

**LAWRENCE HICKORY
MUNICIPAL AUTHORITY**

DEVELOPER'S MANUAL

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SECTION 1: PROCESS OVERVIEW

Introduction

The Lawrence Hickory Municipal Authority (LHMA) Developer's Manual outlines the regulations and procedures for developments connecting to public sewer facilities or constructing new facilities to be dedicated to LHMA. The purpose of this manual is to describe the permit application process, the requirements of the application materials, and the developer's responsibilities. To ensure timely review and approval of tap-in plans, this manual is to be used in conjunction with an open dialogue with LHMA.

More than one section of the manual may be applicable dependent upon the type of development and scope of work proposed by the applicant. In instances where the manual does not address a specific or unique site condition of a proposed development, the applicant should contact LHMA to determine if additional information is required.

LHMA is regulated by the Pennsylvania Public Utility Commission (PUC). Any standards set forth in this manual are subject to PUC review.

At minimum, this manual may be updated annually. More frequent updates may occur as procedures or regulations change.

Development Permit Process

The following is a general overview of the development permit process. For more detailed information, please refer to the specific sections referenced in the manual.

LHMA requires submission of all applications and drawings for development projects to be delivered to the LHMA office. After the pre-development meeting described below, the applicant can begin their permit application. Applications and documents are not considered submitted until all fees are paid.

All applications must include the required documentation outlined in this manual. Failure to provide will result in delayed approval.

Pre-Development Meeting

Prior to submitting the permit application, the applicant is required to request a pre-development meeting. A meeting request may be submitted early in the planning process or after preliminary tap-in plans have been designed. If you have engaged an engineer, architect, or plumber, it is highly recommended that they attend the meeting.

A meeting may be requested by contacting the LHMA office during operating hours. LHMA will send out pre-development meeting minutes after the meeting.

Department of Environmental Protection (DEP) Sewage Facilities Planning Module

Any development within the LHMA service area that meets the DEP's criteria will be required to complete sewage planning. The requirement for sewage planning depends on a variety of factors, including but not limited to, the Existing Flows, Project Flows, Net Flows, date of lot creation, previous planning module approvals, etc.

Detailed instructions are covered in the [DEP Sewage Facilities Planning Module section](#).

Tap-in Plan Review

Most development projects will require sewer tap-in plans to be reviewed and approved by LHMA staff. No work on existing or new taps, including terminations, is to begin prior to obtaining this approval.

Detailed drawing requirements are covered in the [Tap-in Procedures section](#).

Sewer Availability Letter Request

Projects requiring the submittal of a DEP Sewage Facilities Planning Module must submit a Sewer Availability Letter Request. The request letter may be obtained from the LHMA Secretary. LHMA staff will review and return a will-serve letter with detailed available infrastructure and infrastructure maps. Some lenders may also require a will-serve letter.

The sewer availability letter is not a permit and all procedures set forth in this document must be completed to obtain approval.

Construction and/or Relocation of LHMA Facilities

A development may require an extension, relocation, or construction of LHMA facilities to provide sewer service. A development agreement and construction drawings will be required.

Requirements are detailed in the Private Construction of Public Facilities section.

Review Procedures and Fees

LHMA will review applications in the order received unless an expedited review has been requested by applicant. Baseline review times are 30 business days per review. Review times may vary depending on volume and complexity. Expedited reviews will guarantee a review within 15 business days after the review fees have been paid. Projects that receive an expedited review will be charged a higher fee detailed in the Fee Schedule. To see a complete list of LHMA fees, review our fee schedule; please contact the LHMA Secretary. LHMA does not provide a preliminary cost estimation prior to completing the development permit review process as fees may change depending on the project scope.

An additional review fee will be required for any revisions to plans that have been previously issued a permit.

Additional fees may be required including but not limited to:

- Sewage facilities planning module review fee (PADEP)
- Street closure and traffic obstruction permits (TWP/PENNDOT)
- Utility street/road occupancy permit (Twp/PENNDOT)
- Building permit fees (County/Twp)

Permit Expiration

Issued permits are valid for a period of five (5) years from date of issuance. Issued permit refers to an application that has met all of the requirements of this manual and have paid all fees due.

SECTION 2: SINGLE-FAMILY RESIDENTIAL DEVELOPMENTS

Overview

Single-family residential developments are equal to one single-family residential unit. Single family residential units with fire service or developments on land that has been subdivided to include multiple single-family homes are not considered a single-family residential development and shall fall under the regulations set forth in the remaining sections of this manual.

Single-family residential developments are required to submit tap-in drawings to obtain sewer service, additionally they must obtain a Residential Permit from LHMA prior to completing any sewer work.

Single-family homes that are separating a party line, reconnecting an existing sewer lateral, or reusing an existing tap for a new construction house are required to apply for a Residential Permit. Party line sewer separations do not incur any fees.

Submission Requirements

To obtain a Residential Permit, the applicant is to complete and submit the residential permit application.

All fees are to be paid at the required intervals and prior to start of work.

All applications are subject to tap-in plan review, all sewer work for single-family homes are required to meet LHMA minimum standards for tap installation outlined in the Tap-in Procedure section. All work is to be inspected by LHMA prior to backfilling.

SECTION 3: PADEP SEWAGE FACILITY PLANNING MODULE

Overview

The Pennsylvania Sewage Facilities Act (Act 537, as amended) requires each municipality in Pennsylvania to have an Official Sewage Facilities Plan (Official Plan) to address existing and future sewage disposal needs. Please note that the Pennsylvania Department of Environmental Protection (PADEP) administers and oversees the Act 537 regulations. The Sewage Facilities Planning Module (SFPM) is the instrument for legally amending the Official Plan to account for flows from new/unforeseen subdivisions and land developments. The SFPM requires review/approval from each Facility Owner within the sewerage system, including Collection (LHMA), Conveyance (New Castle Sanitation) and Treatment (New Castle Sanitation). Please be advised that the LHMA review/approval shall be limited to the collection system portions of the SFPM. Each Facility Owner conducts a review to understand how the proposed development will impact available dry-weather capacity and whether the proposed flows will create a dry-weather hydraulic overload within the next five (5) years.

Amendments to Act 537 have created a process by which certain developments may be exempt from the planning module process. However, in accordance with 25 Pa. Code 71.51(2), the exemption process requires that the existing collection, conveyance, and treatment facilities are in compliance with the Clean Streams Law.

Any development within the LHMA service area that meets the PADEP's criteria shall be required to complete sewage planning. The requirement for sewage planning depends on a variety of factors, including but not limited to, the Existing Flows, Project Flows, Net Flows, date of lot creation, previous planning module approvals, etc.

Please note that the SFPM requires approval from LHMA, New Castle Sanitation, Township Planning, Township Supervisors and the PADEP. As a result, the approval process, from start to finish, can take several months. The PADEP has up to 90 days to respond upon receipt of the completed SFPM.

SFPM Steps for Applicant

1. The Applicant shall obtain a Determination on the Need for Sewage Planning from the LHMA by initiating a Development Permit Application. If a SFPM is not required, then the requirements of this Section shall be satisfied and complete. If a SFPM is required, then the LHMA shall provide the location of the most limited capacity sewer (MLCS). The Applicant shall be required to assess the hydraulic capacity of the MLCS per the requirements contained within this Section. In addition, the following steps would apply.
2. The Applicant shall submit the Sewage Facilities Planning Module Application Mailer to the DEP and obtain the applicable SFPM forms and DEP Code Number.
3. The Applicant shall obtain approval from the LHMA for the Collection System portion of the SFPM. Please refer to the Development Permit application, where a
4. SFPM sub-process should have been generated.
5. The Applicant shall obtain approval from New Castle Sanitation for the Conveyance and Treatment System portions of the SFPM. Please coordinate with New Castle Sanitation for additional information on their review process.
6. After obtaining approvals from the Collection, Conveyance and Treatment System Owners, the Applicant shall obtain approval from the Planning Department. Please coordinate with the Planning Department for additional information on their review process. The Planning Department will forward the SFPM to the Township Solicitor to draft a Resolution for approval by Township Supervisors.
7. After obtaining approval from the Township Supervisors the Applicant shall obtain final approval from the DEP. Please be advised that the LHMA cannot issue the Development

Permit until the DEP approves the SFPM.

Determination on the Need for Sewage Planning

The LHMA will determine the need for sewage planning in during the initial review of the development permit application. Please note that sewage planning is not required for every development. However, the criteria which effect the determination are often misunderstood. The primary criteria are summarized, as follows: Lot Creation Date, Existing and Proposed Flows, Historical SFPM Approvals, and Additional Lot Creation. Please note that lot consolidations and lot line revisions do not necessarily result in the need to complete sewage planning. However, subdivisions which result in additional lots, as compared to the existing configuration, will always result in the need for sewage planning.

Flow Estimate Calculations

Within the Development Permit application, the Applicant shall be required to provide the supporting calculations utilized to estimate the Existing Wastewater Flow and Proposed Wastewater Flow. The flow calculations shall represent the peak daily flow, which is defined as the maximum volume of wastewater during a continuous 24-hour period, expressed in gallons per day (gpd). As a result, the Applicant shall assume full occupancy, maximum turnover, etc. We understand that the DEP flow estimates may appear much higher than anticipated usage due to the use of low-flow fixtures, etc. However, please note that the flow estimates are attempting to estimate the peak daily flow, not the average daily usage.

The preferred means of calculating the Existing and Proposed Flows is via flow estimate calculations. Please refer below to Table 3.1. However, on a case-by-case basis, the LHMA may consider flow calculations based on historical water usage records. In these instances, the LHMA will allow the use of a peaking factor of 2.5 to establish the peak daily flow.

The flow calculations shall be limited to wastewater flows and represent the entirety of the existing and proposed uses (i.e. retail, residential, office, etc.).

The LHMA service area can be generally described as agricultural. However, Existing Flows shall be limited to uses which have occurred within 15 years of the submission date. The LHMA will utilize Google Street View to confirm the existence of structures and uses.

Please see below for a few common uses and the associated information that would be required for

the flow calculations:

- Restaurant and/or Bar:
 - o Maximum occupancy
 - o Number of turnovers per day, typically three (3)
- Hotel:
 - o Number of hotel rooms
 - o Presence of any public retail or restaurant facilities

- Residential:
 - o Number of equivalent dwelling units from single-family residences, apartments, townhouses, duplexes, and condominiums
 - o Presence of public facilities, such as swimming pools, gyms, cafeterias, etc..
- Office:
 - o Maximum number of employees. The applicant shall assume 150 square feet of floor space per employee. The square footage can be limited to the office space, and does not need to include hallways, shared areas, etc.
 - o Number of any public restrooms if any

Net Flow

The LHMA defines "net flow" as the difference between the proposed flow and existing flow, as follows:

$$Net\ Flow = Proposed\ Flow - Existing\ Flow$$

As a result, please note that the net flow may be positive or negative, depending on if there is a net increase or decrease in usage.

Table 3.1
Peak Daily Wastewater Flow Estimates
 (Flows are based on PA Code Title 25 Chapter 73 Paragraph 73.17)

Type of Use	Peak Daily Flow, and
Single family dwelling (For each bedroom over 3, add 100 gallons.)	400
Multiple family dwellings, including townhouses, duplexes, and condominiums	400
Apartment, one bedroom	150
Apartment, two bedroom	300
Apartment, three bedrooms or more	400
Hotels and motels (rent unit)	100
Rooming houses (rent unit)	200
Airline catering (per meal served)	3
Airports /per passenger-not including food)	5
Airports Per employee	10
Beauty shops (per customer chair)	200
Bus service areas not including food (per patron and employee)	5
Country clubs not including food (per patron and employee)	30
Drive-in theaters (not including food-per space)	10
Factories and plants exclusive of industrial wastes (per employee)	35
Laundries, self-service (gallons per washer)	400
Laundries, self-service gallons/front loading washer)	200
Mobile home parks, independent (per space)	400
Theaters (not including food, per auditorium seat)	5
Offices (per employee)	10
Restaurants (toilet and kitchen wastes (per patron)	10
(Additional for bars and cocktail lounges)	2
Restaurants (kitchen and toilet wastes, single-service utensils/person)	8.5
Restaurant, fast food (kitchen and toilet wastes/patron)	6
Restaurants (kitchen waste only, single-service utensils/patron)	3
Stores (per public toilet)	400

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Stores (per public urinal)	200
Stores (per public sink)	200
Warehouses (per employee)	35
Work or construction camps /semi-permanent) with flush toilets /Per employee)	50
Work or construction camps (semi-permanent) without flush toilets (per employee)	35
Churches (per seat)	3
Churches additional kitchen waste (per meal served)	3
Churches additional with (per service per meal served)	1.5
Hospitals (per bed space, with laundry)	300
Hospitals (per bed space, without laundry)	220
Institutional food service (per meal)	20
Institutions other than hospitals (per bed space)	125
Personal care home (per bed space)	125
Schools, boarding (per resident)	100
Schools, day without cafeterias, gyms or showers per student and employee)	15
Schools, day with cafeterias, but no gym or showers per student and employee)	20
Schools, day with cafeterias, gym and showers per student and (per employee)	25
Camps, day (no meals served)	10
Camps, winter and summer residential (night and day) with limited plumbing including water-carried toilet wastes (per person)	50
Campgrounds, with individual sewer and water hookup (per space)	100
Campgrounds with water hookup only and/or central comfort station which includes water-carried toilet wastes (per space)	50
Fairgrounds and parks, picnic-with bathhouses, showers, and flush toilets (per person)	15
Fairgrounds and parks, picnic (toilet wastes only, per person)	5
Swimming pools and bathhouses (per person)	10

Supplemental Guidance for the SFPM Component 3 Form

The SFPM Component 3 Form is for sewage collection and treatment facilities. Please be advised that these instructions are intended to supplement the DEP's instructions. In the event that there is a conflict between this supplemental guidance and DEP's instructions, the Applicant shall complete the Component 3 Form per DEP instructions. This supplemental guidance is not intended to cover each section on the Component 3 Form, but rather, only the sections that directly apply to LHMA. The supplemental instructions for the SFPM Component 3 Form are as follows:

- Section A No additional comments. Please refer to the PADEP Instructions.
- Section B Please note that the Hickory Township and LHMA are separate and distinct entities. This section shall not be populated with LHMA information.
- Section C No additional comments. Please refer to the PADEP Instructions.
- Section D No additional comments. Please refer to the PADEP Instructions.
- Section E Submit a Sewer Availability Letter Request Form to confirm that LHMA can provide service to the proposed development. Please refer to the Process Overview for additional information.
- Section F No additional comments. Please refer to the PADEP Instructions.
- Section G The LHMA review is limited to Section G(1) - Collection System. Complete Section G(1b), as follows:
Existing collection or conveyance system: [ROAD NAME - SEWER DIAMETER AND MATERIAL]

Owner: The Lawrence Hickory Municipal Authority
Existing Interceptor: Neshannock Creek Interceptor
Owner: The New Castle Sanitation Authority

- Section H No additional comments. Please refer to the DEP Instructions.
- Section I No additional comments. Please refer to the DEP Instructions.
- Section J For J(1), the Project Flows shall be identical to the Net Flows approved during the Determination on the Need for Sewage Planning step. For J(2), the LHMA applicable portions of the table are limited to the "Collection" row. Refer to the sections that follow for detailed information on submittal requirements.
- Section K No additional comments. Please refer to the DEP Instructions.
- Section L No additional comments. Please refer to the DEP Instructions.
- Section M No additional comments. Please refer to the DEP Instructions.
- Section N No additional comments. Please refer to the DEP Instructions.
- Section O No additional comments. Please refer to the DEP Instructions.
- Section P No additional comments. Please refer to the DEP Instructions.
- Section Q No additional comments. Please refer to the DEP Instructions.
- Section R No additional comments. Please refer to the DEP Instructions.

Methodology to Determine the Present Flow Within the Most Limited Capacity Sewer

The SFPM shall analyze the most limited capacity sewer (MLCS) downstream of the proposed connection to ensure the proposed flows will not create a dry-weather hydraulic overload within the next five (5) years. The LHMA shall provide the location of the MLCS within our online permitting portal. Please note that the MLCS is not typically the same sewer utilized for connection. The Present Flow within the MLCS shall be determined, as follows:

Method No.	Project Flows, gpd	Methodology to Determine the Present Flow within the MLCS
Method #1	Up to and including 4,000 and	Peak Flow Depth Measurements
Method #2	Greater than 4,000 and	Flow Monitoring

Method #1: Peak Flow Measurement

The Applicant shall take a minimum of five (5) flow depth measurements at the MLCS over a one-hour period between 6-8 AM or 6-8 PM. For example, an Applicant could take measurements at 7:00AM, 7:15AM, 7:30AM, 7:45AM and 8:00AM. The maximum of the five flow measurements shall be utilized as the flow depth for the Manning equation calculations. All flow depths between zero and one inch shall be rounded to one-inch.

Method #2: Flow Monitoring

The Applicant shall contract with a professional flow monitoring company to monitor the Present Flows at the MLCS. The flow monitoring shall take place for a minimum period of 30 calendar days, unless otherwise approved by the LHMA. Data should be checked for quality and analyzed to provide the present maximum monthly dry weather average flows and peak flows in gallons per day. For peak flows in the LHMA's collection

systems, indicate whether the flow is peak hourly flow or peak instantaneous flow. The Applicant shall provide the results in an excel spreadsheet.

Calculations for Design Capacity, Present Flows and Projected Flows

General Information

The flow calculations shall be signed and sealed by a Professional Engineer licensed in the Commonwealth of Pennsylvania.

When available, the Applicant may utilize historical as-built information to determine the existing sewer slope. If historical as-built information is not available, the Applicant shall either utilize the minimum slope permitted per the DEP Wastewater Facilities Manual or survey the existing sewer to determine the actual sewer slope.

The Applicant shall utilize the following Manning Roughness Coefficients (n):

Table 3.2
Manning Roughness Coefficient

Pipe Material	Manning Roughness Coefficient, n
Brick	0.016
Concrete	0.013
Ductile Iron	0.012
Plastic	0.010
Vitrified Clay	0.015

The Applicant shall utilize the following Peaking Factors:

Table 3.3 Peaking Factors

Type of Collection System	Peaking Factor
Combined	3.5
Separate	3.0

Flow Calculations

The Applicant shall calculate the Design and/or Permitted Capacity, Present Flows and Projected Flows in 5 Years, as follows:

Table 3.4 Flow Calculation Methodology

Flow Type	Calculation Methodology
Peak Design Capacity	Use the Mannina Equation for full-flow conditions
Average Desian Capacity	= Peak Desian Capacity+ Peaking Factor
Present Peak Flow	Method #1: Use the Manning's Equation for partially filled pipes
	Method #2: Analyze the flow data
Present Average Flow	Method #1: = Present Peak Flow+ Peaking Factor
	Method #2: Analyze the flow data
Projected Peak Flow in 5 Years	= (Present Peak Flow + Project Flow) x 1.05
Project Average Flow in 5 Years	= Projected Peak Flow in 5 Years+ Peaking Factor

SECTION 4: TAP TERMINATIONS

Overview

All connections to LHMA public facilities which are abandoned, proposed to be abandoned, or otherwise not in use or service, must be terminated at the connection to the LHMA owned facilities per LHMA details, specifications, and/or standards at the property owner or developer's expense. All structures to be demolished must obtain a tap termination permit from LHMA. This includes but is not limited to restoration of public and private streets, sidewalks, utilities, or paving and landscaping or demolition of structures. If no tap termination permit is issued by LHMA, the property owner will continue to receive a monthly bill.

All tap terminations require a permit. A development permit application and drawings must be submitted. Any tap terminations proposed as part of the development of a property shall be included and approved on the tap-in plans as described in the Tap-in Procedures section.

Submission Requirements

The applicable standard details must be shown on the applicant's drawings. All current standard details can be found in Appendix A. The applicant should note on the drawing any existing account numbers associated with the tap to be terminated. Please contact customer service if the account numbers are unknown.

Termination Procedure

LHMA must verify the termination of the existing connections. The applicant shall notify LHMA by contacting the Field Supervisor provided with their permit at least 3 business days in advance of the proposed termination date. A LHMA inspector must be on site during the termination procedure and witness said terminations and pipe zone backfilling. Removal of existing private portions of abandoned or unused sewer laterals is the responsibility of the property owner. Absent the written agreement of the LHMA to the contrary, should the LHMA be required to remove a property owner's abandoned sewer laterals and/or abandoned, the total LHMA cost of that removal shall invoice and/or lien said property.

Trenchless Technology

If the applicant proposes to terminate a sanitary or storm sewer connection using trenchless technology, then the applicant must submit shop drawings and calculations for method to be used and conduct NASSCO certified closed-circuit televised video (CCTV) inspections of the public sewer before and after the termination(s). Copies of the videos and related report information must be submitted to the LHMA. All CCTV inspections must be compatible with LHMA electronic media and adhere to current LHMA standards.

SECTION 5: TAP-IN PROCEDURES

Overview

All developments and/or redevelopments proposing new taps, increasing flow to existing taps must submit tap-in plans stamped by a Pennsylvania Certified Engineer for review by LHMA engineers. This section outlines general plan requirements and specific tapping procedures. A development may include all taps described in this section while others may only include one.

The following prerequisite conditions must be satisfied prior to the review of tap-in drawings:

- The applicant shall have submitted a Sewer Availability Letter Request.
- If applicable, DEP Sewage Facilities Planning Module must be under review by LHMA.
- Applicable fees have been paid.

LHMA grants final approval of the tap-in drawing at their monthly Authority meeting. A copy of the approved drawings will be provided to the applicant when the permit is issued. A permit is not considered issued until all fees are paid.

General Requirements

General tap-in guidelines are as follows:

- A development permit application has been submitted.
- Drawing size shall be 24 inches x 36 inches in landscape.
- Plan views shall be drawn to 1"=20' or 1"=30'.
- Drawing shall be readable and drawn to scale with a north arrow pointing to the top or the right of said sheet.
- The drawing shall include a plan view of the entire site. All existing topographic information shall be shown either 50 percent screened or half-toned.
- Existing building footprints shall be displayed and shall show the address, parcel ID, type of building, number of floors, the square footage of each floor and the total square footage of the building. If an address or parcel ID has not yet been established, use the proposed address.
- CCTV is required for all sewer lines pre and post construction when new taps, concrete work, or foundation work are proposed.
- Light cleaning may be required prior to CCTV which shall remain the responsibility of the developer.
- CCTV shall be in MPEG format and include a NASSCO/PACP export of CCTV database, PDF map showing the location of manhole IDs, PDF of all CCTV inspection logs.
- Existing manholes and wyes must be shown by survey stationing matching CCTV.
- All existing sewer, storm and water lines, as well as all other underground utilities near the project location shall be displayed. Each line shall be marked private or public.
- All existing sanitary sewers that will be tapped shall be displayed. The size and material type shall be shown.
- The proposed location and size of the service line shall be shown and stationed. Stationing shall be established from a fixed location such as centerline, right- of-way line, or property line. Manholes are not considered a fixed location unless otherwise directed by LHMA. Proposed sewer, storm and water lateral information is to be shown in bold line weight and text.
- The appropriate scalable plan view, profiles, and details shall be displayed.

- All applicable standard tapping and termination details shall be displayed.
- All existing private water and sewer lines connected to the existing building or servicing the site including abandoned facilities. Any existing service line that will not be reused by the proposed project must be terminated by the owner. The service line must be terminated at the main as per LHMA Specifications and in a manner acceptable to the LHMA.
- All existing easements must be displayed on the plans. Documentation of easements must be provided.
- Each tap-in drawing must also include an appropriate title block in the lower right- hand corner of the drawing.
- All applicable tapping, termination, and trenching details shall be shown. Any modifications to LHMA details must be explicitly called out on the plans.
- Connection to LHMA sewer can be made through an existing wye or through a new approved connection into the LHMA sewer main. If private connection is proposed to be made through an existing wye, then the location of the existing wye must be shown and stationed to the nearest LHMA manhole on the sewer tap-in drawing(s). Certain existing wye stationing can be obtained from LHMA records/video location of taps. If a new connection is proposed using a new wye, then a detail of the connection must be shown and also stationed as stated above on the sewer tap drawing. New connections must follow current LHMA specifications and standards.
- CONSTRUCTION/CONNECTION of private sanitary laterals to LHMA manholes is not permitted.

Tap Installation Procedures

Sewer line Taps

No sewer taps are to occur prior to LHMA approval.

Listed below are the required steps for sewer tap-in:

- The customer is to follow all steps outlined in previous sections of this manual to obtain a development permit.
- Once the permit is issued, the customer/ developer may begin site prep for service line.
- Customer/ developer shall obtain street opening permit if necessary and begin excavation to open street and expose sewer main.
- Customer/ developer shall use the contact information provided at permit issuance to schedule tap installation.
- LHMA will inspect service line tap installation.
- LHMA will inspect excavation for tap and any tap terminations, if necessary.

Construction personnel employed by the applicant are responsible for all permitting, excavation, backfill, trench restoration, and sewer lateral installations from the building to the point of the tap-in at the LHMA sewer main. The applicant's construction personnel must have proper trench shoring and equipment on site to conduct all required work and complete the job.

LHMA does not accept maintenance responsibility for any private sewer laterals including the connection to the main.

SECTION 6: FEES

LHMA will calculate the appropriate fees based upon the related project information submitted by the applicant. All fees are based on the extents of project scope and review, plus the cost of the taps.

Fee Schedule

All fees are established in the LHMA.

Fee Descriptions

Application Fees:

LHMA charges an application fee based on the level of review required for each permit.

Connection Fees:

LHMA's current policy for sewer connections states that the customer is responsible for excavating and connecting the private sewer lateral at the LHMA main line as per current LHMA standards and specifications and installing the private service lateral from the LHMA main to the building to be served.

SECTION 7: PRIVATE CONSTRUCTION OF PUBLIC FACILITIES

Overview

This section is relevant to developments which require physical modifications to LHMA's existing water and sewer facilities. Please see below for a list of common examples:

- The development consists of a proposed public roadway to a residential subdivision. The developer is proposing new sewer facilities within the public roadway and intends to transfer ownership of the constructed facilities to LHMA.
- The LHMA has an existing sewer main that traverses the developer's property. The proposed structure is in direct conflict with the sewer main. The LHMA requires the developer to relocate the sewer main within the cartway of an adjacent street.

General Requirements

The first step for developments which include Private Construction of Public Facilities (PCoPF) work is to submit a pre-development meeting request, as described in Section 1: Process Overview. The pre-development meeting is intended to address early-stage questions, such as:

- Is the PCoPF work required? Can the development be adequately services via existing infrastructure?
- What is LHMA's procedure for PCoPF Projects?
- What are the developer's next steps?
- Are there any immediate concerns with the proposed work?
- Are there better alternatives?

LHMA facilities in conflict with a proposed development shall be relocated at the developer's expense. LHMA is to review and approve all plans and specifications prior to construction as described in this section.

Conditions of Acceptance

The LHMA will only accept the dedication of sewer facilities, including but not limited to manholes, sewer main, drainage structures, pump stations, etc.

The LHMA shall not accept any facilities located within private property or private right-of-way. In such circumstances, the constructed facilities would remain privately owned. If an existing private street is adopted by the Township as a public street, and said street contains privately owned sewer facilities, the LHMA is under no obligation to accept said facilities.

LHMA will not accept dedication of facilities that have not followed the processes contained herein. Lack of inspection by the LHMA, as-built drawings, or other requested documentation to verify the proper construction of the proposed sewer facilities may result in LHMA using funds from the performance bond to complete construction to our standards. LHMA reserves the right to require the unearthing of any completed infrastructure to ensure proper inspections take place prior to acceptance.

In any instances that LHMA cannot verify the new or relocated facilities have been constructed according to minimum standards, the facilities will remain private, and the developer will be required to obtain additional permits from the PADEP. The developer is also required to properly record with the County Recorder of Deeds the ownership/maintenance agreement between all parties that share use of the private utilities. The LHMA will not permit the connection of the proposed facilities to existing LHMA public facilities

if the maintenance agreement is not recorded. Copies of the PADEP variance letter, recorded easement(s), and recorded maintenance agreement must be submitted to the LHMA.

Past work not properly permitted and/or accepted via recorded agreement by the LHMA is the responsibility of the current property owner(s). This includes a wide range of structures including unauthorized private sewer taps. Any past maintenance and/or repairs done to said private facilities by the LHMA for the sake of public health and safety does not imply ownership by the LHMA.

Common reasons why facilities may not be accepted by LHMA are as follows:

- The facilities only serve a single customer. In such a situation, the facilities would be considered private sewer lateral(s) or private water service line(s). Documentation must be provided to LHMA that the correct permits and variances are in place for these private structures/facilities. This may include encroachment permits for facilities in the right-of-way, variances from Hickory Township/PADEP, recorded easements/agreements for other properties crossed, and other requirements depending on the specific site.
- Newly constructed roads not accepted by Hickory Township
- Facilities that cross private property (with or without easements) when it is not required by site conditions as interpreted by LHMA.
- Facilities that do not have all the required recorded legal agreements, easements and/or permits. It is the developer's responsibility to research and acquire at their expense all permits and/or recorded easements prior to dedication of public sewer facilities to LHMA.
- Facilities built do not match materials, methods, or general locations on an approved plan. Any departures from approved plans must be approved in writing by LHMA.

Development Agreement

The Development Agreement is a legally binding document that defines the process for constructed facilities to be accepted by the LHMA. Upon request, the LHMA will provide a Development Agreement for the developer to review. The developer is encouraged to review the Development Agreement with legal counsel. Under no circumstances is the developer to change any items in the Development Agreement, unless otherwise directed.

Once finalized, the Development Agreement may be subject to approval at the next available LHMA Board of Directors meeting. Please note that, to be placed on the agenda, the Development Agreement needs to be finalized approximately one (1) month prior to the regularly scheduled Board meeting.

The Development Agreement, executed by the developer and the LHMA, shall be required prior to any subsequent approvals (e.g. construction drawings, performance bond, construction cost estimate, etc.). However, the absence of an executed Development Agreement does not preclude a developer from submitting documentation for review. The Checklist of Required Approvals summarizes the typical approvals contained within the Development Agreement, as further described below.

If the proposed scope of work requires an external inspection from an on-call consultant, the procurement process typically takes approximately six (6) weeks. The following approvals shall be required by the LHMA before a determination can be made on whom will perform the inspection services:

Construction Drawings

The construction drawings must comply with the design standards contained within the latest version of the Checklist of Requirements for Construction Drawings. In addition, please see below for additional information:

- The LHMA aims to respond to each submission within 30 business days of receipt. However, the actual length of time required to conduct the review is largely influenced by the quality of the submission and complexity of the project.
- Newly constructed facilities shall be adequately sized and positioned to account for future development.
- Typically, the LHMA will install the proposed connections once a constructed sewer main is completed. However, please note that the developer's contractor is permitted to install connections per the following conditions:
 - o Connections shall be contained within an approved LHMA Development Permit. Please refer to Section 6 - Tap-in Procedures for additional information.

Construction Management and Construction Inspection

The developer shall coordinate with the LHMA project manager to procure construction inspection (CI) services for the work contained within the Development Agreement. The LHMA will either perform the CI with internal resources (i.e. LHMA staff) or external resources (i.e. on-call consultants). There are many factors that will influence how the CI will be performed, including but not limited to, the scope of the work, allocation of internal resources in relation to the proposed schedule, type of work, etc. There are no exceptions to this requirement: all work shall require CI oversight. Changes to the construction start date shall require input and approval from the CI team to ensure availability.

The following approvals shall also be required prior to construction start-up, but are not typically on the critical path:

Performance Securities

A performance security shall be required by the LHMA to ensure the developer constructs the work in accordance with the development agreement. The developer shall furnish a performance security in the amount equal to one hundred percent (100%) of the total construction cost estimate. The performance security may be in the form of a performance bond or other form acceptable to LHMA. The LHMA shall be the only named obligee on the security.

Please note that the Township may impose separate bonding requirements for street or sidewalk restoration.

Insurance

The Developer shall provide a Certificate of Insurance, with LHMA listed as additionally insured, in accordance with the following coverage requirements:

Commercial General Liability: \$1 million per occurrence, and in the aggregate

Automobile Liability: \$1 million per occurrence and in the aggregate

The Developer's policies shall also require 30 business days' prior written notice to the Authority of any cancellation, amendment, or non-renewal of the policies.

Executed Contract Between the Developer and Contractor

The Developer shall submit an executed contract with the selected Contractor for the proposed work.

Construction Materials

The developer shall submit the proposed construction materials (i.e. shop drawings, cut sheets, submittals) for LHMA approval. The construction materials must comply with LHMA specifications. Please be advised that the usage of rejected or unapproved materials may result in the LHMA not accepting the constructed facilities.

Easements for Construction on Private Property

The LHMA requires the construction of new facilities to be located within the public right-of-way. In the event that the aforementioned requirement is unfeasible, and the proposed facilities need to be located on private property, the LHMA shall require a recorded easement. The developer must show recorded proof that all easements and/or encroachments exist in the records of the County Recorder of Deeds. The minimum easement width is 20-feet centered on the facility. The construction of adjacent facilities would result in a wider easement. In addition, the LHMA may request additional width for reasons including, but not limited to, the following:

- Excessive depths
- Soil conditions
- Site obstructions

Pre-Construction Meeting

The LHMA shall require a pre-construction meeting on-site. The required attendees shall include the LHMA Project Manager, LHMA Inspector, developer, developer's design engineer and developer's contractor. The topics of discussion shall include introductions, roles and responsibilities, inspection protocols, close-out procedures, testing requirements, open discussion, etc.

Acceptance of Privately Constructed Public Facilities

The following approvals shall also be required prior to issuance of the Notice of Acceptability letter:

As-Built Drawings

The developer shall supply as-built drawings for review and approval at project completion. The LHMA will accept redline drawings, provided the plans are in neat condition, and free from dirt, tears, staining, etc. During construction, the Contractor shall meet with the construction inspector at regular intervals to exchange as-built information. The redlines shall include, but not be limited to, invert elevations, structure locations, slopes, fitting locations, etc.

Maintenance Securities

Upon completion of the work, the developer shall furnish a maintenance bond in the amount equal to twenty-five percent (25%) of the construction cost estimate for a period of twentyfour (24) months. The LHMA shall be the only named obligee on each security. Please note that the Township may impose separate bonding requirements for street or sidewalk restoration.

Design Requirements

The LHMA design standards are contained within the Checklist of Requirements for Construction Drawings. Please see below for additional information:

General Requirements

- The existing LHMA facilities shall be clearly indicated with the appropriate identification number, including but not limited to, sewer mains, drainage structures, manholes, etc.
- Work located within PennDOT right-of-way shall require a Highway Occupancy Permit. Please note that PennDOT shall require the LHMA to submit the permit application on behalf of the developer,
- The developer shall consider the proximity and depth of adjacent utilities to determine if the proposed work is feasible, please note that the large majority of LHMA facilities rely upon the surrounding soil to maintain structural integrity, Close excavations, and removal of that support, often results in sewer main breaks. The LHMA may require that facilities be shut down during construction, The developer would be responsible for providing temporary services to any impacted customers.
- The private construction of public facilities shall be limited to situations where the existing infrastructure is incapable of providing the required level of service.
- The proposed facilities shall be designed and constructed in accordance with LHMA specifications.

Sewer Requirements

- Sewers shall be constructed at a depth sufficient to serve nearby basements and future growth, The LHMA may require additional depth, as directed,
- Sewer mains shall be designed in accordance with the DEP's Wastewater Facilities Manual and LHMA standards, whichever is more stringent.
- The pipe material required is dependent upon the depth and diameter, Per the design conditions, the LHMA accepts the following types of materials: PVC (SDR 26), PVC (PS115), RCP (Class IV).
- The design shall consider the need for bypass pumping, which may necessitate flow monitoring, The developer shall ensure that upstream and downstream manhole access is available, Discharge piping shall not interfere with roadway or pedestrian traffic.
- Connections to new sewer extensions shall be made at a pre-constructed wye fitting, The use of a cored connection (e.g. Inserta Tee) shall be prohibited.

Profile Requirements

- Profiles shall be required for sewer mains and drainage structure laterals.
- Profiles shall indicate the location of crossed utilities, which shall be drawn per the outside diameter. Please note that the outside diameter can be significantly different than the nominal diameter. For instance, a 24" reinforced concrete pipe has an internal diameter of 24-inches and an outside diameter of 30-inches. Crossed utilities shall have a minimum vertical clearance of 18- inches from outer surface to outer surface.
- For sewer, the profile shall include lateral design information including the minimum depth to serve customer connections via gravity flow.

Tap-in Drawings

Separate tap-in drawings **are**. required when the development includes **all** the following:

- Development of lots,
- Construction of public sanitary sewer.

- Construction of building(s),
- Construction of laterals and service lines from building(s) to the new sewer and/or water lines.

Tap-in drawings are not required when the development is limited to the following:

- Development of lots, and
- Construction of public sanitary sewers.

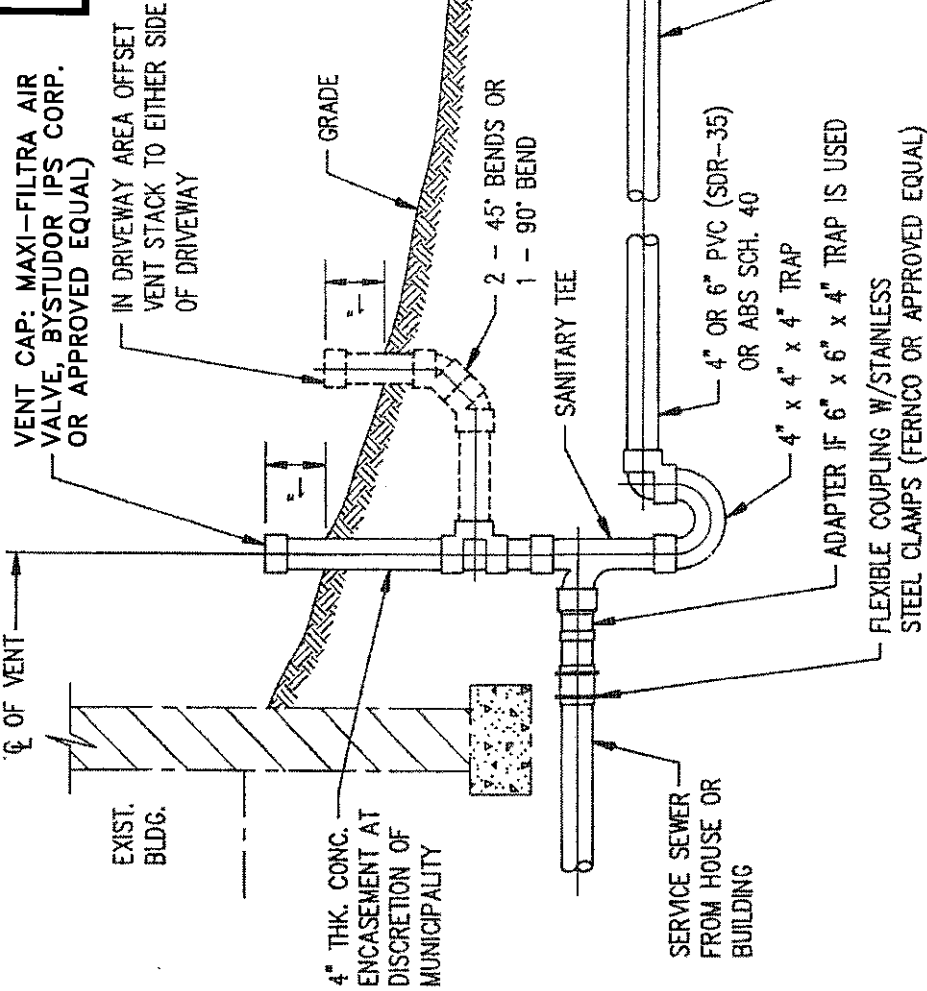
Under the second scenario where the developer only develops the lots and constructs the LHMA facilities, the responsibility of applying for sewer taps falls on the future property owner whenever that owner decides to connect to the LHMA facilities.

Tap-in drawings for sanitary sewers can be submitted at any time but cannot be approved until the private construction drawings have been approved by LHMA. Please refer to the Tap-in Procedures of this manual.

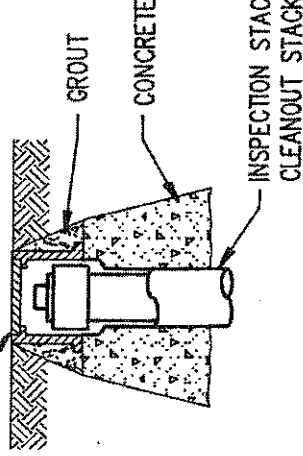
NOTE:

SDR-35 PVC PIPE MUST BE BEDDED AND SURROUNDED WITH SAND, GRANULATED SLAG OR PEA GRAVEL 6" MIN. THICKNESS BELOW PIPE.

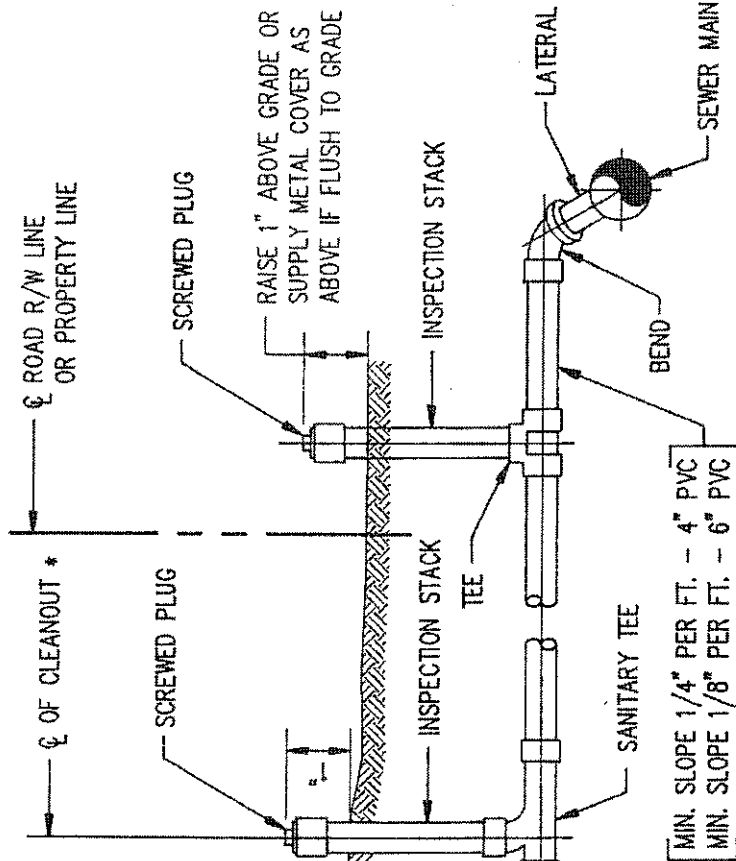
* NOTE: CLEANOUT STACK TO BE INSTALLED EVERY 50' ON 4" DIA. LATERALS AND EVERY 100' ON 6" DIA. LATERALS.



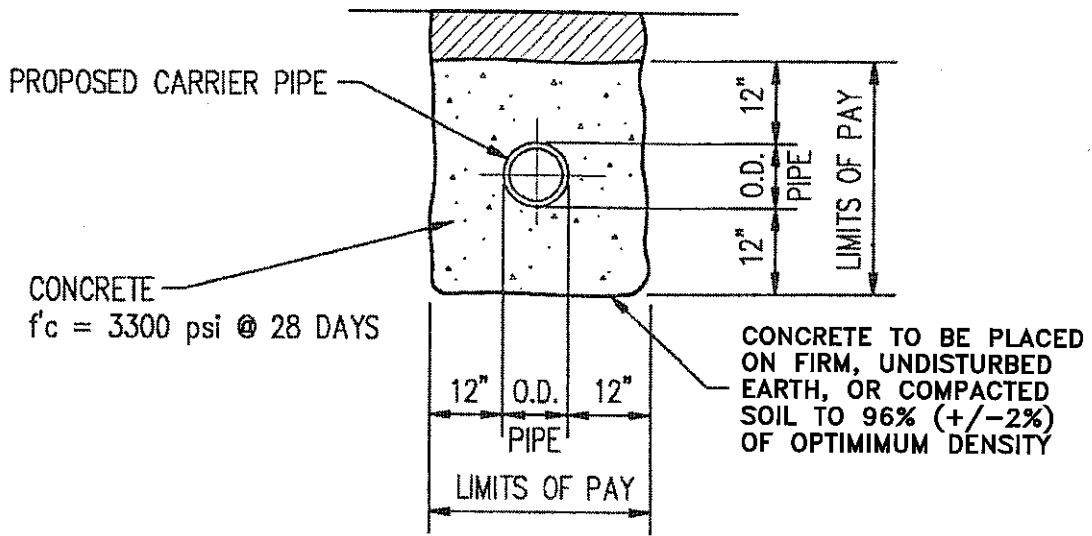
GREY IRON FRAME AND COVER SUBJECT TO MOTOR VEHICLE LOADING SHALL BE: EAST JORDAN FOUNDRY SERIES 1573 OR APPROVED EQUAL



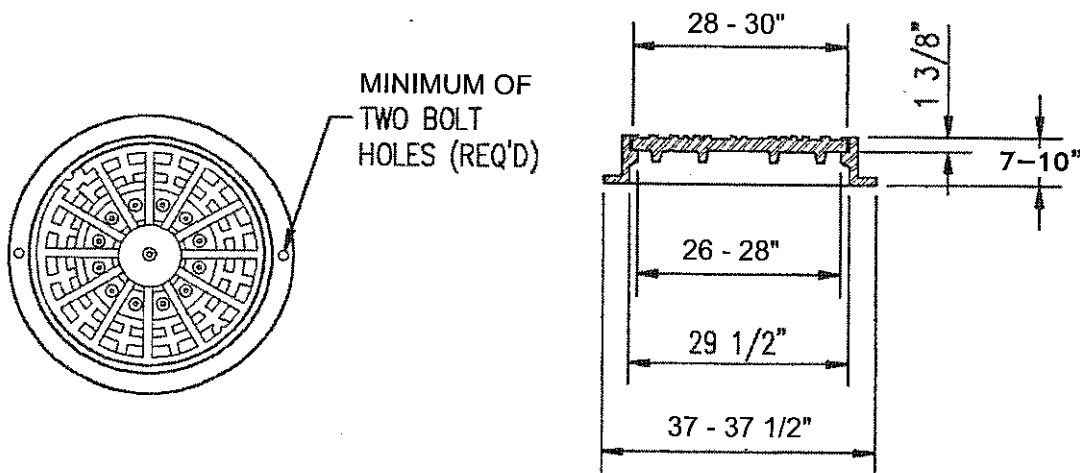
CLEANOUT INSTALLATION USED IN ALL PAVED AREAS



BUILDING SEWER AND LATERAL SEWER DETAIL



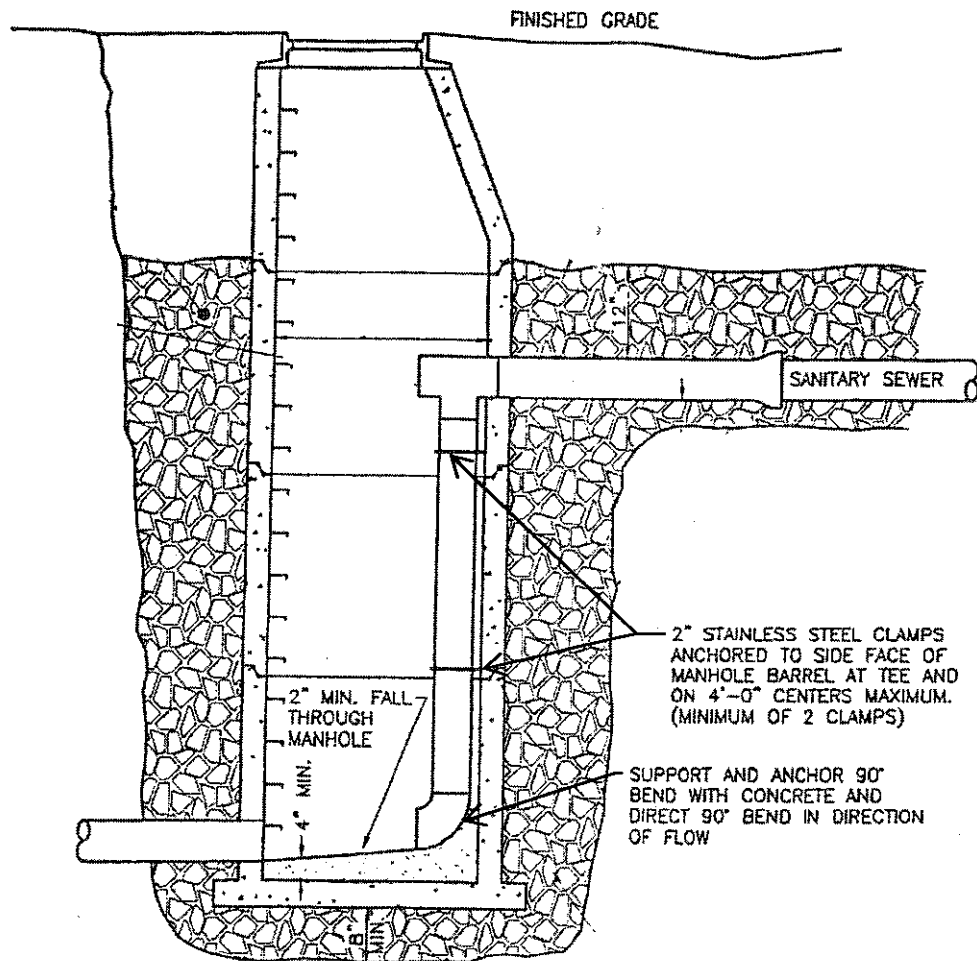
CONCRETE ENCASEMENT DETAIL
 (N.T.S.)



NEENAH FOUNDRY STANDARD MANHOLE FRAME AND COVER
 PATTERN R-1753-A FRAME AND COVER, 300 LBS,
 EAST JORDAN FOUNDRY STANDARD MANHOLE FRAME AND COVER
 PATTERN 1890A2GS, (OR APPROVED EQUAL).
 THE LETTERING "SANITARY" SHALL APPEAR ON MANHOLE COVER.

SANITARY MANHOLE FRAME AND COVER DETAIL

(N.T.S.)

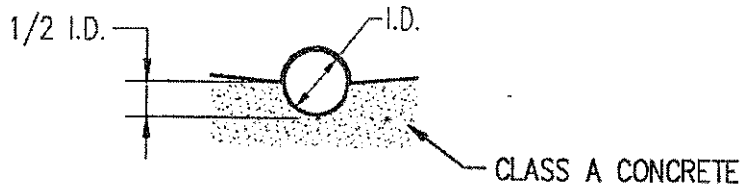


NOTES:

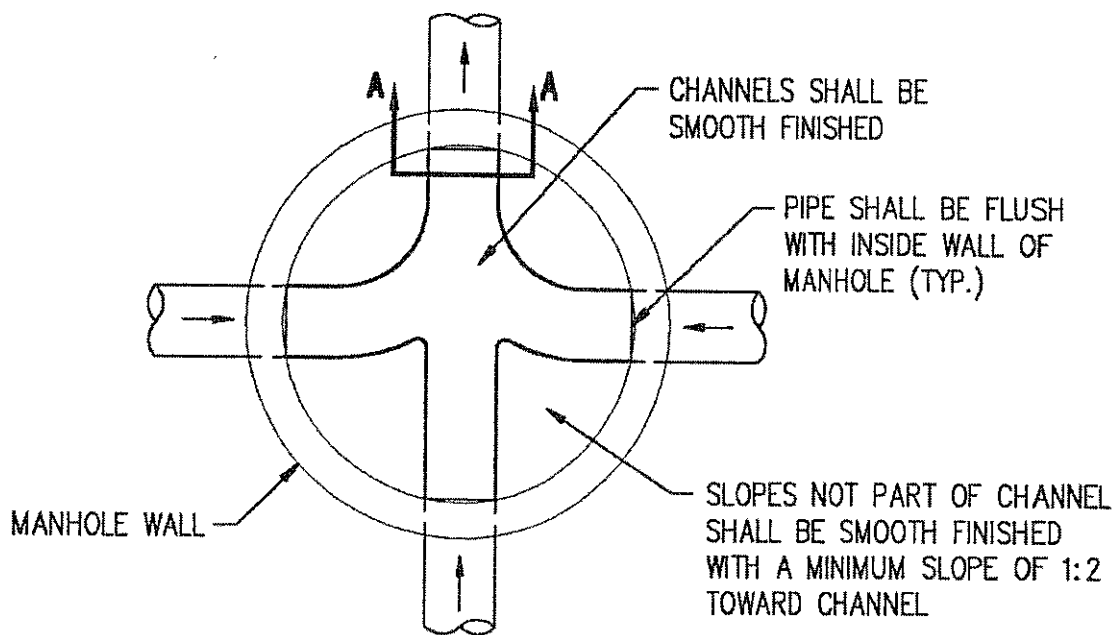
1. DROP CONNECTION INLET PIPE SHALL BE P.V.C. PIPE CONFORMING TO ASTM SDR 35.
2. DIAMETER OF THE DROP CONNECTION INLET PIPING SHALL EQUAL THE DIAMETER OF THE INLET PIPE.

**TYPICAL
INSIDE MANHOLE DROP CONNECTION**

N. T. S.



SECTION A-A
(TYP. ALL PIPES)



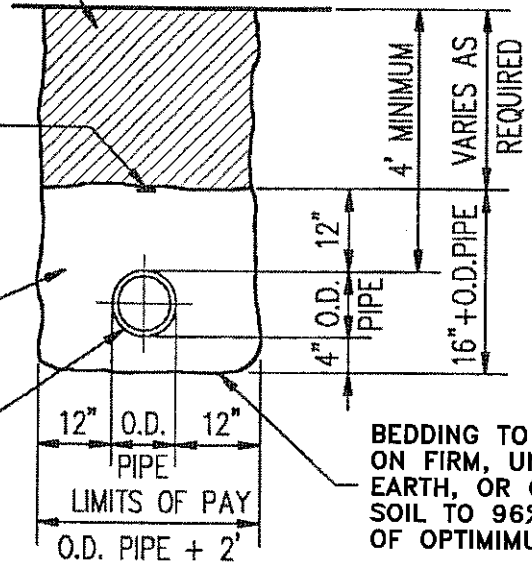
MANHOLE CHANNEL DETAIL
(N.T.S.)

BACKFILL WITH EXISTING ACCEPTABLE SOIL IN UNDEVELOPED AREAS. USE 2A MODIFIED LIMESTONE AGGREGATE UNDER ALL ROADWAYS, DRIVEWAYS, SIDEWALKS, OTHER DEVELOPED AREAS, OR AS DIRECTED BY THE ENGINEER. ALL BACKFILL SHALL BE PLACE AND COMPLACTED IN LOOSE LIFT LAYERS OF NO MORE THAN 6".

AMERICAN PUBLIC WORKS ASSOCIATION APPROVED - DETECTABLE WARNING TAPE (2" WIDTH MIN.) THAT IS CONSTRUCTED WITH 5-MIL ALUMINUM BACKING AND LABELED "CAUTION BURIED SEWER LINE BELOW"

#57 CRUSHED AGGREGATE, FREE OF FINES, TAMPED IN 4" LAYERS AS DIRECTED BY THE ENGINEER

PROPOSED PIPE



BEDDING TO BE PLACED ON FIRM, UNDISTURBED EARTH, OR COMPACTED SOIL TO 96% (+/-2%) OF OPTIMUM DENSITY

BEDDING & BACKFILLING DETAIL

(N.T.S.)

CARRIER PIPE

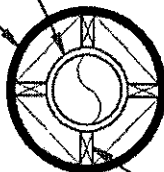
NOTE: CASING PIPE ENDS
TO BE SEALED WITH EDPM
RUBBER BOOT TO PROVIDE
WATER TIGHT SEAL.

STEEL CASING PIPE:

1. SHALL MEET ASTM A139
GRADE B AND AT A MINIMUM BE
CONSTRUCTED OF SCHEDULE 40
CARBON STEEL, 0.375-INCH
THICKNESS, WITH SEAMLESS
WELDS AND PROVIDE A YIELD
STRENGTH OF 35,000 PS;

2. IF A SPECIFIC ENTITY'S (I.E.
PENNDOT OR A RAILROAD)
MINIMUM REQUIREMENTS ARE
GREATER, THEN THE CONTRACTOR
SHALL MEET THEIR STANDARDS

3. ALL JOINTS SHALL BE FULL
CIRCUMFERENCE BUTT WELDED
AND WATERTIGHT.



CASING SPACERS SHALL BE HEAVY
DUTY, TWO PIECE SYSTEM
CONSTRUCTED OF 304 STAINLESS
STEEL BANDS AND GLASS FILLED
POLYMER OR HDPE RUNNERS. THE
SIZE, NUMBER, AND INSTALLATION
SHALL BE AS PER THE
MANUFACTURER'S INSTRUCTIONS AND
RECOMMENDATIONS TO CENTER
CARRIER PIPE(S) WITHIN THE CASING
PIPE.

BORING DETAIL

(N.T.S.)

2 - 3/4" DIA. STAR INSERTS REQUIRED FOR BOLTING MANHOLE FRAMES TO THE PRECAST MANHOLE, ANCHOR BOLTS SHALL BE 3/4" DIA. GALVANIZED ALL THREAD STEEL RODS AND A MINIMUM 2" PROJECTION THROUGH THE BASE OF THE FRAME. (OR APPROVED EQUAL)

ALL SUB-GRADE CONCRETE SURFACES SHALL HAVE 2 COATS OF EPOXY BITUMASTIC 300M BY CARBOLINE, OR ENGINEER APPROVED EQUAL.

"O" - RING SEAL OR EQUAL

JOINTS MORTARED SMOOTH, INSIDE AND OUT
ALL PIPE PENETRATIONS (CORED OR CAST) SHALL BE MADE WATER TIGHT WITH FLEXIBLE BOOT SEAL AS MANUFACTURED BY A-LOK OR APPROVED EQUAL.

A MAXIMUM OF 2-FOOT RING RISER ADJUSTMENT BETWEEN MANHOLE CONE AND COVER FRAME SHALL BE PERMITTED. ALL SEAMS SHALL BE MADE WATER TIGHT WITH APPROVED GASKET MATERIAL.
MINIMUM WALL REINFORCEMENT #9 GAUGE WIRE @ 12" C/C VERT., #4 GAUGE WIRE @ 4" C/C HORIZ.

STEPS - ALL RUNGS 16" C/C ALCOA ALUM. PART #12653 WITH 2 COATS BITUMASTIC #300M OVER ENTIRE RUNG (OR APPROVED EQUAL)

INVERT ELEVATION OF CLEANOUT PIPE AS SHOWN ON PLANS OR DIRECTED

WYE OR TEE CONNECTION
45° ELBOW USED WITH WYE CONNECTION
DROP CONNECTION TO BE USED IF GREATER THAN 2'-0" DIFFERENCE IN INVERT ELEVATIONS
CLASS "A" CONCRETE TO SOLID BEARING
90° ELBOW

4" MINIMUM CLEARANCE FOR PRECAST BASE

6" MINIMUM THICKNESS FOR PRECAST BASE

8" MINIMUM THICKNESS FOR POURED IN PLACE BASE

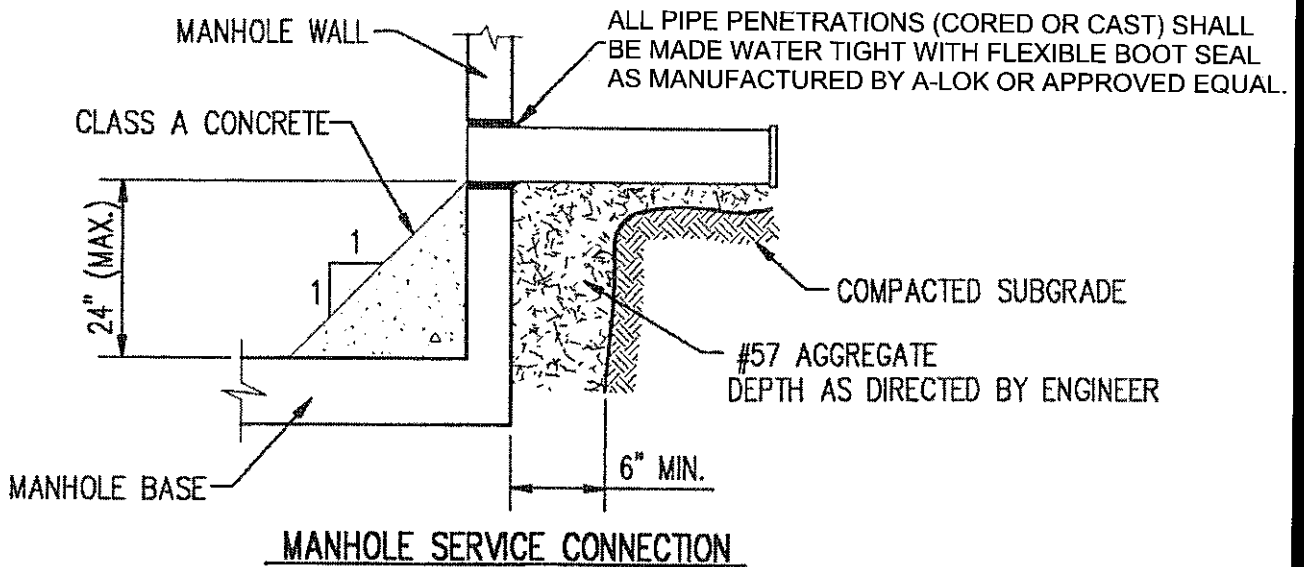
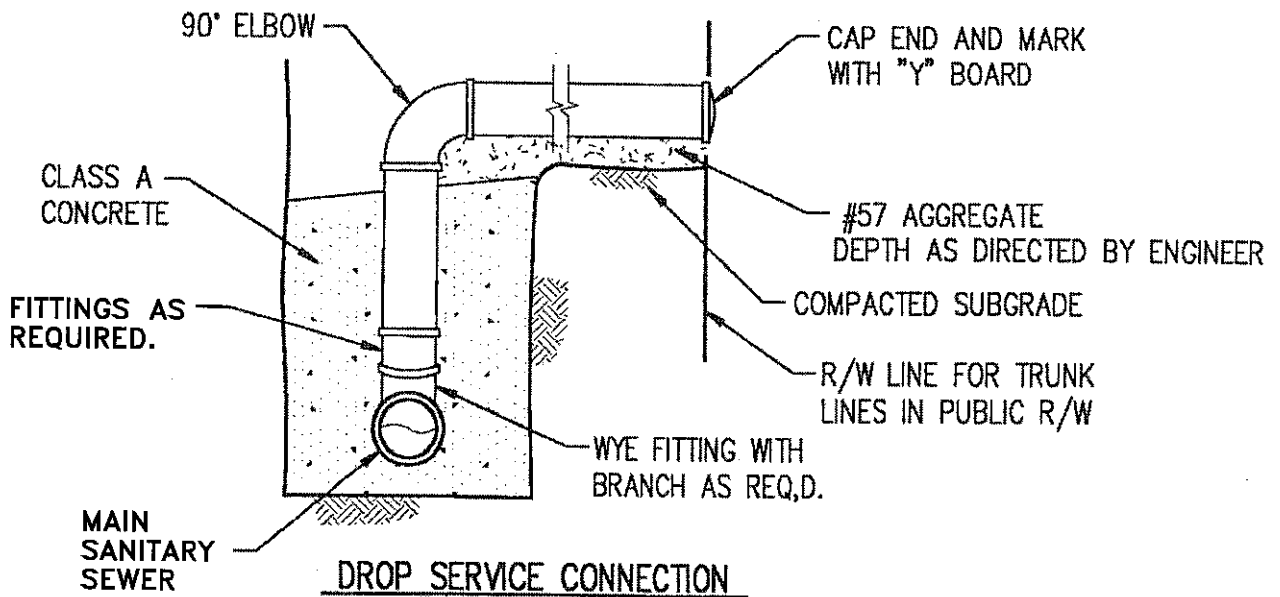
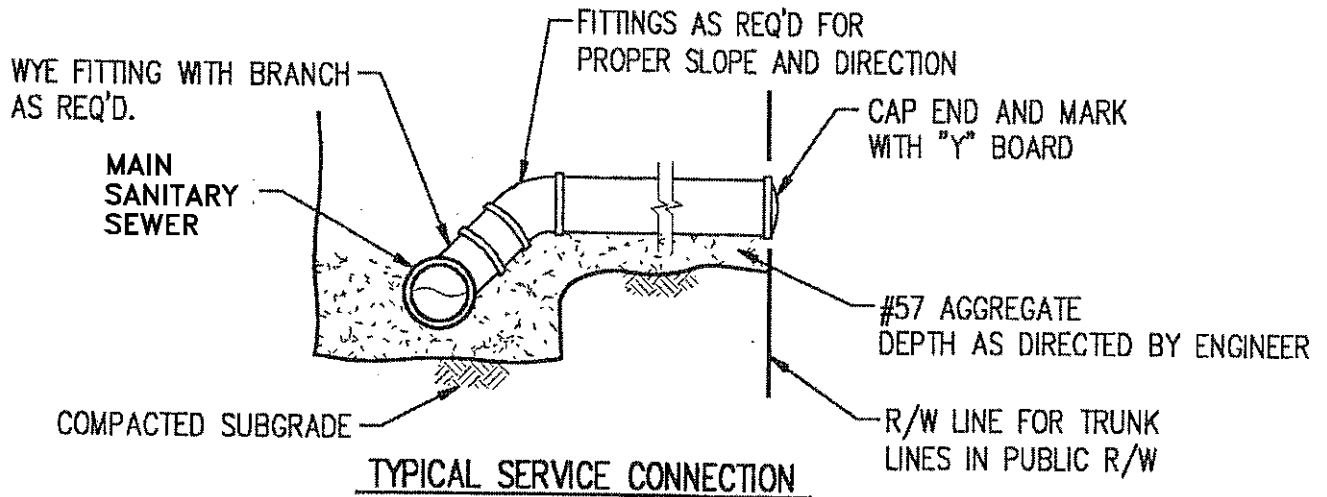
REINFORCING FOR POURED IN PLACE - #5 @ 12" GRID C/C CLASS "A" CEMENT CONCRETE

SELECT BACKFILL BASE 6" MIN.

SANITARY MANHOLE DETAIL

(N.T.S.)

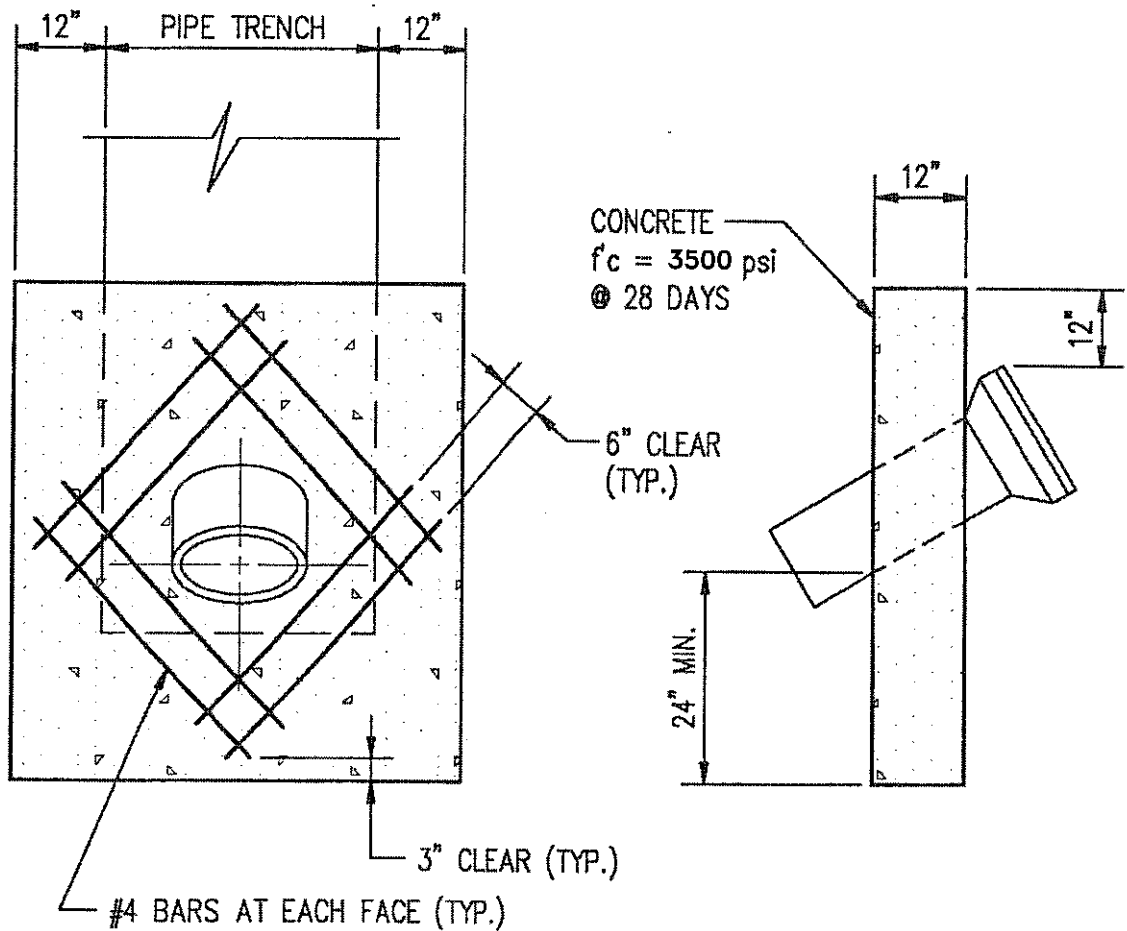
LHMA DETAIL



SERVICE CONNECTION DETAILS

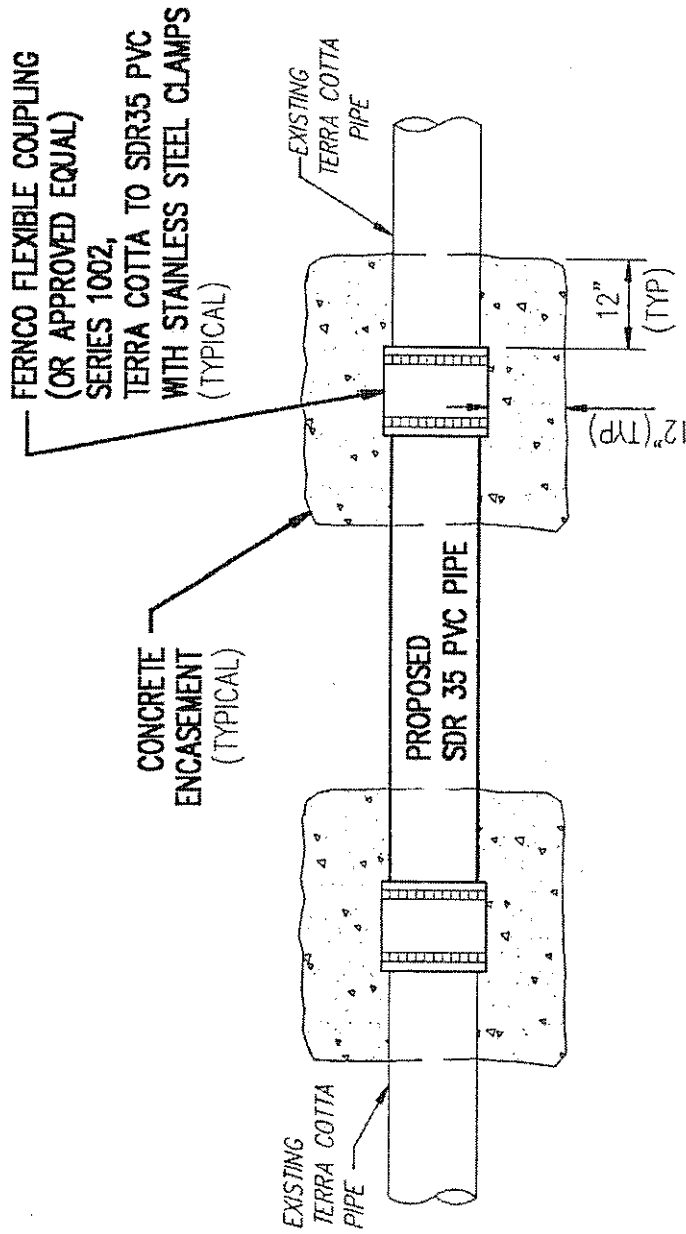
(N.T.S.)

LHMA DETAIL



SEWER LINE ANCHOR DETAIL
 (N.T.S.)

LHMA DETAIL



SEWER REPAIR DETAIL

LAWRENCE HICKORY MUNICIPAL AUTHORITY

HICKORY TOWNSHIP, LAWRENCE COUNTY

1928 HARLANSBURG ROAD, Suite A

P.O. BOX 7957

NEW CASTLE, PA. 16107

MONDAY & WEDNESDAY 8 a.m to 4 p.m.

PHONE - 724-654-5934 - FAX - 724-656-3443

DEVELOPER'S INITIAL APPLICATION

Developer Information:

Developer Firm Name: _____

Contact Name: _____

Address: _____

Phone Number: _____

Email Address: _____

Consultant Information:

Consultant Firm Name: _____

Contact Name: _____

Address: _____

Phone Number: _____

Email Address: _____

Account Holder Information:

Property Owner Name: _____

Address: _____

Phone Number: _____

Email Address: _____

Project Information:

Project Name: _____

Project Address: _____

Parcel ID Number: _____

Pre-Development Meeting Date: _____

Pre-Development Meeting Minutes: Yes No

LHMA Account Type: Residential Commercial Other: _____

Property Attributes:

Has the lot previously received DEP sewage planning approval? Yes / No

If yes, please provide a copy of the DEP approved SFPM and supporting calculations for sewage flows already allotted to the permit.

Existing Wastewater Flow, gpd: _____

Proposed Wastewater Flow, gpd _____

Supporting Calculations for the existing and Proposed Wastewater flows in PDF Format. ___Y___N___

Proposed sewer tap location (this will be used to determine the most limited capacity sewer for the DEP SFPM).

DEP signed SFPM: Y___N___.

For Final approval please follow instruction in Developer's Design Manual.