operated, and maintained at the user's expense. Detailed plans showing the pretreatment facilities and operating procedures shall be submitted to the Township for review, and shall be acceptable to the Township before construction. The review of such plans and operating procedures will in no way relieve the user from the responsibility of modifying the facility as necessary to produce an effluent acceptable to the Township under the provisions of this ordinance. Any subsequent changes in the pretreatment facilities or method of operation shall be reported to and be accepted by the Township prior to the user's initiation of the changes.

Users with the potential to discharge oils and grease in amounts greater than those specified in Section 12.4, Specific Pollutant Limitations Table I, must have installed, at the owner's expense, grease traps to prevent such a discharge from occurring. Grease traps must be cleaned and maintained on a regular basis by the owner.

All records relating to compliance with pretreatment standards shall be made available to officials of the EPA or the Township upon request.

12.17 Confidential Information

Information and data on a user obtained from reports, questionnaires, permit applications, permits, and monitoring programs, and from inspections shall be available to the public or other governmental agency without restriction unless the user specifically requests and is able to demonstrate to the satisfaction of the Township, that the release of such information would divulge information, processes, or methods of production entitled to protection as trade secrets of the user.

When the person furnishing a report so requests, the portions of the report that might disclose trade secrets or secret processes shall not be made available for

inspection by the public but shall be made available upon written request, to governmental agencies for uses related to this ordinance, the NPDES Permit, State Disposal Permit, and/or the pretreatment programs provided. Moreover, such portions of a report shall be available for use by the state or any state agency in judicial review or enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics will not be recognized as confidential information.

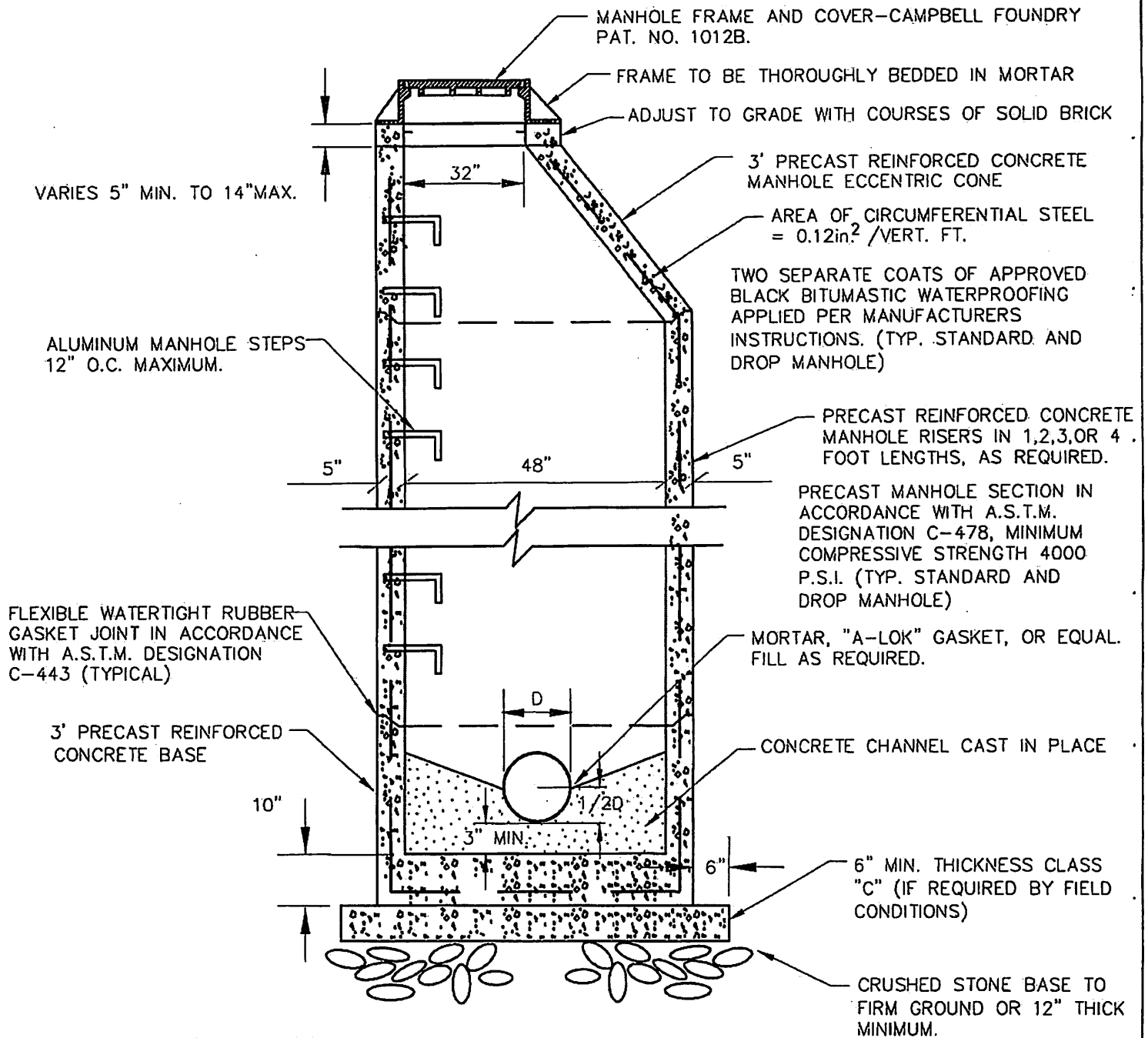
Information accepted by the Township as confidential shall not be transmitted to the general public by the Township until and unless a ten (10) day notification is giving to the user. Transmission of confidential information from the Township to the EPA is not governed by the ten (10) day notification requirements since the EPA is also required to keep this information confidential under Section 308(b) of the Clean Water Act.

12.18 Violation, Enforcement and Penalties

Where a discharge to the Township's sewer system reasonably appears to present, presents, or threatens an imminent danger to the health and welfare of persons, or an imminent danger to the environment, or interference with the operation of the Township's or Borough of Kennett Square's sewer system, the Township may immediately initiate steps to identify the source of the discharge, and to halt or prevent said discharge. The Township may seek injunctive relief against the significant user contributing to the emergency condition and/or may pursue other self-help remedies.

Where a user is discharging into the Township's sewer system that ultimately drains to and is treated by the Borough of Kennett Square's system, enforcement procedures and assessment of penalties with regard to violations as stated in the Borough's Sewers and Sewage Use Disposal Ordinance, Article V, shall apply.

APPENDIX



1. ALL MANHOLES SHALL BE CONSTRUCTED WATERTIGHT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING ADEQUATE BALLAST TO OFFSET FLOATATION FORCES ACTING ON MANHOLES INSTALLED IN WET AREAS.

STANDARD 4'-0" DIAMETER PRECAST MANHOLE

(FOR PIPES 36" DIA. OR LESS)
N.T.S.

STANDARD DETAILS



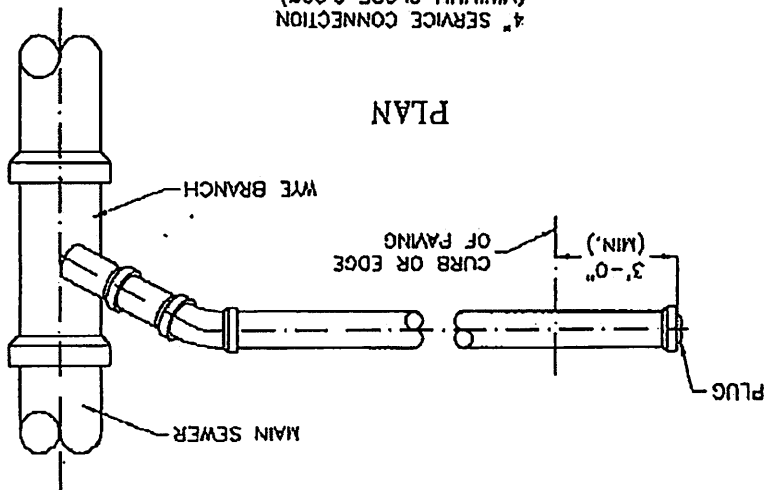
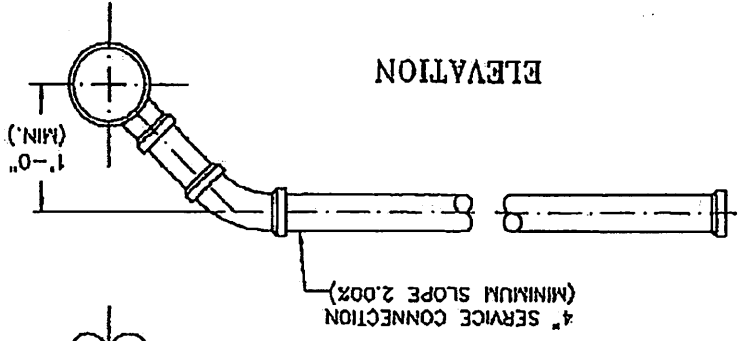
REMINGTON, VERNICK & BEACH ENGINEERS

922 FAYETTE STREET, CONSHOHOCKEN, PA. 19428

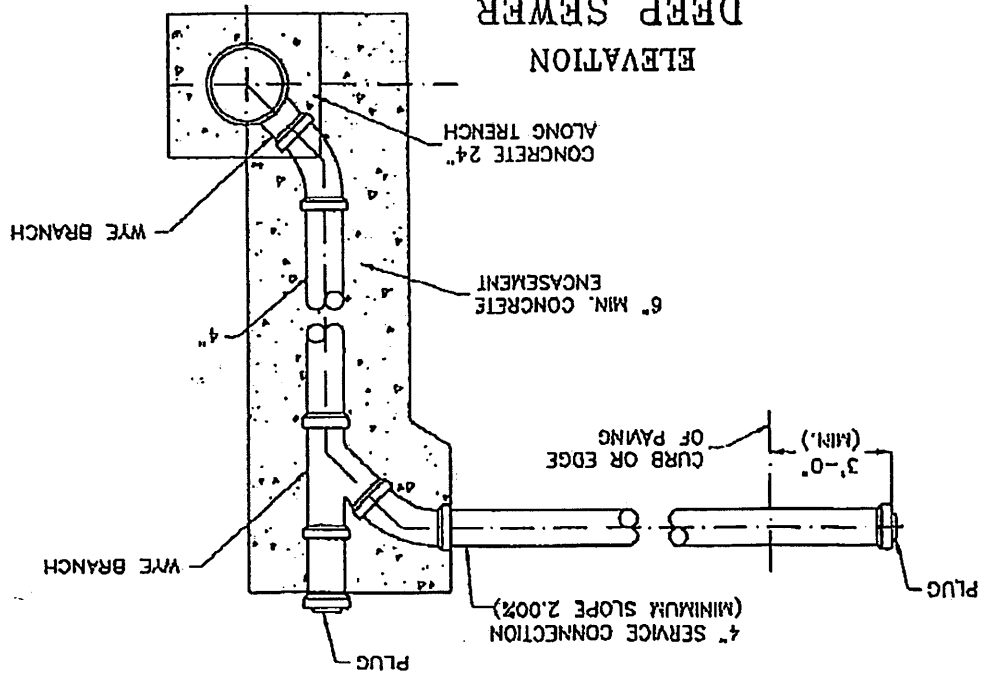
(610) 940-1050, FAX: (610) 940-1161

SERVICE CONNECTION

SHALLOW SEWER



DEEP SEWER



The air test may be dangerous if, because of ignorance or carelessness, a line is improperly prepared. It is extremely important that the various plugs be installed and braced in such a way as to prevent blow outs. Pressurizing equipment should include a regulator set to avoid over-pressurizing and damaging an otherwise acceptable line. No one shall be permitted in the manholes during testing.

NOTE: TO BE USED WHEN TESTING ONE DIAMETER ONLY

LENGTH OF LINE IN FEET	PIPE DIAMETER													
	4"	6"	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"	39"
25	4	10	18	28	40	62	89	121	158	200	248	299	356	418
50	9	20	35	55	79	124	178	243	317	401	495	599	713	837
75	13	30	53	83	119	186	267	364	475	601	743	898	1020	1105
100	18	40	70	110	158	248	356	485	634	765	851	935		
125	22	50	88	138	198	309	446	595	680					
150	26	59	106	165	238	371	510							
175	31	69	123	193	277	425								
200	35	79	141	220	317									
225	40	89	158	248	340									
250	44	99	176	275										
275	48	109	194	283										
300	53	119	211											
350	62	139	227											
400	70	158												

Minimum Holding Time in Seconds Required
 for Pressure to Drop from 3-1/2 to 2-1/2 Psig

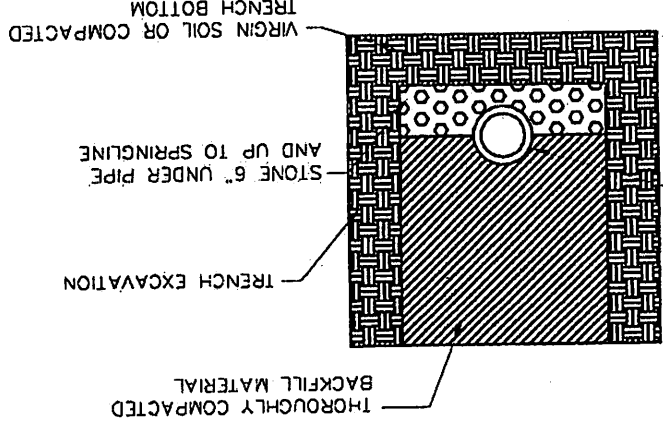
AIR TEST TABLE



STANDARD DETAILS

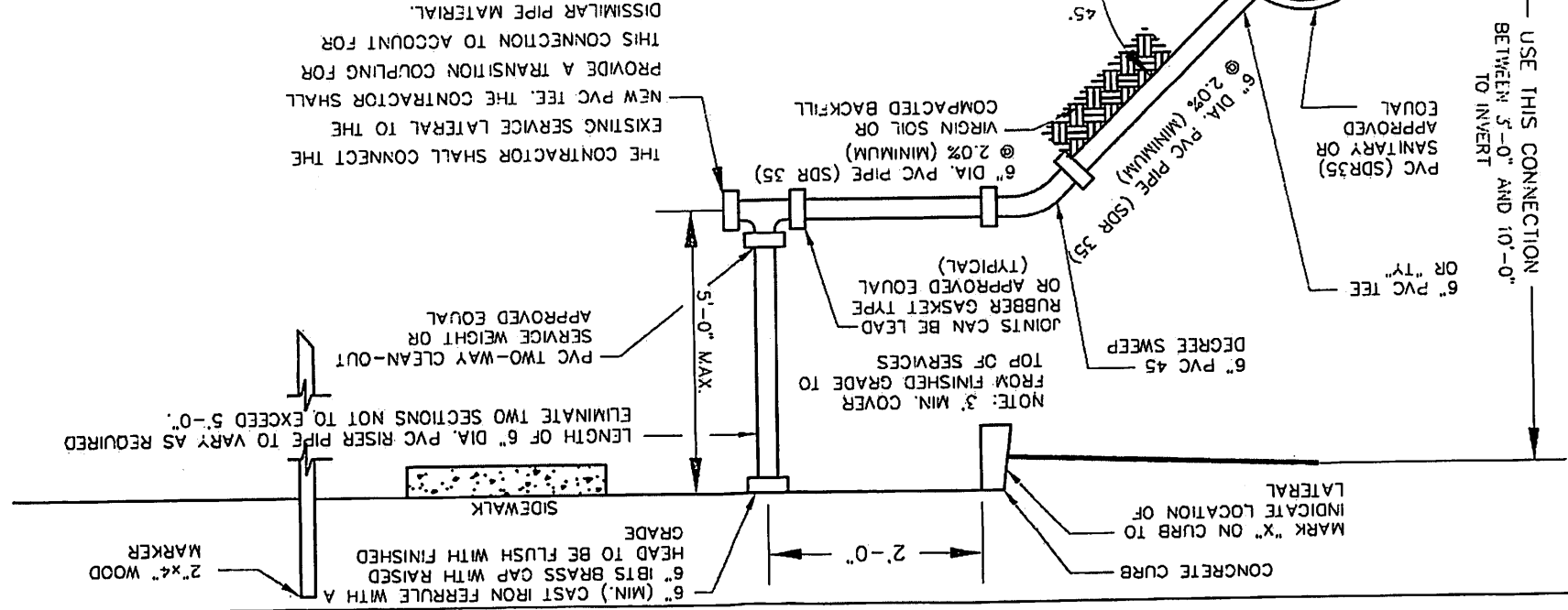
3' TO 10' IN DEPTH
 N.T.S.

TYPICAL LATERAL DETAIL



6" DIA. (MINIMUM) SERVICE LATERAL
 NOTE: BEDDING MATERIAL (SAND OR GRAVEL) TO BE SPREAD UNIFORMLY AND COMPACTED UNDER PIPE TO PROPER GRADIENT.

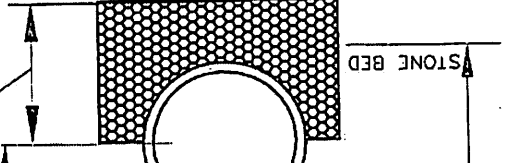
NOTE: TRENCH BOTTOM TO BE VIRGIN SOIL, 0.75" STONE OR MECHANICALLY TAMPED BACKFILL



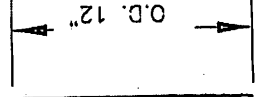
6" (MIN.) CAST IRON FERRULE WITH A 6" BRASS CAP WITH RAISED HEAD TO BE FLUSH WITH FINISHED GRADE
 2"x4" WOOD MARKER
 SIDEWALK
 LENGTH OF 6" DIA. PVC RISER PIPE TO VARY AS REQUIRED. ELIMINATE TWO SECTIONS NOT TO EXCEED 5'-0".
 PVC TWO-WAY CLEAN-OUT SERVICE WEIGHT OR APPROVED EQUAL
 5'-0" MAX.
 THE CONTRACTOR SHALL CONNECT THE EXISTING SERVICE LATERAL TO THE NEW PVC TEE. THE CONTRACTOR SHALL PROVIDE A TRANSITION COUPLING FOR THIS CONNECTION TO ACCOUNT FOR DISSIMILAR PIPE MATERIAL.

NOTE: 3" MIN. COVER FROM FINISHED GRADE TO TOP OF SERVICES
 DEGREE SWEEP
 6" PVC 45
 JOINTS CAN BE LEAD RUBBER GASKET TYPE OR APPROVED EQUAL (TYPICAL)
 6" DIA. PVC PIPE (SDR 35)
 VIRGIN SOIL OR COMPACTED BACKFILL

6" PVC TEE OR "TY" APPROVED SANITARY OR PVC (SDR35) EQUAL
 USE THIS CONNECTION BETWEEN 5'-0" AND 10'-0" TO INVERT



NOTE: BEDDING MATERIAL (SAND OR GRAVEL) TO BE SPREAD UNIFORMLY AND COMPACTED UNDER PIPE TO PROPER GRADIENT.



NOTE: TRENCH BOTTOM TO BE VIRGIN SOIL, 0.75" STONE OR MECHANICALLY TAMPED BACKFILL

STONE BED

CONCRETE CURB
 MARK "X" ON CURB TO INDICATE LOCATION OF LATERAL

INSTALLATION AND MAINTENANCE AGREEMENT

FOR WASTEWATER DISPOSAL SYSTEMS

UTILIZING SUBSURFACE ABSORPTION STREAM

DISCHARGE OR SPRAY IRRIGATION FOR EFFLUENT DISPOSAL

THIS AGREEMENT, made this _____ day of _____, CHESTER COUNTY, PENNSYLVANIA, (hereinafter the "Township") and (hereinafter the "Property Owner").

WITNESSETH:

WHEREAS, Property Owner is presently equitable owner and hereafter will be owner in fee simple of that certain tract of land located at _____

(Tax Parcel Map _____) in Kennett Township, Chester County, Pennsylvania.

WHEREAS, Property Owner has requested the Board of Supervisors of Kennett Township to amend its Sewage Facilities Plan (otherwise known as the "Act 537 Plan") so as to permit a

(hereinafter the "System") to be installed and operated upon the aforementioned Property of Property Owner.

WHEREAS, the Township is willing to amend its Act 537 Plan in order to provide for the installation of the System upon the property provided that the Property Owner agrees to install, operate, and maintain the System upon certain terms and conditions more particularly set forth herein.

WHEREAS, the Township and Property Owner desire to memorialize the agreements reached between them with respect to the installation, operation and maintenance of the aforesaid System so as to insure the safe and orderly operation of same.

NOW THEREFORE, for and in consideration of the covenants contained herein, the parties do agree as follows:

1. The System is to be designed, installed, operated and maintained by the Property Owner and the Property Owner's successors in interest upon the property. It shall be designed, constructed, operated and maintained in accordance

5. The Owner shall employ for the ongoing operation of the System a Sewage Treatment Plant Operator (hereinafter Operator) licensed in accordance with the Pennsylvania Sewage Facilities Act, Title 25 Rules and Regulations, Paragraph 303.1 with a minimum classification applicable to the System. The plant shall be operated in accordance with the procedures outlined in the Operation, Maintenance and Inspection Plan for the sanitary sewer system as provided in Section 3.15 of the Rules and Regulations."

4. For the initial operation of the System the Owner shall employ an Engineer experienced in the design and operation of Sewage Treatment Facilities to direct the start-up and operation of all elements of the System. All elements of the System shall be tested to demonstrate to the satisfaction of the Township Engineer that they meet all of the requirements of the approved design.

3. The submission of operation, maintenance and inspection plans for the System as required in Section 3.15 of the Rules and Regulations shall be completed and delivered to the owner and the Township before the System is placed in operation.

The Property Owner shall employ a registered professional engineer (hereinafter Engineer) to certify to the Township and the DEP and/or CCBH that the design, construction and installation of the System has been completed in accordance with the permit granted by the DEP and/or CCBH.

The construction of the System shall be subject to the inspection and approval of the Township Engineer at such times and phases of construction to be specified by the Township Engineer, as well as the DEP and/or CCBH personnel.

2. The design of the System shall be approved by the Township and the DEP and/or CCBH through the issuance of an appropriate permit.

with the Rules and Regulations Governing Construction of and Connection to Sanitary Sewerage Facilities in Kennett Township (hereinafter Rules and Regulations), the applicable provisions of the Sewage Facilities Plan (Act 537 Plan) for Kennett Township, as well as the design requirements of the Pennsylvania Department of Environmental Protection (hereinafter DEP), the Chester County Board of Health (hereinafter CCBH) and all other applicable agencies and shall be revised as necessary to meet the current requirements of the relevant regulatory agencies as these requirements are from time to time revised.

The overall performance of the System will be determined to the satisfaction of the Township by sampling and testing the treated effluent. Effluent samples shall be analyzed by an EPA approved laboratory.

6. Acceptance of the System by the Property Owner will not be made until the System meets all operational performance tests to the satisfaction of the Township Engineer when it is operated at design capacity for not less than 48 hours.

7. Regular inspection of the System will be made by the Township on a schedule to be set by the Township to ensure that the System is meeting the operating requirements set by the DEP and/or CCBH, and that all elements of the System are in good working condition. At the request of the Owner or at the option of the Township, the inspection schedule set by the Township will be reviewed and may be changed. The cost of inspection by the Township will be borne by the Owner.

8. In the event the report prepared by the Engineer or Operator, or inspections by DEP, or the Township indicates repair and/or replacement of any component part or all of the System in order to bring the System in compliance with DEP or CCBH regulations, the Property Owner shall complete such repairs and obtain certification from the Engineer that the repairs have been made in accordance with his specifications within thirty (30) days of the date the report is issued or else pay a Five Hundred Dollar (\$500.00) fine plus court costs and attorneys' fees to the Township for each day of continuing violation after the conclusion of the thirty (30) day period.

9. In the event the Property Owner fails or refuses to permit the inspection and testing required in Paragraph 7 above, or to comply with the recommendations of his Engineer, Operator, Township, DEP or CCBH with respect to the repair and/or replacement of the System or any parts thereof, within the thirty day period provided in Paragraph 8 above, the Township shall have the right to enter upon the premises, conduct said inspections, and to perform any repairs or replacements with respect to the System, all of which shall be made at the cost and expense of the Property Owner. Prior to entering upon the premises and conducting its own inspection or performing any repairs or replacements of the System or its component parts, the Township shall provide Property Owner ten (10) days advance written notice of its intention to enter upon the premises for these purposes. Any notice required by the terms of this Agreement shall be sufficient if sent to Property Owner's last known address. If, in the opinion of the Township or

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Township Engineer a malfunction within the collection, treatment or disposal system of any Independent Community Sewage System or Independent Sewage Treatment Plant represents a hazard to the public health, the Township may proceed without notice to take immediate action to remedy such malfunction, subject to such notice to the Homeowners Association or Property Owner involved as is practical under the circumstances.

10. The remedies provided in Paragraph 8 and 9 above are not mutually exclusive and the Township is specifically permitted to pursue both remedies, assessing the Property Owner with fines, court costs and attorneys' fees and also seeking reimbursement for inspection, repairing and/or replacing the system.
11. During the period of time when the System is inoperable and/or incapable of treating the discharged effluent so as to meet and/or exceed those standards of the DEP or CCBH as aforesaid, Property Owner shall make the necessary arrangements to remove said effluent and arrange for the appropriate disposition of same at a properly certified and licensed Sewage Disposal Facility at the Property Owner's expense. The Property Owner shall, upon request of the Township, provide an agreement with a hauler providing for the removal. The Property Owner agrees to continue hauling effluent until such time as the System has been properly certified as being operable by the Township Engineer and the DEP or CCBH. In the event the Property Owner shall fail to make the necessary arrangements for the removals of said effluent, the Township shall have the right, upon 48 hours written notice to Property Owner, to enter upon premises and cause said effluent to be removed. All aforementioned costs of removal of the System are to be borne by the Property Owner.
12. It is expressly understood that this Agreement shall be recorded in the Recorder of Deeds Office in and for the County of Chester, Pennsylvania and that this Agreement shall be binding upon Property Owner, their heirs, administrators, executors, successors, and assigns, including Property Owner's successor in title to the aforesaid lot which is the subject of this Agreement, it being the express understanding of the parties that any and all duties and obligations of Property Owner with respect to the operation of the System set forth in this Agreement would also "run with the land" and remain that obligation of the Property Owner's successors in title inuring to the benefit of the Township.

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13. The Property Owner agrees to pay the Township's fee for inspection of the System and agrees that any costs incurred by the Township for review of plans, inspections, repair and/or replacement of the System or its component parts or in the removal of effluent in accordance with the terms of this Agreement, shall be recoverable by the Township from the Property Owner. In the event the Property Owner (or his heirs or assigns) shall fail to pay the Township for such costs or expenses, the Township shall have the right either to sue the said property owner in a civil action for reimbursement of its costs or to cause a lien to be placed on the property in the amount of said costs (which costs shall include the cost involved in the suit or lien and reasonable attorneys' fees).
14. It is expressly understood and agreed that nothing contained herein shall be construed to waive, affect or alter any requirements of the Zoning, Land Development and Subdivision, or other Ordinances of the Township and nothing contained herein empowers any Township officer or employee to waive any requirements of such ordinances. It is expressly understood and agreed that installation of the system upon the property does not constitute approval for land development of the property.
15. Property Owner, for himself, his heirs, administrators, executors, successors or assigns, shall at all times hold the Township harmless from any claims, suits, legal expenses or judgments which may be brought against the Township or against any Township officials and employees under and/or against the Property Owner or any of his successors in title for any adverse conditions casually related to the operation of the System. The aforesaid indemnification shall be considered upon notification of Property Owner by the Township within 30 days of the Township's receipt of a claim and/or suit. The Property Owner shall have the duty to defend the Township, its officials and employees including the Township Engineer against any claim or suit made by any person who alleges that adverse conditions have been caused by the system. In the event the Property Owner fails to undertake the defense of the Township as to any such claim and the Township is required to enter upon its own defense, Property Owner shall reimburse the Township for any expenses it may incur, including legal fees, engineering fees and other expert witness fees and shall pay any judgment rendered against the Township as a result of such suit. Moreover, if the Property Owner fails to undertake the defense of the Township after property notice, the Township shall have the right to file an immediate lien upon the Property Owner's property in an amount equal to the sums required to be expended.

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16. In the event that the System is not to be accepted and operated by the Township, the Property Owner agrees to provide security to the Township in the amount of 15% of the cost of the System, as verified by the Township engineer, to ensure the performance of all requirements of the Rules and Regulations Governing Construction of and Connection to Sanitary Sewerage Facilities in Kennett Township and this agreement. Such security shall be in the form of cash, securities, surety bond or letter of credit as approved by the Township and shall be deposited in escrow with the Township. All interest or dividends accruing on the security shall be made part of the escrow. The security shall be provided for a period of five (5) years, at which time it shall be replaced by a cash fund provided by the Property Owner, the Developer and/or the Homeowners' Association of the project being constructed equivalent to 15% of the cost of the permitted sewage facilities. The fund shall be held in escrow by the Township and shall be available to the Township for performance of any and all maintenance and repairs to the community sewage system not performed by the Property Owner, the Developer and/or the Homeowners' Association. The fund shall be supplemented as necessary by the Property Owner, the Developer and/or the Homeowners' Association to the extent it is reduced by authorized expenditures therefrom by the Township.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals the day and year first above written.

ATTEST:

BOARD OF SUPERVISORS
KENNETT TOWNSHIP, CHESTER COUNTY, PA.

By: _____

PROPERTY OWNER

By: _____