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EXHIBIT P8

ROSE VALLEY BOROUGH ACT 537 PLAN

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**DELCORA**  
*100 East 5<sup>th</sup> St*  
*Chester, PA 19013*

**ON BEHALF OF**

**ROSE VALLEY BOROUGH**  
**NETHER PROVIDENCE TOWNSHIP**

**SEWAGE FACILITIES PLAN**  
*UNDER*  
**PENNSYLVANIA ACT 537**

**ROSE VALLEY BOROUGH TREATMENT PLANT BYPASS**

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*REVISED OCTOBER 2016*

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Section A

DELCORA

On Behalf Of

Rose Valley Borough  
Nether Providence Township

Section B

Rose Valley Treatment Plant Bypass  
Public Sewerage Facilities

conveyed by

Delaware County Regional Water Quality Control Authority (DELCORA)

and treated by

Delaware County Regional Water Quality Control Authority (DELCORA)

RIDLEY CREEK WATERSHED

Section C

Plan Outline

## 2. PLAN SUMMARY

### A. Service Areas & Major Problems Evaluated

DELCORA has been evaluating the operation of its Rose Valley Treatment Plant (RVTP) since it was purchased in 2009. The RVTP service area is comprised of Rose Valley Borough and a section of western Nether Providence Township. The RVTP currently treats approximately 140 EDUs from Nether Providence Township and 317 EDUs from Rose Valley Borough.

It has been foreseen that the current treatment plant's aging infrastructure is going to require significant and costly improvements in the near future. Alternative treatment options are being explored to identify cost effective treatment for this service area.

This study is being conducted to analyze the alternative treatment options of this service area's flow. Alternatives include upgrading the existing treatment plant or diverting the service area's flow to regional treatment facilities.

There are three unique routes that are being considered in this study that will divert the flow from the existing treatment plant to more cost effective treatment plants in the region. These three Routes are detailed further in Exhibit 1.

### B. Alternative of Choice

Abandoning the existing Rose Valley Borough Treatment Plant and constructing a new pump station and forcemain to Middletown Township's Knowlton Road Forcemain is the alternative of choice for best addressing the needs of Rose Valley Borough and related Nether Providence Township residents.

With this proposal, sewage flows would be conveyed by the new Rose Valley Pump Station through a new force main which will connect into an MTSA forcemain in Knowlton Road which would then convey flows through existing MTSA forcemains and gravity lines to DELCORA's Chester Creek pump station and ultimately to its Western Regional Treatment Plant.

Repairs to the Old Mill Pump Station Forcemain located within Ridley Creek is also associated with this project.

See Exhibit 6 for Preliminary pump station and forcemain plans for the alternative of choice.

C. Cost to Users & Cost to Implement

Costs to decommission the existing Rose Valley Treatment Plant and then construct and operate a new pump station and forcemain are estimated at \$4,316,841.00 (See Exhibit 2).

DELCORA proposes to finance this construction cost through the issuance of Municipal Bonds. User fees are assessed and collected by each municipality from their respective residents. While a one time assessment fee is not anticipated for this project, a rate increase is anticipated to be necessary to cover the new annual debt service created.

D. Municipal Commitments

This planning effort shall only affect Rose Valley Borough and a portion of Nether Providence Township's sewage flows. With this proposal, 0.1 MGD average annual flow (0.3 MGD Peak) will be diverted from the existing Rose Valley Borough Treatment Plant, through Middletown Township Sewer Authority's forcemains and gravity lines to DELCORA's Chester Creek pump station and ultimately to DELCORA's Western Regional Treatment Plant. Municipal adoption of this Act 537 plan is required from both Rose Valley Borough and Nether Providence Township. Both Middletown Township Sewer Authority and DELCORA are required to approve capacity of their receiving facilities (Exhibit 3).

E. Implementation Schedule

It is anticipated that a timeframe for soliciting and addressing public comment, subsequent municipal adoption and submittal for DEP review and any follow-up, should not exceed a 90 day period. Pending securing or modifying permits as necessary for completion, construction is targeted for commencement within 30 days of PA DEP Act 537 Planning Approval.

3. RESOLUTION FOR PLAN REVISION

See Exhibit 9 for signed and sealed Resolution of Adoption

4. AGENCY REVIEW REQUESTS/RESPONSES

See Exhibit 8 for copies of correspondence with County and Township Planning Commissions. PNDI and PHMC results are also included.

5. PROOF OF PUBLIC NOTICE PUBLICATION

See Exhibit 10 for notice by DELCORA on behalf of Rose Valley Borough and Nether Providence Townships, establishing a thirty (30) day public comment period.

6. COMMENTS/RESPONSES

See Exhibit 11 for any written comments submitted.

7. PROJECT IMPLEMENTATION SCHEDULE

See Exhibit 7.

8. Inconsistency Provisions

See Plan Section VI – Alternative of Choice - consistent with applicable Local, County, Regional, State and Federal Items.

## I. PREVIOUS WASTEWATER PLANNING

### A. Existing

#### 1. Implemented

The Rose Valley Treatment Plant was constructed in the early 1930's to treat sewage flows from the residents of Rose Valley. Additional users were also added in over time from Nether Providence Township. Rose Valley Borough also updated their Act 537 plan in 2004 with DELCORA's Western Plan of Study for Delaware County Municipalities, in which municipalities were encouraged to implement I&I corrections as well as evaluate regional balancing alternatives for conveyance and treatment of sewage flows within neighboring towns and authorities. See exhibit 14 for a detailed list of Rose Valley Borough Sewer capital improvements over the years.

#### 2. Not -Implemented

Upon the sale of the treatment plant and system to DELCORA in 2009, the operations of the treatment plant and various alternatives have been under consideration, however, no planning was submitted until this current proposal.

#### 3. Sewer Authority Planning

This planning effort shall only affect Rose Valley Borough and a portion of Nether Providence Township. With this proposal, future flow will also be available in this system based upon DVRPC future population growth estimates.

Pending the approval and enactment of this alternative of choice, Rose Valley Borough and a portion of Nether Providence Township will be able to continue to allow for planned expansion of sewage facilities throughout their towns into the ultimate future of a build out scenario.

#### 4. Planning Modules for Land Development

Rose Valley Borough and Nether Providence Township have participated in both prior "sub-regional" planning as noted above, as well as individual revision, by way of Modules for Land Development.

### B. MUNICIPAL AND COUNTY PLANNING

#### 1. Land Use and Zoning

##### a. Delaware County



At present, the County's extensive revision to existing sewerage facilities planning for eastern and western municipalities was completed in 2002 and 2004 respectively. Recommendations for I&I repairs and rehabilitation for piping in each of the municipalities was included in the alternative of choice. Much of the recommended I&I removal programs and further studies have been accomplished to date. Therefore, the bulk of discussion in this section shall be focused on local, municipal land use planning.

b. Rose Valley Borough

Rose Valley Borough has existing ordinances relating to zoning, land use, sewerage facilities, floodplain and stormwater management. All proposed land uses in Rose Valley Borough will remain consistent with zoning with this proposal. The latest Rose Valley Act 537 Plan, dated 2007 is hereby incorporated into this plan by reference.

c. Nether Providence Township

Nether Providence Township has existing ordinances relating to zoning, land use, sewerage facilities, floodplain and stormwater management. All proposed land uses in Nether Providence Township will remain consistent with zoning with this proposal. The latest Nether Providence Township Act 537 Plan is hereby incorporated into this plan by reference.

## **II. PHYSICAL AND DEMOGRAPHIC ANALYSIS**

### **A. Planning Area**

In order to best serve Rose Valley Borough and a portion of Nether Providence Township existing MTSA and DELCORA collection and conveyance facilities will be utilized. However, for purposes of this plan revision no zoning will be affected from the standpoint of growth. See Exhibit 4 for planning area maps and existing facilities.

### **B. Physical Characteristics, Soils, Natural and Geologic Features**

The Act 537 plans referenced in section I.B.1 above contain exhibits depicting the natural features existing within Rose Valley Borough and a portion of Nether Providence Township. While this plan mostly deals with the public sewerage facilities within the Rose Valley Borough, the continued use of on-lot systems within other certain areas will be handled within Rose Valley and Nether Providence's separate Act 537 planning.

Therefore, sections B through G have been condensed accordingly with the above referenced exhibits.

### III. EXISTING SEWAGE FACILITIES IN THE PLANNING AREA - IDENTIFYING EXISTING NEEDS

#### A. Sewerage Facilities

##### 1. Sewage System Infrastructure

###### a. Middletown Township Sewer Authority

Middletown Township Sewer Authority is responsible for the operation of the Township's sewer system. For the purpose of the plan update, analysis of only the Knowlton Road Pump Station and force main, as well as the Dutton Mill Pump Station was completed.

###### b. CDCA infrastructure

CDCA maintains approximately 21 miles of sewer lines, four interceptors and one pump station. The major interceptors include the Crum Creek Interceptor, Little Crum Creek Interceptor, Stoney Creek Interceptor, and the Prospect Park Interceptor, which collectively total approximately 105,188 feet of various pipe sizes. The Authority also owns, operates and maintains its Crum Creek Pump Station, which was built in 1939, has undergone several upgrades, and has a current maximum station capacity of 16 MGD.

###### c. DELCORA infrastructure

This Authority's sewage collection, transportation, and treatment facility serves residential, commercial, industrial, and institutional properties throughout Delaware County. Their sewer system and treatment plant provide services for many local municipalities surrounding the City of Chester. DELCORA's Western Regional Treatment Plant, which is located in the City of Chester, is currently rated to treat an average 50 MGD of sanitary sewage.

DELCORA continues to own, operate and maintain its central pump station which collects all of CDCA's flows and conveys them for treatment at approximately 10 MGD average and up to 40 MGD peak flows. In 2002, the central pump station diversion project was implemented by DELCORA, that allowed for up to 12 MGD of CDCA flows to be diverted from Philadelphia's treatment plant over to DELCORA's Treatment Plant in Chester.

##### 2. Reserve Capacity

###### a. Middletown Township Sewer Authority

The Knowlton Road Pump Station has a peak capacity of 432,000 gpd. The calculated peak flow at the station is 422,000 gpd. Thus,

the reserve capacity is approximately 10,000 gpd. Due to the proposed flows of 100,000 GPD, MTSA station upgrades would be required if pumped directly into the Knowlton Road Pump Station. However, this proposal actually bypasses the Knowlton Road Pump Station and pumps directly into the Knowlton Road Force Main which does have enough reserve capacity.

The Knowlton Road Force Main conveys all flows from the Knowlton Road Pump Station to Rhodes Lane, where the flow is discharged to the Dutton Mill Interceptor. A capacity analysis performed for the force main indicates that its existing capacity is approximately 777,600 gpd and more than adequate (see study in Exhibit 13).

The Dutton Mill Interceptor currently does not have reserve capacity. However, the interceptor is currently being upgraded in 2016 to increase its capacity prior to accepting flows from the RVTP Bypass. The Chester Creek interceptor is also being upgraded by MTSA with anticipated completion prior to RVTP Bypass. See capacity letter from MTSA in Exhibit 3.

b. CDCA

The Crum Creek Pump Station conveys approximately 5.0 MGD average with a peak flow of 15.25 MGD based on existing records. The station's peak flow capacity is 16 MGD, based on current pump configurations. Future plans will expand the pump station's peak capacity to 24 MGD.

c. DELCORA

Existing flows to DELCORA's treatment plant totaled approximately 30.28 MGD average in 2013. The new and future flows proposed herein would add an average 0.1 MGD to these existing flows. Therefore, the total sewage flow proposed by the alternative of choice would be estimated at approximately 30.4 MGD average flow. Even with an additional 6 MGD of flow coming from the Aston Treatment Plant bypass in 2015, and 2.8 MGD coming from Edgmont Township, Upper Providence Township between 2015 and 2025, the total average flow of 39.2 would still be well within DELCORA's treatment plant rating of 50 MGD average and 105 MGD peak. Therefore, there is adequate reserve capacity to accommodate the proposed flow. DELCORA's plant would also still be able to handle peak flows without any problem. See capacity letter from DELCORA in Exhibit 3.

DELCORA's Central Delaware pump station would also have capacity, as an additional 0.1 MGD average flow from RVTP would

yield a future total flow of 12.9 MGD average or 32 MGD peak. Since the station is rated at 40 MGD, there is adequate capacity for all future flow as well.

### 3. Existing Problems

#### a. Middletown Township Sewer Authority

The Dutton Mill Interceptor currently does not have reserve capacity. However, the interceptor is expected to be completely upgraded prior to RVTP bypass and will have capacity built in for this plans alternative of choice. The Chester Creek Interceptor is also being replaced by MTSA with an expected completion prior to RVTP Bypass connection.

#### b. CDCA

Much of the 70 year old and greater sanitary sewer collection systems owned and operated by CDCA, exhibit inflow and infiltration related flow increases during prolonged wet periods. Such conditions have been continually evaluated and addressed, by the authority, in the last decade.

Currently, CDCA budgets annual costs for funding further I & I corrections which would realize additional rate savings from reduced I&I flows to DELCORA. Since DELCORA charges for treatment in thousands of gallons per day, reduced flows from I&I reduction result in reduced treatment costs to the Authority.

DELCORA sometimes experiences "exceedance charges" from the City of Philadelphia for peak flows sent to the Philadelphia Treatment Plant that are in excess of their agreement with DELCORA. When this occurs, during high peak flows, DELCORA then passes on these "exceedance charges" to CDCA and any other related authorities in its eastern service area. This gives further incentive to municipalities and authorities within the eastern service area to reduce system I&I flows.

#### c. DELCORA

Each of DELCORA's municipalities have recently updated their own I&I investigations and enacted plans for corrective action as appropriate. A summary of such remediation is located within the final draft of the Delaware County Act 537 Plan Update for its Eastern Plan of Study, dated 2001. DELCORA also has combined sanitary and storm sewers in the City of Chester, in which flows are being reduced through actions listed below in section 4.

#### IV. FUTURE GROWTH AND LAND DEVELOPMENT

##### A. Municipal and County Planning Documents

1. Nether Providence Township and Rose Valley Borough have land use plans and zoning maps that are in conformance with this proposal.
2. Nether Providence Township and Rose Valley Borough have their own individual zoning and subdivision regulations that are in conformance with this proposal.
3. Nether Providence Township and Rose Valley Borough have their own individual floodplain and stormwater management ordinances that are in conformance with this proposal.

##### B. Growth Projections

1. Existing Developments and Plotted Subdivisions

The planning area within Nether Providence Township and Rose Valley Borough are approaching a “built-out” scenario, with Nether Providence anticipating a 3.2% population increase (approximately 5 EDUs) and Rose Valley anticipating a 11.5% population increase (approximately 37 EDUs) over the next 30 years. See Exhibit 5 for DVRPC population forecast data.

2. Comprehensive Plan Coordination

In keeping with Article III objectives of the Pennsylvania Municipalities Planning Code, Nether Providence Township and Rose Valley Borough have prepared comprehensive plans, much of which was referenced above. Although each document was commissioned to address specific goals and objectives, references are uniformly made to regional elements such as sewage facilities planning.

3. Future Growth on a Whole-Municipality Basis

According to the Delaware Valley Regional Planning Commission (DVRPC) “Population Forecasts By Municipality” study has shown Rose valley is expected to grow from a population of 949 in 2015 to 1058 in

2045 (11.5% increase), and Nether Providence Township is expected to grow from a population of 13,808 in 2015 to 14,251 in 2045 (3.2% increase).

The total future cumulative growth based upon DVRPC growth projections is broken down as follows:

Rose Valley Borough – 317 EDUs ----->11.5% Increase = 354 EDUs

Nether Providence Township – 140 EDUs -->3.2% Increase = 145 EDUs

Total Future Growth Year 2045 = 499 EDUs

**Total Future Average Annual Flow Year 2045 = 100,000 GPD\***

\*Based upon historic flow records indicating 200.4 gpd/edu actual flows (See exhibit 5 for Rose Valley Treatment Plant historic flow records)

4. Local Ordinances and Plans

Rose Valley Borough and Nether Providence Township ordinances and codes relating to the development and protection of land and water resources are included in each of their individual zoning and subdivision/land development ordinances.

5. Existing Facility Influent Flow Trends

Due to several factors, existing customer flows to the DELCORA system treatment plant has been decreasing over the past five years. A decreasing trend in flows is now being realized from industrial regions with the installation of new and more efficient equipment and with the departure of certain oil refineries. Further flow reduction is also being seen due to I&I corrections being performed by the municipalities served by DELCORA. A new policy has also been implemented by DELCORA, which requires all new construction projects within the City of Chester to separate storm flows from the sanitary flows contained within Chester's combined sanitary and storm sewer system. As a result, additional capacity has been realized at DELCORA's Western Regional Treatment Plant and has allowed for recent diversions of flows from SWDCMA in Aston and CDCA's addition of Edgmont, Newtown and Upper Providence Townships.

a. Five-year Population and Growth Impact

Assuming that the most recent DVRPC growth forecasts represent corresponding wastewater generation trends in the portions of CDCA's member municipalities, flow changes can be weighted based on their predicted growth.

Existing - 317 EDUs Rose Valley + 140 EDUs Nether Prov. = 457 EDUs

Existing Flow – 457 EDUs x 200.4 gpd/EDU = 91,583 GPD

Rose Valley Service Area (2020 Projection)

Increase of population in service area: 317 EDUs x 2.2% = 7 EDUs

Nether Providence Service Area (2020 Projection)

Increase of population in service area: 140 EDUs x 0.62% = 1 EDU

5 Year Growth EDUs = 457 + 7 + 1 = 465 EDUs

5 Year Growth – 2020 average annual flow

465 EDUs x 200.4 GPD = 93,186 GPD

b. Ten-year Population and Growth Impact

Existing - 317 EDUs Rose Valley + 140 EDUs Nether Prov. = 457 EDUs

Existing Flow – 457 EDUs x 200.4 gpd/EDU = 91,583 GPD

Rose Valley Service Area (2025 Projection)

Increase of population in service area: 317 EDUs x 4.4% = 14 EDUs

Nether Providence Service Area (2025 Projection)

Increase of population in service area: 140 EDUs x 1.22% = 2 EDUs

Year Growth EDUs = 457 + 14 + 2 = 473 EDUs

10 Year Growth – 2025 average annual flow

473 EDUs x 200.4 GPD = 94,789 GPD



## V. WASTEWATER DISPOSAL ALTERNATIVES

### A. New / Existing Sewerage Facilities

#### 1. Regional Wastewater Concepts

##### a. Delaware County Regional Water Quality Control Authority (DELCORA)

DELCORA has been regionalizing the treatment of wastewater treatment in Delaware County for several decades. As existing systems age and become too costly and inefficient, DELCORA decommissions existing plants and conveys flow to its western regional treatment plant in Chester, PA.

#### 2. Extension of Existing Municipal Facilities

##### a. Rose Valley Treatment Plant Service Area

The current area is essentially built out and no large scale developments are planned within the area at this time. Converting the existing treatment plant to a pump station and upgrading Old Mill Pump Station are the only upgrades necessary within the service area.

#### 3. Continued Use of Existing Municipal Facilities

##### a. Repair

In order to provide continued service to the area, DELCORA will continue to serve and upgrade the existing conveyance system as needed.

##### b. Upgrading

###### i. DELCORA

Modifications to either the DELCORA interceptor or treatment plant will not be required since both have adequate capacity to convey and treat the flow.

###### ii. CDCA

Recent upgrades to the CDCA Crum Creek interceptor would allow the RVTP flows to be connected with the newly created reserve capacity. Planned upgrades to the Crum Creek Pump Station would need to be completed prior to connection (estimated construction in 2017).

###### iii. MTSA

Upgrades to Middletown Township Sewer Authority's Dutton Mill

Interceptor are underway in 2016 and should be completed prior to any RVTP flows being realized. The MTSA Chester Creek interceptor is also scheduled to be completed up to the connection point, for RVTP flows, prior to the actual RVTP Bypass completion.

c. Reduction of Hydraulic and Organic Loading

i. Rose Valley

One of the largest problems found in any sewer collection and conveyance system is that of inflow and infiltration (I&I). These problems can escalate into extensive wet weather flows and result in higher treatment rates. Since DELCORA has taken over the system in 2009, they have been evaluating the system for opportunities of improved operation and performance. Rehabilitation of the Old Mill Pump Station's forcemain creek crossing, which is currently exposed within the Ridley Creek will help ensure long term, efficient sewage facilities with reduced chance of failure and I&I.

d. Improved Operation and Maintenance

It is recognized that the effective carrying capacity of any sanitary sewerage collection or conveyance system is maximized through consistent O & M, such as grit and grease removal. DELCORA currently owns truck mounted sewer cleaning equipment and has an ongoing program of regular system preventative maintenance with a qualified staff.

e. Other Actions

i. Flow Metering

In an effort to encourage municipalities to reduce their total flows sent to DECLORA for treatment, a flow metering program has been established in DELCORA's Eastern Service Area. The metering program identifies actual flows coming from each municipality and bills each municipality for treatment based upon actual meter readings. This takes the guesswork out of where elevated wet weather flows may be coming from and encourages such places to reduce such flows through I&I reduction programs. Often times, the realized treatment cost savings will pay for the I&I reduction measures that are implemented.

4. Collection / Conveyance System Repair or Replacement

The impact of wet-weather flows on sanitary sewers is an important factor in determining available public sewerage capacity. As alluded to in earlier sections, I & I related problems are common to all of the existing collection and conveyance systems. CDCA has an annual budget for I&I

reduction projects that they have continued to operate under for many years now. The recent CDCA improvements to its Crum Creek Interceptor show specific upgrades related to both I&I improvements and the Newtown, Upper Providence and Edgmont Township expansion. It should also be noted that each of DELCORA's contributing municipalities have performed I&I studies to identify problem areas in each of their subsystems. And with the approval of the Delaware County East Act 537 in 2002, each municipality has continued to take corrective action over the years through grants, loans and annual budget expenses.

5. New Wastewater Treatment Facilities

Given the availability of existing reserve capacity of sewage treatment available through neighboring municipalities and authorities, a more costly new wastewater treatment facility was not considered as a feasible alternative. This plan is being prepared to remove the existing sewage treatment facility because the treatment plant is outdated and retrofitting would be cost prohibitive. A cost estimate of Rose Valley Treatment Plant Upgrade costs are included within exhibit 2 and can be seen as one of the most expensive alternatives.

6. Alternatives for Collection & Conveyance

- a. Route #1 – Change the Rose Valley Treatment Plant into a pump station to convey flows through the existing Old Mill Force Main to the Old Mill Pump Station. The Old Mill Pump Station would be upgraded to pump the sewage to Possum Hollow Road and Providence Road in Nether Providence Township through a new force main. Existing gravity lines convey flow to CDCA's Crum Creek Interceptor for ultimate treatment at DELCORAs WRTP or PWD SWPCP.
- b. Route #2 – Change the Rose Valley Treatment Plant into a pump station that conveys all flow to Brookhaven Road Pump Station via Todmorden Drive. Flows are further conveyed by DELCORA's Ridley Creek Interceptor for ultimate treatment at DELCORAs WRTP or PWD SWPCP.
- c. Route #3 (Alternative of Choice) – Change the Rose Valley Treatment Plant into a pump station that conveys all flow to MTSA Knowlton Road Forcemain via Longpoint Lane. Existing MTSA gravity lines and DELCORA's Chester Creek Pump Station further convey flows to DELCORAs WRTP.

B. Subsurface Sewage Disposal System Usage

Continued use of on-lot systems within other certain areas of the Rose Valley and Nether Providence will be handled within each of their own Act 537 plans.

[ NOTE: SECTIONS C-G WERE DELETED AS INAPPLICABLE TO THIS PLAN ]

H. No-Action Alternative

Continued operation of the treatment plant will put increased strain on Users and Operators as regulations become more stringent, and the treatment plant will become in violation of future nutrient limits. This would ultimately end with PA DEP notices of violation, fines being levied against the Borough on a daily basis, and a judgement against the Borough with an order for corrective action.

1. Water Quality / Public Health Impacts

To not bypass or upgrade the Rose Valley Treatment Plant would send the plant towards becoming in violation of future nutrient limits expected in 2017. While no physical change in water quality would be expected from existing conditions, the new health standards would not be met. The age of the facility would also lend itself towards eventual failures and potential untreated overflows into a nearby stream.

2. Growth Potential

In the event that Rose Valley elects the No-Action Alternative, the planning area really does not have much growth expected, with only 16 EDUs projected over the next 10 years. Without the forthcoming nutrient restrictions, the existing plant could handle these flows. However, in 2017 nutrient reduction requirements will become effective and new connections would be restricted until costly plant upgrades were completed to achieve such reductions.

3. Community Economic Conditions

The forthcoming nutrient reduction requirements for the Rose Valley Treatment Plant in 2017 will require costly upgrades that would need to be passed on to the existing residents within that watershed. This would likely be done through significant increases in user fees and a possible assessment fee. A cost estimate of Rose Valley Treatment Plant Upgrade costs are included within exhibit 2 and can be seen as one of the most expensive alternatives.

4. Recreational Opportunities

Election of a "no-action" alternative in the Rose Valley Treatment Plant watershed would eventually restrict development and prevent

developments with active and passive recreation from being built due to nutrient discharge restrictions.

5. **Drinking Water Sources**  
There are no known public drinking water sources that would be affected since the current RVTP discharges to the Ridley Creek. However, private wells could be affected by the non-compliant nutrient loadings discharged to waters by a no action alternative.
6. **Other Environmental Concerns**  
A no action alternative would also leave the existing Old Mill Pump Station Forcemain Exposed within Ridley Creek (a rehabilitation of which is proposed with the alternative of choice), which could lead to eventual failure and direct discharge of sewage into a stream.

## **VI. EVALUATION OF ALTERNATIVES**

### **A. Consistency Requirements**

#### **1. Clean Streams Law & Water Act Planning**

All of the infrastructure owned and operated by those public sewerage service providers, integral to this proposed plan revision, was constructed in accordance with both Pennsylvania Clean Streams Law and the federal Clean Water Act. Since construction is essentially within existing easements and rights of way for the alternative of choice, these standards can be ensured to once again be upheld.

#### **2. Municipal Wasteload Management Plans**

All of the public sewerage facilities noted in this proposed plan revision are required to submit annual "Chapter 94" reports in which past, present and future sewerage needs of those communities served, are evaluated. DELCORA is willing and has the capacity to provide the required conveyance and treatment for the Rose Valley Treatment Plant Bypass. With the implementation of the Alternative of Choice, Rose Valley & that portion of Nether Providence will also have such capacity.

#### **3. Clean Water Act, Title II Planning**

Consistency with technology requirements of the Act has been achieved for all of the public sewerage facilities, noted in this plan.

#### **4. Comprehensive Plans**

The alternative of choice is consistent with Rose Valley Borough and Nether Providence Township's comprehensive plans. Typically, municipal comprehensive plans refer to public sewerage in generic terms, not specific to a particular treatment plant or process.

[ NOTE: SUBSECTIONS 5-8 WERE DELETED AS INAPPLICABLE TO THIS PLAN]

#### **9. Wetlands Protection**

All of the sewage facilities discussed in this proposed revision, were constructed prior to promulgation of Pennsylvania Code Title 25, Chapter 105. Improvements proposed for the alternative of choice consist of replacing or repairing existing facilities within existing easements and rights of way. While small sections of wetlands may be encountered, we would request to submit wetland and survey information with the WQM Permits Submissions.

#### 10. Pennsylvania Natural Diversity Inventory

A PNDI search was performed for the forcemain routing alternative of choice and no conflicts were found.

#### 11. Historical and Archaeological Resources

In that none of these alternatives call for more than 10 acres of land disturbance nor contain any state or federal funding at this time, no Pennsylvania Historical and Museum Commission review was required.

#### B. Inconsistency Resolution

No planning inconsistencies with any of the above items were identified. Further analysis of such will be included with the WQM Permit packages as necessary.

#### C. Alternative Analysis

The impact of "no action" on each alternative was detailed in Section V, above with the new nutrient loading requirements being one of the biggest technical/legal challenge. However, with any of the bypass alternatives, DELCORA will need to address certain other legislative and legal requirements:

1. The annual report required by Pennsylvania Code Title 25, Chapter 94 would have to be modified accordingly for DELCORA. With the implementation of the alternative of choice, system wide DELCORA loading projections will reflect increased contributions from the Rose Valley Watershed. Being such a small percentage of DELCORA's total flow at less than 1%, water quality discharge effects will be negligible and easily handled by existing facilities.

#### D. Cost Estimates and Administrative Impact

The alternative of choice allows for decommissioning of the Rose Valley Borough Treatment Plant and construction of a new bypass pump station at a cost to be distributed through DELCORA charges through their agreements with Rose Valley Borough and Nether Providence Township. It is easy to see that the other alternatives are more not cost effective and were therefore not chosen. See Exhibits 2 & 7 for project specific cost estimates and schedules.

### 1. Operation and Maintenance (O & M) Considerations

It is recognized that additional flows to DELCORA will have the affect of adding to their total infrastructure O & M responsibilities. DELCORA is well positioned to carry additional responsibility with its ongoing search to regionalize treatment in Delaware County. Relative to this proposed revision, added O & M costs for additional flows, within capacity, to DELCORA, represent minimal budget or staffing increases. DELCORA has an O&M budget for all of its system components and continues to perform annual inspection, repairs and rehabilitation of its systems.

### 2. Administrative Impacts

In a similar light, DELCORA treatment plant administrative staff should not be significantly impacted by additional responsibility of more flow from Rose Valley Borough and Nether Providence Township among bases exceeding tens of thousands.

### 3. User Fees

Costs to new customers of most public sewer authorities take one of two forms: Distribution of capital improvement costs through one-time fee assessments or charges for collection, conveyance, and treatment. Some authorities combine the two cost recovery elements or at least incorporate them into a single billing. DELCORA is in the process of working out such details with Rose Valley Borough.

## E. Funding Methods

For the alternatives requiring financing, they are arranged by DELCORA and will involve issuance of guaranteed sewer revenue bonds. Rating of the bonds is typically very high since they are insured, non-taxable to most investors and by nature guaranteed against default through the taxing power of local government.

## F. Municipal Implementation of Alternatives

Rose Valley Borough and Nether Providence Township possesses the legal authority to implement the diversion of flows that would promulgate the construction of the Alternative of Choice. DELCORA has studied the required improvements to divert flows from RVTP to the DELCORA Plant in Chester and found that no increases in capacity would be required at their treatment plan. Certain capacity increases within the Middletown Township Sewer Authority are underway and expected to be completed prior to the Rose Valley Bypass tie in.



## 1. Public Health Aspects

New treatment plant discharge limitations cannot be met with the current treatment plant configuration. While no physical change in water quality would be expected from existing conditions, the new health standards would not be met. The age of the facility would also lend itself towards eventual failures and potential untreated overflows into a nearby stream. The proposed bypass will eliminate the potential public health hazards identified above.

## 2. Phasing of Facilities or Program Development

The bypass of flows from RVTP to DELCORA's WRTP will be done in one phase. Assuming all DEP approvals will be received within the next 90 days, the Rose Valley Bypass Project could commence within 30 days of PA DEP Act 537 Final Planning approval.

## G. Administrative Organization and Legal Authority

All of the capabilities listed above in this subsection are in place within all municipal entities utilizing the DELCORA system. An agreement between DELCORA and Rose Valley Borough has already been made, which arranges for DELCORA's ownership and maintenance of all sewage facilities within Rose Valley Borough. This gives DELCORA the legal authority to bypass sewage flows for treatment at their WRTP in Chester. DELCORA is also in the process of updating an agreement with Middletown Township as an intermediate conveyance municipality for the alternative of choice. See Exhibit 12 for municipal agreements.

## **VII. INSTITUTIONAL EVALUATION**

### **A. Existing Wastewater Treatment Authority Performance**

DELCORA has a proven track record for the operation of sanitary sewerage collection, conveyance, and treatment facilities, serving a host of southern and eastern Delaware County municipalities. Recent bypasses to its WRTP have begun to regionalize treatment in an effort to fulfill the authorities original intentions of providing service to a majority of Delaware County. DELCORA also has the legal authority, financial responsibility and the system management required for such consideration within this plan.

### **B. Institutional Alternatives**

No further institutional arrangements are required in order to implement any alternatives presented in this plan revision.

### **C. Implementation of Administrative and Legal Activities**

In order to implement the alternative of choice presented herein, DELCORA will need to create, or update, an agreement with Middletown Township as an intermediate conveyance municipality.

No easements, rights of way, nor land transfers are required to implement the Alternative of Choice due to the proposed use of existing Rose Valley Borough owner Land facilities, easements and rights of way. The proposed forcemain routing will go through an existing access road which goes between 2 residents homes. While right of way is already in place, discussions with homeowners are ongoing to ensure a smooth construction process. See Exhibit 4 for related plot plans showing referenced rights of way for the alternative of choice.

Assuming all DEP approvals will be received within the next 90 days, the project could commence within 30 days of final Act 537 Planning Approval. (See Exhibit 7 for breakdown of timeline).

### **D. Implementing the Institutional Alternative**

It should be noted that no further institutional alternatives are required, as discussed above.

## VIII. SELECTED WASTEWATER ALTERNATIVE

Abandoning the existing Rose Valley Borough Treatment Plant and constructing a new pump station and forcemain to Middletown Township's Knowlton Road Forcemain is the alternative of choice for best addressing the needs of Rose Valley Borough and related Nether Providence Township residents.

With this proposal, sewage flows would be conveyed by the new Rose Valley Pump Station through a new force main which will connect into an MTSA forcemain in Knowlton Road which would then convey flows through existing MTSA forcemains and gravity lines to DELCORA's Chester Creek pump station and ultimately to its Western Regional Treatment Plant.

Repairs to the Old Mill Pump Station Forcemain located within Ridley Creek are also associated with this project.

### 1. Wastewater Disposal Needs

The existing disposal methodology within Rose Valley and the related small portion of Nether Providence has been predominantly public sewer with very few on lot disposal systems remaining. The ability to provide quality public wastewater conveyance and treatment in the present and future, along with low user fees were the chief deciding factors in the alternative selection. Since the DELCORA alternatives of choice will ensure present and future capacity for wastewater conveyance and treatment, the proposal within the alternative of choice is recommended.

### 2. Five and Ten Year Planned Growth Areas

Section IV.A.5 of this proposed plan revision projects a small amount of growth within the planning area of Rose Valley and Nether Providence. The alternative of choice was selected because it will ensure adequate conveyance capacity as well as taking advantage of DELCORA's reserve capacity, which will allow for both anticipated growth and future peak flows.

### 3. Operation and Maintenance

The effective carrying capacity of any sanitary sewerage collection or conveyance system is maximized through consistent O & M, such as grit and grease removal. DELCORA already budgets annual O & M to its collection and conveyance system and will continue to do so with the completion of the alternatives of choice. DELCORA is also well positioned to carry the additional responsibility for treatment since it already has a comprehensive program of regular system preventative maintenance with a qualified staff. In cases where additional users will be served solely with new sewer infrastructure, the resulting

flow usually does not impose inflow or infiltration due to improved system materials and installation. Relative to this proposed revision, adding a new pump station and decommissioning an existing treatment plant, will represent an actual decrease in O & M budget demands and no anticipated staffing increases.

#### 4. Cost-effectiveness

Public service providers, utilities and certainly many businesses today, all strive to operate more cost-effectively. Computers are playing a continually larger role in the management of sewage facilities and customer databases. The construction of a new pump station with computerized PLC's will allow that station to be monitored as a part of DELCORA's computerized network system, making daily operation and maintenance much easier and cost effective.

DELCORA still has treatment plant capacity representing unrealized revenue. As a result, DELCORA is actively seeking more customers to offset continual debt, O & M and other liabilities. A cost effective incremental growth in DELCORA's system can be gained by the implementation of this plan. DELCORA's revenue will therefore be enhanced while providing Rose Valley Borough with a continued viable wastewater treatment alternative.

#### 5. Available Management and Administrative Systems

DELCORA billing will need to be adjusted to reflect a new annualized cost associated with the upgrades proposed. This will depend on the amount of funding that is required to be financed, vs. the availability of grant money and the use of capital reserves.

Since DELCORA has more than adequate capacity to handle average, future and emergency flows, the upgrades to send more flow to its WRTP is well warranted. DELCORA continues to have a proven track record and certainly possess very capable management and administrative systems.

DELCORA seems well positioned to implement conveyance and treatment of the additional flows without compromising capacity or resources. Throughout Delaware County, DELCORA currently provides conveyance and/or treatment for 23 municipalities in its eastern service area and 12 municipalities in its western service area. As a result, DELCORA has a well established O & M program. The administrative staff and systems will be able to easily handle the proposed additional customers since the alternative of choice is essentially realizing only a small part of DELCORA's reserve capacity.

## 6. Available Financing Methods

DELCORA proposes to finance this construction cost through the issuance of Municipal Bonds. Rating of the bonds is typically very high since they are insured, non-taxable to most investors and by nature guaranteed against default through the taxing power of local government

## 7. Environmental Soundness

The alternate of choice complies with existing natural resource planning and preservation programs within Rose Valley Borough and Nether Providence Township by eliminating the forthcoming violations with regard to nutrient loading discharge from the RVTP. The alternative of choice provides the best sewerage service by regional providers that will eliminate the referenced threat to the environment.

## B. Capital Financing Plan

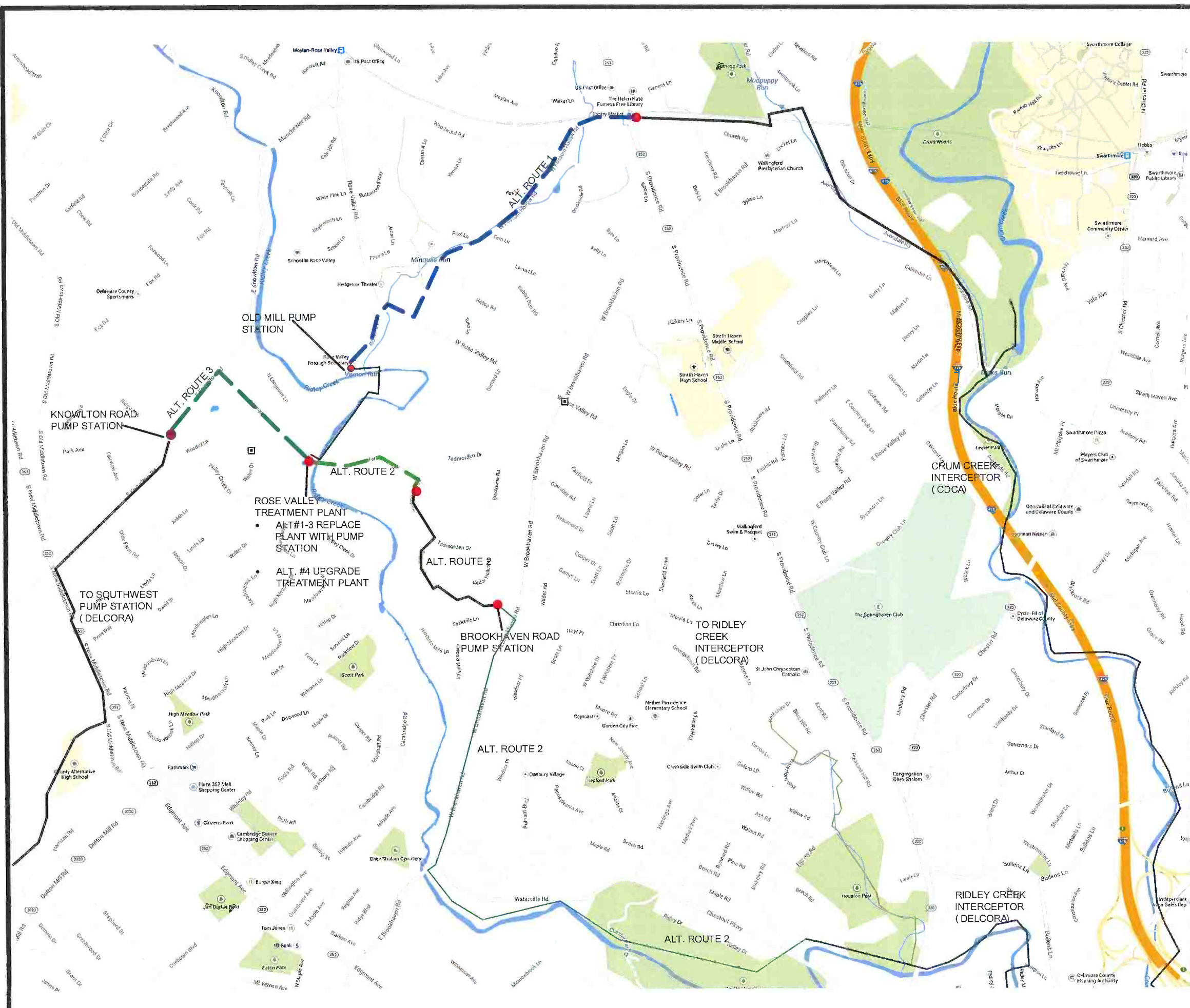
DELCORA shall gain additional capital reserves for the project through the issuance of a sewer bond.

## C. Implementation Schedule

See Exhibit 7 for the proposed implementation schedule.

(NOTE: SECTION IX ENVIRONMENTAL REPORT WAS DELETED AS INAPPLICABLE TO THIS PLAN)

EXHIBIT 1



**ALTERNATIVES**

**ALTERNATIVE #1: SEND TO CDCA CRUM CREEK INTERCEPTOR**

- CONVERT RVTP TO PUMP STATION, UTILIZE EXISTING FORCE MAIN TO CONVEY SEWAGE TO ROSE VALLEY'S OLD MILL PS
- NEW FORCE MAIN FROM ROSE VALLEY'S OLD MILL PS TO NETHER PROVIDENCE'S COLLECTION SYSTEM ON POSSUM HOLLOW ROAD
- SEWAGE FLOWS THROUGH GRAVITY LINES FROM POSSUM HOLLOW ROAD IN NPT TO CDCA'S CRUM CREEK INTERCEPTOR TO DELCORA'S CENTRAL DELAWARE PS
- SEWAGE TREATED AT DELCORA'S WRTP OR PWD SWPCP

**ALTERNATIVE #2: SEND TO DELCORA RIDLEY CREEK INT.**

- CONVERT RVTP TO PUMP STATION
- NEW FORCE MAIN FROM RVTP TO ROSE VALLEY'S COLLECTION SYSTEM ON TODMORDEN DRIVE
- UPGRADE GRAVITY LINES FROM TODMORDEN DRIVE TO ROSE VALLEY'S BROOKHAVEN ROAD PS
- BROOKHAVEN ROAD PS CONVEYS FLOWS TO NETHER PROVIDENCE TOWNSHIP'S COLLECTION SYSTEM ON BROOKHAVEN ROAD.
- NEW PARALLEL LINE TO DELCORA'S RIDLEY CREEK INTERCEPTOR TO DELCORA'S CHESTER PS
- SEWAGE TREATED AT DELCORA'S WRTP

**ALTERNATIVE #3: SEND TO MIDDLETOWN TOWNSHIP SEWER AUTHORITY KNOWLTON RD. PUMP STATION\***

- CONVERT RVTP TO PUMP STATION
- NEW FORCE MAIN FROM RVTP TO MIDDLETOWN'S KNOWLTON ROAD PS
- KNOWLTON ROAD PS CONVEYS FLOWS TO DELCORA'S SWDCMA PS
- SEWAGE TREATED AT DELCORA'S WRTP

**ALTERNATIVE #4: UPGRADE ROSE VALLEY TREATMENT PLANT**

\* ALTERNATIVE OF CHOICE

**ROSE VALLEY  
TREATMENT PLANT  
SPECIAL STUDY  
ALTERNATIVE FLOW ROUTES**

## EXHIBIT 2



Alternative #1 - CDCA Crum Creek Interceptor					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
1	Decomission Existing Treatment Plant	1	LS	\$ 150,000.00	\$150,000.00
2	6" HDPE Force Main	5600	LF	\$250.00	\$1,400,000.00
3	New Pump Station	1	LS	\$500,000.00	\$500,000.00
4	Generator	1	LS	\$75,000.00	\$75,000.00
5	Re-route existing piping to new pump station	1	LS	\$30,000.00	\$30,000.00
6	Power Upgrades for new pump station	1	LS	\$25,000.00	\$25,000.00
7	Road Paving Restoration	4000	SY	\$75.00	\$300,000.00
8	Lane Overlay	7250	SY	\$20.00	\$145,000.00
9	Stream Crossing	1	LS	\$75,000.00	\$75,000.00
10	Erosion Controls	1	LS	\$25,000.00	\$25,000.00
11	Traffic Controls	1	LS	\$50,000.00	\$50,000.00
12	Upgrade Old Mill Pump Station	1	LS	\$95,000.00	\$95,000.00
13	Repairs to Old Mill PS Forcemain under Ridley Creek	1	LS	\$125,000.00	\$125,000.00
14	Utility Conflicts	1	LS	\$200,000.00	\$200,000.00
Sub-Total					\$3,195,000.00
10% Construction Contingency					\$319,500.00
12.5% Engineering Design/Inspection/Construction Administration					<u>\$399,375.00</u>
Alternate #2 Construction Cost =					<u>\$3,913,875.00</u>
CDCA Fee** =					\$500,000.00
Crum Creek PS & FM Upgrade Fee** =					\$200,000.00
Engineering Design Fees =					\$659,341.00
Vernon Run Repair =					\$207,500.00
Alternate #1 Grand Total Cost =					<b>\$5,480,716.00</b>

Alternative #2 - DELCORA's Ridely Creek Interceptor					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
1	Decomission Existing Treatment Plant	1	LS	\$ 150,000.00	\$150,000.00
2	6" HDPE Force Main (heavy rock excavation)	1800	LF	\$325.00	\$585,000.00
3	New Pump Station	1	LS	\$500,000.00	\$500,000.00
4	Generator	1	LS	\$75,000.00	\$75,000.00
5	Re-route existing piping to new pump station	1	LS	\$30,000.00	\$30,000.00
6	Power Upgrades for new pump station	1	LS	\$25,000.00	\$25,000.00
7	Road Paving Restoration	1400	SY	\$75.00	\$105,000.00
8	Lane Overlay	2400	SY	\$20.00	\$48,000.00
9	Stream Crossing	1	LS	\$75,000.00	\$75,000.00
10	Erosion Controls	1	LS	\$25,000.00	\$25,000.00
11	Traffic Controls	1	LS	\$50,000.00	\$50,000.00
12	Repairs to Old Mill PS Forcemain under Ridley Creek	1	LS	\$125,000.00	\$125,000.00
13	Upgrade existing Brookhaven Road Pump Station & FM	1	LS	\$500,000.00	\$500,000.00
14	Easements	1	LS	\$200,000.00	\$200,000.00
15	Utility Conflicts	1	LS	\$200,000.00	\$200,000.00
16	Upgrade Nether Providence Gravity Line	2000	LF	\$225.00	\$450,000.00
17	Parallel Ridley Creek Interceptor Line	5000	LF	\$225.00	\$1,125,000.00
Sub-Total					\$4,268,000.00
10% Construction Contingency					\$426,800.00
12.5% Engineering Design/Inspection/Construction Administration					<u>\$533,500.00</u>
Alternate #2 Construction Cost =					<u>\$5,228,300.00</u>
Nether Providence** Fee =					\$792,500.00
Engineering Design Fees =					\$659,341.00
Vernon Run Repair =					\$207,500.00
Alternate #2 Grand Total Cost =					<b>\$6,887,641.00</b>

Alternative #3 Middletown Township (Alternative of Choice)\*

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
1	Decomission Existing Treatment Plant	1	LS	\$ 150,000.00	\$150,000.00
2	6" HDPE Force Main	2975	LF	\$225.00	\$669,375.00
3	New Pump Station	1	LS	\$500,000.00	\$500,000.00
4	Generator	1	LS	\$75,000.00	\$75,000.00
5	Re-route existing piping to new pump station	1	LS	\$30,000.00	\$30,000.00
6	Power Upgrades for new pump station	1	LS	\$36,000.00	\$36,000.00
7	Road Paving Restoration	2000	SY	\$75.00	\$150,000.00
8	Lane Overlay	3450	SY	\$20.00	\$69,000.00
9	Stream Crossing	1	LS	\$79,441.33	\$79,441.33
10	Erosion Controls	1	LS	\$26,000.00	\$26,000.00
11	Traffic Controls	1	LS	\$26,000.00	\$26,000.00
12	Repairs to Old Mill PS Forcemain under Ridley Creek	1	LS	\$140,000.00	\$140,000.00
13	Utility Conflicts	1	LS	\$90,000.00	\$90,000.00
Sub-Total					\$2,040,816.33
10% Construction Contingency					\$204,081.63
12.5% Engineering Design/Inspection/Construction Administration					\$255,102.04
Alternate #3 Construction Cost* =					\$2,500,000.00
Middletown Fee*** =					\$950,000.00
Engineering Design Fees =					\$659,341.00
Vernon Run Repair =					\$207,500.00
Alternate #3 Grand Total Cost* =					\$4,316,841.00

Alternative #4 - Upgrade Existing Treatment Plant

1	Mobilization	1	LS	\$2,961.25	\$2,961.25
2	Demolition	1	LS	\$202,667.95	\$202,667.95
3	Site Work	1	LS	\$142,140.00	\$142,140.00
4	Control Building	1	LS	\$208,708.90	\$208,708.90
5	Concrete Tanks for sand filter	1	LS	\$126,859.95	\$126,859.95
6	Electric & Generator	1	LS	\$200,535.85	\$200,535.85
7	Sand Filter	1	LS	\$304,890.30	\$304,890.30
8	Headworks	1	LS	\$475,695.20	\$475,695.20
9	Extended Aeration System	1	LS	\$1,784,567.70	\$1,784,567.70
10	SCADA	1	LS	\$56,026.85	\$56,026.85
11	Pumps & Piping	1	LS	\$279,068.20	\$279,068.20
12	Utility Conflicts	1	LS	\$375,000.00	\$375,000.00
Sub-Total					\$4,159,122.15
25% Construction Contingency					\$1,039,780.54
12.5% Engineering Design/Inspection/Construction Administration					\$519,890.27
Alternate #4 Construction Cost =					\$5,718,792.96
15% Engineering Design Fees =					\$623,868.32
Vernon Run Repair =					\$207,500.00
Alternate #4 Grand Total Cost =					\$6,550,161.28

\* Alternative of Choice  
\*\* CDCA & Nether Providence Fees are assumed to be at least the amount indicated due to past fees charged in these areas.  
\*\*\* Middletown Fee is an actual cost based upon a written agreement between Middletown Township and DELCORA.

## EXHIBIT 3

**MIDDLETOWN TOWNSHIP, DELAWARE COUNTY,**

**SEWER AUTHORITY**

27 N. PENNELL ROAD  
P.O. BOX 9  
LIMA, PENNSYLVANIA 19037-0009

(610) 566-3087  
FAX (610) 566-0879

October 10, 2016

Michael J. Ciocco, P.E.  
Catania Engineering Assoc., Inc.  
520 W. MacDade Blvd.  
Milmont Park, PA 19033

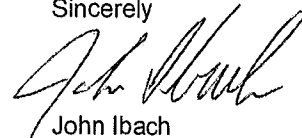
Re: Rose Valley Treatment Plant Bypass  
Act 537 Plan Update  
499 EDUs - 130,988 GPD

Dear Mr. Ciocco:

Please be advised that upon completion of improvements underway, Middletown Township Sewer Authority will have sufficient capacity in its Knowlton Road Force main, Dutton Mill Interceptor, and Chester Creek Interceptor to accept the 100,000 GPD (499 EDUs) for the above referenced bypass of flows from the Rose Valley Treatment Plant. The additional load from the project will not create a hydraulic overload, or a five year projected overload. The conveyance system will have adequate capacity to meet the criteria set forth in Section 71.51(b)(2)(iii) of the PA DEP Rules and Regulations for this project's wastewater flows.

Should you have any further comments or questions, please feel free to contact me.

Sincerely



John Ibach  
Middletown Township Sewer Authority

☒ **J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 100,000 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

When providing "treatment facilities" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

- a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.
- b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.
- c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

To complete the table, refer to the instructions, Section J.

MTSA	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	Peak	Average	Peak	Average	Peak
Collection	1,333,333	4,000,000	195,000	487,500	289,000	866,000
Conveyance	3,112,000	9,336,000	1,560,000	3,900,000	2,600,000	7,800,000
Treatment						

Dutton Mill  
CCI

3. Collection and Conveyance Facilities

The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

- YES NO
- a. ☐ ☒ This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

- b. Collection System

Name of Agency, Authority, Municipality Middletown Township Sewer Authority

Name of Responsible Agent BEA, Inc.

Agent Signature Walter Foyke Date 10-10-16



DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY  
P.O. Box 999 • Chester, PA 19016-0999

October 11, 2016

Michael J. Ciocco, P.E.  
Catania Engineering Associations, Inc.  
520 W. MacDade Blvd.  
Milmont Park, PA 19033-3311

RE: Sewer Planning Module  
Rose Valley Treatment Plant Bypass  
Act 537 Plan Update

Dear Mr. Ciocco:

Please be advised that DELCORA has sufficient capacity in the Chester-Ridley Pump Station and Western Region Treatment Plant to accept the 100,000 GPD for the above referenced bypass of flows from the Rose Valley Treatment Plant. The additional load from the project will not create a hydraulic overload, or a five year projected overload. The conveyance system and treatment plant will have adequate capacity to meet the criteria set forth in Section 71.51(b)(2)(iii) of the PA DEP Rules and Regulations for this project's wastewater flows.

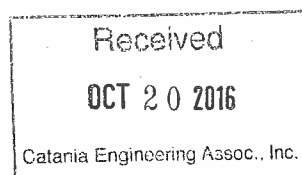
Should you have any further comments or questions, please feel free to contact me.

Sincerely,

Robert J. Willert  
Executive Director

RJW:bab  
enclosure

cc: E. Bothwell - via email  
C. Catania, Jr., CEA - via email  
Accounting - via email  
File - Project #2016-1002



ADMINISTRATION

☐ 610-876-5523  
☐ FAX: 610-876-2728

CUSTOMER SERVICE/BILLING

☐ 610-876-5526  
☐ FAX: 610-876-1460

PURCHASING & STORES

☐ 610-876-5523  
☐ FAX: 610-497-7959

PLANT & MAINTENANCE

☐ 610-876-5523  
☐ FAX: 610-497-7950

☒ **J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 100,000 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

When providing "treatment facilities" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

- a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.
- b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.
- c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

To complete the table, refer to the instructions, Section J.

	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	Peak	Average	Peak	Average	Peak
Collection						
Conveyance	6.7 MGD	16.7 MGD	4.5 MGD	10.00 MGD	4.90 MGD	10.80 MGD
Treatment	50.0 MGD	105.0 MGD	33.54 MGD	105.54 MGD	32.80 MGD	103.20 MGD

3. Collection and Conveyance Facilities

The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

YES NO

- a. ☐ ☒ This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

- b. Collection System

Name of Agency, Authority, Municipality MTSA

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_ Date \_\_\_\_\_

☒ **J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

c. Conveyance System

Name of Agency, Authority, Municipality MTSA

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_

Date \_\_\_\_\_

4. Treatment Facility

The questions below are to be answered by a representative of the facility permittee in coordination with the information in the table and the latest Chapter 94 report. The individual signing below must be legally authorized to make representation for the organization.

YES NO

- a. ☐ ☒ This project proposes the use of an existing wastewater treatment plant for the disposal of sewage. Will this action create a hydraulic or organic overload within 5 years at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this inconsistency with Chapter 94 is resolved or unless there is an approved CAP granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the planning module.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not impact that status.

- b. Name of Agency, Authority, Municipality DELCORA

Name of Responsible Agent \_\_\_\_\_

Agent Signature *Robert J. Elliott*

Date 10/11/16

☐ **K. TREATMENT AND DISPOSAL OPTIONS** (See Section K of instructions)

This section is for land development projects that propose construction of wastewater treatment facilities. Please note that, since these projects require permits issued by DEP, these projects may NOT receive final planning approval from a delegated local agency. Delegated local agencies must send these projects to DEP for final planning approval.

Check the appropriate box indicating the selected treatment and disposal option.

- ☐ 1. Spray irrigation (other than individual residential spray systems (IRSIS)) or other land application is proposed, and the information requested in Section K.1. of the planning module instructions are attached.
- ☐ 2. Recycle and reuse is proposed and the information requested in Section K-2 of the planning module instructions is attached.
- ☐ 3. A discharge to a dry stream channel is proposed, and the information requested in Section K.3. of the planning module instructions are attached.
- ☐ 4. A discharge to a perennial surface water body is proposed, and the information requested in Section K.4. of the planning module instructions are attached.

☐ **L. PERMEABILITY TESTING** (See Section L of instructions)

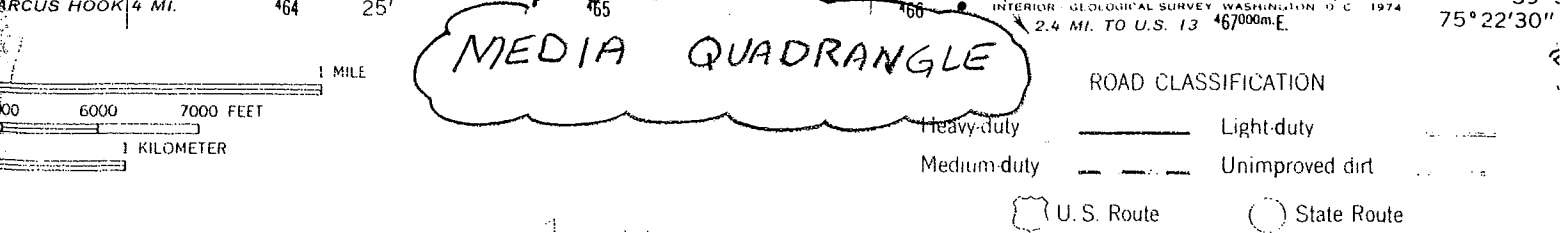
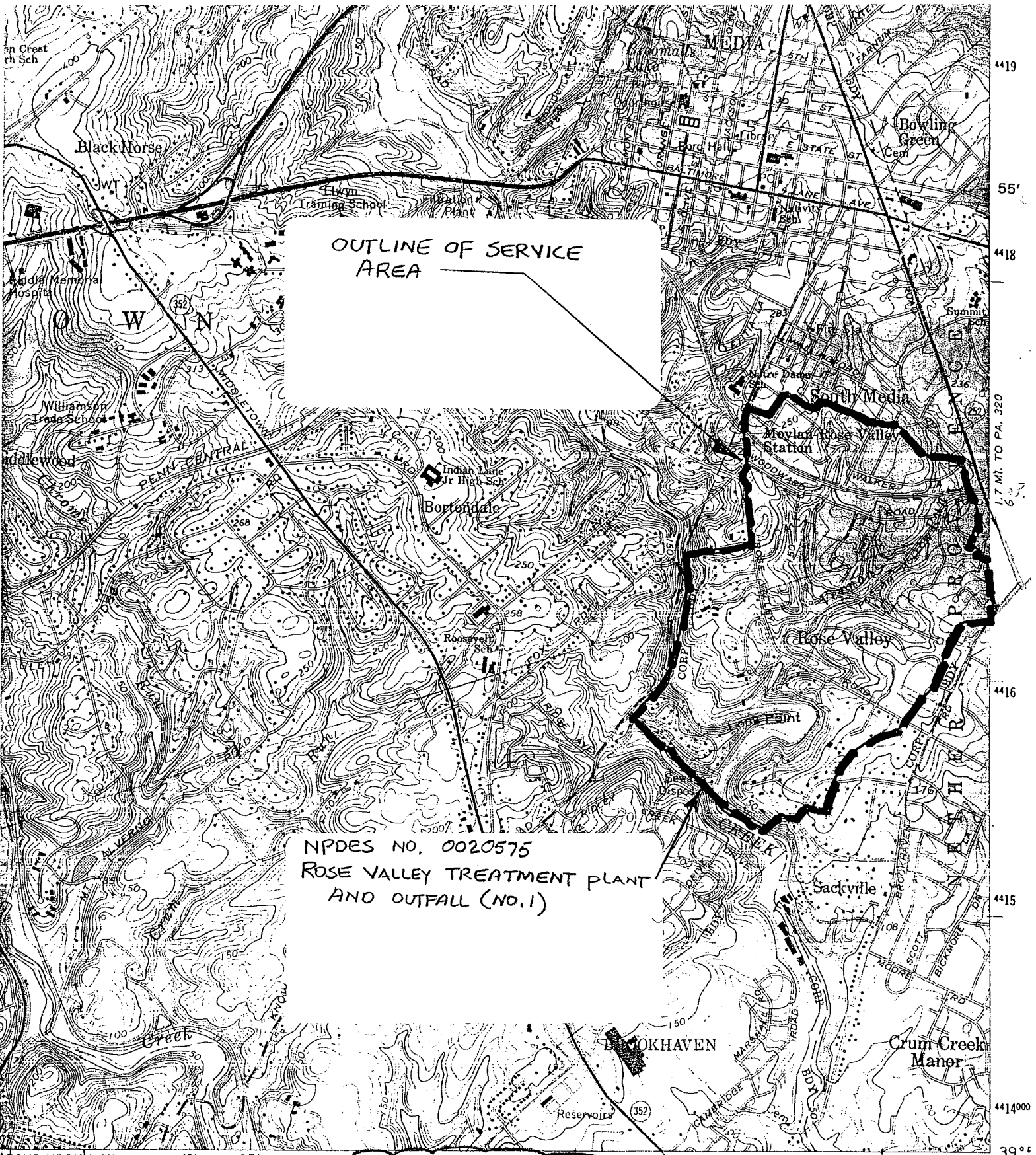
- ☐ The information required in Section L of the instructions is attached.

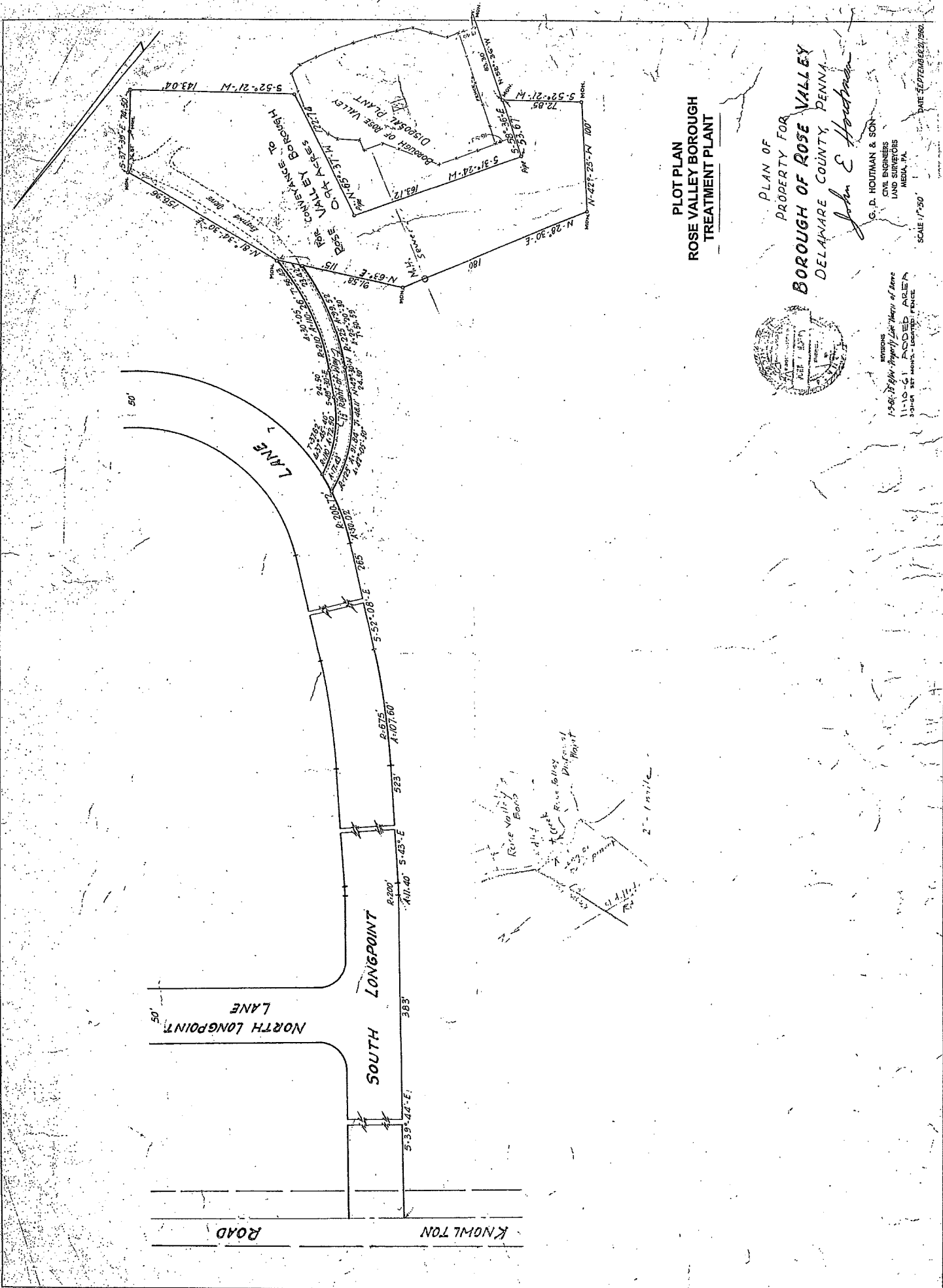
☐ **M. PRELIMINARY HYDROGEOLOGIC STUDY** (See Section M of instructions)

- ☐ The information required in Section M of the instructions is attached.



## EXHIBIT 4





**PLOT PLAN  
ROSE VALLEY BOROUGH  
TREATMENT PLANT**



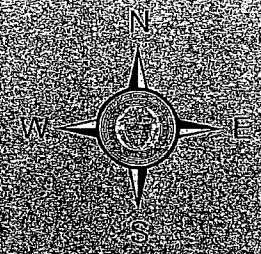
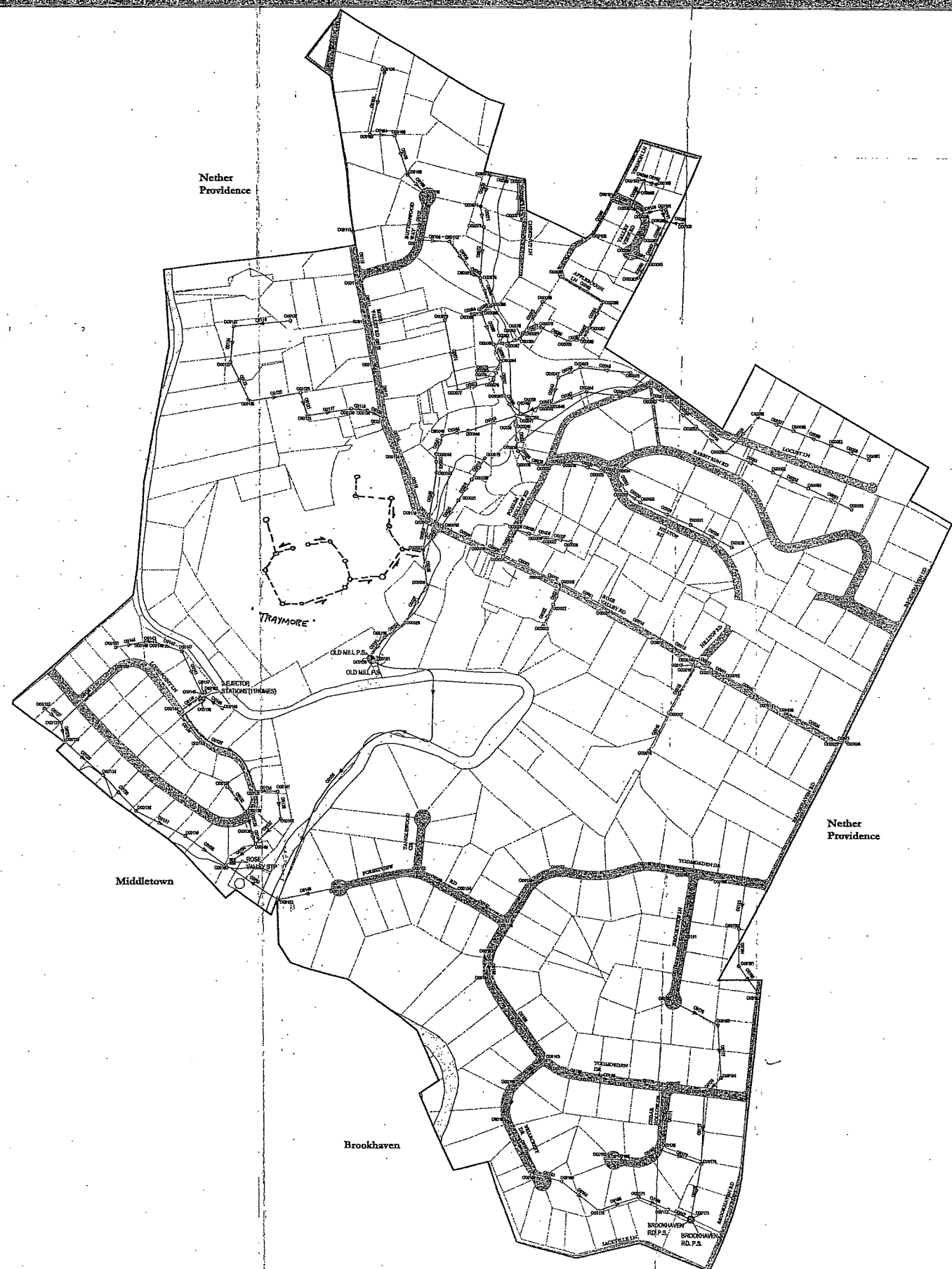
PLAN OF  
PROPERTY FOR  
**BOROUGH OF ROSE VALLEY**  
DELAWARE COUNTY, PENNA.

*John E. Houtman*  
G. D. HOUTMAN & SON  
CIVIL ENGINEERS  
LAND SURVEYORS  
MEDIA, PA.

REVISIONS  
1-56: 20' W. Property Line North of Lane  
11-15-61: ADDED AREA  
3-19-62: SET MON. - LOCATED FENCE

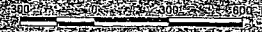
SCALE 1"=50'

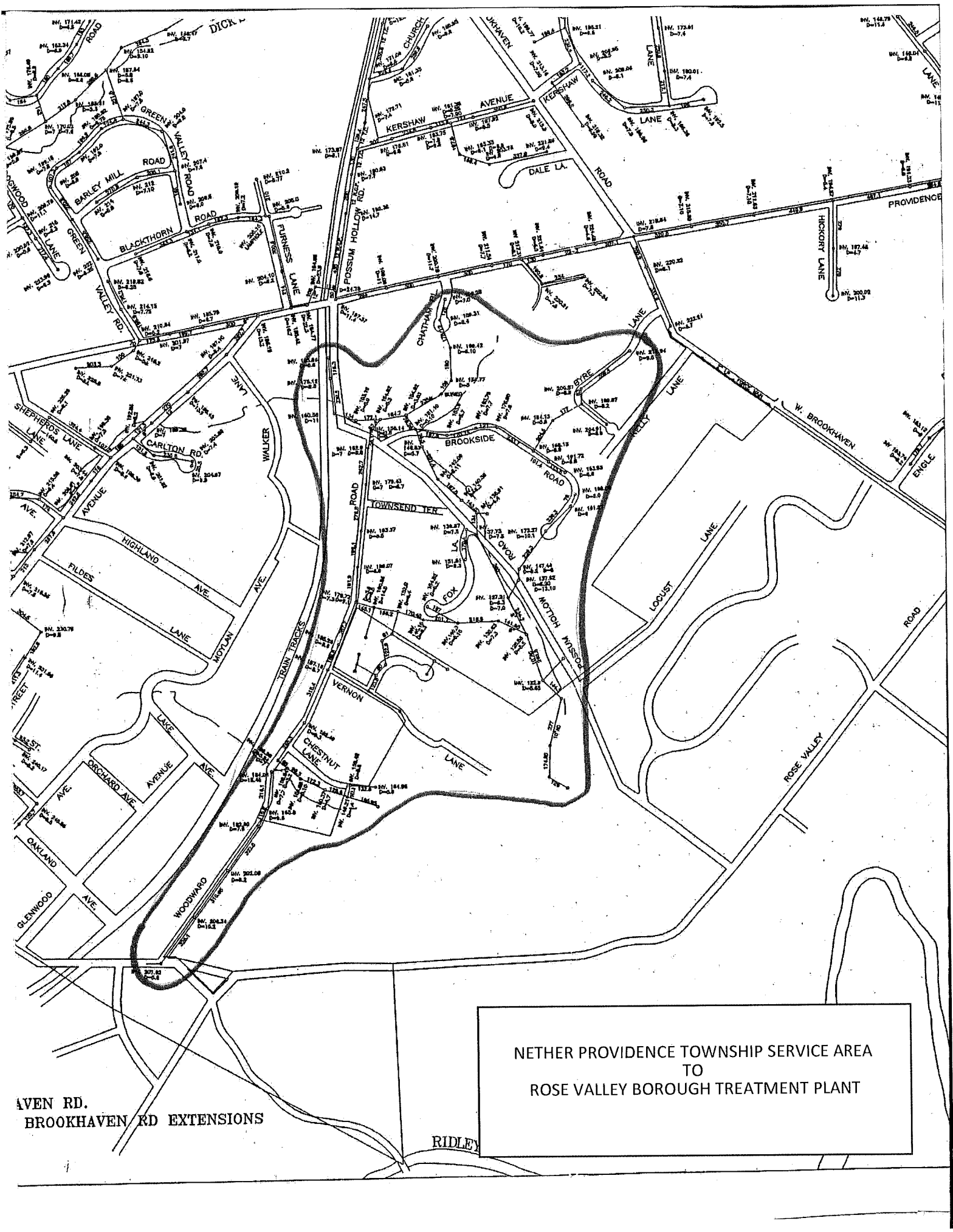
DATE 12/20/62



Legend	
<b>Sewers</b>	<b>Manholes</b>
Unknown Material	Unknown Diameter
8" Diameter	10" Diameter
Cast Iron Pipe	12" Diameter
8" Diameter	14" Diameter
10" Diameter	16" Diameter
Terracotta Pipe	
8" Diameter	
10" Diameter	
12" Diameter	
14" Diameter	
16" Diameter	
	Manholes
	Sewage Treatment Plants
	Pump Stations
	Force Mains
	Unknown Diameter
	8" Diameter
	10" Diameter
	Roads
	Municipal Boundaries
	Parcel Boundaries
	Major Surface Waters

1-13-07 Proposed Sewer - Traymore





NETHER PROVIDENCE TOWNSHIP SERVICE AREA  
TO  
ROSE VALLEY BOROUGH TREATMENT PLANT

AVEN RD.  
BROOKHAVEN RD EXTENSIONS

RIDLEY

---

EXHIBIT 5

# DVRPC County and Municipal-Level Population Forecasts, 2015-2045

## Municipal-Level Population Forecasts, 2015-2045

### Rose Valley Borough , Delaware County

Absolute Change (2015-2045): **109**

Percent Change (2015-2045): **11.54%**

Absolute Change per Square Mile (2015-2045): **148.89**

2015 Population	949
2020 Forecast	970
2025 Forecast	991
2030 Forecast	1,012
2035 Forecast	1,031
2040 Forecast	1,046
2045 Forecast	1,058

## County-Level Population Forecasts, 2015-2045

### Delaware County

Absolute Change (2015-2045): **23,143**

Percent Change (2015-2045): **4.10%**

2015 Population	563,894
2020 Forecast	568,337
2025 Forecast	572,758
2030 Forecast	577,248
2035 Forecast	581,136
2040 Forecast	584,329
2045 Forecast	587,037

Municipal-Level Population Forecasts, 2015-2045

Nether Providence Township , Delaware County

Absolute Change (2015-2045): 443

Percent Change (2015-2045): 3.21%

Absolute Change per Square Mile (2015-2045): 93.62

2015 Population	13,808
2020 Forecast	13,893
2025 Forecast	13,977
2030 Forecast	14,063
2035 Forecast	14,138
2040 Forecast	14,199
2045 Forecast	14,251

County-Level Population Forecasts, 2015-2045

Delaware County

Absolute Change (2015-2045): 23,143

Percent Change (2015-2045): 4.10%

2015 Population	563,894
2020 Forecast	568,337
2025 Forecast	572,758
2030 Forecast	577,248
2035 Forecast	581,136
2040 Forecast	584,329
2045 Forecast	587,037



ROSE VALLEY MONTHLY FLOW AVERAGE (MGD) 2012-2016

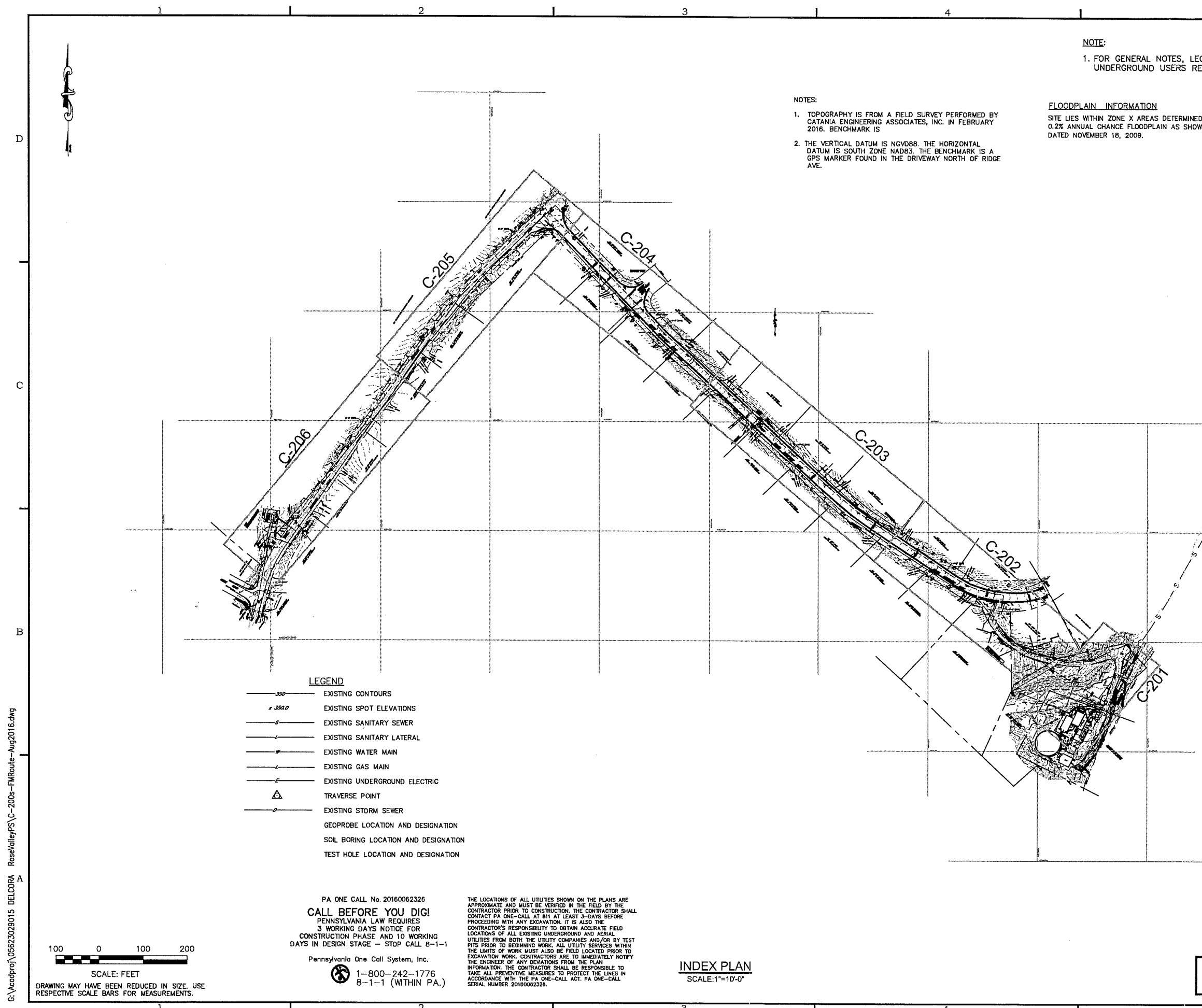
1/1/2012	0.0746
	0.0614
	0.05398
	0.05014
	0.04398
	0.03995
	0.03055
	0.02847
	0.05264
	0.04906
	0.06314
	0.07876
	0.07633
1/1/2013	0.07157
	0.08919
	0.11583
	0.1303
	0.15661
	0.05979
	0.06945
	0.07665
	0.05727
	0.05901
	0.07439
1/1/2014	0.07258
	0.08884
	0.09405
	0.11279
	0.0801
	0.04084
	0.03284
	0.02581
	0.02853
	0.03911
	0.048
	0.05023
1/1/2015	0.05175
	0.08128
	0.0597
	0.04683
	0.03859
	0.02678
	0.04188
	0.04937
	0.05538
	0.05793

	0.06887
	0.0631
1/1/2016	0.08384
	0.07244
	0.07327
	0.08357
	0.07602
	0.06067
	0.05508

0.064057 MGD Calculated Average Flow 457 units  
1.43 Saftey Factor  
0.091601 MGD used for Average Flow 457 units  
200.4 gpd/edu based upon 457 units

## EXHIBIT 6

G:\acddproj\05623029015 DELCORA RoseValleyPS\C-200s-FMRoute-Aug2016.dwg



**NOTE:**  
1. FOR GENERAL NOTES, LEGEND AND "ACT 38" - LIST OF UNDERGROUND USERS REFER TO DWG. NO. G-003.

**FLOODPLAIN INFORMATION**  
SITE LIES WITHIN ZONE X AREAS DETERMINED TO BE OUTSIDE 0.2% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FEMA MAP #42045C0094F DATED NOVEMBER 18, 2009.



Delaware County  
Regional Water  
Quality Control  
Authority  
100 East Fifth Street  
P.O. Box 999  
Chester, PA 19016-0999

Architect-Engineer



1400 Weston Way  
P.O. Box 2653  
West Chester, PA 19380  
(610) 701-3000

Consultants

PROFESSIONAL SEAL

MANAGEMENT BLOCK

DELCORA CONTRACT: TC-XXXX-C

A-E APPROVALS		DATE
DESIGNER	D. ZIEGLER	8/16
CHECKED		8/16
PROJ. ENG.	C. BURT	8/16
PROJ. MGR.	J. KOCHUBKA	8/16
APPROVED		

ROSE VALLEY  
BOROUGH

ROSE VALLEY  
PUMP STATION AND  
FORCE MAIN DESIGN

A	8/2016	ISSUED FOR CLIENT REVIEW
Rev.	Date	Description

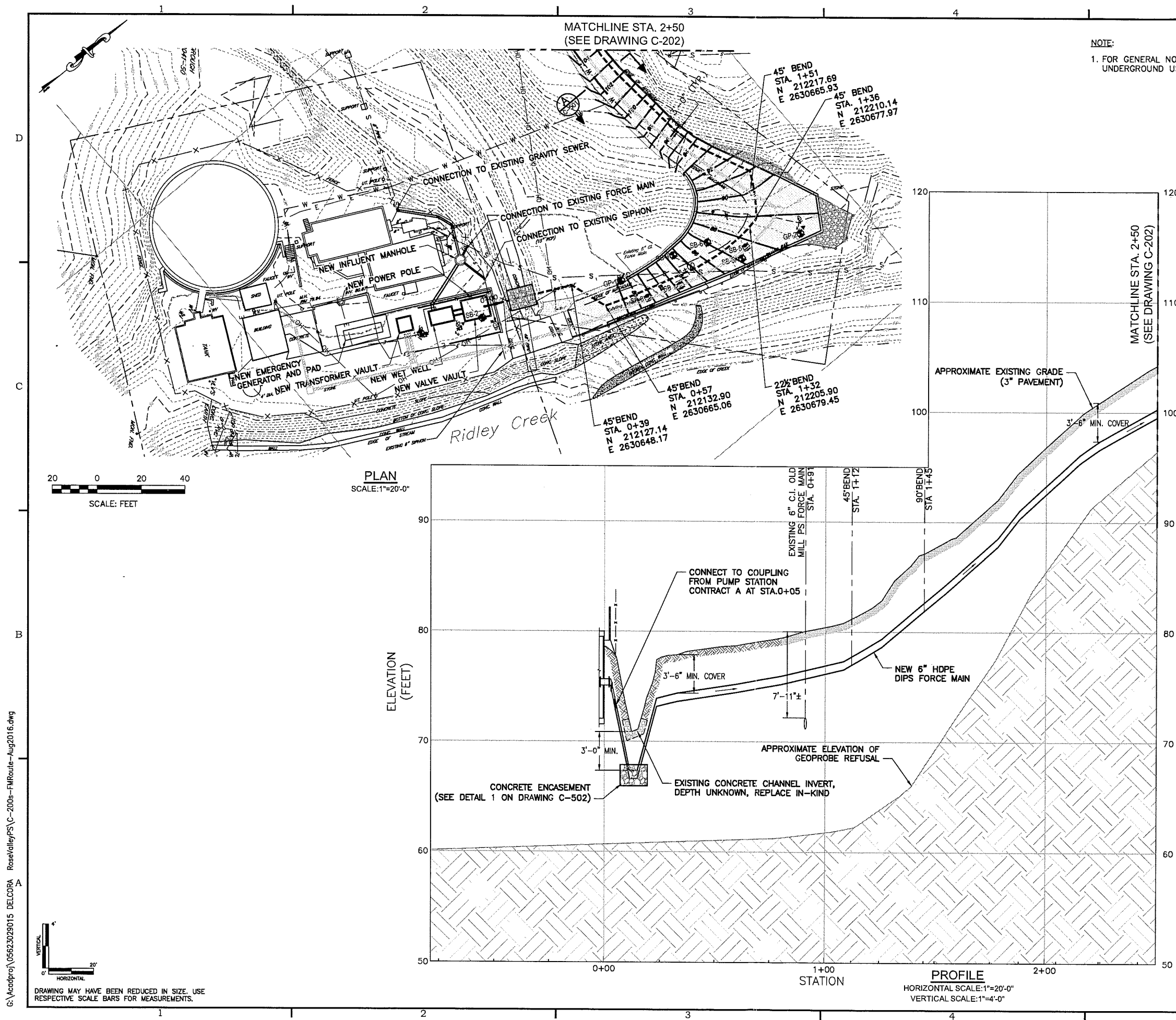
FORCE MAIN  
PLAN AND PROFILE  
INDEX PLAN

C-200

Sheet 25 of 58

**PRELIMINARY**

G:\Acadproj\05623029015 DELCORA RoseValleyPS\C-200s-FMRoute-Aug2016.dwg



Delaware County  
Regional Water  
Quality Control  
Authority  
100 East Fifth Street  
P.O. Box 999  
Chester, PA 19016-0999

Architect-Engineer



1400 Weston Way  
P.O. Box 2653  
West Chester, PA 19380  
(610) 701-3000

Consultants

PROFESSIONAL SEAL

PROFESSIONAL SEAL

MANAGEMENT BLOCK

DELCORA CONTRACT: TC-XXXX-C

A-E APPROVALS		DATE
DESIGNER	D. ZIEGLER	8/16
CHECKED		8/16
PROJ. ENG.	C. BURT	8/16
PROJ. MGR.	J. KOCHUBKA	8/16
APPROVED		

ROSE VALLEY  
BOROUGH

ROSE VALLEY  
PUMP STATION AND  
FORCE MAIN DESIGN

A	8/2016	ISSUED FOR CLIENT REVIEW
Rev.	Date	Description

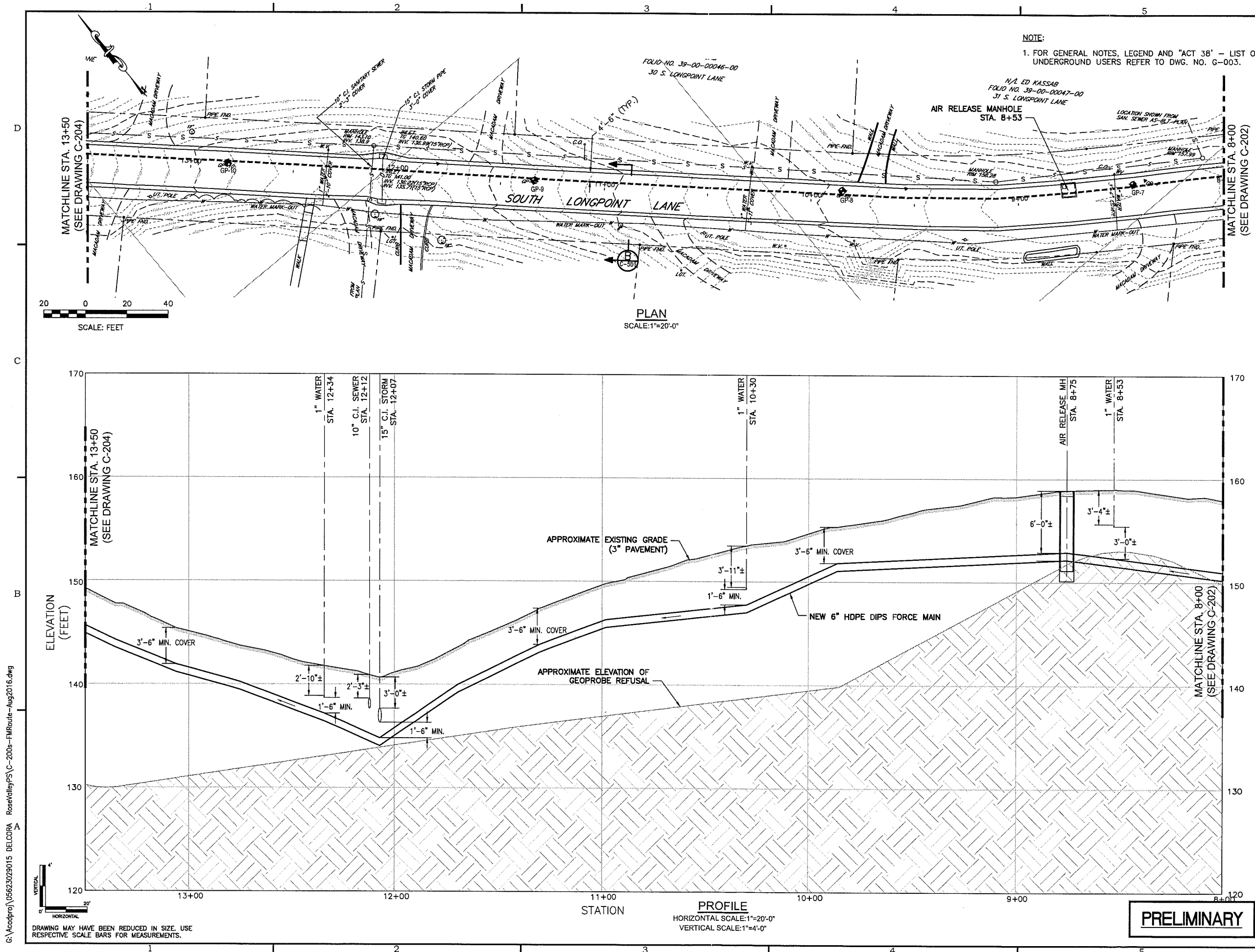
FORCE MAIN  
PLAN AND PROFILE  
STA 0+00 TO 2+50

C-201

Sheet 26 of 58



G:\Acadproj\05623029015 DELCORA RoseValleyPS\C-200a-FMRoute-Aug2016.dwg



NOTE:  
1. FOR GENERAL NOTES, LEGEND AND "ACT 38" - LIST OF UNDERGROUND USERS REFER TO DWG. NO. G-003.



Delaware County  
Regional Water  
Quality Control  
Authority  
100 East Fifth Street  
P.O. Box 999  
Chester, PA 19016-0999

Architect-Engineer



1400 Weston Way  
P.O. Box 2653  
West Chester, PA 19380  
(610) 701-3000

Consultants

PROFESSIONAL SEAL

MANAGEMENT BLOCK

DELCORA CONTRACT: TC-XXXX-C

A-E APPROVALS		DATE
DESIGNER	D. ZIEGLER	8/16
CHECKED		8/16
PROJ. ENG.	C. BURT	8/16
PROJ. MGR.	J. KOCHUBKA	8/16
APPROVED		

ROSE VALLEY  
BOROUGH

ROSE VALLEY  
PUMP STATION AND  
FORCE MAIN DESIGN

Rev.	Date	Description
A	8/20/16	ISSUED FOR CLIENT REVIEW

FORCE MAIN  
PLAN AND PROFILE  
STA 8+00 TO 13+50

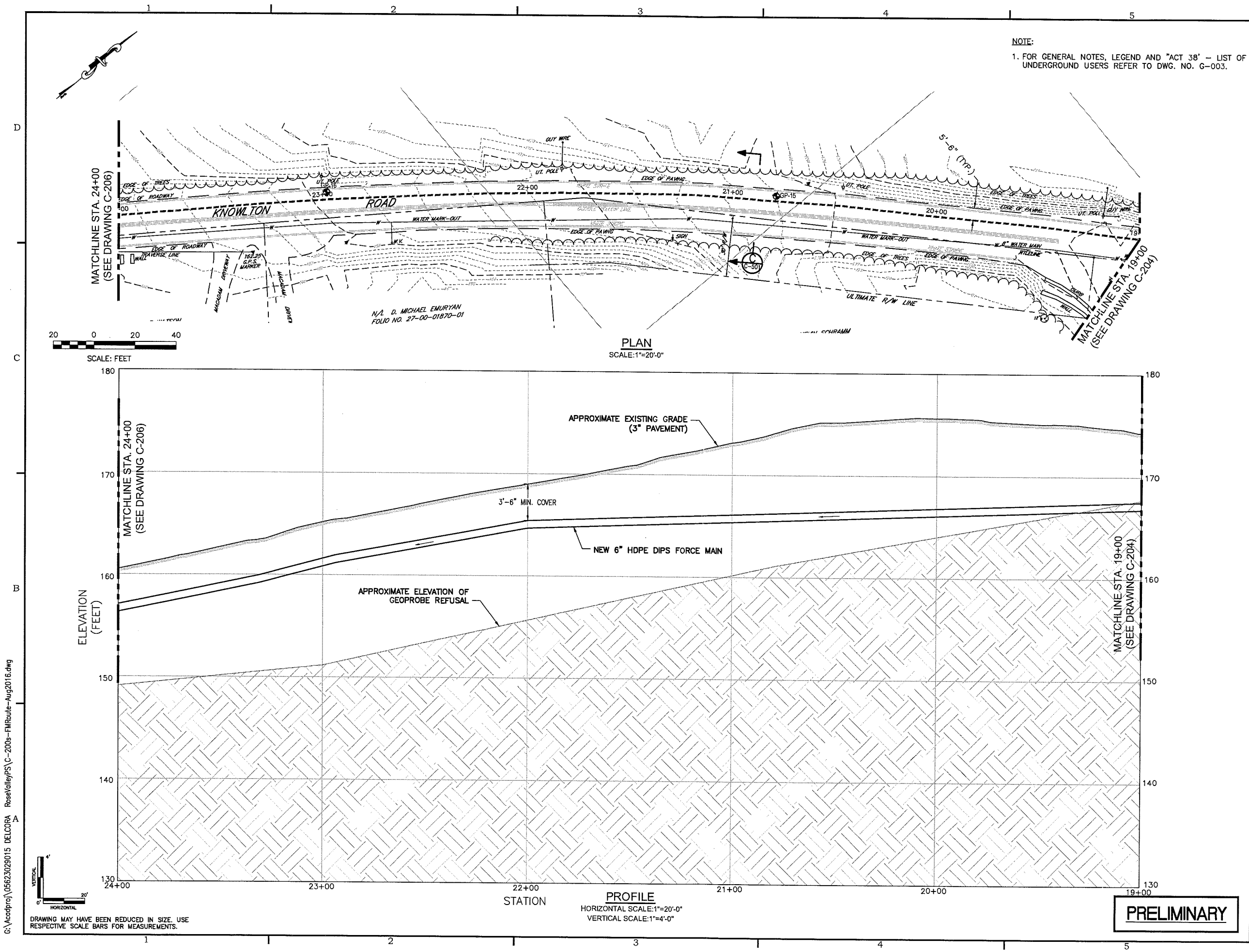
C-203

Sheet 28 of 58





G:\Acadproj\05623029015 DELCORA RoseValleyPS\C-200s-FMRoute-Aug2016.dwg



Delaware County  
Regional Water  
Quality Control  
Authority  
100 East Fifth Street  
P.O. Box 999  
Chester, PA 19016-0999

Architect-Engineer



1400 Weston Way  
P.O. Box 2653  
West Chester, PA 19380  
(610) 701-3000

Consultants

PROFESSIONAL SEAL

MANAGEMENT BLOCK		
DELCORA CONTRACT: TC-XXXX-C		
A-E APPROVALS		DATE
DESIGNER	D. ZIEGLER	8/16
CHECKED		8/16
PROD. ENG.	C. BURT	8/16
PROD. MGR.	J. KOCHUBKA	8/16
APPROVED		

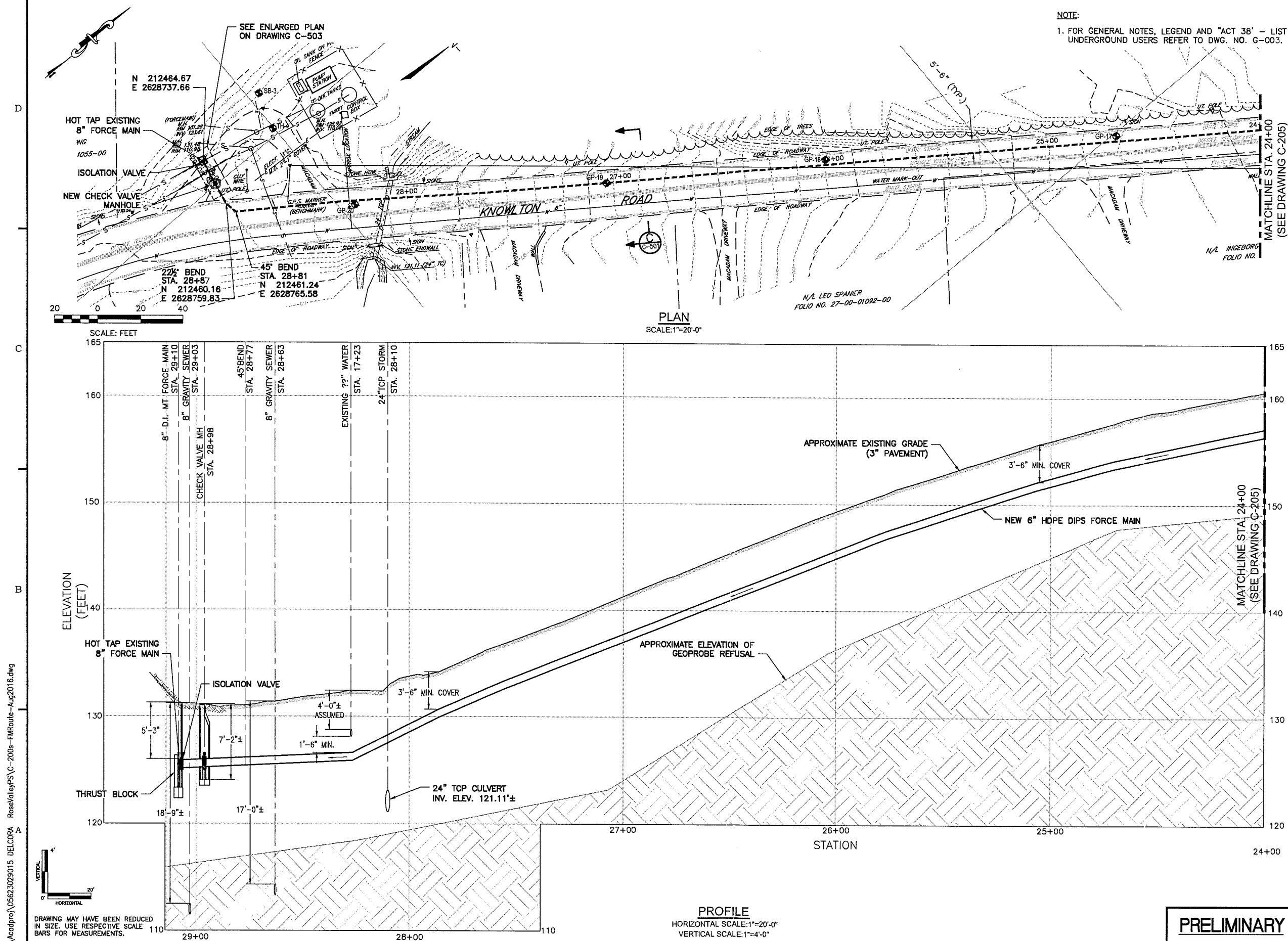
ROSE VALLEY  
BOROUGH

ROSE VALLEY  
PUMP STATION AND  
FORCE MAIN DESIGN

A	8/2016	ISSUED FOR CLIENT REVIEW
Rev.	Date	Description

FORCE MAIN  
PLAN AND PROFILE  
STA 19+00 TO 24+00

C-205  
Sheet 30 of 58



Delaware County  
Regional Water  
Quality Control  
Authority  
100 East Fifth Street  
P.O. Box 999  
Chester, PA 19016-0999

Architect-Engineer



1400 Weston Way  
P.O. Box 2653  
West Chester, PA 19380  
(610) 701-3000

Consultants

PROFESSIONAL SEAL    PROFESSIONAL SEAL

MANAGEMENT BLOCK

DELCO CONTRACT: TC-XXXX-C	
A-E APPROVALS	DATE
DESIGNER D. ZIEGLER	8/16
CHECKED	8/16
PROJ. ENG. C. BURT	8/16
PROJ. MOR. J. KOCHUBKA	8/16
APPROVED	

ROSE VALLEY  
BOROUGH

ROSE VALLEY  
PUMP STATION AND  
FORCE MAIN DESIGN


A	8/2016	ISSUED FOR CLIENT REVIEW
Rev.	Date	Description

FORCE MAIN  
PLAN AND PROFILE  
STA 24+00 TO 29+08

C-206  
Sheet 31 of 58

## EXHIBIT 7

DELCORA  
Act 537 Plan Update  
Rose Valley Borough Treatment Plant Bypass to DELCORA

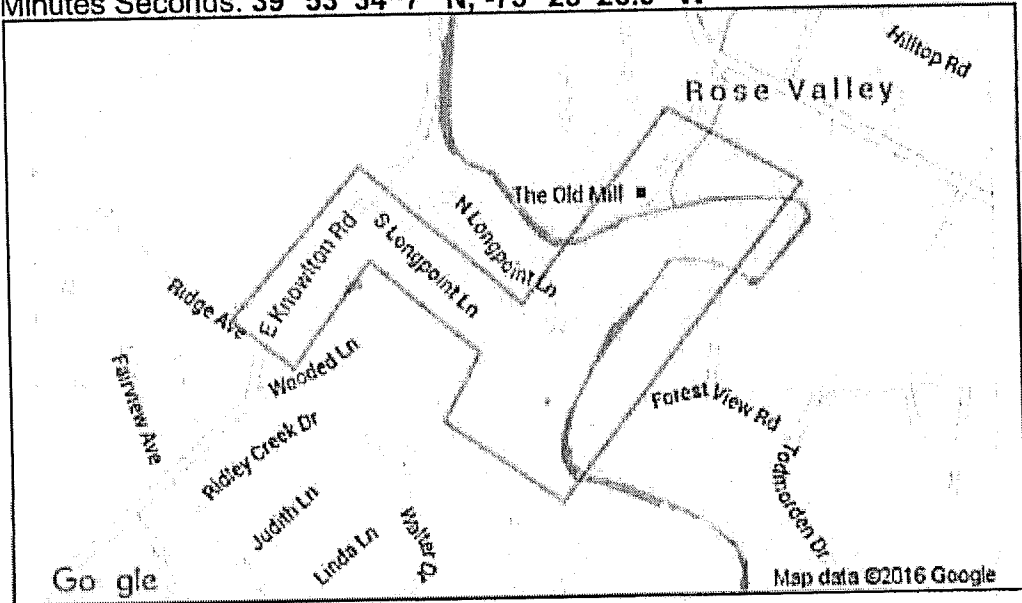
August 22, 2016

TASK	DAYS	CUMMULATIVE DAYS
Act 537 Draft Plan to Rose Valley Borough and Nether Providence Twp	-	0
Project Final Engineering Design (100%)	30	30
RVTP Bypass Project PaDEP Construction Submission (Part 2 Permit)	5	35
Act 537 Plan Approval from Rose Valley Borough and Nether Providence Twp	51	51
Submit Act 537 Plan to PA DEP	1	52
Act 537 PaDEP Planning Approval	90	142
RVTP Bypass Project Construction Start	30	172
RVTP Bypass Construction Completion	232	404

## EXHIBIT 8

1. PROJECT INFORMATION

Project Name: Rose Valley 4  
Date of review: 3/3/2016 9:22:26 AM  
Project Category: Waste Transfer, Treatment, and Disposal,Liquid waste/Effluent,Sewer line (new - construction in new location)  
Project Area: 73.8 acres  
County: Delaware Township/Municipality: Rose Valley,Middletown  
Quadrangle Name: MEDIA ~ ZIP Code: 19063,19086  
Decimal Degrees: 39.892975 N, -75.390812 W  
Degrees Minutes Seconds: 39° 53' 34^7" N, -75° 23' 26.9" W



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

**RESPONSE:** No impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

**RESPONSE:** No impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission

**RESPONSE:** No impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

**RESPONSE:** No impacts to federally listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special

concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.



## 5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page ([www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us)). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

## 6. AGENCY CONTACT INFORMATION

### PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section  
400 Market Street, PO Box 8552, Harrisburg, PA.  
17105-8552  
Fax: (717) 772-0271

### U.S. Fish and Wildlife Service

Pennsylvania Field Office  
110 Radnor Rd; Suite 101, State College, PA 16801  
NO Faxes Please.

### PA Fish and Boat Commission

Division of Environmental Services  
450 Robinson Lane, Bellefonte, PA. 16823-7437  
NO Faxes Please

### PA Game Commission

Bureau of Wildlife Habitat Management  
Division of Environmental Planning and Habitat Protection  
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797  
Fax: (717) 787-6957

## 7. PROJECT CONTACT INFORMATION

Name: Dylan Berger  
Company/Business Name: Weston Solutions Inc. on behalf of DELCORA  
Address: 1400 Weston Way  
City, State, Zip: West Chester, PA, 19380  
Phone: (610) 701-3517 Fax: (610) 701-3401  
Email: Dylan.Berger@westonsolutions.com

## 8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Dylan Berger 3/3/2016  
applicant/project proponent signature date

## Mike Ciocco

---

**From:** Mike Ciocco  
**Sent:** Tuesday, August 23, 2016 5:49 PM  
**To:** 'rosevalleyborough@comcast.net'  
**Cc:** 'Hurst, Charles'; Bothwell, Ed; Charles Catania, Jr.  
**Subject:** Rose Valley Treatment Plant Bypass  
**Attachments:** Rose Valley Treatment Plant Bypass Act 537.pdf

Paula,

Attached is a copy of an Act 537 Plan Update that would take flows from the existing Rose Valley Treatment Plant and Bypass them to DELCORA's Western Regional Treatment Plant in Chester.

I would request that you place this on your Planning Commission's Agenda for review in September, which will coincide with the Public comment period for this project.

We will have someone available for the meeting as necessary to explain the proposal, just let me know on the agenda, time and date. Thanks.

Should you have any further comments or questions, please feel free to contact me.

PLEASE NOTE: During the summer season, our office implements a four day work week in order that our employees may enjoy more family time. I will be out of the office every Friday from June 17 to September 2. Should you need immediate attention, please call the office at the number below. Thank you.

**MICHAEL J. CIOCCO, P.E., S.E.O.**

*Project Engineer*

Turning Means Into Knowledge



**Catania Engineering Associates, Inc.**

***Celebrating 50 Years of Community Service!***

**1964-2014**

**CATANIA ENGINEERING ASSOCIATES, INC.**

*Consulting Engineers - Land Surveyors*

520 W. MACDADE BOULEVARD

MILMONT PARK, PA 19033

Tel: 610-532-2884

Fax: 610-532-2923

Email: [mjc@cataniaengineering.com](mailto:mjc@cataniaengineering.com)

From: trackingupdates@fedex.com  
Sent: Monday, August 29, 2016 10:58 AM  
To: Receptionist  
Subject: FedEx Shipment 777075962972 Delivered

Your package has been delivered

Tracking # 777075962972

Ship date:  
Thu, 8/25/2016

Charles Catania, Sr., PE  
CATANIA ENGINEERING  
ASSOC., IN  
MILMONT PARK, PA 19033  
US

Delivery date:  
Mon, 8/29/2016 10:55  
am

Paula Healey  
Rose Valley Borough  
9 Old Mill Lane  
Rose Valley, PA 19065  
US



Delivered



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number: 777075962972

Status: Delivered: 08/29/2016 10:55  
AM Signed for By: P.HEALY

Door Tag number: DT104392547087

Reference: 81600-RV-1

Signed for by: P.HEALY

Delivery location: Rose Valley, PA

Delivered to: Receptionist/Front Desk

Service type: FedEx Standard Overnight

Packaging type: FedEx Envelope

Number of pieces: 1

Weight: 2.00 lb.

Special handling/Services: Adult Signature Required  
Deliver Weekday

Standard transit: 8/26/2016 by 3:00 pm

**Mike Ciocco**

---

**From:** Mike Ciocco  
**Sent:** Tuesday, August 23, 2016 5:47 PM  
**To:** 'gcummings@netherprovidence.org'  
**Cc:** Charles Catania, Jr.; Bothwell, Ed; 'Hurst, Charles'  
**Subject:** Rose Valley Treatment Plant Bypass  
**Attachments:** Rose Valley Treatment Plant Bypass Act 537.pdf

Gary,

Attached is a copy of an Act 537 Plan Update that would take flows from the existing Rose Valley Treatment Plant and Bypass them to DELCORA's Western Regional Treatment Plant in Chester.

I would request that you place this on your Planning Commission's Agenda for review in September, which will coincide with the Public comment period for this project.

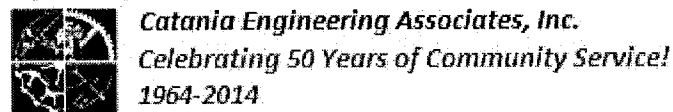
We will have someone available for the meeting as necessary to explain the proposal, just let me know on the agenda, time and date. Thanks.

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**MICHAEL J. CIOCCO, P.E., S.E.O.**  
*Project Engineer*

Turning Ideas Into Reality



**CATANIA ENGINEERING ASSOCIATES, INC.**  
*Consulting Engineers - Land Surveyors*  
520 W. MACDADE BOULEVARD  
MILMONT PARK, PA 19033  
*Tel:* 610-532-2884  
*Fax:* 610-532-2923  
*Email:* [mjc@cataniaengineering.com](mailto:mjc@cataniaengineering.com)

Receptionist

From: trackingupdates@fedex.com  
Sent: Friday, August 26, 2016 11:51 AM  
To: Receptionist  
Subject: FedEx Shipment 777075995860 Delivered

# Your package has been delivered

Tracking # 777075995860

Ship date:  
Thu, 8/25/2016

Charles Catania, Sr., PE  
CATANIA ENGINEERING  
ASSOC., IN  
MILMONT PARK, PA 19033  
US



Delivered

Delivery date:  
Fri, 8/26/2016 11:46 am

Gary Cummings  
Nether Providence Township  
214 Sykes Lane  
Wallingford, PA 19086  
US



## Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>777075995860</u>
Status:	Delivered: 08/26/2016 11:46 AM Signed for By: G.CUMMINGS
Reference:	81600-RV-1
Signed for by:	G.CUMMINGS
Delivery location:	Wallingford, PA
Delivered to:	Receptionist/Front Desk
Service type:	FedEx Standard Overnight
Packaging type:	FedEx Envelope
Number of pieces:	1
Weight:	2.00 lb.
Special handling/Services:	Adult Signature Required Deliver Weekday
Standard transit:	8/26/2016 by 3:00 pm

Receptionist

From: trackingupdates@fedex.com  
Sent: Friday, August 26, 2016 10:10 AM  
To: Receptionist  
Subject: FedEx Shipment 777075936975 Delivered



Your package has been delivered

Tracking # 777075936975

Ship date: Thu, 8/25/2016	Delivery date: Fri, 8/26/2016 10:04 am
Charles Catania, Sr., PE CATANIA ENGINEERING ASSOC., IN MILMONT PARK, PA 19033 US	Linda F. Hill, Director DC Planning Department 201 W. Front Street, 2nd Fl DC Government Center - Toal Bldg. Media, PA 19063 US



Delivered

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>777075936975</u>
Status:	Delivered: 08/26/2016 10:04 AM Signed for By: D.WHITTAKER
Reference:	81600-RV-1
Signed for by:	D.WHITTAKER
Delivery location:	Media, PA
Delivered to:	Shipping/Receiving
Service type:	FedEx Standard Overnight
Packaging type:	FedEx Envelope
Number of pieces:	1
Weight:	2.00 lb.
Special handling/Services:	Adult Signature Required Deliver Weekday
Standard transit:	8/26/2016 by 3:00 pm



# CATANIA ENGINEERING ASSOCIATES, INC.

Consulting Engineers & Land Surveyors

August 23, 2016  
File No. 81600-RV-1

Ed Bothwell  
DELCORA  
100 E. 5<sup>th</sup> Street  
P.O. Box 999  
Chester, PA 19016-0999

Re: Rose Valley Treatment Plant Bypass  
Act 537 Plan Update  
499 EDUs - 130,988 GPD

Dear Mr. Bothwell:

As you are aware, Rose Valley Borough is proposing to abandon their treatment plant in Rose Valley and to bypass sewage flows with a new pump station through Middletown Township Sewer Authority Sewers, into DELCORA's Chester Creek Pump Station, and ultimately to your Western Regional Treatment Plant in Chester.

Enclosed please find the following information for an act 537 Plan Update:

1. DRAFT Act 537 Plan Update – Rose Valley Treatment Plant Bypass
2. Capacity Determination Form

Please sign and fill out the related charts in the enclosed capacity determination form section J and return them to our office along with a letter of support for forwarding to PA DEP. Thank you for all of your help in this matter.

Should you have any further comments or questions, please feel free to contact me.

Very Truly Yours,

Michael J. Ciocco, P.E.  
For Catania Engineering Assoc., Inc.

Enclosure (s)

☒ **J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 130988 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

When providing "treatment facilities" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

- a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.
- b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.
- c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

To complete the table, refer to the instructions, Section J.

	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	Peak	Average	Peak	Average	Peak
Collection						
Conveyance						
Treatment						

3. Collection and Conveyance Facilities

The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

YES NO

- a. ☐ ☒ This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

b. Collection System

Name of Agency, Authority, Municipality \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_ Date \_\_\_\_\_



☒ **J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

c. Conveyance System

Name of Agency, Authority, Municipality DELCORA

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_

Date \_\_\_\_\_

4. Treatment Facility

The questions below are to be answered by a representative of the facility permittee in coordination with the information in the table and the latest Chapter 94 report. The individual signing below must be legally authorized to make representation for the organization.

YES NO

- a. ☐ ☒ This project proposes the use of an existing wastewater treatment plant for the disposal of sewage. Will this action create a hydraulic or organic overload within 5 years at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this inconsistency with Chapter 94 is resolved or unless there is an approved CAP granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the planning module.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not impact that status.

- b. Name of Agency, Authority, Municipality DELCORA

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_

Date \_\_\_\_\_

☐ **K. TREATMENT AND DISPOSAL OPTIONS** (See Section K of instructions)

This section is for land development projects that propose construction of wastewater treatment facilities. Please note that, since these projects require permits issued by DEP, these projects may **NOT** receive final planning approval from a delegated local agency. Delegated local agencies must send these projects to DEP for final planning approval.

Check the appropriate box indicating the selected treatment and disposal option.

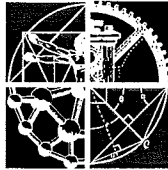
- ☐ 1. Spray irrigation (other than individual residential spray systems (IRSIS)) or other land application is proposed, and the information requested in Section K.1. of the planning module instructions are attached.
- ☐ 2. Recycle and reuse is proposed and the information requested in Section K-2 of the planning module instructions is attached.
- ☐ 3. A discharge to a dry stream channel is proposed, and the information requested in Section K.3. of the planning module instructions are attached.
- ☐ 4. A discharge to a perennial surface water body is proposed, and the information requested in Section K.4. of the planning module instructions are attached.

☐ **L. PERMEABILITY TESTING** (See Section L of instructions)

- ☐ The information required in Section L of the instructions is attached.

☐ **M. PRELIMINARY HYDROGEOLOGIC STUDY** (See Section M of instructions)

- ☐ The information required in Section M of the instructions is attached.



# CATANIA ENGINEERING ASSOCIATES, INC.

Consulting Engineers & Land Surveyors

August 23, 2016  
File No. 81600-RV-1

John Ibach  
Middletown Township Sewer Authority  
P.O. Box 9  
Lima, PA 19037

Re: Rose Valley Treatment Plant Bypass  
Act 537 Plan Update  
499 EDUs - 130,988 GPD

Dear Mr. Ibach:

As you are aware, Rose Valley Borough is proposing to abandon their treatment plant in Rose Valley and to bypass sewage flows with a new pump station through Middletown Township Sewer Authority Sewers (Knowlton Road Pump Station Forcemain), into DELCORA's Chester Creek Pump Station, and ultimately to DELCORA's Western Regional Treatment Plant in Chester.

Enclosed please find the following information for an act 537 Plan Update:

1. DRAFT Act 537 Plan Update – Rose Valley Treatment Plant Bypass
2. Capacity Determination Form

Please sign and fill out the related charts in the enclosed capacity determination form section J and return them to our office along with a letter of support for forwarding to PA DEP. Thank you for all of your help in this matter.

Should you have any further comments or questions, please feel free to contact me.

Very Truly Yours,

Michael J. Ciocco, P.E.  
For Catania Engineering Assoc., Inc.

Enclosure (s)

cc: Walter Fazler, P.E.  
DELCORA

☒ **J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 130988 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

When providing "treatment facilities" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

- a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.
- b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.
- c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

To complete the table, refer to the instructions, Section J.

	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	Peak	Average	Peak	Average	Peak
Collection						
Conveyance						
Treatment						

3. Collection and Conveyance Facilities

The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

YES NO

- a. ☐ ☒ This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

b. Collection System

Name of Agency, Authority, Municipality MTSA

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_ Date \_\_\_\_\_

☒ **J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

c. Conveyance System

Name of Agency, Authority, Municipality MTSA

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_

Date \_\_\_\_\_

4. Treatment Facility

The questions below are to be answered by a representative of the facility permittee in coordination with the information in the table and the latest Chapter 94 report. The individual signing below must be legally authorized to make representation for the organization.

YES NO

- a. ☐ ☒ This project proposes the use of an existing wastewater treatment plant for the disposal of sewage. Will this action create a hydraulic or organic overload within 5 years at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this inconsistency with Chapter 94 is resolved or unless there is an approved CAP granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the planning module.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not impact that status.

- b. Name of Agency, Authority, Municipality DELCORA

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_

Date \_\_\_\_\_

☐ **K. TREATMENT AND DISPOSAL OPTIONS** (See Section K of instructions)

This section is for land development projects that propose construction of wastewater treatment facilities. Please note that, since these projects require permits issued by DEP, these projects may **NOT** receive final planning approval from a delegated local agency. Delegated local agencies must send these projects to DEP for final planning approval.

Check the appropriate box indicating the selected treatment and disposal option.

- ☐ 1. Spray irrigation (other than individual residential spray systems (IRSIS)) or other land application is proposed, and the information requested in Section K.1. of the planning module instructions are attached.
- ☐ 2. Recycle and reuse is proposed and the information requested in Section K-2 of the planning module instructions is attached.
- ☐ 3. A discharge to a dry stream channel is proposed, and the information requested in Section K.3. of the planning module instructions are attached.
- ☐ 4. A discharge to a perennial surface water body is proposed, and the information requested in Section K.4. of the planning module instructions are attached.

☐ **L. PERMEABILITY TESTING** (See Section L of instructions)

- ☐ The information required in Section L of the instructions is attached.

☐ **M. PRELIMINARY HYDROGEOLOGIC STUDY** (See Section M of instructions)

- ☐ The information required in Section M of the instructions is attached.



## DELAWARE COUNTY PLANNING DEPARTMENT

COURT HOUSE/GOVERNMENT CENTER  
201 W. Front St. Media, PA 19063

### COUNCIL

MARIO J. CIVERA, JR.  
CHAIRMAN

COLLEEN P. MORRONE  
VICE CHAIRMAN

JOHN P. McBLAIN  
DAVID J. WHITE  
MICHAEL F. CULP

**Office Location:** Toal Building, 2<sup>nd</sup> & Orange Sts., Media, PA 19063  
Phone: (610) 891-5200 FAX: (610) 891-5203  
E-mail: [planning\\_department@co.delaware.pa.us](mailto:planning_department@co.delaware.pa.us)

LINDA F. HILL  
DIRECTOR

September 15, 2016

Paula W. Healy, Municipal Manager  
Rose Valley Borough  
P.O. Box 198  
Rose Valley, PA 19065

RE: Act 537 Review  
Rose Valley Treatment Plant Bypass

Dear Ms. Healy:

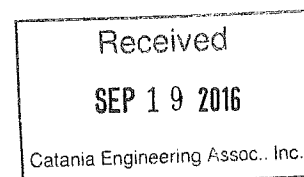
The Delaware County Planning Department (DCPD) has completed its review of the sewage facilities plan for the Rose Valley Treatment Plant Bypass. The proposed plan calls for the abandonment of the Rose Valley Treatment Plant and to bypass sewage with a new pump station that conveys all flow through a new forcemain to an MTSA forcemain in Knowlton Road. This sewage would then be pumped through existing lines ultimately to DELCORA's Western Regional Treatment Plant for treatment and disposal. DCPD has no objection to the proposed method of wastewater disposal.

If you have any questions or require additional information, please do not hesitate to contact me at (610) 891-5218.

Sincerely,

Will Brugger  
Environmental Planner

Cc: PA Department of Environmental Protection  
Nether Providence Township  
✓ Catania Engineering Associates, Inc.  
Weston Solutions Inc.





# CATANIA ENGINEERING ASSOCIATES, INC.

Consulting Engineers & Land Surveyors

October 11, 2016  
File No. 81600-RV-1

Paula Healey, Borough Manager  
Rose Valley Borough  
9 Old Mill Lane,  
Rose Valley, PA 19065

Gary Cummings, Township Manager  
Nether Providence Township  
214 Sykes Lane  
Wallingford, PA 19086

Re: Rose Valley Treatment Plant Bypass  
Act 537 Plan Update  
499 EDUs - 100,000 GPD

Dear Municipal Officials:

Enclosed please find a copy of the latest revised DELCORA - Rose Valley Borough and Nether Providence Township Revised Act 537 Sewage Facilities Plan for your approval.

Please review the plan and, if acceptable, execute the enclosed "Resolution for Plan revision" form and return to our office at your earliest convenience. Upon receipt of your executed resolution, the enclosed plan will be forwarded to PA DEP for review and approval.

Should you have any questions, please do not hesitate to contact me.

Very truly yours,

Michael J. Ciocco, P.E.  
For Catania Engineering Assoc., Inc.

cc: DELCORA

Enclosure (s)

MODEL  
RESOLUTION FOR PLAN REVISION

RESOLUTION OF THE SUPERVISORS / COUNCIL OF \_\_\_\_\_ TOWNSHIP / BOROUGH,  
\_\_\_\_\_ COUNTY, PENNSYLVANIA (hereinafter "the municipality").

WHEREAS, Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage Facilities Act," as amended, and the Rules and Regulations of the Department of Environmental Protection (Department) adopted there under, Chapter 71 of Title 25 of the **Pennsylvania Code**, requires the municipality to adopt an Official Sewage Facilities Plan providing for sewage services adequate to prevent contamination of waters and/or environmental health hazards with sewage wastes, and to revise said plan whenever it is necessary to meet the sewage disposal needs of the municipality, and  
WHEREAS, \_\_\_\_\_ DELCORA \_\_\_\_\_ has prepared a \_\_\_\_\_ Plan Update \_\_\_\_\_ which provides for sewage facilities in a portion of Rose Valley Borough and Nether Providence Twp Township / Borough, and

The alternative of choice to be implemented is Abandoning the Rose Valley Treatment Plant and constructing a new pump station and forcemain to convey flows through Middletown Township Sewer. The key implementation Authority and ultimately to DELCORA's Western Regional Treatment Plant activities/dates include Act 537 plan approval, WQM Permitting and construction of the above referenced improvements.

WHEREAS, \_\_\_\_\_ Township / Borough finds that the Facility Plan described above conforms to applicable zoning, subdivision, other municipal ordinances and plans and to a comprehensive program of pollution control and water quality management.

NOW, THEREFORE, BE IT RESOLVED that the Supervisors of the Township / Council of the Borough of \_\_\_\_\_ hereby adopt and submit to the Department of Environmental Protection for its approval as a revision to the "Official Plan" of the municipality, the above referenced Facility Plan. The municipality hereby assures the Department of the complete and timely implementation of the said plan as required by law. (Section 5, Pennsylvania Sewage Facilities Act as amended).

I, \_\_\_\_\_, Secretary,  
\_\_\_\_\_ Township Board of Supervisors / Borough Council hereby certify  
that the foregoing is a true copy of Resolution No. \_\_\_\_\_, adopted  
\_\_\_\_\_, 20\_\_\_\_.

AUTHORIZED SIGNATURE

MUNICIPAL SEAL

\_\_\_\_\_

## EXHIBIT 9

Rose Valley Borough Resolution - Adopted October 12, 2016 (Enclosed)

Nether Providence Township Resolution - Adopted November 10, 2016  
(Paperwork to be forwarded under separate cover)



BOROUGH OF ROSE VALLEY

DELAWARE COUNTY, PENNSYLVANIA

RESOLUTION 2016- 4

**A RESOLUTION OF THE COUNCIL OF THE BOROUGH OF ROSE VALLEY,  
DELAWARE COUNTY, PENNSYLVANIA, TO ADOPT AND SUBMIT TO THE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
A REVISED OFFICIAL SEWAGE FACILITIES PLAN**

WHEREAS, Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage Facilities Act", as amended, and the Rules and Regulations of the Department of Environmental Protection (hereafter the "Department") adopted thereunder, as found in Chapter 71 of Title 25 of the **Pennsylvania Code**, require the municipality to adopt an Official Sewage Facilities Plan providing for sewage services adequate to prevent contamination of waters and/or environmental health hazards with sewage wastes, and to revise said plan whenever it is necessary to meet the sewage disposal needs of the municipality; and

WHEREAS, Rose Valley Borough transferred ownership of the Rose Valley Treatment Plant along with the entire Rose Valley Sewer System, which serves Rose Valley Borough and a portion of Nether Providence Township, to DELCORA in 2009; and

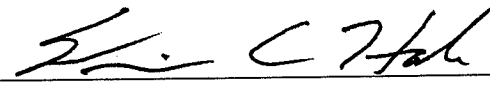
WHEREAS, DELCORA has prepared an Act 537 Plan Update which addresses said sewage facilities in Rose Valley Borough and a portion of Nether Providence Township, wherein the alternative of choice to be implemented is the abandonment of the Rose Valley Treatment Plant and construction of a new pump station at that location and a new force main to convey flow through Middletown Township Sewer Authority's piping system to DELCORA's Chester Creek Pump Station and ultimately to DELCORA's Western Regional Treatment Plant. The key implementation activities/dates include Act 537 Plan Update approval, WQM Permitting and construction of the above referenced improvements; and

WHEREAS, Rose Valley Borough finds that the Facility Plan described above conforms to the applicable zoning, subdivision, and other municipal ordinances and plans, and creates a comprehensive program of pollution control and water quality management.

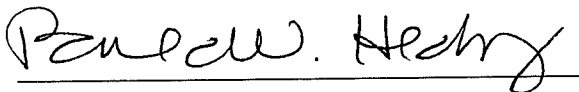
NOW, THEREFORE, BE IT RESOLVED that the Council of the Borough of Rose Valley hereby adopts and submits to the Department of Environmental Protection for its approval as a revision to the "Official Plan" of the municipality, the above referenced Facility Plan dated October, 2016. The municipality hereby assures the Department of the complete and

timely implementation of the said plan as required by law (Section 5, Pennsylvania Sewage Facilities Act as amended).


DULY ADOPTED this 12th day of October, 2016 by the Council of the Borough of Rose Valley, Delaware County, Pennsylvania in lawful session duly assembled.

  
William C. Hale  
President of Council

ATTEST:

  
Paula W. Healy  
Borough Secretary

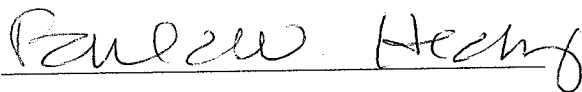
APPROVED:

  
Thomas F. Plummer  
Mayor

BOROUGH SEAL:

I, Paula W. Healy, Secretary, Rose Valley Borough Council hereby certify that the foregoing is a true copy of Resolution No. 2016 - 4, adopted October 12, 2016.

AUTHORIZED SIGNATURE:



**NETHER PROVIDENCE TOWNSHIP  
DELAWARE COUNTY, PENNSYLVANIA**

**RESOLUTION 2016-13**

**A RESOLUTION OF THE COMMISSIONERS OF NETHER PROVIDENCE  
TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA, TO ADOPT AND SUBMIT TO  
THE DEPARTMENT OF ENVIRONMENTAL PROTECTION  
A REVISED OFFICIAL SEWAGE FACILITIES PLAN**

WHEREAS, Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage Facilities Act", as amended, and the Rules and Regulations of the Department of Environmental Protection (Department) adopted there under Chapter 71 of Title 25 of the **Pennsylvania Code**, requires the municipality to adopt an Official Sewage Facilities Plan providing for sewage services adequate to prevent contamination of waters and/or environmental health hazards with sewage wastes, and to revise said plan whenever it is necessary to meet the sewage disposal needs of the municipality; and

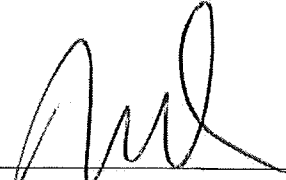
WHEREAS, DELCORA has prepared a Plan Update which provides for sewage facilities in a portion of Rose Valley Borough and Nether Providence Township and,

WHEREAS, the alternative of choice to be implemented is the abandonment of the Rose Valley Treatment Plant and construction of a new pump station and forcemain to convey flows through Middletown Township Sewer Authority and ultimately to DELCORA's Western Regional Treatment Plant. The key implementation activities/dates include Act 537 Plan Update approval, WQM Permitting and construction of the above referenced improvements.

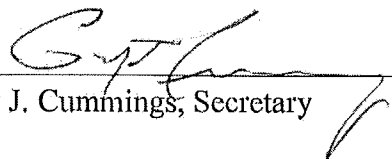
WHEREAS, Nether Providence Township finds that the Facility Plan described above conforms to applicable zoning, subdivision, other municipal ordinances and plans, and to a comprehensive program of pollution control and water quality management.

NOW, THEREFORE, BE IT RESOLVED that the Commissioners of Nether Providence Township hereby adopts and submits to the Department of Environmental Protection for its approval as a revision to the "Official Plan" of the municipality, the above referenced Facility Plan. The municipality hereby assures the Department of the complete and timely implementation of the said plan as required by law (Section 5, Pennsylvania Sewage Facilities Act as amended).

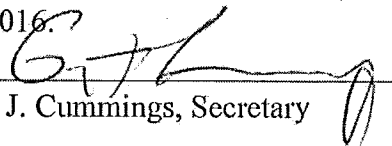
ADOPTED this \_\_\_\_ day of November, 2016 by the Commissioners of Nether Providence Township, Delaware County, Pennsylvania.

  
\_\_\_\_\_  
Nathan Much  
President of Council

ATTEST:

  
\_\_\_\_\_  
Gary J. Cummings, Secretary

I, Gary J. Cummings, Secretary to the Board of Commissioners of Nether Providence Township hereby certify that the foregoing is a true copy of Resolution No. 2016 - \_\_\_\_, Adopted November 10, 2016.

  
\_\_\_\_\_  
Gary J. Cummings, Secretary

## EXHIBIT 10

**PUBLIC NOTICE**

On behalf of Rose Valley Borough and Nether Providence Township, the Delaware County Regional Water Control Authority (DELCORA) has proposed a revision to the Official Sewage Facilities Plan for these municipalities. The alternative of choice for this revision proposes to abandon and decommission the existing Rose Valley Treatment Plant and to construct and operate a pump station and forcemain to bypass flows through Middletown Township for conveyance and then to DELCORA's Western Regional Treatment Plant in the City of Chester for treatment. Plan copies are available at, and written comments concerning the same, should be directed to the offices below within 30 days.

Rose Valley Borough  
P.O. Box 198,  
Rose Valley, PA 19065

Nether Providence Township  
214 Sykes Lane  
Wallingford, PA 19086

TO BE PUBLISHED: AUGUST 26, 2016

PROOF OF PUBLICATION AND INVOICE TO: CATANIA ENGINEERING ASSOC., INC.  
520 W. MACDADE BLVD.  
MILMONT PARK, PA 19033

81600-RV-1

Copy of Notice or Publication

AD#

1106156

# Proof of Publication of Notice in Delaware County Daily Times

Under Newspaper Advertising Act. No. 587, Approved May 16, 1929

State of Pennsylvania, }  
County of Delaware, } ss.

Mary Lynn Wisniewski designated agent of CENTRAL STATES PUBLISHING, INC., being duly sworn, deposes and says that the DELAWARE COUNTY DAILY TIMES, a daily newspaper of general circulation as defined in the above-mentioned Act, published at Primos, Delaware County, Pennsylvania, was established September 7, 1876, and issued and published continuously thereafter for a period of 100 years and for a period of more than six months immediately prior hereto, (under the name Chester Times prior to November 2, 1959) in the City of Chester, County of Delaware and further says that the printed notice or publication attached hereto is an exact copy of a notice or publication printed and published in the regular edition and issues of the DELAWARE COUNTY DAILY TIMES on the following dates, viz.....

August 26th

A.D. 20 16

and that said advertising was inserted in all respects as ordered.

Affiant further deposes that he is the proper person duly authorized by CENTRAL STATES PUBLISHING, INC. publisher of said DELAWARE COUNTY DAILY TIMES, a newspaper of general circulation, to verify the foregoing statement under oath and that affiant is not interested in the subject matter of the aforesaid notice or advertisement, and that all allegations in the foregoing statements as to time, place and character of publication are true.

*Mary Lynn Wisniewski*  
Sworn to and subscribed before me this

26th

day of

August

20 16

Notary Public

COMMONWEALTH OF PENNSYLVANIA  
NOTARIAL SEAL  
Dianne McCormick, Notary Public  
Ridley Twp., Delaware County  
My Commission Expires April 20, 2020  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

## PUBLIC NOTICE

On behalf of Rose Valley Borough and Nether Providence Township, the Delaware County Regional Water Control Authority (DELCORA) has proposed a revision to the Official Sewage Facilities Plan for these municipalities. The alternative of choice for this revision proposes to abandon and decommission the existing Rose Valley Treatment Plant and to construct and operate a pump station and forcemain to bypass flows through Middletown Township for conveyance and then to DELCORA's Western Regional Treatment Plant in the City of Chester for treatment. Plan copies are available at, and written comments concerning the same, should be directed to the offices below within 30 days.

Rose Valley Borough  
P.O. Box 198,  
Rose Valley, PA 19065  
DCT, August 26, a-1

Nether Providence Township  
214 Sykes Lane  
Wallingford, PA 19086

## EXHIBIT 11

No Public Comments Received



EXHIBIT 12

SANITARY SEWER AGREEMENT  
BETWEEN THE BOROUGH OF ROSE VALLEY  
AND THE TOWNSHIP OF NETHER PROVIDENCE  
FOR THE VERNON RUN OUTFALL SEWER

AGREEMENT made December 13 , 1989 between the BOROUGH  
of ROSE VALLEY, Delaware County, Pennsylvania (herein "BOROUGH"),  
and the TOWNSHIP of NETHER PROVIDENCE, Delaware County, Pennsyl-  
vania (herein "TOWNSHIP"),

BACKGROUND

BOROUGH operates and maintains a sanitary sewer collection  
system and a sewage disposal plant located along Ridley Creek at  
Longpoint Lane in the BOROUGH. TOWNSHIP has previously installed  
a sanitary sewer main in and along Woodward Road being part of  
the system known as the Nether Providence Section of the Vernon  
Run Outfall Sewer, so that residents of the TOWNSHIP could connect  
to the main which is a part of the BOROUGH'S sanitary sewer col-  
lection system pursuant to the terms of an agreement between the  
TOWNSHIP and the BOROUGH dated October 12, 1960, as amended. TOWN-  
SHIP has received requests from residents of the BOROUGH who own  
real property along Woodward Road, for permission to connect to  
the TOWNSHIP'S main in Woodward Road and TOWNSHIP is willing to  
allow such connections subject to the terms and conditions of this

IN WITNESS WHEREOF the parties hereto have caused this agreement to be executed by the duly authorized officers and their corporate seals affixed the day and year first above written.

(Corporate Seal)

BOROUGH OF ROSE VALLEY

By: Mary W. M. Laughlin  
President

Attest: Paul W. Heston  
Secretary

(Corporate Seal)

TOWNSHIP OF NETHER PROVIDENCE

By: Eugene H. Monahan  
President

Attest: Gary H. Heston  
Secretary

AGREEMENT BETWEEN BOROUGH OF ROSE VALLEY AND  
TOWNSHIP OF NETHER PROVIDENCE RE SEWER LINES

THIS AGREEMENT made this NINTH day of FEBRUARY  
1967 between the BOROUGH OF ROSE VALLEY, Delaware County, Pennsylvania,  
hereinafter called "BOROUGH" and the TOWNSHIP OF NETHER PROVIDENCE,  
Delaware County, Pennsylvania, hereinafter called "TOWNSHIP"

W I T N E S S E T H:

WHEREAS, a certain area of the Borough known as "Fairfield  
Estates" can only obtain a sanitary sewer disposal system by connec-  
tion with certain existing sanitary sewer lines in the Township, and

WHEREAS, the Township sanitary sewer lines connect with  
the sanitary sewer disposal system of the City of Chester, and

WHEREAS, both the Borough and the Township have executed  
appropriate agreements with the City of Chester for the use of the  
City of Chester sewer system and the treatment plant for the disposal  
of the sewage of certain areas of the Borough and Township,

NOW THEREFORE, in consideration of the mutual promises  
contained herein, and intending to be legally bound hereby, Borough  
and Township covenant and agree as follows:

1. Borough agrees to pay to Township the sum of Ten Thou-  
sand Seven hundred three Dollars and fifty-seven cents (\$10,703.57),  
being at the rate of One Hundred Twenty-six Dollars and ninety-seven  
cents (\$126.97) per acre for 84.30 acres of Borough area serviced by  
sanitary sewers connected to the sanitary sewers of Township into sani-  
tary sewer system of the City of Chester for treatment and disposal;  
the Borough area referred to being as set out on Plan attached hereto,  
made a part hereof and marked Exhibit "A".

2. Township agrees that it will permit connection of sanitary sewers of aforesaid areas of Borough to sanitary sewers of Township.

3. Township agrees to maintain, repair and replace its sanitary sewer system involved in the aforesaid connection when and where necessary.

4. Whenever the items of maintenance, repair or replacement are made in accordance with paragraph 3 above, and if such items shall exceed Five hundred Dollars (\$500.00) in any calendar year, such costs in excess of Five Hundred Dollars (\$500.00) shall be shared by the Borough and Township on a proportionate share of the total acreage that may be served by the line involved, said payment to be made within sixty (60) days from the date of demand by the Township.

5. In the event Borough or Township shall fail or refuse to comply with the provisions of this agreement, the aggrieved party may take such legal action to enforce its rights under this agreement as may be permitted by law.

6. If any one or more of the provisions of this agreement shall be held to be illegal or invalid, such illegality or invalidity shall not affect any other provision of this agreement and this agreement shall be construed and enforced as if such illegal or invalid provision had not been contained herein.

7. The basis of this agreement is a willingness of the Township to perform a sewage service for the Borough should such Borough so desire. To give protection and permanency to future planning

of the Borough, the Township reserves no right of termination of agreement except that which may be occasioned by failure of the Borough to abide by the provisions herein contained. Should such violations by the Borough occur, for a period not less than one hundred and twenty (120) days after due notice in writing by the Township to the Borough, this agreement may be terminated by the Township by written notice to the Borough and the discharge of sewage into the sewerage system of the Township stopped by action of the Township.

IN WITNESS WHEREOF the said Borough and Township have caused these presents to be duly executed and attested by their proper officers the day and year first written above.

BOROUGH OF ROSE VALLEY

By

John Paul  
President

Attest

J. Victor Haworth  
Secretary

Approved:

James G. Lacro  
Mayor

TOWNSHIP OF NETHER PROVIDENCE

By

Wm B. Moser

Attest

Harriet Eastwood, Secretary

THIS AGREEMENT, made this *12<sup>th</sup>* day of *October*, 1960, between the BOROUGH OF ROSE VALLEY, Delaware County, Pennsylvania, hereinafter called "BOROUGH", and the TOWNSHIP OF NETHER PROVIDENCE, Delaware County, Pennsylvania, hereinafter called "TOWNSHIP", Witnesseth:

WHEREAS, Borough operates and maintains a sanitary sewer collection system and also a sewage disposal plant which is located along Ridley Creek at Longpoint in said Borough; and

WHEREAS, Township is about to construct a sanitary sewer collection system in an area of the Township tributary to the Borough's sewage disposal plant and described more fully in Exhibit "A" which is attached hereto and made part hereof; and

WHEREAS, Township and Borough will construct a sanitary sewer collection system for their joint use along the area described in Exhibit "B" which is attached hereto and made part hereof; and

WHEREAS, Township desires to connect both sanitary sewer collection systems with the existing sanitary sewer collection system of Borough and to have sewage from said systems drain into Borough's said sewer system and be treated and disposed of by Borough at Borough's sewage disposal plant.

NOW THEREFORE, in consideration of the mutual promises herein contained and intending to be legally bound hereby, Township and Borough covenant and agree as follows:

1. (a). Borough agrees to expand the capacity of its sewage disposal plant so that said plant will be able to

receive and dispose of sewage emanating from the Nether Providence Township areas described in Exhibit "A" and/or "B", which areas will contain approximately 125 Township dwelling units. A dwelling unit is the maximum of four (4) persons per unit and in no event shall the total number of units serviced contain more than Five Hundred (500) persons.

(b). It is understood and agreed by the Borough and Township that neither surface water nor water emanating from swimming pools shall be emptied into the sanitary sewer system referred to herein.

2. Township agrees to pay the entire cost of construction, including engineering fees, attributable to the expansion of the Borough's plant to treat and dispose of sewage from said Township units.

3. Township shall construct a sanitary sewer collection system to service the area described in Exhibit "A" and shall assume payment of all costs incident thereto.

4. (a). Township and Borough shall construct a sanitary sewer collection system for their joint use along the areas described in Exhibit "B" and the cost of constructing said joint sewer lines shall be proportionately divided between the Borough and the Township according to the number of units serviced.

(b). Borough will pay for construction of lines servicing its own unit as indicated in Exhibit "C".

5. Township and Borough agree that a single contract shall be negotiated for construction of the sanitary sewer collection systems referred to in paragraphs 3 and 4(a), supra, and



further, paragraph 4(b) may or may not be included at Borough option.

6. Upon completion of the construction of said sanitary sewer collection systems, and upon completion of the expansion of Borough's sewage disposal plant, said sewer collection systems shall be connected with Borough's existing sanitary sewer collection system and Township shall then have the right, throughout the term of this agreement, to discharge by gravity sewage from said sewer systems into and through Borough's sanitary sewer system and thence into Borough's sewage disposal plant to be treated and disposed of in said plant.

7. Borough agrees that it will for and during the term of this agreement operate and maintain said sewage disposal plant and the joint sewer collection system referred to in paragraph 4(a), supra, and that it will keep the same in good order and repair; except where prevented from doing so by Act of God, war, riot, rebellion, sabotage, act of the public enemy, public calamity, or condition beyond the control of the Borough, in which event the Borough may suspend operation of the plant until the cause of such suspension shall no longer exist.

8. (a). For the duration of the contract, Township agrees to pay Borough out of current revenue or sewer rentals or both, as a charge for the rights granted hereunder by Borough, a sum which shall be computed by Borough annually on the basis of 175% of the 1960 average Borough sewer rental per unit times the number of units connected in the Township except as provided in paragraphs 8(c) and 8(f) below and at no time during the life of the contract will the annual payment by Township to Borough be based on less than 125 units.

(b). For the duration of the contract, Township's

share of costs shall be computed by the Borough annually on the basis of 175% of the 1960 average Borough sewer rental per unit times the number of units connected in the Township, except as provided in Sections 8(c) and 8(f); however, at no time during the life of the contract will the annual payment by Township be based on less than 125 units. It is mutually agreed by Borough and Township that the figure of 175% consists of two factors, (1) and (2). They are:

- (1) being 100% of the present Rose Valley Unit Rental Average;
- (2) representing 75% of the make-up from Borough's General Fund to meet remainder of total cost for maintenance, operation and other charges connected with safe, efficient and satisfactory processing at the Rose Valley Sewage Disposal Plant.

In the event that the sum of (1) plus (2) rises because of increases in the cost of materials, labor, services or other reasons incident to the safe, efficient and satisfactory servicing of sewage disposal, Township agrees its average unit charge shall be adjusted to share the increases with Borough. It is expressly agreed by Borough that if item (1) is increased by Borough to Borough residents to bring rentals more closely in line with actual expense, yet the total of (1) and (2) is unchanged, there will be no increase in the average rental charge made to Township for the Borough service in processing Township sewage at the Rose Valley Disposal Plant. Borough's intention is that Township is expected to pay the equivalent, on the average unit basis, to the average Borough cost.

(c). Township and Borough agree that the charge to the Township for the first two years of operation under this agreement shall be and is \$5,853.00 per annum for each of said years; the first payment of which shall be due and payable upon commencement of the term of this agreement and the second payment shall be due and payable on or before the beginning of the second year of operation under this agreement.

(d). Inasmuch as the sum of \$5,853.00 referred to in paragraph 8(c) above includes a 20% contingency charge, at the end of the first two years of the contract the Borough and Township will renegotiate the contingency percentage.

(e). At least 60 days before commencement of the third year of operation under this agreement Borough and Township shall re-adjust the charge to Township in accordance with the provisions of paragraphs 8(a), 8(b) and 8(d), supra.

(f). Township shall make payment to Borough of the sum so negotiated on or before the commencement of the ensuing year of operation, except that all individual items of repairs or replacements costing more than \$500.00 shall be shared by the Borough and the Township on a proportionate unit basis with payment being made to the Borough within 60 days from date of demand by Borough. If a contingency percentage is maintained after the first two years of the contract, Township will receive credit against whatever percentage might be agreed upon toward its share of repair or replacement cost noted above.

9. Township will, at its own cost and expense, operate and maintain the sanitary sewer collection system which it will construct as provided in paragraph 3, supra.

10. During the term of this agreement, Borough shall insure or cause to be insured the sewage system, its structures and equipment to the full insurable value against loss or damage by fire or other casualty, including war risk insurance, if and when the same shall become available from the United States Government or its appropriate subordinate agencies, such insurance to be of the kind usually carried for like buildings, structures and equipment, and to be placed with one or more responsible stock insurance companies authorized and qualified to do business in the Commonwealth of Pennsylvania.

11. Should the plant, pumping station, or said sewer collection system, or any part thereof, be damaged or destroyed through any cause whatsoever during the term of this agreement, Borough shall repair and reconstruct the same at its own cost and expense, the proceeds of any insurance covering such damage or destruction being applied to the extent necessary to such repair and reconstruction. Township agrees to pay Borough its proportionate share of all costs and expenses reasonably incurred by Borough in connection with the repair and reconstruction of said plant, pumping station and sewer collection system in excess of such insurance proceeds.

12. This agreement shall be in effect upon its execution and shall continue for a term of ten years commencing upon the connection of the sanitary sewer collection systems to be constructed hereunder with the Borough's sanitary sewer collection system and sewage disposal plant as provided in paragraph 6, and thereafter the term of this agreement shall be as provided below. It

is understood and agreed that if Township desires to extend this agreement beyond the ten year term herein provided, Township will notify Borough, in writing, one year before the end of said term at which time negotiations shall be initiated for an extension of the contract. In the event said negotiations are not completed during the term of this contract it is agreed by Township that the contract remains in full force and effect with present provisions of Section 8(b) being put aside and with Borough given right to establish the amount of annual Township payment for each successive year until a new contract is executed but in no event shall Township be required to pay more than its proportionate share of the actual cost of operation.

13. It is agreed that the plans and specifications for construction of said sewer collection systems and the expansion of Borough's sewage disposal plant shall be subject to the approval of the Sanitary Water Board of the Pennsylvania Department of Health.

14. All sums agreed to be paid by Township under the terms of this agreement for the enlargement of Borough's sewage disposal plant and for its maintenance and operation as well as the use of Borough's collection system as in Exhibit "B" shall not be considered as capital investment but shall be considered as a connection fee or rent. No title to said sewage disposal plant shall vest in or pass to Township by virtue of any such payments.

15. In the event that Township shall fail or refuse to pay any sums due from it under this agreement within sixty (60) days after the same shall become due and payable, Borough may take such legal action to enforce its rights under this agreement as may be permitted by law.

16. If any one or more of the provisions of this agreement shall be held to be illegal or invalid, such illegality or invalidity shall not affect any other provision of this agreement; and this agreement shall be construed and enforced as if such illegal or invalid provision had not been contained herein.

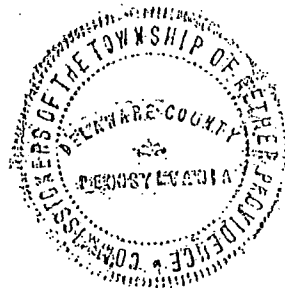
IN WITNESS WHEREOF, the said Township and the said Borough have caused these presents to be duly executed and attested by their proper officers the day and year first written above.



BOROUGH OF ROSE VALLEY

By *Walter P. D.* President

Attest *J. Victor Haworth* Secretary



TOWNSHIP OF NETHER PROVIDENCE

By *Musell Jenkins* President

Attest *D. Paul Valmy* Secretary

EXHIBIT 13

# **The Delaware County Regional Water Quality Control Authority**



## **Capacity Reserve Study**

**Middletown Township Sewer Authority Dutton's Mill  
Interceptor and Knowlton Road Pump Station**

July 2012

**Bradford Engineering Associates, Inc**  
2710 Concord Road, Suite 3  
Aston, Pa 19014  
610.497.6200  
info@bea-inc.com



**Capacity Reserve Study  
Middletown Township Sewer Authority Dutton's Mill Interceptor  
and Knowlton Road Pump Station**

**I. Background**

The following study was completed in accordance with Bradford Engineering's proposal to DELCORA dated June 21, 2012 and authorized on June 27, 2012 via email correspondence from Robert Powell.

DELCORA currently owns and operates the sanitary sewer collection and treatment system in Rose Valley Borough. A recently approved Act 537 Plan Revision (Plan) for the Chester-Ridley Creek Service Area (CRC) calls for the diversion of the flow from the Southwest Delaware County Municipal Authority's (SWDCMA) Baldwin Run Pollution Control Plant (BRPCP) to the DELCORA Western Regional Treatment Plant (WRTP). This diversion will be accomplished via a new pump station and force main from the BRPCP to the WRTP. The new pump station and force main is in final design phase. With the advent of this Plan, DELCORA is now contemplating the diversion of flow from the Rose Valley Treatment Plant (RVTP) to the WRTP. One option for the diversion requires pumping flow from the RVTP to the Middletown Township, Delaware County, Sewer Authority's (MTSA) collection system. This flow would then be conveyed by MTSA to the new CRC Pump Station.

The project's feasibility from an engineering standpoint will be assessed prior to the required Sewage Facilities Planning and development of intermunicipal agreements.

## II. Existing Capacity in MTSA System

Based upon available mapping, this study contemplates connection of a new RV force main to the MTSA collection system tributary to the MTSA Knowlton Road Pump Station. There are a number of possible connection points, however these will be discussed in subsequent studies. See the attached map in Appendix A for details on the MTSA system configuration.

### A. Knowlton Road Pump Station Capacity

The Knowlton Road area is served by a sewage pump station located on Knowlton Road near the intersection of Ridge Ave. The pump station is a Smith and Loveless wet well mounted pump station designed as one pump operation during normal and peak flows and one pump as backup or lag pumping. The single pump rated capacity is 400 gpm (576,000 gpd).

According to the MTSA 2011 Chapter 94 Report, the average daily flow to the station was listed at 120,570 gpd. This flow was calculated using hour meter readings on each pump since the station is not equipped with an influent flow meter. According to the PaDEP Sewage Pumping Station Guidance document, a station with an average daily flow between 0.100 and 0.300 MGD requires a peaking factor of 3.5 times the average daily flow.

Accordingly, the calculated peak flow at the station is 421,995 gpd or 293 gpm.

To calculate reserve capacity, 25% of pump output is normally used when actual peak flows are unknown. Accordingly, the peak flow capacity of the Knowlton Rd Pump station is  $576,000 \times 0.75 = 432,000$  gpd. Based upon this number **the reserve capacity at the station is approximately 10,000 gpd.**

It should be noted that in discussions with the pump station operators for MTSA, single pump capacity is sometimes exceeded during severe rain events. Additional I&I remediation efforts may reduce peak flows however, for planning purposes, it will be assumed that the station will need to be upgraded to accept flows from RV.

#### **B. Knowlton Rd PS Force Main Capacity**

The Knowlton Road Pump Station discharges it's flow into an 8" ductile iron force main. The force main is located in the roadway of Knowlton Road from the pump station up to New Middletown Road for 2,350 feet. It then travels south in the shoulder of New Middletown Road for 1,725 feet to Old Middletown Road. From there the main travels southwest on Old Middletown Road for 430 feet to Rhodes Lane. The force main discharges at the start of the Dutton's Mill Interceptor in Rhodes Lane. The total force main length is approximately 4,800 feet.

Force main available capacity is analyzed by calculating the velocity during pump operation. The optimum range of capacity for an 8" force main is between 2 ft./sec and 6 ft./sec. As stated in the Knowlton Rd Pump Station capacity section, single pump output is 400 gpm. This corresponds to a velocity of 2.55 ft./sec. in the force main. If the pumps were upgraded, the maximum output could be approximately 940 gpm which translates to a velocity of slightly below 6 ft./sec. in the force main. Accordingly, the **reserve capacity of the Knowlton Rd force main is 540 gpm or 777,600 gpd.**

### III. Dutton's Mill Interceptor Capacity

The Dutton's Mill Interceptor (DMI) consists of an 8" diameter asbestos concrete pipe that flows by gravity in a westerly direction and essentially parallels a small tributary to Chester Creek. The total length of the interceptor is approximately 5,000 feet. See the map in Appendix A for the interceptor's configuration.

As part of their ongoing I&I abatement efforts, MTSA has been metering flow at the terminus of the DMI. Flow is being measured using an ISCO open channel flow meter. To evaluate capacity in the DMI, a three-month average was used during the months of September through November of 2011. See flow report in Appendix B for details.

SewerCAD™ was the software used to evaluate capacity in the DMI. Theoretical flow was added to the five (5) connection points of the DMI. It should be noted that in addition to the Knowlton Road Pump Station, two additional pump stations discharge near the beginning of the DMI; the Meadowbrook Pump Station and the Knowlton Charter Pump Station. Data from the flow meter was used to aid in calibration of the flow simulation. From the flow meter report, the average daily flow in the DMI is approximately 0.288 MGD. The peak flow in the DMI is approximately 0.823 MGD. The peak flow from the SewerCAD model shows a peak flow of 0.798 MGD. Therefore, the theoretical model is validated and can be used for this study. See Appendix C for the pipe section report and hydraulic profile of the SewerCAD simulation.

There are a number of sections of the DMI that were installed at the 8" diameter pipe minimum grade of 0.40%. Capacity of an 8" line at this grade is 0.536 MGD. Capacity analysis of any sewer line is the minimum available capacity in any section of the sewer system. During single pump operation of the Knowlton Rd Pump

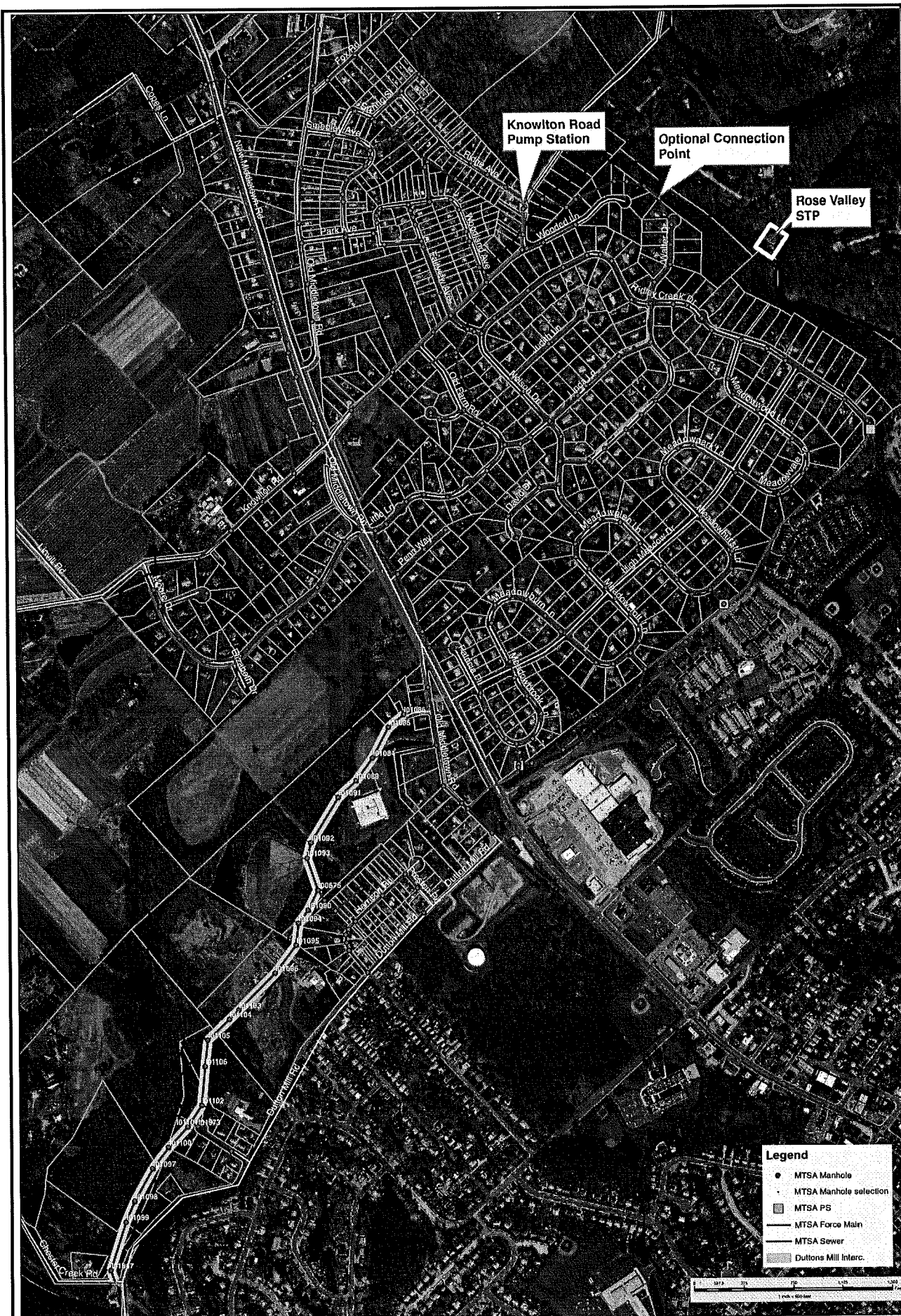
Station, the DMI is theoretically at capacity where pipes are installed at minimum grade. Needless to say, during rain events with all three pump stations running, the DMI capacity is most likely exceeded. Accordingly, it can be concluded that **there is no reserve capacity in the DMI.**

**IV. Summary**

Three components of the MTSA collection system were evaluated to ascertain available capacity for the potential connection of the Rose Valley sewage system. The following Table outlines each component along with the current available capacity and probable upgrades.

Component	Current Peak Flow	Theoretical Capacity	Available Capacity	Potential Upgrade
Knowlton Road PS	421,995 gpd	432,000 gpd	10,005 gpd	Upgrade pump station
Knowlton Rd Force Main	2.55 ft./sec at 400 gpm	6 ft./sec @ 940 gpm	3.45 ft./sec @ 540 gpm	None
Dutton's Mill Interceptor	0.798 MGD	0.536 MGD	0.000 MGD	Upgrade the DMI

Based upon the information presented above, further study on the upgrades needed for the DMI and Knowlton Rd Pump Station need to be evaluated. In addition, peak flow data will be needed from the Rose Valley System in order to complete the second phase of this study.



DELCORA  
100 East Fifth Street  
Chester, Pa 19013

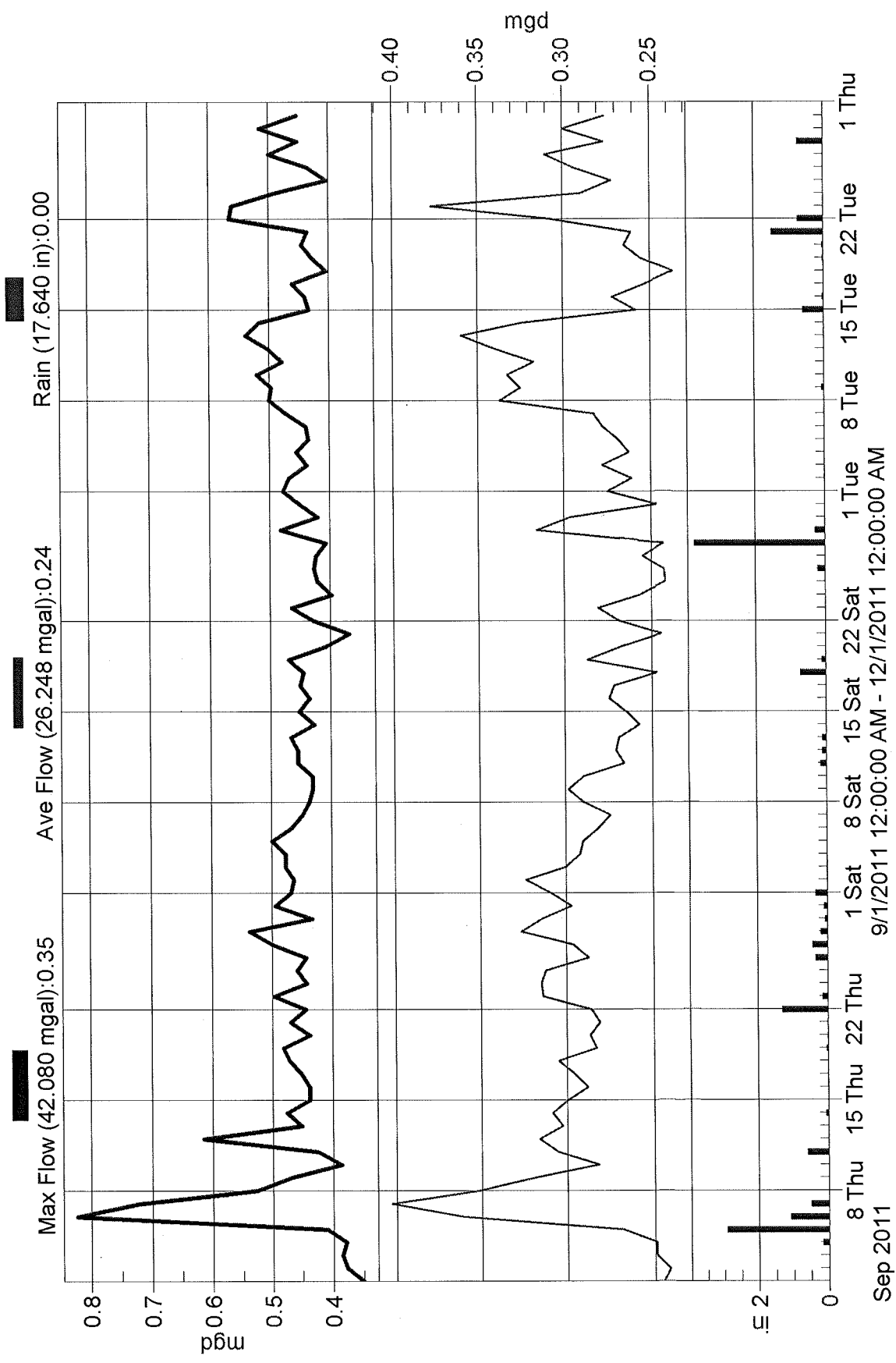
Capacity Reserve Study  
MTSA Duttons Mill Interceptor/Knowlton Rd PS  
July 2012

Bradford Engineering Associates, Inc.  
2710 Concord Road, Suite 3  
Aston, Pa 19014  
(610) 497-5200



# Duttons Mill

November 2011



Duttons Mill  
November 2011

Date/Time	Max Flow (mgd)		Ave Flow (mgd)		Rain (in)
	Maximum		Average		
9/1/2011 12:00:00 AM	0.350		0.245		0.000
9/2/2011 12:00:00 AM	0.377		0.241		0.000
9/3/2011 12:00:00 AM	0.385		0.249		0.000
9/4/2011 12:00:00 AM	0.379		0.249		0.170
9/5/2011 12:00:00 AM	0.410		0.269		2.930
9/6/2011 12:00:00 AM	0.823		0.362		1.100
9/7/2011 12:00:00 AM	0.722		0.403		0.510
9/8/2011 12:00:00 AM	0.527		0.352		0.000
9/9/2011 12:00:00 AM	0.468		0.319		0.000
9/10/2011 12:00:00 AM	0.386		0.282		0.000
9/11/2011 12:00:00 AM	0.424		0.305		0.610
9/12/2011 12:00:00 AM	0.615		0.316		0.000
9/13/2011 12:00:00 AM	0.451		0.303		0.000
9/14/2011 12:00:00 AM	0.475		0.309		0.060
9/15/2011 12:00:00 AM	0.437		0.299		0.000
9/16/2011 12:00:00 AM	0.438		0.288		0.000
9/17/2011 12:00:00 AM	0.451		0.295		0.000
9/18/2011 12:00:00 AM	0.470		0.305		0.000
9/19/2011 12:00:00 AM	0.481		0.283		0.040
9/20/2011 12:00:00 AM	0.437		0.287		0.010
9/21/2011 12:00:00 AM	0.469		0.281		0.010
9/22/2011 12:00:00 AM	0.443		0.286		1.320
9/23/2011 12:00:00 AM	0.496		0.314		0.150
9/24/2011 12:00:00 AM	0.441		0.315		0.000
9/25/2011 12:00:00 AM	0.457		0.312		0.000



Duttons Mill  
November 2011

Date/Time	Max Flow (mgd)	Ave Flow (mgd)	Rain (in)
9/26/2011 12:00:00 AM	0.442	0.287	0.350
9/27/2011 12:00:00 AM	0.499	0.296	0.440
9/28/2011 12:00:00 AM	0.538	0.327	0.190
9/29/2011 12:00:00 AM	0.433	0.314	0.060
9/30/2011 12:00:00 AM	0.494	0.297	0.090
10/1/2011 12:00:00 AM	0.467	0.309	0.340
10/2/2011 12:00:00 AM	0.462	0.323	0.000
10/3/2011 12:00:00 AM	0.476	0.300	0.010
10/4/2011 12:00:00 AM	0.476	0.292	0.000
10/5/2011 12:00:00 AM	0.499	0.290	0.000
10/6/2011 12:00:00 AM	0.465	0.281	0.000
10/7/2011 12:00:00 AM	0.447	0.274	0.000
10/8/2011 12:00:00 AM	0.436	0.290	0.000
10/9/2011 12:00:00 AM	0.430	0.298	0.000
10/10/2011 12:00:00 AM	0.430	0.290	0.000
10/11/2011 12:00:00 AM	0.454	0.266	0.170
10/12/2011 12:00:00 AM	0.454	0.271	0.110
10/13/2011 12:00:00 AM	0.465	0.269	0.110
10/14/2011 12:00:00 AM	0.427	0.258	0.000
10/15/2011 12:00:00 AM	0.452	0.265	0.000
10/16/2011 12:00:00 AM	0.434	0.275	0.000
10/17/2011 12:00:00 AM	0.449	0.272	0.000
10/18/2011 12:00:00 AM	0.444	0.247	0.730
10/19/2011 12:00:00 AM	0.469	0.287	0.110
10/20/2011 12:00:00 AM	0.408	0.268	0.000
10/21/2011 12:00:00 AM	0.369	0.244	0.000

Duttons Mill  
November 2011

Date/Time	Max Flow (mgd)	Ave Flow (mgd)	Rain (in)
10/22/2011 12:00:00 AM	0.427	0.268	0.000
10/23/2011 12:00:00 AM	0.463	0.281	0.000
10/24/2011 12:00:00 AM	0.397	0.257	0.000
10/25/2011 12:00:00 AM	0.420	0.242	0.000
10/26/2011 12:00:00 AM	0.426	0.242	0.210
10/27/2011 12:00:00 AM	0.423	0.255	0.000
10/28/2011 12:00:00 AM	0.406	0.243	3.790
10/29/2011 12:00:00 AM	0.481	0.316	0.280
10/30/2011 12:00:00 AM	0.420	0.296	0.000
10/31/2011 12:00:00 AM	0.449	0.247	0.000
11/1/2011 12:00:00 AM	0.477	0.275	0.000
11/2/2011 12:00:00 AM	0.467	0.261	0.000
11/3/2011 12:00:00 AM	0.437	0.278	0.000
11/4/2011 12:00:00 AM	0.454	0.263	0.000
11/5/2011 12:00:00 AM	0.434	0.269	0.000
11/6/2011 12:00:00 AM	0.438	0.277	0.000
11/7/2011 12:00:00 AM	0.471	0.283	0.000
11/8/2011 12:00:00 AM	0.499	0.337	0.000
11/9/2011 12:00:00 AM	0.496	0.325	0.070
11/10/2011 12:00:00 AM	0.520	0.332	0.000
11/11/2011 12:00:00 AM	0.478	0.317	0.000
11/12/2011 12:00:00 AM	0.502	0.340	0.000
11/13/2011 12:00:00 AM	0.539	0.360	0.000
11/14/2011 12:00:00 AM	0.516	0.324	0.000
11/15/2011 12:00:00 AM	0.432	0.258	0.600
11/16/2011 12:00:00 AM	0.439	0.272	0.040

Duttons Mill

November 2011

Date/Time	Max Flow (mgd)	Ave Flow (mgd)	Rain (in)
11/17/2011 12:00:00 AM	0.459	0.253	0.000
11/18/2011 12:00:00 AM	0.404	0.237	0.000
11/19/2011 12:00:00 AM	0.427	0.255	0.020
11/20/2011 12:00:00 AM	0.444	0.265	0.030
11/21/2011 12:00:00 AM	0.435	0.261	1.490
11/22/2011 12:00:00 AM	0.566	0.307	0.740
11/23/2011 12:00:00 AM	0.562	0.377	0.000
11/24/2011 12:00:00 AM	0.490	0.290	0.000
11/25/2011 12:00:00 AM	0.402	0.272	0.000
11/26/2011 12:00:00 AM	0.435	0.294	0.000
11/27/2011 12:00:00 AM	0.499	0.310	0.000
11/28/2011 12:00:00 AM	0.450	0.277	0.750
11/29/2011 12:00:00 AM	0.514	0.300	0.000
11/30/2011 12:00:00 AM	0.451	0.276	0.000
	Maximum Max Flow 0.823 (mgd)	Average Ave Flow 0.288 (mgd)	Average Rain 0.194 (in)
		Total 26.248 mgal	Total 17.640 in



Scenario: Base  
Current Time Step: 1.000Hr  
FlexTable: Conduit Table

Label	Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Conduit Shape	Manning's n	Diameter (in)	Flow (gpd)	Length (ft)	Slope (ft/ft)	Capacity (Full Flow) (gpd)	Hydraulic Grade Line (in) (ft)	Hydraulic Grade Line (Out) (ft)	Cover (Start) (ft)	Cover (Stop) (ft)	Velocity (Average) (ft/s)
CO-1	OF-1	29.40	101947	31.79	Circular Pipe	0.012	8.0	645,189.48	118.0	0.020	1,204,084.13	32.28	28.75	10.43	7.54	5.43
CO-2	101947	31.79	101099	37.65	Circular Pipe	0.012	8.0	645,195.18	320.0	0.018	1,144,914.53	38.12	32.15	7.54	5.86	5.43
CO-3	101099	37.65	101098	42.14	Circular Pipe	0.012	8.0	645,196.99	171.0	0.028	1,370,958.67	42.61	37.97	5.86	7.19	5.80
CO-4	101098	42.14	101097	48.27	Circular Pipe	0.012	8.0	645,198.61	279.0	0.022	1,254,086.16	48.14	42.46	7.19	8.03	6.73
CO-5	101097	48.27	101100	55.50	Circular Pipe	0.012	8.0	645,199.23	201.0	0.036	1,604,513.22	52.67	46.81	8.03	7.32	6.18
CO-6	101100	55.50	101101	62.51	Circular Pipe	0.012	8.0	645,199.61	210.0	0.029	1,438,135.79	62.98	58.81	7.32	5.74	6.17
CO-7	101101	62.51	101101A	64.59	Circular Pipe	0.012	8.0	645,199.67	164.0	0.029	1,447,573.92	65.06	62.62	7.32	5.74	6.22
CO-8	101101A	64.59	101102	70.27	Circular Pipe	0.012	8.0	639,999.97	305.0	0.005	618,504.88	70.74	68.06	5.74	12.66	3.12
CO-9	101102	70.27	101106	71.90	Circular Pipe	0.012	8.0	639,999.98	198.0	0.006	630,813.11	72.47	70.74	12.66	8.43	3.12
CO-10	101106	71.90	101105	77.19	Circular Pipe	0.012	8.0	639,999.98	198.0	0.006	630,813.11	73.56	72.47	8.43	10.33	3.18
CO-11	101105	77.19	101104	120.14	Circular Pipe	0.012	8.0	639,999.98	230.0	0.036	1,605,275.90	120.61	120.43	6.33	9.49	12.21
CO-12	101104	120.14	101096	123.74	Circular Pipe	0.012	8.0	639,999.98	100.0	0.004	1,111,490.10	124.21	124.21	9.49	27.59	6.72
CO-13	101096	123.74	101095	125.84	Circular Pipe	0.012	10.0	639,999.98	400.0	0.005	621,504.57	126.31	124.21	27.43	30.83	3.26
CO-14	101095	125.84	101094	127.27	Circular Pipe	0.012	8.0	639,999.98	265.0	0.005	535,893.40	127.84	126.31	30.99	6.36	3.13
CO-15	101094	127.27	101094	127.94	Circular Pipe	0.012	8.0	639,999.98	167.0	0.004	535,893.40	128.76	127.84	6.36	12.39	2.84
CO-16	101094	128.04	101090	128.52	Circular Pipe	0.012	8.0	639,999.98	160.0	0.004	535,893.40	129.47	128.76	12.29	6.01	2.84
CO-17	101090	128.62	100675	129.26	Circular Pipe	0.012	8.0	639,999.98	279.0	0.004	535,893.40	130.39	129.47	5.91	10.37	2.84
CO-18	100675	135.02	101093	141.77	Circular Pipe	0.012	8.0	639,999.98	160.0	0.004	535,893.40	142.24	135.34	4.61	9.36	5.75
CO-19	101093	145.02	101092	145.50	Circular Pipe	0.012	8.0	622,399.99	279.0	0.004	532,877.25	146.20	145.49	6.11	6.53	2.76
CO-20	101092	145.50	101091	157.80	Circular Pipe	0.012	8.0	622,399.99	121.0	0.004	532,877.25	158.27	146.20	6.53	9.33	6.29
CO-21	101091	157.80	101089	172.40	Circular Pipe	0.012	8.0	622,399.99	400.0	0.004	532,877.25	172.87	158.03	9.33	6.43	6.88
CO-22	101089	172.40	101084	176.70	Circular Pipe	0.012	8.0	622,399.99	185.0	0.004	532,877.25	177.17	172.14	6.43	8.43	8.32
CO-23	101084	176.70	101086	188.97	Circular Pipe	0.012	8.0	575,999.99	212.0	0.066	2,167,508.64	189.45	189.45	6.43	8.43	8.32
CO-24	101086	190.74	101086	197.00	Circular Pipe	0.012	8.0	575,999.99	187.0	0.066	2,167,508.64	189.45	189.45	6.43	8.43	8.32
CO-29	101084	176.70	Knowlton Rd PS	196.00	Circular Pipe	0.012	8.0	575,999.99	120.0	2.002	39,047,123.68	198.07	177.17	5.03	6.33	21.21
CO-30	101086	197.00	Knowlton Rd PS	196.00	Circular Pipe	0.012	8.0	575,999.99	1.0	1.000	8,460,562.66	198.45	197.21	5.03	6.33	21.42
CO-31	101084	176.70	Meadowhurst PS	196.00	Circular Pipe	0.012	8.0	575,999.99	1.0	21.300	39,047,123.68	198.10	177.17	5.43	6.33	26.45

EXHIBIT 14

**Rose Valley Borough**  
Sewer System  
Capital Improvements  
1993-2000

SUMMARY

A number of major capital improvements have been made to the Rose Valley Borough sewer system in the period 1973-2000. Following a study of capital needs, the two main Pump Stations at the Old Mill and at Brookhaven were completely replaced with modern, non-clogging systems of greater capacity, and an emergency generator was added to the Old Mill Station. This means that most all of the pumping equipment is modern and in less than five years old.

To deal with excessive infiltration, the main collecting line to the Old Mill Station was replaced, and a program of televising other main lines was initiated. Nearly 1000' of lines have been televised, and televising of another 3,000-4,000' of branch lines are planned. Damaged segments are being replaced in stages. At the Sewer Treatment Plant, continual and careful maintenance has been accompanied by upgrading the equipment and by cleaning up the entire plant area.

In total, nearly \$200,000 has been invested in the Rose Valley system in the 1973-2000 period, and the entire system has been brought from a condition of benign neglect to one with modern and efficient equipment. The following outline explains some of the highlights of this capital program.

1993 Study of Capital Needs

In 1993, it was decided to determine capital funds needed to keep the Rose Valley sewer system operable over the next 20+ years. A review of the system showed that:

- The Sewer Treatment Plant ,although very old, had no major problems, even though exceeding rated capacity. Effluent was (and still is) consistently well within required limits.
- Pumps at the Old Mill Station, the largest in the system, had problems of high flows, clogging with debris, and wear. Pumps at the Brookhaven Station were operating satisfactorily, but were also well over 20 years old.
- The main sewer lines suffered in rainy periods from infiltration that caused excessive flows, aggravating pumping problems and increasing the volume needed to be treated at the plant.

Replacement of Main Sewer Line - 1993

In 1993, the main 15" sewer line into the Old Mill Pump Station was replaced. This 857' line runs the length of Old Mill Lane from Rose Valley Road to the

pump station. Infiltration had been high, because the old terra cotta line lay in and near the bed of a small stream (Vernon Run). After replacing the line, average flows in rainy periods showed a decrease of about 50,000 gpd. The cost of the replacement was \$35,255 for the line and \$6,250 for tree removal, rock excavation, landscaping, and paving, for a total of \$41,505.

#### Replacement of Old Mill Pump Station - 1995

In 1995, the old pumps at the Old Mill Pump Station were replaced with modern, non-clogging pumps with much greater capacity. A Wet Well Mounted Pump Station was purchased from Smith & Loveless, Inc., including two new 250 gpm pumps @ 22' head and associated automated equipment. The cost of the replacement was \$18,386 for the pump station, \$6,531 for the installation, and \$3,970 for the bid documents and specifications, for a total of \$28,887.

#### Replacement of Brookhaven Pump Station – 1997

In 1996, problems arose with the Brookhaven Pump Station, which serves part of Todmorden and at that time part of Nether Providence. It was decided to replace the pumps with modern, non-clogging pumps with adequate capacity. A Wet Well Mounted Pump Station was purchased from Smith & Loveless, Inc., including two new 150 gpm pumps @ 40' head and associated automated equipment. The cost of the replacement was \$25,005 for the pump station, \$7,349 for the installation, and \$3,500 for the bids, specifications, and engineering, for a total of \$35,854.

#### Televising of Lines – 1998/99

A program to televise major sewer lines in the Central Rose Valley system was started in 1998. This was found to be an excellent way at moderate cost to determine the location and extent of damage to the old terra cotta lines. The work was performed by Pipe Services Corp. of West Chester. In September, 1998 some 282' of line near the intersection of Old Mill Lane and Rose Valley Road was televised. In May, 1999 another 645' of line was cleaned and televised in the Vernon Run valley area; several areas of infiltration were found. The total cost of this work was \$2,880.

One problem with this technology, however, is that there must be access to manholes at both ends of each line segment that is checked. In Rose Valley, some manholes have been covered with paving, and others in non-paved areas have not been located to date. To do more televising of major lines will require that these manholes be found and made accessible. About 3,000-4,000 feet of major lines have not yet been checked.



#### Hurricane Floyd Damage Repair – 1999

In September, 1999 Hurricane Floyd caused a major power outage and extensive flooding. In the course of events, a large tree was uprooted, rupturing the force main from the Old Mill Pump Station to the Sewer Plant in an almost inaccessible location near Ridley Creek. Emergency repairs were made, due to heroic efforts by the Rose Valley Plant Superintendent and those he called upon for help. In the meantime, sewage was hauled by truck from the powerless pump station to the treatment plant (which does not require electric power to operate). Overall costs, including the rebuilding of a key bridge on the road leading to the Sewer Plant, was \$23,965.

#### Replacement of "Pool" Sewer Line - 2000

In early 2000, leakage forced the replacement of a 130' section of sewer line adjacent to the Rose Valley Swimming Pool. Cost was \$7,220 exclusive of resodding the area.

#### Emergency Generator at Old Mill Pump Station – 2000

A 35 kW Onan Diesel emergency generator system has been purchased from Cummins Power Systems, Inc., and has been installed at the Old Mill Pump Station. Cost of the generator package is \$17,000. The cost of installation, which was complicated because the package had to be moved across Vernon Run and maneuvered into a crowded location, has not yet been determined.

#### "Hedgerow" Line Replacement – (in progress)

In this year of 2000 it is expected that two segments of damaged terra cotta sewer lines totaling 295' will be replaced. They are in the vicinity of the Hedgerow Theater, extending across the parking lot and behind the theater. The bid that was awarded is in the amount of \$13,435, and includes removal of three large trees and six smaller trees.

#### Other Equipment Improvements

A number of other smaller capital items have been used to upgrade the technology and utility of the Rose Valley sewer system. These include an automated chlorinator, automatic phone dialer (in case of power loss), rebuilding and upgrading of Long Point compressor/motor system, upgrade of electrical supply units, renovation of the Sewer Plant, etc. A very rough estimate of such items over the period 1993-2000 is \$20,000.

#### Total of Capital Improvements

The above items represent a total of nearly \$200,000 that has been used to bring the Rose Valley sewer system up to date, as shown by the following summary:

Replacement of main sewer line - 1993	\$41,505
Replacement of Old Mill Pump Station – 1995	28,887
Replacement of Brookhaven Pump Station – 1997	35,854
Televising of Lines – 1998/99	2,880
Hurricane Floyd Damage Repair – 1999	23,965
Replacement of "Pool" Sewer Line – 2000	7,220
Emergency Generator at Old Mill – 2000	17,000
"Hedgerow" Line Replacement – 2000	13,435
Other Equipment Improvements – 1993-2000	20,000
	<hr/>
TOTAL	\$190,746

J. Helms 8/2000  
Revision 1

## EXHIBIT 15



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

Act 537 Plan Content and Environmental Assessment Checklist

PART 1 GENERAL INFORMATION

A. Project Information

1. Project Name DELCORA - ROSE VALLEY BOROUGH TREATMENT PLANT BYPASS
2. Brief Project Description Abandon & decommission the Rose Valley Borough Treatment Plant and construct a new pump station and forcemain that conveys all flow to and through Middletown Township Sewer Authority's system, and ultimately into DELCORA's Western Regional Treatment Plant in Chester.

B. Client (Municipality) Information

Municipality Name	County	City	Boro	Twp
DELCORA-Rose Valley, Nether Providence	Delaware	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Municipality Contact Individual - Last Name	First Name	MI	Suffix	Title
Hurst	Charles			P.E.
Additional Individual Last Name	First Name	MI	Suffix	Title
Municipality Mailing Address Line 1	Mailing Address Line 2			
100 E. 5th Street	P.O. Box 999			
Address Last Line -- City	State	ZIP+4		
Chester	PA	19016-0999		
Phone + Ext.	FAX (optional)	Email (optional)		
610-876-5523 ext. 297		hurstc@delcora.org		

C. Site Information

Site (or Project) Name	
DELCORA - ROSE VALLEY BOROUGH TREATMENT PLANT BYPASS (Municipal Name) Act 537 Plan	
Site Location Line 1	Site Location Line 2
Rose Valley Borough Treatment Plant	Knowlton Road Pump Station

D. Project Consultant Information

Last Name	First Name	MI	Suffix
Ciocco	Michael	J	
Title	Consulting Firm Name		
Project Engineer	Catania Engineering		
Mailing Address Line 1	Mailing Address Line 2		
520 W. Macdade Blvd.			
Address Last Line -- City	State	ZIP+4	Country
Milmont Park	PA	19033	USA
Email	Phone + Ext.	FAX	
mjc@cataniaengineering.com	610-532-2884	610-532-2923	

PART 2 ADMINISTRATIVE COMPLETENESS CHECKLIST

DEP Use Only	Indicate Page #(s) in Plan	In addition to the main body of the plan, the plan must include items one through eight listed below to be accepted for formal review by the department. Incomplete Plans will be returned unless the municipality is clearly requesting an advisory review.
_____	<u>1</u>	1. <b>Table of Contents</b>
_____	<u>3</u>	2. <b>Plan Summary</b>
_____	<u>3</u>	A. Identify the proposed service areas and major problems evaluated in the plan. (Reference - Title 25, §71.21.a.7.i).
_____	<u>4</u>	B. Identify the alternative(s) chosen to solve the problems and serve the areas of need identified in the plan. Also, include any institutional arrangements necessary to implement the chosen alternative(s). (Reference Title 25 §71.21.a.7.ii).
_____	<u>4</u>	C. Present the estimated cost of implementing the proposed alternative (including the user fees) and the proposed funding method to be used. (Reference Title 25, §71.21.a.7.ii).
_____	<u>4</u>	D. Identify the municipal commitments necessary to implement the Plan. (Reference Title 25, §71.21.a.7.iii).
_____	<u>4</u>	E. Provide a schedule of implementation for the project that identifies the MAJOR milestones with dates necessary to accomplish the project to the point of operational status. (Reference Title 25, §71.21.a.7.iv).
_____	<u>4</u>	3. <b>Municipal Adoption: Original</b> , signed and sealed Resolution of Adoption by the municipality which contains, at a minimum, alternatives chosen and a commitment to implement the Plan in accordance with the implementation schedule. (Reference Title 25, §71.31.f) Section V.F. of the Planning Guide.
_____	<u>4</u>	4. <b>Planning Commission / County Health Department Comments:</b> Evidence that the municipality has requested, reviewed and considered comments by appropriate official planning agencies of the municipality, planning agencies of the county, planning agencies with area wide jurisdiction (where applicable), and any existing county or joint county departments of health. (Reference-Title 25, §71.31.b) Section V.E.1 of the Planning Guide.
_____	<u>5</u>	5. <b>Publication:</b> Proof of Public Notice which documents the proposed plan adoption, plan summary, and the establishment and conduct of a 30 day comment period. (Reference-Title 25, §71.31.c) Section V.E.2 of the Planning Guide.
_____	<u>5</u>	6. <b>Comments and Responses:</b> Copies of ALL written comments received and municipal response to EACH comment in relation to the proposed plan. (Reference-Title 25, §71.31.c) Section V.E.2 of the Planning Guide.
_____	<u>5</u>	7. <b>Implementation Schedule:</b> A complete project implementation schedule with milestone dates specific for each existing and future area of need. Other activities in the project implementation schedule should be indicated as occurring a finite number of days from a major milestone. (Reference-Title 25, §71.31.d) Section V.F. of the Planning Guide. Include dates for the future initiation of feasibility evaluations in the project's implementation schedule for areas proposing completion of sewage facilities for planning periods in excess of five years. (Reference Title 25, §71.21.c).
_____	<u>5</u>	8. <b>Consistency Documentation:</b> Documentation indicating that the appropriate agencies have received, reviewed and concurred with the method proposed to resolve identified inconsistencies within the proposed alternative and consistency requirements in 71.21.(a)(5)(i-iii). (Reference-Title 25, §71.31.e). Appendix B of the Planning Guide.

PART 3 GENERAL PLAN CONTENT CHECKLIST		
DEP Use Only	Indicate Page #(s) in Plan	Item Required
<u>        </u>	<u>6</u>	<b>I. Previous Wastewater Planning</b>
		A. Identify, describe and briefly analyze all past wastewater planning for its impact on the current planning effort:
<u>        </u>	<u>6</u>	1. Previously undertaken under the Sewage Facilities Act (Act 537). (Reference-Act 537, Section 5 §d.1).
<u>        </u>	<u>6</u>	2. Has not been carried out according to an approved implementation schedule contained in the plans. (Reference-Title 25, §71.21.a.5.i.A-D). Section V.F of the Planning Guide.
<u>        </u>	<u>6</u>	3. Is anticipated or planned by applicable sewer authorities or approved under a Chapter 94 Corrective Action Plan. (Reference-Title 25, §71.21.a.5.i.A&B). Section V.D. of the Planning Guide.
<u>        </u>	<u>6</u>	4. Through planning modules for new land development, planning “exemptions” and addenda. (Reference-Title 25, §71.21.a.5.i.A).
<u>        </u>	<u>8</u>	<b>II. Physical and Demographic Analysis utilizing written description and mapping</b> (All items listed below require maps, and all maps should show all current lots and structures and be of appropriate scale to clearly show significant information).
<u>        </u>	<u>8</u>	A. Identification of planning area(s), municipal boundaries, Sewer Authority/Management Agency service area boundaries. (Reference-Title 25, §71.21.a.1.i).
<u>        </u>	<u>8</u>	B. Identification of physical characteristics (streams, lakes, impoundments, natural conveyance, channels, drainage basins in the planning area). (Reference-Title 25, §71.21.a.1.ii).
<u>        </u>	<u>8</u>	C. Soils - Analysis with description by soil type and soils mapping for areas not presently served by sanitary sewer service. Show areas suitable for in-ground onlot systems, elevated sand mounds, individual residential spray irrigation systems, and areas unsuitable for soil dependent systems. (Reference-Title 25, §71.21.a.1.iii). Show Prime Agricultural Soils and any locally protected agricultural soils. (Reference-Title 25, §71.21.a.1.iii).
<u>        </u>	<u>8</u>	D. Geologic Features - (1) Identification through analysis, (2) mapping and (3) their relation to existing or potential nitrate-nitrogen pollution and drinking water sources. Include areas where existing nitrate-nitrogen levels are in excess of 5 mg/L. (Reference-Title 25, §71.21.a.1.iii).
<u>        </u>	<u>8</u>	E. Topography - Depict areas with slopes that are suitable for conventional systems; slopes that are suitable for elevated sand mounds and slopes that are unsuitable for onlot systems. (Reference-Title 25, §71.21.a.1.ii).
<u>        </u>	<u>8</u>	F. Potable Water Supplies - Identification through mapping, description and analysis. Include public water supply service areas and available public water supply capacity and aquifer yield for groundwater supplies. (Reference-Title 25 §71.21.a.1.vi). Section V.C. of the Planning Guide.
<u>        </u>	<u>8</u>	G. Wetlands-Identify wetlands as defined in Title 25, Chapter 105 by description, analysis and mapping. Include National Wetland Inventory mapping and potential wetland areas per USDA, SCS mapped hydric soils. Proposed collection, conveyance and treatment facilities and lines must be located and labeled, along with the identified wetlands, on the map. (Reference-Title 25, §71.21.a.1.v). Appendix B, Section II.I of the Planning Guide.

_____	<u>9</u>	<b>III. Existing Sewage Facilities in the Planning Area - Identifying the Existing Needs</b>
		A. Identify, map and describe municipal and non-municipal, individual and community sewerage systems in the planning area including:
_____	<u>9</u>	1. Location, size and ownership of treatment facilities, main intercepting lines, pumping stations and force mains including their size, capacity, point of discharge. Also include the name of the receiving stream, drainage basin, and the facility's effluent discharge requirements. (Reference-Title 25, §71.21a.2.i.A).
_____	<u>9</u>	2. A narrative and schematic diagram of the facility's basic treatment processes including the facility's NPDES permitted capacity, and the Clean Streams Law permit number. (Reference-Title 25, §71.21.a.2.i.A).
_____	<u>11</u>	3. A description of problems with existing facilities (collection, conveyance and/or treatment), including existing or projected overload under Title 25, Chapter 94 (relating to municipal wasteload management) or violations of the NPDES permit, Clean Streams Law permit, or other permit, rule or regulation of DEP. (Reference-Title 25, §71.21.a.2.i.B).
_____	<u>10</u>	4. Details of scheduled or in-progress upgrading or expansion of treatment facilities and the anticipated completion date of the improvements. Discuss any remaining reserve capacity and the policy concerning the allocation of reserve capacity. Also discuss the compatibility of the rate of growth to existing and proposed wastewater treatment facilities. (Reference-Title 25, §71.21.a.4.i & ii).
_____	<u>N/A</u>	5. A detailed description of the municipality's operation and maintenance requirements for small flow treatment facility systems, including the status of past and present compliance with these requirements and any other requirements relating to sewage management programs. (Reference-Title 25, §71.21.a.2.i.C).
_____	<u>N/A</u>	6. Disposal areas, if other than stream discharge, and any applicable groundwater limitations. (Reference-Title 25, §71.21.a.4.i & ii).
_____	<u>8-N/A</u>	B. Using DEP's publication titled <i>Sewage Disposal Needs Identification</i> , identify, map and describe areas that utilize individual and community onlot sewage disposal and, unpermitted collection and disposal systems ("wildcat" sewers, borehole disposal, etc.) and retaining tank systems in the planning area including:
_____	<u>N/A</u>	1. The types of onlot systems in use. (Reference-Title 25, §71.21.a.2.ii.A).
_____	<u>N/A</u>	2. A sanitary survey complete with description, map and tabulation of documented and potential public health, pollution, and operational problems (including malfunctioning systems) with the systems, including violations of local ordinances, the Sewage Facilities Act, the Clean Stream Law or regulations promulgated thereunder. (Reference-Title 25, §71.21.a.2.ii.B).
_____	<u>N/A</u>	3. A comparison of the types of onlot sewage systems installed in an area with the types of systems which are appropriate for the area according to soil, geologic conditions, topographic limitations sewage flows, and Title 25 Chapter 73 (relating to standards for sewage disposal facilities). (Reference-Title 25, §71.21.a.2.ii.C).
_____	<u>N/A</u>	4. An individual water supply survey to identify possible contamination by malfunctioning onlot sewage disposal systems consistent with DEP's <i>Sewage Disposal Needs Identification</i> publication. (Reference-Title 25 §71.21.a.2.ii.B).
_____	<u>N/A</u>	5. Detailed description of operation and maintenance requirements of the municipality for individual and small volume community onlot systems, including the status of past and present compliance with these requirements and any other requirements relating to sewage management programs. (Reference-Title 25, §71.21.a.2.i.C).

	<u>N/A</u>	C. Identify wastewater sludge and septage generation, transport and disposal methods. Include this information in the sewage facilities alternative analysis including:
	<u>N/A</u>	1. Location of sources of wastewater sludge or septage (Septic tanks, holding tanks, wastewater treatment facilities). (Reference-Title 25 §71.71).
	<u>N/A</u>	2. Quantities of the types of sludges or septage generated. (Reference-Title 25 §71.71).
	<u>N/A</u>	3. Present disposal methods, locations, capacities and transportation methods. (Reference-Title 25 §71.71).
	<u>12</u>	<b>IV. Future Growth and Land Development</b>
		A. Identify and briefly summarize all municipal and county planning documents adopted pursuant to the Pennsylvania Municipalities Planning Code (Act 247) including:
	<u>12</u>	1. All land use plans and zoning maps that identify residential, commercial, industrial, agricultural, recreational and open space areas. (Reference-Title 25, §71.21.a.3.iv).
	<u>12</u>	2. Zoning or subdivision regulations that establish lot sizes predicated on sewage disposal methods. (Reference – Title 25§71.21.a.3.iv).
	<u>12</u>	3. All limitations and plans related to floodplain and stormwater management and special protection (Ch. 93) areas. (Reference-Title 25 §71.21.a.3.iv) Appendix B, Section II.F of the Planning Guide.
	<u>12</u>	B. Delineate and describe the following through map, text and analysis.
	<u>12</u>	1. Areas with existing development or plotted subdivisions. Include the name, location, description, total number of EDU's in development, total number of EDU's currently developed and total number of EDU's remaining to be developed (include time schedule for EDU's remaining to be developed). (Reference-Title 25, §71.21.a.3.i).
	<u>12</u>	2. Land use designations established under the Pennsylvania Municipalities Planning Code (35 P.S. 10101-11202), including residential, commercial and industrial areas. (Reference-Title 25,§71.21.a.3.ii). Include a comparison of proposed land use as allowed by zoning and existing sewage facility planning. (Reference-Title 25, §71.21.a.3.iv).
	<u>12</u>	3. Future growth areas with population and EDU projections for these areas using historical, current and future population figures and projections of the municipality. Discuss and evaluate discrepancies between local, county, state and federal projections as they relate to sewage facilities. (Reference-Title 25, §71.21.a.1.iv). (Reference-Title 25, §71.21.a.3.iii).
	<u>13</u>	4. Zoning, and/or subdivision regulations; local, county or regional comprehensive plans; and existing plans of any other agency relating to the development, use and protection of land and water resources with special attention to: (Reference-Title 25, §71.21.a.3.iv). --public ground/surface water supplies --recreational water use areas --groundwater recharge areas --industrial water use --wetlands
	<u>13</u>	5. Sewage planning necessary to provide adequate wastewater treatment for five and ten year future planning periods based on projected growth of existing and proposed wastewater collection and treatment facilities. (Reference-Title 25, §71.21.a.3.v).



<u>          </u>	<u>15</u>	<b>V. Identify Alternatives to Provide New or Improved Wastewater Disposal Facilities</b>
<u>          </u>		A. Conventional collection, conveyance, treatment and discharge alternatives including:
<u>          </u>	<u>15</u>	1. The potential for regional wastewater treatment. (Reference-Title 25, §71.21.a.4).
<u>          </u>	<u>15</u>	2. The potential for extension of existing municipal or non-municipal sewage facilities to areas in need of new or improved sewage facilities. (Reference-Title 25, §71.21.a.4.i).
<u>          </u>	<u>15</u>	3. The potential for the continued use of existing municipal or non-municipal sewage facilities through one or more of the following: (Reference-Title 25, §71.21.a.4.ii).
<u>          </u>	<u>15</u>	a. Repair. (Reference-Title 25, §71.21.a.4.ii.A).
<u>          </u>	<u>15</u>	b. Upgrading. (Reference-Title 25, §71.21.a.4.ii.B).
<u>          </u>	<u>16</u>	c. Reduction of hydraulic or organic loading to existing facilities. (Reference-Title 25, §71.71).
<u>          </u>	<u>16</u>	d. Improved operation and maintenance. Reference-Title 25, §71.21.a.4.ii.C).
<u>          </u>	<u>16</u>	e. Other applicable actions that will resolve or abate the identified problems. (Reference-Title 25, §71.21.a.4.ii.D).
<u>          </u>	<u>16</u>	4. Repair or replacement of existing collection and conveyance system components. (Reference-Title 25, §71.21.a.4.ii.A).
<u>          </u>	<u>17</u>	5. The need for construction of new community sewage systems including sewer systems and/or treatment facilities. (Reference-Title 25, §71.21.a.4.iii).
<u>          </u>	<u>17</u>	6. Use of innovative/alternative methods of collection/conveyance to serve needs areas using existing wastewater treatment facilities. (Reference-Title 25, §71.21.a.4.ii.B).
<u>          </u>	<u>17</u>	B. The use of individual sewage disposal systems including individual residential spray irrigation systems based on:
<u>          </u>	<u>N/A</u>	1. Soil and slope suitability. (Reference-Title 25, §71.21.a.2.ii.C).
<u>          </u>	<u>N/A</u>	2. Preliminary hydrogeologic evaluation. (Reference-Title 25, §71.21.a.2.ii.C).
<u>          </u>	<u>N/A</u>	3. The establishment of a sewage management program. (Reference-Title 25, §71.21.a.4.iv). See also Part "F" below.
<u>          </u>	<u>N/A</u>	4. The repair, replacement or upgrading of existing malfunctioning systems in areas suitable for onlot disposal considering: (Reference-Title 25, §71.21.a.4).
<u>          </u>	<u>N/A</u>	a. Existing technology and sizing requirements of Title 25 Chapter 73. (Reference-Title 25, §73.31-73.72).
<u>          </u>	<u>N/A</u>	b. Use of expanded absorption areas or alternating absorption areas. (Reference-Title 25, §73.16).
<u>          </u>	<u>N/A</u>	c. Use of water conservation devices. (Reference-Title 25, §71.73.b.2.iii).
<u>          </u>	<u>17-N/A</u>	C. The use of small flow sewage treatment facilities or package treatment facilities to serve individual homes or clusters of homes with consideration of: (Reference-Title 25, §71.64.d).
<u>          </u>	<u>N/A</u>	1. Treatment and discharge requirements. (Reference-Title 25, §71.64.d).
<u>          </u>	<u>N/A</u>	2. Soil suitability. (Reference-Title 25, §71.64.c.i).

<u>      </u>	<u>N/A</u>	3. Preliminary hydrogeologic evaluation. (Reference-Title 25, §71.64.c.2).
<u>      </u>	<u>N/A</u>	4. Municipal, Local, Agency or other controls over operation and maintenance requirements through a Sewage Management Program. (Reference-Title 25, §71.64.d). See Part "F" below.
<u>      </u>	<u>N/A</u>	D. The use of community land disposal alternatives including:
<u>      </u>	<u>N/A</u>	1. Soil and site suitability. (Reference-Title 25, §71.21.a.2.ii.C).
<u>      </u>	<u>N/A</u>	2. Preliminary hydrogeologic evaluation. (Reference-Title 25, §71.21.a.2.ii.C).
<u>      </u>	<u>N/A</u>	3. Municipality, Local Agency or Other Controls over operation and maintenance requirements through a Sewage Management Program (Reference-Title 25, §71.21.a.2.ii.C). See Part "F" below.
<u>      </u>	<u>N/A</u>	4. The rehabilitation or replacement of existing malfunctioning community land disposal systems. (See Part "V", B, 4, a, b, c above). See also Part "F" below.
<u>      </u>	<u>17-N/A</u>	E. The use of retaining tank alternatives on a temporary or permanent basis including: (Reference- Title 25, §71.21.a.4).
<u>      </u>	<u>N/A</u>	1. Commercial, residential and industrial use. (Reference-Title 25, §71.63.e).
<u>      </u>	<u>N/A</u>	2. Designated conveyance facilities (pumper trucks). (Reference-Title 25, §71.63.b.2).
<u>      </u>	<u>N/A</u>	3. Designated treatment facilities or disposal site. (Reference-Title 25, §71.63.b.2).
<u>      </u>	<u>N/A</u>	4. Implementation of a retaining tank ordinance by the municipality. (Reference-Title 25, §71.63.c.3). See Part "F" below.
<u>      </u>	<u>N/A</u>	5. Financial guarantees when retaining tanks are used as an interim sewage disposal measure. (Reference-Title 25, §71.63.c.2).
<u>      </u>	<u>17-N/A</u>	F. Sewage Management Programs to assure the future operation and maintenance of existing and proposed sewage facilities through:
<u>      </u>	<u>N/A</u>	1. Municipal ownership or control over the operation and maintenance of individual onlot sewage disposal systems, small flow treatment facilities, or other traditionally non-municipal treatment facilities. (Reference-Title 25, §71.21.a.4.iv).
<u>      </u>	<u>N/A</u>	2. Required inspection of sewage disposal systems on a schedule established by the municipality. (Reference-Title 25, §71.73.b.1.).
<u>      </u>	<u>N/A</u>	3. Required maintenance of sewage disposal systems including septic and aerobic treatment tanks and other system components on a schedule established by the municipality. (Reference-Title 25, §71.73.b.2).
<u>      </u>	<u>N/A</u>	4. Repair, replacement or upgrading of malfunctioning onlot sewage systems. (Reference-Title 25, §71.21.a.4.iv) and §71.73.b.5 through:
<u>      </u>	<u>N/A</u>	a. Aggressive pro-active enforcement of ordinances that require operation and maintenance and prohibit malfunctioning systems. (Reference-Title 25, §71.73.b.5).
<u>      </u>	<u>N/A</u>	b. Public education programs to encourage proper operation and maintenance and repair of sewage disposal systems.
<u>      </u>	<u>N/A</u>	5. Establishment of joint municipal sewage management programs. (Reference-Title 25, §71.73.b.8).
<u>      </u>	<u>N/A</u>	6. Requirements for bonding, escrow accounts, management agencies or associations to assure operation and maintenance for non-municipal facilities. (Reference-Title 25, §71.71).

<u>17-N/A</u>	G. Non-structural comprehensive planning alternatives that can be undertaken to assist in meeting existing and future sewage disposal needs including: (Reference-Title 25, §71.21.a.4).
<u>N/A</u>	1. Modification of existing comprehensive plans involving:
<u>N/A</u>	a. Land use designations. (Reference-Title 25, §71.21.a.4).
<u>N/A</u>	b. Densities. (Reference-Title 25, §71.21.a.4).
<u>N/A</u>	c. Municipal ordinances and regulations. (Reference-Title 25, §71.21.a.4).
<u>N/A</u>	d. Improved enforcement. (Reference-Title 25, §71.21.a.4).
<u>N/A</u>	e. Protection of drinking water sources. (Reference-Title 25, §71.21.a.4).
<u>N/A</u>	2. Consideration of a local comprehensive plan to assist in producing sound economic and consistent land development. (Reference-Title 25, §71.21.a.4).
<u>N/A</u>	3. Alternatives for creating or changing municipal subdivision regulations to assure long-term use of on-site sewage disposal that consider lot sizes and protection of replacement areas. (Reference-Title 25, §71.21.a.4).
<u>N/A</u>	4. Evaluation of existing local agency programs and the need for technical or administrative training. (Reference-Title 25, §71.21.a.4).
<u>18</u>	H. A no-action alternative which includes discussion of both short-term and long-term impacts on: (Reference-Title 25, §71.21.a.4).
<u>18</u>	1. Water Quality/Public Health. (Reference-Title 25, §71.21.a.4).
<u>18</u>	2. Growth potential (residential, commercial, industrial). (Reference-Title 25, §71.21.a.4).
<u>18</u>	3. Community economic conditions. (Reference-Title 25, §71.21.a.4).
<u>18</u>	4. Recreational opportunities. (Reference-Title 25, §71.21.a.4).
<u>18</u>	5. Drinking water sources. (Reference-Title 25, §71.21.a.4).
<u>19</u>	6. Other environmental concerns. (Reference-Title 25, §71.21.a.4).
<u>20</u>	VI. Evaluation of Alternatives
	A. Technically feasible alternatives identified in Section V of this check-list must be evaluated for consistency with respect to the following: (Reference-Title 25, §71.21.a.5.i.).
<u>20</u>	1. Applicable plans developed and approved under <b>Sections 4 and 5 of the Clean Streams Law or Section 208 of the Clean Water Act</b> (33 U.S.C.A. 1288). (Reference-Title 25, §71.21.a.5.i.A). Appendix B, Section II.A of the Planning Guide.
<u>20</u>	2. Municipal wasteload management <b>Corrective Action Plans or Annual Reports</b> developed under PA Code, Title 25, Chapter 94. (Reference-Title 25, §71.21.a.5.i.B). The municipality's recent Wasteload Management (Chapter 94) Reports should be examined to determine if the proposed alternative is consistent with the recommendations and findings of the report. Appendix B, Section II.B of the Planning Guide.
<u>20</u>	3. Plans developed under <b>Title II of the Clean Water Act</b> (33 U.S.C.A. 1281-1299) or <b>Titles II and VI of the Water Quality Act of 1987</b> (33 U.S.C.A 1251-1376). (Reference-Title 25, §71.21.a.5.i.C). Appendix B, Section II.E of the Planning Guide.

<hr/>	<u>20</u>	4. <b>Comprehensive plans</b> developed under the Pennsylvania Municipalities Planning Code. (Reference-Title 25, §71.21.a.5.i.D). The municipality's comprehensive plan must be examined to assure that the proposed wastewater disposal alternative is consistent with land use and all other requirements stated in the comprehensive plan. Appendix B, Section II.D of the Planning Guide.
<hr/>	<u>20-N/A</u>	5. <b>Antidegradation requirements</b> as contained in PA Code, Title 25, Chapters 93, 95 and 102 (relating to water quality standards, wastewater treatment requirements and erosion control) and the Clean Water Act. (Reference-Title 25, §71.21.a.5.i.E). Appendix B, Section II.F of the Planning Guide.
<hr/>	<u>20-N/A</u>	6. <b>State Water Plans</b> developed under the Water Resources Planning Act (42 U.S.C.A. 1962-1962 d-18). (Reference-Title 25, §71.21.a.5.i.F). Appendix B, Section II.C of the Planning Guide.
<hr/>	<u>20-N/A</u>	7. <b>Pennsylvania Prime Agricultural Land Policy</b> contained in Title 4 of the Pennsylvania Code, Chapter 7, Subchapter W. Provide narrative on local municipal policy and an overlay map on prime agricultural soils. (Reference-Title 25, §71.21.a.5.i.G). Appendix B, Section II.G of the Planning Guide.
<hr/>	<u>20-N/A</u>	8. <b>County Stormwater Management Plans</b> approved by DEP under the Storm Water Management Act (32 P.S. 680.1-680.17). (Reference-Title 25, §71.21.a.5.i.H). Conflicts created by the implementation of the proposed wastewater alternative and the existing recommendations for the management of stormwater in the county Stormwater Management Plan must be evaluated and mitigated. If no plan exists, no conflict exists. Appendix B, Section II.H of the Planning Guide.
<hr/>	<u>20</u>	9. <b>Wetland Protection.</b> Using wetland mapping developed under Checklist Section II.G, identify and discuss mitigative measures including the need to obtain permits for any encroachments on wetlands from the construction or operation of any proposed wastewater facilities. (Reference-Title 25, §71.21.a.5.i.I) Appendix B, Section II.I of the Planning Guide.
<hr/>	<u>21</u>	10. <b>Protection of rare, endangered or threatened plant and animal species</b> as identified by the Pennsylvania Natural Diversity Inventory (PNDI). (Reference-Title 25, §71.21.a.5.i.J). Provide DEP with a copy of the completed Request For PNDI Search document. Also provide a copy of the response letter from the Department of Conservation and Natural Resources' Bureau of Forestry regarding the findings of the PNDI search. Appendix B, Section II.J of the Planning Guide.
<hr/>	<u>21</u>	11. <b>Historical and archaeological resource protection</b> under P.C.S. Title 37, Section 507 relating to cooperation by public officials with the Pennsylvania Historical and Museum Commission. (Reference-Title 25, §71.21.a.5.i.K). Provide the department with a completed copy of a Cultural Resource Notice request of the Bureau of Historic Preservation (BHP) to provide a listing of known historical sites and potential impacts on known archaeological and historical sites. Also provide a copy of the response letter from the BHP. Appendix B, Section II.K of the Planning Guide.
<hr/>	<u>21</u>	B. Provide for the resolution of any inconsistencies in any of the points identified in Section VI.A. of this checklist by submitting a letter from the appropriate agency stating that the agency has received, reviewed and concurred with the resolution of identified inconsistencies. (Reference-Title 25, §71.21.a.5.ii). Appendix B of the Planning Guide.
<hr/>	<u>21</u>	C. Evaluate alternatives identified in Section V of this checklist with respect to applicable water quality standards, effluent limitations or other technical, legislative or legal requirements. (Reference-Title 25, §71.21.a.5.iii).

<u>21</u>	D. Provide cost estimates using present worth analysis for construction, financing, on going administration, operation and maintenance and user fees for alternatives identified in Section V of this checklist. Estimates shall be limited to areas identified in the plan as needing improved sewage facilities within five years from the date of plan submission. (Reference-Title 25, §71.21.a.5.iv).
<u>22</u>	E. Provide an analysis of the funding methods available to finance the proposed alternatives evaluated in Section V of this checklist. Also provide documentation to demonstrate which alternative and financing scheme combination is the most cost-effective; and a contingency financial plan to be used if the preferred method of financing cannot be implemented. The funding analysis shall be limited to areas identified in the plan as needing improved sewage facilities within five years from the date of the plan submission. (Reference-Title 25, §71.21.a.5.v).
<u>22</u>	F. Analyze the need for immediate or phased implementation of each alternative proposed in Section V of this checklist including: (Reference-Title 25, §71.21.a.5.vi).
<u>23</u>	1. A description of any activities necessary to abate critical public health hazards pending completion of sewage facilities or implementation of sewage management programs. (Reference-Title 25, §71.21.a.5.vi.A).
<u>23</u>	2. A description of the advantages, if any, in phasing construction of the facilities or implementation of a sewage management program justifying time schedules for each phase. (Reference-Title 25, §71.21.a.5.vi.B).
<u>23</u>	G. Evaluate administrative organizations and legal authority necessary for plan implementation. (Reference - Title 25, §71.21.a.5.vi.D.).
<u>24</u>	<b>VII. Institutional Evaluation</b>
<u>24</u>	A. Provide an analysis of all existing wastewater treatment authorities, their past actions and present performance including:
<u>24</u>	1. Financial and debt status. (Reference-Title 25, §71.61.d.2).
<u>24</u>	2. Available staff and administrative resources. (Reference-Title 25, §71.61.d.2)
<u>24</u>	3. Existing legal authority to:
<u>24</u>	a. Implement wastewater planning recommendations. (Reference-Title 25, §71.61.d.2).
<u>24</u>	b. Implement system-wide operation and maintenance activities. (Reference-Title 25, §71.61.d.2).
<u>24</u>	c. Set user fees and take purchasing actions. (Reference-Title 25, §71.61.d.2).
<u>24</u>	d. Take enforcement actions against ordinance violators. (Reference-Title 25, §71.61.d.2).
<u>24</u>	e. Negotiate agreements with other parties. (Reference-Title 25, §71.61.d.2).
<u>24</u>	f. Raise capital for construction and operation and maintenance of facilities. (Reference-Title 25,§71.61.d.2).
<u>24</u>	B. Provide an analysis and description of the various institutional alternatives necessary to implement the proposed technical alternatives including:
<u>24</u>	1. Need for new municipal departments or municipal authorities. (Reference-Title 25, §71.61.d.2).
<u>24</u>	2. Functions of existing and proposed organizations (sewer authorities, onlot maintenance agencies, etc.). (Reference-Title 25, §71.61.d.2).
<u>24</u>	3. Cost of administration, implementability, and the capability of the authority/agency to react to future needs. (Reference-Title 25, §71.61.d.2).

	<u>24</u>	C. Describe all necessary administrative and legal activities to be completed and adopted to ensure the implementation of the recommended alternative including:
	<u>24</u>	1. Incorporation of authorities or agencies. (Reference-Title 25, §71.61.d.2).
	<u>24</u>	2. Development of all required ordinances, regulations, standards and inter-municipal agreements. (Reference-Title 25, §71.61.d.2).
	<u>24</u>	3. Description of activities to provide rights-of-way, easements and land transfers. (Reference-Title 25, §71.61.d.2).
	<u>24</u>	4. Adoption of other municipal sewage facilities plans. (Reference-Title 25, §71.61.d.2).
	<u>24</u>	5. Any other legal documents. (Reference-Title 25, §71.61.d.2).
	<u>24</u>	6. Dates or timeframes for items 1-5 above on the project's implementation schedule.
	<u>24</u>	D. Identify the proposed institutional alternative for implementing the chosen technical wastewater disposal alternative. Provide justification for choosing the specific institutional alternative considering administrative issues, organizational needs and enabling legal authority. (Reference-Title 25, §71.61.d.2).
	<u>25</u>	<b>VIII. Implementation Schedule and Justification for Selected Technical &amp; Institutional Alternatives</b>
		A. Identify the technical wastewater disposal alternative which best meets the wastewater treatment needs of each study area of the municipality. Justify the choice by providing documentation which shows that it is the best alternative based on:
	<u>25</u>	1. Existing wastewater disposal needs. (Reference-Title 25, §71.21.a.6).
	<u>25</u>	2. Future wastewater disposal needs. (five and ten years growth areas). (Reference-Title 25, §71.21.a.6).
	<u>25</u>	3. Operation and maintenance considerations. (Reference-Title 25, §71.21.a.6).
	<u>26</u>	4. Cost-effectiveness. (Reference-Title 25, §71.21.a.6).
	<u>26</u>	5. Available management and administrative systems. (Reference-Title 25, §71.21.a.6).
	<u>27</u>	6. Available financing methods. (Reference-Title 25, §71.21.a.6).
	<u>27</u>	7. Environmental soundness and compliance with natural resource planning and preservation programs. (Reference-Title 25, §71.21.a.6).
	<u>27</u>	B. Designate and describe the capital financing plan chosen to implement the selected alternative(s). Designate and describe the chosen back-up financing plan. (Reference-Title 25, §71.21.a.6)
	<u>27</u>	C. Designate and describe the implementation schedule for the recommended alternative, including justification for any proposed phasing of construction or implementation of a Sewage Management Program. (Reference – Title 25 §71.31d)
	<u>27-N/A</u>	<b>IX. Environmental Report (ER) generated from the Uniform Environmental Review Process (UER)</b>
	<u>N/A</u>	A. Complete an ER as required by the UER process and as described in the DEP Technical Guidance 381-5511-111. Include this document as "Appendix A" to the Act 537 Plan Update Revision. Note: <i>An ER is required only for Wastewater projects proposing funding through any of the funding sources identified in the UER.</i>

PENNVEST I.D. No. \_\_\_\_\_

**ADDITIONAL REQUIREMENTS FOR PENNVEST PROJECTS**

Municipalities that propose to implement their official sewage facilities plan updates with PENNVEST funds must meet six additional requirements to be eligible for such funds. See A Guide for Preparing Act 537 Update Revisions (362-0300-003), Appendix N for greater detail or contact the DEP regional office serving your county listed in Appendix J of the same publication.

DEP Use Only	Indicate Page #(s) in Plan	Item Required
_____	N/A	1. Environmental Impact Assessment. (Planning Phase) The Uniform Environment Review (UER) replaces the Environmental Impact Assessment that was a previous requirement for PENNVEST projects.
_____	N/A	2. Cost Effectiveness (Planning Phase) The cost-effectiveness analysis should be a present-worth (or equivalent uniform annual) cost evaluation of the principle alternatives using the interest rate that is published annually by the Water Resources Council. Normally, for PENNVEST projects the applicant should select the most cost-effective alternative based upon the above analysis. Once the alternative has been selected the user fee estimates should be developed based upon interest rates and loan terms of the selected funding method.
_____		3. Second Opinion Project Review. (Design Phase)
_____		4. Minority Business Enterprise/Women's Business Enterprise (Construction Phase)
_____		5. Civil Rights. (Construction Phase)
_____		6. Initiation of Operation/Performance Certification. (Post-construction Phase)