

## **AGENDA**

**THE SEWER BOARD MEETING OF THE CIVIL CITY OF NEW ALBANY, INDIANA, WILL BE HELD IN ROOM 100 AT NEW ALBANY CITY HALL ON THURSDAY, SEPTEMBER 12, 2024 AT 9:15 A.M.**

### **CALL TO ORDER:**

### **PLEDGE OF ALLEGIANCE:**

### **APPROVAL OR CORRECTION OF THE FOLLOWING MINUTES:**

August 22, 2024 Regular Meeting Minutes

### **BIDS/CONTRACTS:**

### **NEW BUSINESS:**

1. Mike Wallace re: Written Commitment for 3804 Klerner Lane (Sewer Lateral Extension)
2. Mike Wallace re: Design Manual Update for Low Pressure Sewers

### **COMMUNICATIONS - PUBLIC:**

### **COMMUNICATIONS - CITY OFFICIALS:**

### **SEWER ADJUSTMENTS:**

Nicole Mitchell                \$9,249.83

### **FINANCIAL REPORT:**

### **TABLED ITEMS:**

### **OLD BUSINESS:**

### **UTILITY REPORT:**

New Albany Wastewater Utility Monthly Report Summary for June 2024

### **CLAIMS:**

### **ADJOURN:**

**THE SEWER BOARD MEETING OF THE CIVIL CITY OF NEW ALBANY, INDIANA,  
WILL BE HELD IN ROOM 100 AT NEW ALBANY CITY HALL ON THURSDAY,  
AUGUST 22, 2024 AT 9:15 A.M.**

**PRESENT:** Nathan Grimes, member, Ed Wilkinson, member, and Mayor Gahan, president.

**ALSO PRESENT:** April Dickey, Linda Moeller, Larry Summers, Mike Wallace, Councilman Dickey and Cheryl Cotner-Bailey

**CALL TO ORDER:**

**Mayor Gahan** called the meeting to order at 9:15 a.m.

**PLEDGE OF ALLEGIANCE:**

**APPROVAL OR CORRECTION OF THE FOLLOWING MINUTES:**

**Mr. Grimes** moved to approve the August 8, 2024 Regular Meeting Minutes, **Mr. Wilkinson** second, all voted in favor.

**BIDS/CONTRACTS:**

**Mr. Wallace** presented the following quotes for a new pick-up truck:

John Jones	\$46,813.50
John Jones	\$52,100.00
Jim O'Neal	\$49,392.00

**Mr. Wallace** recommended going with the low bid from John Jones.

**Mr. Grimes** moved to approve the low bid from John Jones in the amount of \$46,813.50, **Mr. Wilkinson** second, all voted in favor

**Mr. Wallace** presented the following quotes for the 8<sup>th</sup> St. Lining project

Temple & Temple	\$64,200.00
Tele Vac	\$79,396.81

**Mr. Wallace** explained that this is for two sections of clay pipe that runs from the lift station at 8<sup>th</sup> Street to the golf course (~456 feet total). He stated that this line has caused some issues in the past with root intrusion and this would solve a lot of issues. He recommended going with the low bid from Temple & Temple. He added that the work shouldn't disturb anyone as it is back in the woods and they anticipate it taking two days to complete.

**Mr. Wilkinson** asked if they know when the work would start.

**Mr. Wallace** stated that the vendor indicated that they could start two weeks after the city gave notice.

**Mayor Gahan** asked if this is a 25-year fix.

**Mr. Wallace** replied absolutely. He added that there is no lateral or any place for it to go bad.

**Mr. Grimes** moved to approve the low bid from Temple & Temple in the amount of \$64,200.00, **Mr. Wilkinson** second, all voted in favor.

**NEW BUSINESS:**

**1. Bob Neuhaus with QK4 re: Plat for Purdue Research Park – Phase 2 Section 2 Lot 2**

**Mr. Neuhaus** requested approval for a lot a Purdue Research Park and explained that it is a 2.5-acre parcel that they are carving off of the existing foundation property and is off of Technology Avenue.

**Mr. Wallace** stated that this is good to move forward on their end as far as capacity goes.

**Mr. Grimes** asked if this has been through the planning department and to the board of works.

**Mr. Neuhaus** stated that it went through planning but it didn't go through public works because there is no new public right-of-way.

**Mr. Grimes** moved to approve, **Mr. Wilkinson** second, all voted in favor.

#### **COMMUNICATIONS - PUBLIC:**

#### **COMMUNICATIONS - CITY OFFICIALS:**

##### **1. Brandon Sailings re: Brightly Software update**

**Mr. Sailings** reported that they completed the implementation of the program in March of 2023 and from that date on they have completed over 7000 work orders, that include anything from preventative maintenance to field reported issues. He stated that of the 7000, 500 of them are preventative so those are set up to automatically kick out on a schedule and be assigned to the responsible party. He stated that the data they collect when they get the report is logged in as well as any repairs and costs that goes along with it. He explained that they also have vehicle maintenance and equipment logged in the system and each vehicle is assigned to a certain employee, who in turn gets a monthly vehicle inspection, and all those inspections are logged. He added that they can log vin numbers, price and any repairs with ever vehicle as well. He reported that progress has been made with Asset Essentials they have been updating the GIS mapping infrastructure. He stated that manholes are updated with accurate GPS positioning, structure condition, depth, photos, and other relevant data. He added that 694 manholes have been inspected and updated using this process and 191 manholes from new developments have been added to the map.

**Mr. Grimes** asked how many manholes there are in the city.

**Mr. Wallace** replied ~6,000.

**Mr. Grimes** stated that this is all valuable information.

**Mayor Gahan** asked **Mr. Sailings** if he has had a chance to branch out to other departments in the system.

**Mr. Sailings** stated that he has met with flood control to get started on their system set up with the pump houses and storm water has been using it quite a bit. He added that part of the process is trying to get tablets that their employees can use with the system. He stated that other departments have been implemented but he hasn't seen too much movement with those. He explained that with Brightly there are two different pieces of software that includes Asset Essentials and SmartGov, so he has been working with economic development work on the rental registration process so that residents can apply online. He added that it has been successful so far.

**Mr. Wilkinson** asked if they have been getting cooperation with the as-built drawings as the new projects are being done.

**Mr. Wallace** stated that some are easier than others but having someone out in the field to take photos that they can reference has helped a great deal.

**Mr. Sailings** stated that they have had situations come up where they know a manhole exists but they can't find it so they will have an employee collect the data and create a work order form their phone. He added that it is a group effort to make sure where everything is at.

**Mr. Grimes** stated that a good thing about having the as-built is that is also a record of when the manhole was installed.

## **2. Linda Moeller re: Retainage Account Reconciliation.**

**Mrs. Moeller** presented information to reconcile the City's retainage bank accounts to sewer project ledgers. She explained that they have been working on this account for some time to identify the funds that were in it, which projects they were related to, and if the money had been released or not. She stated that in their process to identify these funds they used bank statements, pay apps, and communication with other departments and explained that after a considerable amount of time researching this, they have come to the conclusions that are being presented today. She added that the information provided lists the projects and the one that is sewer related is Jacobs Creek Sewer Improvement. She explained that the retainage that remains for that project is \$44,184.12 and page 2 gives a short description for how they identified the money and state that it goes back to a city bond projects 2016A and through the research they found that all retainage has been released to the vendor, which in this case is Dan Cristiani. She concluded that the funds belong to the sewer department and asked that the board release the funds to be deposited back to the sewer account (specifically wastewater). She added that the others listed in the packet are storm water and they will be taking those to that board for approval today.

**Mr. Grimes** asked if this is essentially a bookkeeping thing that they are cleaning up.

**Mrs. Moeller** replied yes.

**Mr. Wilkinson** moved to approve releasing the funds to the proper accounts, **Mr. Grimes** second, all voted in favor.

## **SEWER ADJUSTMENTS:**

**Mrs. Dickey** presented a sewer adjustment request for Jason Dempster in the amount of \$6,908.72 for leak at the water main where it enters the building. She explained that the water was leaking at the main line and went into the ground, the leak was repaired by the homeowner, and consumption is back to normal. Supporting documents are attached.

**Mr. Grimes** moved to approve, **Mr. Wilkinson** second, all voted in favor.

**Mrs. Dickey** presented a sewer adjustment request for Samuel Inman in the amount of \$1,666.92 for leak between the meter and the house. She explained that the water went into the ground but spillover went into the crawlspace and adjacent parking lot, the leak was repaired by the homeowner, and consumption is back to normal. Supporting documents are attached.

**Mr. Grimes** moved to approve, **Mr. Wilkinson** second, all voted in favor.

**Mrs. Dickey** presented a sewer adjustment request for John Sullivan in the amount of \$1607.40 for leak at the main connection into the house. She explained that the water went into the yard, the leak was repaired by Greenwell Plumbing, and consumption is back to normal. Supporting documents are attached.

**Mr. Wilkinson** moved to approve, **Mr. Grimes** second, all voted in favor.

## **FINANCIAL REPORT:**

**Mr. Wilkinson** reported that the billing for the last month was right on budget at \$1,149,000.00 and everything else stayed the same as the previous report.

**TABLED ITEMS:**

**OLD BUSINESS:**

**UTILITY REPORT:**

**Mr. Wallace** reported that the West Elm Street Sewer Project started today. He stated that they have to removed a large section of the water main before they can start the actual sewer work.

**Mayor Gahan** stated that they have already talked about this but he wants to make sure everyone knows what is going on

**MR. Wallace** stated that they came to the public works meeting on Tuesday and he submitted the traffic plan.

**CLAIMS:**

**Mrs. Moeller** presented the sewer claims docket for 08/08/24-08/21/24 in the amount of \$121,867.46:

Vendor Name	Amount	Dept
INFORMATION RESOURCES, INC.	94.32	Sewer
CROWN SERVICES INC	306.00	Sewer
CROWN SERVICES INC	641.93	Sewer
CROWN SERVICES INC	736.65	Sewer
SECURITY PROS, LLC	62.00	Sewer
HUGHES, CARMEN - ATLAS CLEANING	560.00	Sewer
MURPHY ELEVATOR COMPANY, INC.	186.78	WWTP
CLARK-FLOYD LANDFILL LLC.	17,262.67	WWTP
MICROBAC LABORATORIES INC	95.00	WWTP
QUILL	360.47	WWTP
CINTAS #302	233.60	WWTP
CINTAS #302	233.60	WWTP
HMB PROFESSIONAL ENGINEERS	22,500.00	WWTP
CULLIGAN WATER SYSTEMS	80.00	WWTP
EARTH FIRST	239.14	WWTP
MIKE SMITH FIRESTONE	300.00	WWTP
BYRNE'S GARAGE INC.	227.92	WWTP
GRAINGER	9.41	WWTP
USA BLUE BOOK	192.80	WWTP
USA BLUE BOOK	1,014.46	WWTP
BIOCHEM, INC.	2,812.76	WWTP
METRO ANSWERING SERIVCE	180.00	WWTP
EYE-TRONICS	1,004.53	WWTP
EYE-TRONICS	481.11	WWTP
HOME DEPOT	106.57	WWTP
PRO4MANCE CONTRACTING SERVICES	519.21	WWTP
PRO4MANCE CONTRACTING SERVICES	15,375.80	WWTP
NORTHERN SAFETY CO., INC	970.00	WWTP
NORTHERN SAFETY CO., INC	839.50	WWTP
NORTHERN SAFETY CO., INC	115.00	WWTP
NORTHERN SAFETY CO., INC	185.00	WWTP
NCL OF WISCONSIN INC	1,557.40	WWTP
TELEDYNE ISCO	759.00	WWTP
IUPPS	767.60	WWTP
NAPA OF NEW ALBANY	1.24	WWTP

NAPA OF NEW ALBANY	9.87	WWTP
NAPA OF NEW ALBANY	16.29	WWTP
NAPA OF NEW ALBANY	72.99	WWTP
NAPA OF NEW ALBANY	4.49	WWTP
GOTTA GO INC.	2,345.00	WWTP
GOTTA GO INC.	3,015.00	WWTP
NORTON OCC.MEDICINE ASSOCIATES	262.00	WWTP
ALLTERRAIN PAVING & CONSTRUCT	1,125.12	WWTP
ERS WIRELESS	750.00	WWTP
GAHL LEGAL GROUP, LLC.	1,017.50	WWTP
DEMING, MALONE, LIVESAY & OSTROF	13,950.00	WWTP
THE GOODYEAR TIRE & RUBBER CO.	550.53	WWTP
MINICAM INC.	595.00	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	13.99	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	32.98	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	8.77	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	34.57	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	34.56	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	11.44	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	19.18	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	2.99	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	51.19	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	17.99	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	215.73	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	19.98	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	43.76	WWTP
HOLMES ACE HARDWARE-NEW ALBANY	14.85	WWTP
VESTIS SERVICES, LLC	176.00	WWTP
VESTIS SERVICES, LLC	488.15	WWTP
GIBSON LAW OFFICE, LLC	1,257.28	TU/T
GIBSON LAW OFFICE, LLC	1,171.29	TU/T
SILVER CREEK WATER	1,406.00	TU/T
SILVER CREEK WATER	17.03	TU/T
SILVER CREEK WATER	17.03	TU/T
SILVER CREEK WATER	17.03	TU/T
SILVER CREEK WATER	17.03	TU/T
SILVER CREEK WATER	17.03	TU/T
SILVER CREEK WATER	17.03	TU/T
SILVER CREEK WATER	17.10	TU/T
SILVER CREEK WATER	17.03	TU/T
CLARK CO. REMC	133.00	TU/T
CLARK CO. REMC	168.33	TU/T
CLARK CO. REMC	191.08	TU/T
CLARK CO. REMC	554.65	TU/T
CLARK CO. REMC	141.68	TU/T
VERIZON WIRELESS	2,316.23	TU/T
AMERICAN WATER	1,650.00	TU/T
FLOYDS KNOBS WATER	24.86	TU/T
FLOYDS KNOBS WATER	24.86	TU/T
FLOYDS KNOBS WATER	24.86	TU/T
FLOYDS KNOBS WATER	24.86	TU/T
EDWARDSVILLE WATER CO.	17.00	TU/T
DUKE ENERGY	319.95	TU/T
DUKE ENERGY	535.22	TU/T

DUKE ENERGY	457.82	TU/T
DUKE ENERGY	83.65	TU/T
DUKE ENERGY	740.15	TU/T
DUKE ENERGY	42.82	TU/T
SARTELL, ROBERT	4,500.00	TU/T
WEX BANK	7,545.74	TU/T
CONSTELLATION NEWENERGY	32.98	TU/T
CHARTER COMM HOLDINGS LLC	1,531.73	TU/T
CHARTER COMM HOLDINGS LLC	724.90	TU/T
CHARTER COMM HOLDINGS LLC	124.98	TU/T
HUBLAR, DEBRA	73.84	TU/T
		BSF
Grand Total	121,867.46	

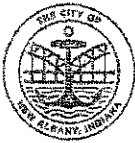
**Mr. Wilkinson moved to approve, Mr. Grimes second, all voted in favor.**

**ADJOURN:**

There being no further business before the board, the meeting adjourned at 9:29 a.m.

\_\_\_\_\_  
Mayor Gahan, President

\_\_\_\_\_  
Vicki Glotzbach, City Clerk



City of New Albany, Indiana  
142 East Main Street  
New Albany, IN 47150  
812-948-5327  
www.cityofnewalbany.com

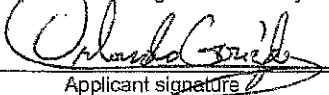
# WRITTEN COMMITMENT

PARCEL NUMBER: 22-05-08-200-204,000-008  
PHYSICAL ADDRESS: 3804 KLERNER LANE, NEW ALBANY, IN 47150  
LEGAL DESCRIPTION: PRT.82 ILL.GNT. .3013 AC  
IN REFERENCE: SEWER LATERAL EXTENSION FOR BATHROOM IN DETACHED HOME OFFICE

I, ORLANDO GONZALEZ AND I, NAYDU OSORIO ("OWNERS"), do hereby agree in reference to the above-mentioned matter, to abide by the following commitments that I understand are conditions of authorization granted in regard to this request, and that I am filing a written commitment in the office of the Floyd County Recorder agreeing that:

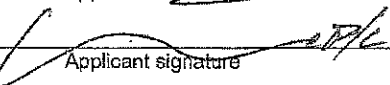
1. The city is permitting a private lateral to the detached home office on said property for the installation of plumbing needed for safe and healthy operation of this home business only.
2. Owner acknowledges and confirms that the lateral is for the installation of necessary plumbing only, in the detached home office (per the attached drawing, which is incorporated herein).
3. Owner shall not add any additional fixtures or drainage from the detached office other than agreed upon herein without the necessary permits and approval.
4. Owner shall not use the lateral to remodel or transform the detached office into any form of residential living (such as apartment or short-term rental) without application and approval from the New Albany Planning and Zoning Office.
5. These conditions shall be recorded as written commitments in the office of the Floyd County Recorder.

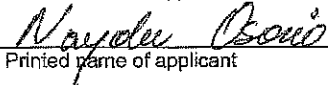
I do hereby submit this document to be recorded as my written commitment acceptable to the New Albany Sewer Department through their Attorney.

  
Applicant signature

ORLANDO GONZALEZ

Printed name of applicant

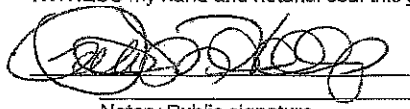
  
Applicant signature

  
Printed name of applicant

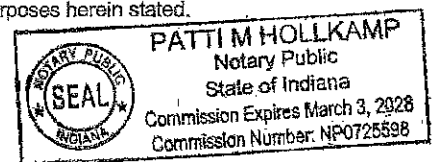
State of Indiana }  
County of Floyd } SS:

Before me, the undersigned, a Notary Public in and for said County and State, personally appeared for (applicant's name) and acknowledged the foregoing as his/her voluntary act for the purposes herein stated.

WITNESS my hand and notarial seal this 28 day of August, 2022.

  
Notary Public signature

Notary Public printed name



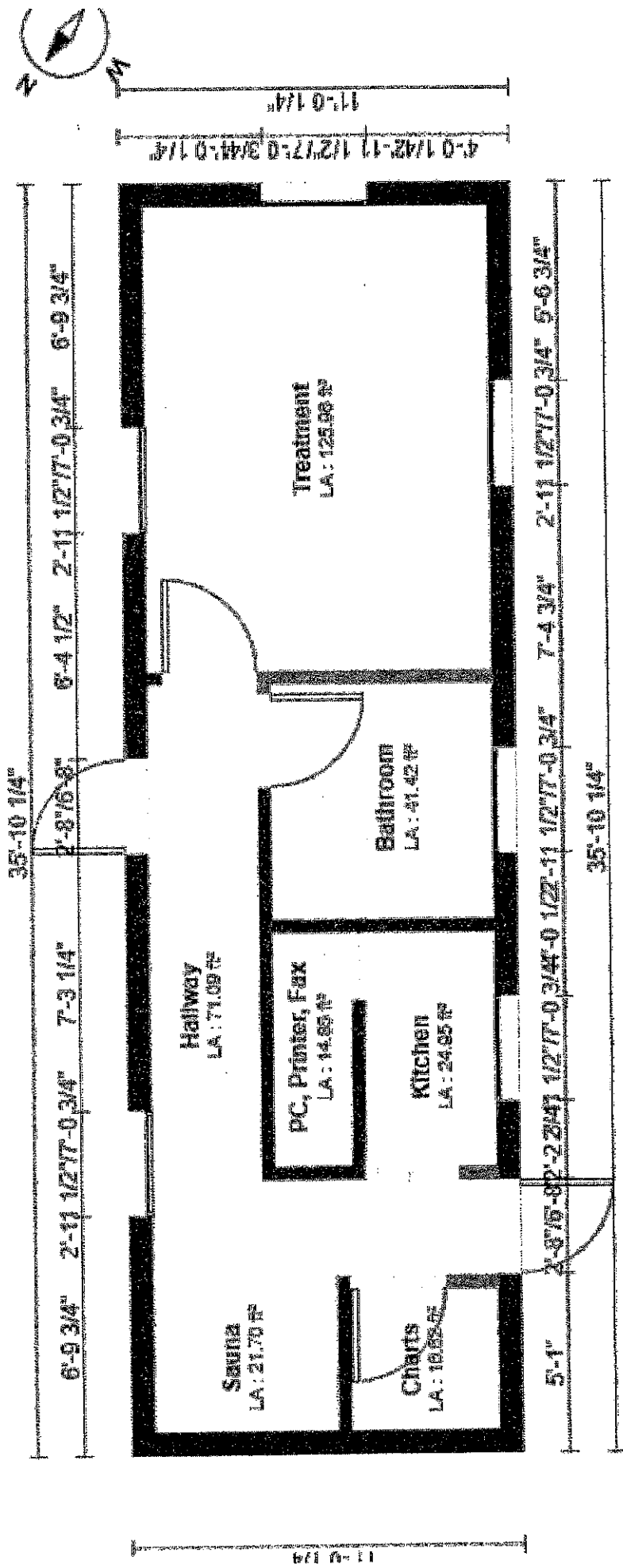
MY COMMISSION EXPIRES:

03/03/2028

I affirm, under penalties for perjury, that I have taken reasonable care to redact each Social Security number in this document, unless required by law. /s/ Jacob B. Vissing

PREPARED WITHOUT TITLE EXAMINATION BY:  
SHANE GIBSON  
CORPORATE COUNSEL  
CITY OF NEW ALBANY  
142 EAST MAIN STREET  
NEW ALBANY, IN 47150  
(812)948-5333







# NEW ALBANY AND FLOYD COUNTY SANITARY SEWER AND STORMWATER DESIGN MANUAL



JULY 2024

# **NEW ALBANY AND FLOYD COUNTY STORMWATER AND SANITARY SEWER DESIGN MANUAL**

## **TABLE OF CONTENTS**

<b>CHAPTER</b>	<b>TITLE</b>
1	INTRODUCTION
2	GENERAL INFORMATION
3	GENERAL PLANNING INFORMATION
4	CADD STANDARDS
5	FINAL RECORD DRAWINGS
6	SURVEYING
7	EASEMENTS
8	EROSION PREVENTION AND SEDIMENT CONTROL
9	GEOTECHNICAL
10	STORMWATER FACILITIES DESIGN
11	PRIVATE DEVELOPMENT DRAINAGE PLAN SUBMITTAL REQUIREMENTS
12	SANITARY SEWER SYSTEMS
13	DEVELOPMENT SANITARY SEWER CONSTRUCTION
14	PUMP STATIONS
15	ODOR CONTROL
16	LOW PRESSURE SEWER SYSTEMS (LPSS)
<b>APPENDIX</b>	<b>TITLE</b>
A	STANDARD DETAILS
B	CRITERIA FOR PRECAST STRUCTURES
C	CITY OF NEW ALBANY TECHNICAL SPECIFICATIONS FOR LIFT STATIONS
D	ATTRIBUTE TABLE TEMPLATES FOR NEW ALBANY SANITARY SEWERS AND STRUCTURES

## **TABLE OF CONTENTS**

### **CHAPTER 16 LOW PRESSURE SEWER SYSTEMS (LPSS)**

<b>NUMBER</b>	<b>SECTION</b>	<b>PAGE</b>
16.1	PURPOSE	16-1
16.2	OVERVIEW	16-1
	16.2.1 General Design	16-1
	16.2.2 LPSS Responsibility and Ownership	16-1
16.3	GENERAL LOCATION CRITERIA	16-2
16.4	HORIZONTAL ALIGNMENT CRITERIA	16-3
	16.4.1 General	16-3
	16.4.2 LPSS Located under Pavement	16-3
	16.4.3 Stationing	16-4
	16.4.4 LPSS Line Designations	16-4
16.5	VERTICAL ALIGNMENT CRITERIA	16-4
	16.5.1 LPSS Depths	16-4
	16.5.2 LPSS Gradients	16-5
	16.5.3 Flooding and Ponding Areas	16-5
	16.5.4 Minimum Water Main Clearances	16-5
	16.5.4.1 Horizontal Clearance	16-5
	16.5.4.2 Vertical Clearance	16-5
16.6	GENERAL PROCEDURES	16-5
16.7	DRAINAGE MAP REQUIREMENTS	16-5
16.8	DESIGN FLOW CRITERIA	16-6

## **TABLE OF CONTENTS (cont.)**

### **CHAPTER 16 LOW PRESSURE SEWER SYSTEMS (LPSS)**

<b>NUMBER</b>	<b>SECTION</b>	<b>PAGE</b>
16.9	LPSS HYDRAULIC DESIGN CRITERIA	16-6
	16.9.1 General	16-6
	16.9.2 Flow Characteristics	16-6
	16.9.3 Air Valves	16-6
	16.9.4 Cleanout and Flushing Stations	16-7
16.10	HYDRAULIC COMPUTATIONS	16-7
16.11	LPSS PIPE	16-7
	16.11.1 High Density Polyethylene (HDPE)	16-7
	16.11.2 Minimum Diameter	16-8
	16.11.3 Tracer Wire	16-8
	16.11.4 Hydraulic Leakage Testing for LPSS	16-9
16.12	GRINDER PUMP STATION	16-10
	16.12.1 General	16-10
	16.12.1.1 Alternate Equipment	16-11
	16.12.2 Factory Test	16-12
	16.12.3 Warranty	16-12
	16.12.4 Grinder Pump	16-13
	16.12.4.1 Grinder	16-13
	16.12.4.2 Motor	16-14
	16.12.4.3 Electrical Power/Control Cord	16-15
	16.12.5 Tank and Integral Accessway	16-16

## **TABLE OF CONTENTS (cont.)**

### **CHAPTER 16 LOW PRESSURE SEWER SYSTEMS (LPSS)**

<b>NUMBER</b>	<b>SECTION</b>	<b>PAGE</b>
	16.12.6 Station Piping and Valves	16-16
	16.12.7 Controls	16-17
	16.12.8 Alarm Panel	16-18
16.13	PROPERTY SERVICE CONNECTIONS	16-19
	16.13.1 General	16-19
	16.13.2 Uni-Lateral Valve Assembly	16-19
	16.13.3 Cleanouts	16-20
16.14	LPSS MAIN LINE AIR VALVES	16-20
16.15	MANHOLES	16-20
16.16	CONCRETE ENCASEMENTS	16-21
16.17	HORIZONTAL DIRECTIONAL DRILLING (HDD)	16-21
	16.17.1 General	16-21
	16.17.2 Surface and Subsurface Conditions	16-21
	16.17.3 Equipment	16-22
	16.17.4 Experience and Safety	16-22
	16.17.5 Drilling Procedure	16-23
	16.17.6 Testing and Inspection	16-25
16.18	RAILROAD CROSSINGS	16-25
16.19	HIGHWAY CROSSINGS	16-25
16.20	CREEK, STREAM OR DITCH CROSSINGS	16-26





## **CHAPTER 16**

### **LOW PRESSURE SEWER SYSTEMS (LPSS)**

#### **16.1 PURPOSE**

This chapter establishes the minimum standards and technical design criteria for sanitary Low Pressure Sewer Systems (LPSS) in the City of New Albany service area for Capital Improvement and development projects. Adherence to these standards will expedite review and approval of plans. Hydraulic design presented herein represents acceptable procedures not necessarily to the exclusion of other sound and technically supported design procedures. Any departure from these design requirements should be brought to the attention of New Albany before submission of plans for approval and should be justified and documented. Sanitary LPSS plan preparation for private development must also conform to Chapter 13 requirements and in all cases plan development shall conform to the Chapter 8 EPSC requirements.

#### **16.2 OVERVIEW**

##### **16.2.1 General Design**

The overall design of LPSS consists of the determination of the following:

- A. The location of the horizontal alignment which most efficiently provides service to existing and potential users.
- B. The vertical restrictions on establishing the LPSS alignment, including: minimum cover, elevations of other sewers in the system, conflicts with other underground facilities, and solid rock considerations.
- C. The design flow generated by the existing and future users, which must be transported by the LPSS.
- D. The pipe size, pipe material, and method of construction required.
- E. The necessary appurtenances and special structures required.

##### **16.2.2 LPSS Responsibility and Ownership**

For private or Public Works LPSS projects, it is the intent of the City of New Albany that all LPSS construction within the limits of the right-of-way be completed as part of the same project to be considered substantially complete. This includes the Private Service Connection (PSC) from the main line pressure pipe to the Uni-Lateral valve assembly at the right-of-way line. This is to avoid future damage to pavement or other improvements in the right-of-way from future service line connections to the main line LPSS pipe.

Property owners (or developers) will be responsible after the City's acceptance of the LPSS for acquiring and installing the service lateral from the Uni-Lateral valve assembly, the grinder pump station, connecting their private sanitary line to the station, and, if applicable, properly abandoning their existing on-site treatment system.

Following substantial completion of the LPSS, the City of New Albany will own and be responsible for operation and maintenance of the following, notwithstanding any responsibilities required by applicable warranties:

- A. Main line LPSS sanitary pressure pipe within rights-of-way or easements.
- B. Main line appurtenances such as air valve structures and clean outs/flushing connections.

Following substantial completion of the LPSS, the property owner receiving sanitary sewer service will own and be responsible for operation and maintenance of the following, notwithstanding any responsibilities required by applicable warranties:

- A. The PSC from the main line LPSS sanitary pressure pipe within rights-of-way or easements.
- B. The Uni-Lateral stainless steel curb stop/check valve assembly located at or near the right-of-way line where it meets their own property line.
- C. The pressure and gravity service laterals located on their own property.
- D. The grinder pump station and all associated panels.

### **16.3 GENERAL LOCATION CRITERIA**

Since it is a pressurized system there is significant flexibility for LPSS horizontal and vertical location to determine the most cost-effective and environmentally sensitive alignment that best serves the needs of the entire tributary area. Additionally, it is imperative that all alternatives worthy of consideration receive maximum and equal consideration regarding environmental impact. The costs and acquisition time for easements can be significant; therefore, LPSS should be located within existing easements and rights-of-way whenever feasible and practical.

When selecting the LPSS alignment, consideration should be given to the following general location criteria:

- A. For protection of environmentally sensitive areas and constraints such as creeks, wetlands, trees, protected habitats, etc.
- B. Existing utilities, railroads, highways, and overhead facilities.
- C. Location of other existing and proposed sewerage and stormwater facilities.
- D. Property values, easement needs and potential damage to the affected properties.
- E. Existing and proposed high water elevations, including high water for appropriate design periods.

- F. Anticipated extension of existing streets and the potential for the development of contiguous areas.
- G. Continuity with adjacent design segments.
- H. Maintenance of traffic.
- I. Availability of materials.
- J. Foundation conditions.
- K. Construction cost.

The location of proposed LPSS should also comply with applicable portions of Indiana Administrative Code 327 IAC 3 Rule 6 "Technical Standards for Sanitary Collection Systems".

## **16.4 HORIZONTAL ALIGNMENT CRITERIA**

### **16.4.1 General**

Installation of LPSS using Horizontal Directional Drilling (HDD) is preferred to limit surface disruption. Even so, consideration regarding horizontal alignment should be given to impacts from open-cut excavations at pit locations and potential future repairs and service connections.

LPSS shall be located in non-paved areas in existing easements or rights-of-way, or within a sanitary easement adjacent to the road right-of-way and shall be at least 10 feet from the water main. Air relief valve manholes shall be completely outside the pavement and not partially in the pavement, unless approved by the Sewer Board. The centerline of the manhole shall be a minimum distance of 3 feet from the edge of pavement, and a minimum distance of 5 feet inside sanitary easement.

### **16.4.2 LPSS Located under Pavement (Subject to Approval by Sewer Board)**

**Construction of LPSS under pavement will be subject to approval by the Sewer Board.** If circumstances require the LPSS to be located under the roadway, the pipe shall be located in the traffic lane on the opposite side of the street and at least 10 feet away from the water main with the centerline of the LPSS to be a minimum of 5 feet from the edge of pavement. Every effort shall be made to place the entire air relief valve manhole frame and cover entirely within the pavement. In areas where this location will conflict with gas and water valves or other utilities, the LPSS location shall be adjusted to avoid these conflicts. Consideration of other factors, such as the width of the pavement, depth of rock, and possible conflict with other utilities, will still be required so the LPSS can be built without modification during construction.

In areas where concrete pavement is encountered, consideration shall be given to placing the LPSS in a location whereby one edge of the pavement to be removed would coincide with existing construction joints, which are generally in the centerline of the streets. This procedure would require that only one side of the pavement would have

to be sawed for removal. In areas where lots slope abruptly away from the street, consideration shall be given to locating the LPSS near the property line on the low side.

#### **16.4.3 Stationing**

All LPSS stations shall increase upstream. Every effort shall be made to begin the stationing of an LPSS with Station 0+00.00 at the downstream end. When an existing sewer is to be extended, the stationing should be continued from the end of the existing sewer whenever possible. The PI stations and deflection angles or interior angles shall be shown on the plans at all changes in alignment.

#### **16.4.4 LPSS Line Designations**

The designation of the first LPSS in a collection system shall be LINE "A". The next LPSS upstream contributing to LINE "A" shall be designated LINE "B", and the station of LINE "B" at this point shall be Station 0+00.00. This method shall continue throughout the collection system and subsequent LPSS pipe runs shall be assigned appropriate designations by ascending letters. Lines beyond LINE "Z" shall continue with double letter designations starting with LINE "AA", "AB", etc.

### **16.5 VERTICAL ALIGNMENT CRITERIA**

#### **16.5.1 LPSS Depths**

LPSS shall have a minimum cover of 4 feet in easements and a minimum cover of 5 feet in rights-of-way. Specific exceptions to these minimum requirements may be made with prior approval by New Albany.

Grinder Pump Station bottoms shall be set as needed for the station influent to receive the first-floor lateral invert by gravity. **Excessive Grinder Pump Station depths to receive basement sanitary facilities by gravity will not be allowed without prior approval by New Albany.**

In developed areas with on-site wastewater treatment receiving sanitary service via LPSS it is to be assumed that any existing sanitary facilities in basements are served by a private sump pump discharging up to the common lateral from the structure to the septic tank. **Excessive Grinder Pump Station depths to receive basement sanitary facilities by gravity will not be allowed without prior approval by New Albany.** The "Service Connection Survey" form, found on Exhibit 6-1, should be used to identify where basement facilities exist.

A minimum cover of 2 feet shall generally be maintained when crossing under existing streams, existing ditches, and existing or proposed channel improvements and storm sewers, provided the LPSS line is encased in concrete (or capped if approved by New Albany). With respect to open-cut installation across streams, restoration of the channel invert will conform to the applicable standard drawings (EC-01-01, EC-02-01, or EC-03-01) located in Appendix A.

### **16.5.2 LPSS Gradients**

All LPSS gradients shall be referenced to the North American Vertical Datum of 1988. When connecting into or extending existing sewer facilities that were constructed using another datum, an elevation equation should be shown on the plans.

### **16.5.3 Flooding and Ponding Areas**

Since the LPSS is a pressurized system the only open points in the system are at the Grinder Pump Stations. The tops of these stations should be kept a minimum of 2 feet above existing, proposed, or projected 100-year flood elevations whenever possible. If doing so would result in the top extending above the final grade around the station, then it shall be lowered so the top matches final grade and a watertight lid shall be used.

### **16.5.4 Minimum Water Main Clearances**

The following minimum clearances between the LPSS and existing or proposed water mains shall be used in establishing the LPSS alignment:

#### **16.5.4.1 Horizontal Clearance**

The horizontal clearance shall be 10 feet minimum per the Indiana Administrative Code 327 IAC 3-6-9 "Separation of collection systems from water mains and drinking water wells." Where this is not possible, the Design Engineer should reference 327 IAC 3-6-9 for exceptions. Note that since the LPSS is a pressurized system it is considered similar to sanitary force main piping.

#### **16.5.4.2 Vertical Clearance**

The vertical clearance shall be at least 18 inches per the Indiana Administrative Code 327 IAC 3-6-9 "Separation of collection systems from water mains and drinking water wells." The LPSS pipe shall be located below the water main. Where this is not possible, the Design Engineer should reference 327 IAC 3-6-9 for exceptions. Note that since the LPSS is a pressurized system it is considered similar to sanitary force main piping.

## **16.6 GENERAL PROCEDURES**

The general process for determining the design flow for LPSS segments shall be identical to what is required for gravity sanitary sewers in Section 12.6, General Procedures.

## **16.7 DRAINAGE MAP REQUIREMENTS**

The process for preparing a Drainage Map for LPSS shall be identical to what is required for gravity sanitary sewers. Refer to Section 12.7, Drainage Map Criteria, to prepare the Drainage Map for the proposed LPSS service area.

## **16.8 DESIGN FLOW CRITERIA**

The determination of design average and peak daily flow rates for LPSS is identical to that for gravity sanitary sewers. Refer to Section 12.8, Design Flow Criteria, to determine LPSS design flow rates.

## **16.9 LPSS HYDRAULIC DESIGN CRITERIA**

### **16.9.1 General**

LPSS design is to be based on established estimates to determine how many grinder pump stations within a system will simultaneously operate upstream of any given stretch of sewer pipe. This information is used to determine the pipe diameter that meets the velocity and TDH criteria.

The system should be designed to give the shortest runs and the fewest abrupt changes in direction. “Loops” in the system must be avoided as they lead to unpredictable and uneven distribution of flow.

### **16.9.2 Flow Characteristics**

All LPSS main pipe shall be sized to carry the design flow for each segment at a velocity between 2.0 fps and 5.0 fps. Maximum Total Design Head (TDH) shall be 185 feet.

Design Pipe Roughness Coefficient (C) shall be 120 and 150 for HDPE.

Typical residential flow per grinder pump is assumed to be 11 gpm.

### **16.9.3 Air Valves**

Air/vacuum valves, air release valves and combination air valves serve to prevent the concentration of air at high points within a system. This is accomplished by exhausting large quantities of air as the system is filled and also by releasing pockets of air as they accumulate while the system is in operation and under pressure. Air/vacuum valves and combination air valves also serve to prevent a potentially destructive vacuum from forming.

Air relief valves for LPSS should be installed at the beginning of each downward leg in the system that exhibits a 25-foot or more drop. Air will accumulate in downhill runs preceded by an uphill run. It is not generally required to provide air valves for LPSS at high points where there is less than a 25-foot drop as air suspended in the flow will typically be forced downstream in the smaller diameter pipes.

Long ascending or descending lines or long horizontal runs require air and vacuum or dual-function valves placed at approximately 2000-foot intervals.

#### **16.9.4 Cleanout and Flushing Stations**

Cleanout and flushing stations should be incorporated into the pipe layout. In general, cleanouts should be installed at the terminal end of each main, every 1,000 to 1,500 feet on straight runs of pipe, and whenever two or more mains come together and feed into another main

#### **16.10 HYDRAULIC COMPUTATIONS**

It is intended that all LPSS in the City of New Albany be designed to use the E/One grinder pump stations and appurtenances. Therefore, hydraulic computations are to be completed with E/One's Design Assistant Software, latest version. Alternatively, hydraulic analysis can be completed by E/One. These resources are available at:

[www.eone.com/sewer-systems/design-center](http://www.eone.com/sewer-systems/design-center)

Use of alternative computation methods may be submitted to the City along with full backup documentation and explanation for consideration as an equal.

#### **16.11 LPSS PIPE**

##### **16.11.1 High Density Polyethylene (HDPE)**

LPSS pipe shall be High Density Polyethylene (HDPE) suitable for installation using either Horizontal Direction Drilling (HDD) or open-cut methods.

Pipe shall comply with ASTM D 3035, Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter for pipe diameters up to and including 3-inches, and ASTM F 714, Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Outside Diameter for pipe sizes 4-inches and larger.

Materials used for the manufacture of HDPE pipe shall be extra high molecular weight, high density ethylene/hexane copolymer PE 4710 or PE 3608 polyethylene resin meeting the requirements of ASTM D 3350 with a minimum cell classification of PE445474C for PE 4710 and PE345464C for PE 3608 for products manufactured in accordance with ASTM D 3035. Pipe shall be minimum DR 11 sized in accordance with IPS.

All material shall have a hydrostatic design basis of 1,600 psi or more. The pipe shall contain no recycled compound except that generated in the manufacturer's own plant from resin of the same specification from the same raw material. All material shall be listed by the Plastic Pipe Industry in the name of the pipe manufacturer and shall be based on ASTM D 2837 and PPI TR-4 testing and validation for samples of the pipe manufacturer's production pipe. Pipe shall have a co-extruded green cover or extruded green stripes designating it as a wastewater pipeline.

HDPE pipe shall be joined into continuous lengths on the job site above ground. The joining method shall be the butt fusion method and shall be performed in strict accordance with the pipe manufacturer's recommendations. Electrofusion shall not be

used except as needed to connect adjacent directionally drilled sections which are to be connected in the trench bottom. Mechanical joint adapters are required to mechanically connect the HDPE pipe to different pipe materials. Joint restraint to prevent axial separation shall be incorporated into the design of the sleeve or coupling used to connect HDPE pipe plain ends. Internal pipe wall stiffeners must be used when restraining HDPE. The restrained coupling system shall be Series 4800 manufactured by EBAA Iron, Inc. or an approved equal.

Fittings shall be the same HDPE material as the pipe. HDPE fittings shall be manufactured in accordance with ASTM D 3261 by injection molding, a combination of extrusion and machining, or fabricated from HDPE pipe conforming to this Specification. Fittings shall be fully pressure rated and provide a working pressure equal to the adjacent pipe with an included two to one safety factor. Joints between plain end pipes and fittings shall be made by butt fusion using procedures that are in accordance with ASTM F2620 by a person who is a manufacturer's certified thermojoiner.

During the extrusion production, the HDPE pipe shall be continuously marked per ASTM and AWWA with durable printing with, at a minimum, the following: nominal pipe size, dimension ratio, pressure rating, trade name, material classification, certification bases, and date.

In addition to the holding, storage, and color requirements in these specifications, when moving fused sections of pipe, chains or cable type chokers shall be avoided, nylon slings are preferred. Care must be exercised to avoid cutting or gouging the pipe.

Pipe possessing the following defects may be rejected for installation: variation from straight centerline; elliptical shape; illegible markings as required herein; deep or excessive gouges or scratches of the pipe wall; fractures, punctures, or cracks passing through the pipe wall; damaged ends where such damage would prevent making a satisfactory joint.

#### **16.11.2 Minimum Diameter**

The minimum allowable nominal inside diameter for LPSS pipe, other than property service connections, shall be 1-1/2 inches. All property service connections shall have a minimum nominal inside diameter of 1-1/4 inches; commercial or industrial connections shall be individually considered with the minimum nominal size being 1-1/4 inches.

#### **16.11.3 Tracer Wire**

Tracer wires shall be installed along the LPSS main line and service line pipe, fastened securely to the pipe at five (5) foot intervals, and terminating above ground with the lead taped around each structure. The wire shall be brought up to the ground level every four hundred (400) feet through a vinyl coated aluminum riser pipe with cap and/or at all line valve boxes. The wires shall be connected using DBR Direct Burial Splice Kit manufactured by 3M Electrical Products Division, Austin, TX or approved equal. The riser pipe and cap shall not be placed in areas subject to vehicular traffic. The tracer wire shall be capable of, and demonstrated to have, continuous transmission



of tracing signal along the full length of the installed pipe. Wire ends shall be accessible at structures and risers and secured so they are in a visible location that can be connected to without completing confined space entry.

If any appurtenant structure, such as an air release valve, is required as part of the low pressure sewer installation, the wire shall be cut with each end entering the structure under the casting frame.

Tracer wire shall be Copperhead Direct Burial #12 AWG Solid, steel core hard drawn extra high strength horizontal directional drill tracer wire, 1150# average tensile break load, 45 mil high molecular weight-high density green colored polyethylene jacket complying with ASTM D-1248, 30-volt rating or approved equal.

#### **16.11.4 Hydrostatic Leakage Testing for LPSS**

The hydrostatic leak test shall be done in accordance with AWWA standards based on the installed low pressure sewer material, in accordance with ASTM E 1003, and as follows:

- A. The hydrostatic test may be done immediately after final backfill is placed and the air and/or vacuum release valves are installed.
- B. All leakage testing must be performed in the presence of a representative of New Albany, and will provide a stopwatch, recording forms and calculations to demonstrate if the test passed or failed.
- C. When conducting any leakage test, the Contractor shall provide all meters, weirs, gages, water, equipment and personnel necessary to perform the test as specified. At a minimum, the following shall be provided:
  - 1. Hydrostatic Test Pump (jockey pump).
  - 2. Continuous monitoring pressure gage having a range of 0 – 150 psi graduated in 1 psi increments. The gauge shall be no less than four (4) inches in diameter.
  - 3. Pipe plugs and/or caps. The plugs/caps shall be equipped with a minimum of two (2) openings for filling/draining the low pressure sewer and for bleeding air from the line.
  - 4. Calibrated/graduated container to measure the quantity of water required to be added during the hydrostatic test to maintain the test pressure.
- D. The procedures for the hydrostatic test are as follows:
  - 1. Close isolation valves on the Uni-Lateral assembly. Redundant check valves on station laterals and anti-siphon/check valve assemblies on grinder pump cores should not be used as system isolation valves during line tests.
  - 2. After the low pressure sewer has been backfilled to final grade, securely plug and/or bulkhead the ends being tested. Thrust blocking restraints shall be

installed at each bulkhead in accordance with the bulkhead manufacturer's requirements.

3. All air and/or vacuum release valves shall be installed and in normal (open) in-service position during the test.
4. The low pressure sewer shall be slowly pressurized with water to 1.5 times the working pressure, or 100 psi, whichever is greater. Trapped air shall be expelled through high point bleed off valves as the low pressure sewer is being filled. When the pressure has been reached, the test pump shall be shut off. After the low pressure sewer has been pressurized, measure the pressure drop for two (2) hours.
5. If no pressure drop occurs within the two (2) hour test time, the low pressure sewer shall have passed the test.
6. If a pressure drop occurs within the two (2) hour test time, the low pressure sewer shall have failed the test. The Contractor shall repair or replace all defective materials or Workmanship and conduct additional leakage tests necessary to demonstrate that the repaired section meets the leakage requirements, at no additional cost to New Albany. If requested by New Albany the Contractor shall submit in writing a method of repair which must be approved by New Albany before repair can begin.

## **16.12 GRINDER PUMP STATION**

### **16.12.1 General**

Each unit shall be a complete factory-built and tested Wetwell/Drywell Grinder Pump Station consisting of grinder pump(s) suitably mounted in a basin constructed of high density polyethylene (HDPE) for simplex stations and HDPE or Fiberglass Reinforced Polyester Resin for duplex stations with dimensions and capacities as required in the Contract Drawings, NEMA 6P electrical quick disconnect (EQD), pump removal system, stainless steel discharge assembly/shut-off valve, and anti-siphon valve/check valve, each assembled in the basin, plus external electrical and alarm panel and all necessary internal wiring and controls.

Component type grinder pump systems that require field assembly will not be acceptable. For ease of serviceability, all pump, motor/grinder units shall be of like type and horsepower throughout the system, unless otherwise specified herein. Grinder pump stations, complete with all appurtenances, form an integral system, and as such, all stations shall be supplied by a single grinder pump station manufacturer.

All maintenance tasks for the grinder pump station shall be possible without entry into the grinder pump station, as per OSHA 1910.146 Permit-Required Confined Space.

The grinder pump station shall have a cartridge type, easily removable core assembly consisting of pump, motor, grinder, all motor controls, check valve, anti-siphon valve, level controls, electrical quick disconnect and wiring. The core unit shall be installed in the basin by the manufacturer. Field assembly of the pump and controls into the basin

is not acceptable because of potential workmanship issues and increased installation time. The core unit shall seal to the tank deck with a stainless steel latch assembly. The latch assembly must be actuated utilizing a single quick release mechanism requiring no more than a half turn of a wrench. The watertight integrity of each core unit shall be established by a 100 percent factory test at a minimum of 5 PSIG.

The grinder pump core, including level sensor assembly, shall have two lifting hooks complete with lift-out harness connected to its top housing to facilitate easy core removal when necessary. The level sensor assembly must be easily removed from the pump assembly for service or replacement. All mechanical and electrical connections must provide easy disconnect capability for core unit removal and installation. Each EQD half must include a water-tight cover to protect the internal electrical pins while the EQD is unplugged. A pump push-to-run feature will be provided for field trouble shooting. The push-to-run feature must operate the pump even if the level sensor assembly has been removed from the pump assembly. All motor control components shall be mounted on a readily replaceable bracket for ease of field service.

The equipment specified herein shall be a product of a company experienced in the design and manufacture of grinder pumps for specific use in low pressure sewage systems. The company shall submit detailed installation and user instructions for its product, submit evidence of an established service program including complete parts and service manuals, and be responsible for maintaining a continuing inventory of grinder pump replacement parts. The manufacturer shall provide, upon request, a reference and contact list from ten of its largest contiguous grinder pump installations of the type of grinder pumps described within this specification.

Unless otherwise specified, all grinder pump stations shall be semi-positive displacement type Model DH071, as manufactured by Environment One.

#### **16.12.1.1 Alternate Equipment**

The City of New Albany may, at their sole discretion, consider an alternative grinder pump station and manufacturer for pre-approval as an equal.

If the contractor or another supplier proposes an alternate to the specified manufacturer, it is recognized that it will be difficult to conform to certain details of this Specification due to different manufacturing techniques or grinder pump station designs. If proposing an Alternate, the contractor (supplier) must submit (no less than 15 business days in advance of a bid date for Public Works projects) a complete description of any changes that will be necessary to the system design, a complete submittal package, a system hydraulic analysis based on the proposed pump (including pipe sizes, flows, velocities, retention times and number and location of recommended valves and cleanouts, if any), a list of exceptions to this specification, and demonstration of compliance to the experience requirements of this specification.

The contractor (supplier) must also complete a Manufacturer Disclosure Statement that will be provided. This information must be submitted for pre-approval of the alternate equipment being proposed and determination of compliance with these Contract Documents. If the equipment differs materially or differs from the dimensions given on the Drawings, the contractor (supplier) shall submit complete drawings showing

elevations, dimensions, or any necessary changes to the Contract Documents for the proposed equipment and its installation. Pre-approval, if granted, will be provided in writing by the City to the contractor (supplier) (at least five business days in advance of the bid date for Public Works projects). If pre-approval is obtained for Alternate Equipment, the contractor (supplier) must make any needed changes in the structures, system design, piping or electrical systems necessary to accommodate the proposed equipment at the expense of the contractor (supplier).

All manufacturers proposing equipment for LPSS projects shall have at least 10 years of experience in the design and manufacture of units of identical size(s) and performance to the specified units. All manufacturers proposing equipment for LPSS projects must also have not less than 500 successful installations of low pressure sewer systems utilizing grinder pumps of like type to the grinder pumps specified herein. An installation is defined as a minimum of 25 pumps discharging into a common force main which forms a low pressure sewer system. The contractor (supplier) proposing alternate equipment shall also submit an installation list with contact person(s), phone number(s) and date(s) of at least 10 installations of the type of pump specified herein that have been in operation for at least 10 years

In lieu of the above experience clause, the contractor (supplier) of alternate equipment shall be required to submit a 5-year performance bond for 100 percent of the stipulated cost of the equipment. This performance bond will be used to guarantee the replacement of the equipment if it fails within the bond period.

#### **16.12.2 Factory Test**

Each grinder pump shall be submerged and operated for 1.5 minutes (minimum). Included in this procedure will be the testing of all ancillary components such as, the anti-siphon valve, check valve, discharge assembly and each unit's dedicated level controls and motor controls. All factory tests shall incorporate each of the above-listed items. Actual appurtenances and controls which will be installed in the field shall be particular to the tested pump only. A common set of appurtenances and controls for all pumps is not acceptable. Certified test results shall be available upon request showing the operation of each grinder pump at two different points on its curve. Additional validation tests include: integral level control performance, continuity to ground and acoustic tests of the rotating components.

All completed stations shall be factory leak tested to assure the integrity of all joints, seams and penetrations. All necessary penetrations such as inlets, discharge fittings and cable connectors shall be included in this test along with their respective sealing means (grommets, gaskets etc.).

The City of New Albany reserves the right to inspect such testing procedures at the grinder pump station manufacturer's facility.

#### **16.12.3 Warranty**

Warranty certification shall be completed by the grinder station unit manufacturer. The grinder pump manufacturer shall provide a parts and labor warranty to the property owner on the complete station and accessories, including, but not limited to, panel and

redundant check valve, for a period of twenty-four (24) months after property owner's acceptance, but no greater than twenty-seven (27) months after delivery of the complete station and accessories to the property owner. Any manufacturing defects found during the warranty period shall be reported to the manufacturer by the property owner and shall be corrected by the manufacturer at no cost to the property owner.

#### **16.12.4 Grinder Pump**

Each grinder pump shall produce 15 U.S. GPM at 0 feet TDH, 11 U.S. GPM at 92 feet TDH, and 7.8 U.S. GPM at 185 feet TDH. The pump must also be capable of operating at negative total dynamic head without overloading the motor. Under no conditions shall in-line piping or valving be allowed to create a false apparent head.

The pump shall be a custom designed, integral, vertical rotor, motor driven, solids handling pump of the progressing cavity type with a single mechanical seal. Double radial O-ring seals are required at all casting joints to minimize corrosion and create a protective barrier. All pump castings shall be cast iron, fully epoxy coated to 8 – 10 mil nominal dry thickness, wet applied. The rotor shall be through-hardened, highly polished, precipitation hardened stainless steel. Plating on the rotor is not acceptable. The stator shall be of a specifically compounded ethylene propylene synthetic elastomer. This material shall be suitable for domestic wastewater service. Its physical properties shall include high tear and abrasion resistance, grease resistance, water and detergent resistance, temperature stability, excellent aging properties, and outstanding wear resistance. Buna-N is not acceptable as a stator material because it does not exhibit the properties as outlined above and required for wastewater service.

The grinder pump shall be free from electrical and fire hazards as required in a residential environment. As evidence of compliance with this requirement, the completely assembled and wired grinder pump station in its tank shall be listed by Underwriters Laboratories, Inc., to be safe and appropriate for the intended use. UL listing of components of the station or third-party testing to UL standard shall not be accepted.

The grinder pump shall meet accepted standards for plumbing equipment for use in or near residences, shall be free from noise, odor, or health hazards, and shall have been tested by an independent laboratory to certify its capability to perform as specified in either individual or low pressure sewer system applications. As evidence of compliance with this requirement, the grinder pump shall bear the seal of NSF International. Third-party testing to NSF standard is not acceptable.

##### **16.12.4.1 Grinder**

The grinder shall be placed immediately below the pumping elements and shall be direct-driven by a single, one-piece motor shaft. The grinder impeller (cutter wheel) assembly shall be securely fastened to the pump motor shaft by means of a threaded connection attaching the grinder impeller to the motor shaft. Attachment by means of pins or keys will not be acceptable. The grinder impeller shall be a one-piece, 4140 cutter wheel of the rotating type with inductively hardened cutter teeth. The cutter teeth shall be inductively hardened to Rockwell 50 – 60c for abrasion resistance. The shredder ring shall be of the stationary type and the material shall be white cast iron.

The teeth shall be ground into the material to achieve effective grinding. The shredder ring shall have a staggered tooth pattern with only one edge engaged at a time, maximizing the cutting torque.

The grinder assembly shall be dynamically balanced and operate without objectionable noise or vibration over the entire range of recommended operating pressures. The grinder shall be constructed so as to minimize clogging and jamming under all normal operating conditions including starting. Sufficient vortex action shall be created to scour the tank free of deposits or sludge banks which would impair the operation of the pump. These requirements shall be accomplished by the following, in conjunction with the pump.

- A. The grinder shall be positioned in such a way that solids are fed in an upward flow direction.
- B. The maximum flow rate through the cutting mechanism must not exceed 4 feet per second to minimize jamming.
- C. The inlet shroud shall have a diameter of no less than 5 inches to prevent exceedance of the maximum flow rate through the cutting mechanism.
- D. The impeller mechanism must rotate at a nominal speed of no greater than 1,800 rpm.

The grinder shall be capable of grinding all materials found in normal domestic sewage, including, but not limited to, plastics, rubber, sanitary napkins, and disposable diapers into a finely ground slurry that shall pass freely through the passages of the pumps and the 1¼" diameter discharge piping.

#### **16.12.4.2 Motor**

As a maximum, the motor shall be rated 1 HP, 120/240 volts, 1 phase, 60 hertz, 1,725 R.P.M. The motor shall be a capacitor start, ball bearing, air-cooled induction type with Class F insulation, low starting current not to exceed 30 amperes and high starting torque of 8.4 foot pounds. The motor shall be press-fit into the casting for better heat transfer and longer winding life. Inherent protection against running overloads or locked rotor conditions for the pump motor shall be provided by the use of an automatic-reset, integral thermal overload protector incorporated into the motor. The motor protector shall be specifically investigated and listed by Underwriters Laboratories Inc. for the application. Non-capacitor start motors or permanent split capacitor motors will not be accepted because of their reduced starting torque and consequent diminished grinding capability.

The wet portion of the motor armature must be 300 Series stainless steel. To reduce the potential of environmental concerns, the expense of handling and disposing of oil, and the associated maintenance costs, oil-filled motors will not be accepted. Pump operation during instances of potentially damaging high current or low voltage conditions shall be inhibited by an in-pump electrical monitoring system that has been investigated and listed by Underwriters Laboratories Inc. for the application. Motor start shall be controlled by a DC driven electromechanical relay integrated within the

control compartment of the pump. Electrical monitoring shall ensure the relay operates reliably. AC Mechanical contactors for motor start are susceptible to damage from short cycling and will not be accepted.

The pump/core shall be provided with a mechanical shaft seal to prevent leakage between the motor and pump. The seal shall have a stationary silicon carbide seat and silicon carbide rotating surface with faces precision lapped and held in position by a stainless steel spring.

#### **16.12.4.3 Electrical Power/Control Cord**

Electric power/control cord shall be SOW/SOW-A water resistant 600 V, 60 degrees C, U.L. and C.S.A approved. The single cord shall incorporate both power and sensor leads and shall be a minimum of seven (7) conductors.

The motor cord-entry sealing assembly shall consist of the following components to ensure a positive, redundantly water tight seal:

- A. Each individual lead shall be interrupted by a solid, uninsulated butt connector to prevent wicking of moisture through the conductor strands. The leads shall then be isolated by a nylon separator to prevent arcing and surrounded with a dielectric epoxy barrier for absolute liquid stoppage.
- B. The cord moisture seal shall consist of a PVC jacket molded to the outside diameter of the cord which encapsulates the cord outside diameter and the outside diameter of the motor connection leads.
- C. Sealing of the inside diameter of the motor housing entrance shall be accomplished by the mating of a chamfered pilot on the molded cord jacket with a taper machined in the entrance and secured by a threaded cord grip.
- D. The sealing components shall be mechanically isolated from any strains by a two-piece cord grip which shall securely grip the molded cord jacket above the moisture-sealing components and bear any mechanical forces applied to the cord. Additionally, the cord grip shall provide redundant sealing of the molded cord jacket outside diameter.

The tank accessway shall include a single NEMA 6P Electrical Quick Disconnect (EQD) for all power and control functions, factory installed with accessway penetrations warranted by the manufacturer to be watertight. The EQD will be supplied with 32', 25' of useable Electrical Supply Cable (ESC) outside the station, to connect to the alarm panel. The ESC shall be installed in the basin by the manufacturer. Field assembly of the ESC into the basin is not acceptable because of potential workmanship issues. The EQD shall require no tools for connecting, seal against water before the electrical connection is made, and include radial seals to assure a watertight seal regardless of tightening torque. Plug-type connections of the power cable onto the pump housing will not be acceptable due to the potential for leaks and electrical shorts. A junction box shall not be permitted in the accessway due to the large number of potential leak points. The EQD shall be so designed to be conducive to field wiring as required.

### **16.12.5 Tank and Integral Accessway**

The tank shall be a Wetwell/Drywell design made of high-density polyethylene, with a grade selected to provide the necessary environmental stress cracking resistance. Corrugated sections are to be made of a double wall construction with the internal wall being generally smooth to promote scouring. The corrugations of the outside wall are to be a minimum amplitude of 1-1/2" to provide necessary transverse stiffness. Any incidental sections of a single wall construction are to be 0.250" thick (minimum). All seams created during tank construction are to be thermally welded and factory tested for leak tightness. The tank wall and bottom must withstand the pressure exerted by saturated soil loading at maximum burial depth. All station components must function normally when exposed to 150 percent of the maximum external soil and hydrostatic pressure. The tank base shall be designed in a manner that does not require a concrete anti-flotation collar.

Backfill the tank to just below the final surface using Class I or Class II backfill material as defined in ASTM 2321. Flowable fill may also be used.

The minimum total tank storage capacity shall be 70 gallons for a simplex pump station. Larger tanks are an option to increase storage time during a power outage. Duplex pumping systems are also an option for higher flow properties. The tank capacities shall be as shown on the contract drawings.

The tank shall be furnished with one EPDM grommet fitting to accept a 4.50" OD DWV or Schedule 40 pipe.

The Drywell accessway shall be an integral extension of the Wetwell assembly and shall include a lockable cover assembly providing low profile mounting and watertight capability. The accessway design and construction shall enable field adjustment of the station height in increments of 3" or less without the use of any adhesives or sealants requiring cure time before installation can be completed.

The station shall have all necessary penetrations factory sealed and tested. No field penetrations shall be acceptable.

The accessway shall include an integral 2-inch vent to prevent sewage gases from accumulating in the tank.

### **16.12.6 Station Piping and Valves**

All discharge piping shall be constructed of 304 stainless steel. The discharge shall terminate outside the accessway bulkhead with a stainless steel, 1-1/4" Female NPT fitting. The discharge piping shall include a stainless steel ball valve rated for 235 psi WOG; PVC ball valves or brass ball/gate will not be accepted. The bulkhead penetration shall be factory installed and warranted by the manufacturer to be watertight.

The pump discharge shall be equipped with a factory installed, gravity operated, flapper-type integral check valve built into the stainless steel discharge piping. The



check valve will provide a full-ported passageway when open, and shall introduce a friction loss of less than 6 inches of water at maximum rated flow. Moving parts will be made of a 300 Series stainless steel and fabric reinforced synthetic elastomer to ensure corrosion resistance, dimensional stability, and fatigue strength. A nonmetallic hinge shall be an integral part of the flapper assembly providing a maximum degree of freedom to assure seating even at a very low back-pressure. The valve body shall be an injection molded part made of an engineered thermoplastic resin. The valve shall be rated for continuous operating pressure of 235 psi. Ball-type check valves are unacceptable due to their limited sealing capacity in slurry applications.

The pump discharge shall be equipped with a factory-installed, gravity-operated, flapper-type integral anti-siphon valve built into the stainless steel discharge piping. Moving parts will be made of 300 Series stainless steel and fabric-reinforced synthetic elastomer to ensure corrosion resistance, dimensional stability, and fatigue strength. A nonmetallic hinge shall be an integral part of the flapper assembly, providing a maximum degree of freedom to ensure proper operation even at a very low pressure. The valve body shall be injection-molded from an engineered thermoplastic resin. Holes or ports in the discharge piping are not acceptable anti-siphon devices due to their tendency to clog from the solids in the slurry being pumped. The anti-siphon port diameter shall be no less than 60% of the inside diameter of the pump discharge piping.

#### **16.12.7 Controls**

All necessary motor starting controls shall be located in the core unit secured by stainless steel fasteners. Locating the motor starting controls in a separate enclosure is not acceptable. The wastewater level sensing controls shall be housed in a separate enclosure from motor starting controls

The level sensor housing must be sealed via a radial type seal; solvents or glues are not acceptable. The level sensing control housing must be integrally attached to pump assembly so that it may be removed from the station with the pump and in such a way as to minimize the potential for the accumulation of grease and debris accumulation, etc. The level sensing housing must be a high-impact copolymer. The use of PVC for the level sensing housing is not acceptable.

Non-fouling wastewater level controls for controlling pump operation shall be accomplished by monitoring the pressure changes in an integral air column connected to a pressure switch. The air column shall be molded from a copolymer suitable for use in wastewater and with excellent impact resistance. The air column shall have only a single connection between the water level being monitored and the pressure switch. Any connections are to be sealed radially with redundant O-rings. The level detection device shall have no moving parts in direct contact with the wastewater and shall be integral to the pump core assembly in a single, readily exchanged unit. Depressing the push to run button must operate the pump even with the level sensor housing removed from the pump.

All fasteners throughout the assembly shall be 300 Series stainless steel. High-level sensing will be accomplished in the manner detailed above by a separate air column sensor and pressure switch of the same type. Closure of the high-level sensing device will energize an alarm circuit as well as a redundant pump-on circuit. For increased

reliability, pump ON/OFF and high-level alarm functions shall not be controlled by the same switch. Float switches of any kind, including float trees, will not be accepted due to the periodic need to maintain (rinsing, cleaning) such devices and their tendency to malfunction because of incorrect wiring, tangling, grease buildup, and mechanical cord fatigue.

To ensure reliable operation of the pressure switches, each core shall be equipped with a factory installed equalizer diaphragm that compensates for any atmospheric pressure or temperature changes. Tube or piping runs outside of the station tank or into tank-mounted junction boxes providing pressure switch equalization will not be permitted due to their susceptibility to condensation, kinking, pinching, and insect infestation. The grinder pump will be furnished with a 6 conductor 14 gauge, type SJOW cable, pre-wired and watertight to meet UL requirements with a FACTORY INSTALLED NEMA 6P EQD half attached to it

### **16.12.8 Alarm Panel**

Each grinder pump station shall include a NEMA 4X, UL-listed alarm panel suitable for wall or pole mounting. The NEMA 4X enclosure shall be manufactured of thermoplastic polyester to ensure corrosion resistance. The enclosure shall include a hinged, lockable cover with padlock, preventing access to electrical components, and creating a secured safety front to allow access only to authorized personnel. The enclosure shall not exceed 10.5" W x 14" H x 7" D, or 12.5" W x 16" H x 7.5" D if certain options are included.

The alarm panel shall contain one 15-amp, double-pole circuit breaker for the pump core's power circuit and one 15-amp single-pole circuit breaker for the alarm circuit. The panel shall contain a push-to-run feature, an internal run indicator, and a complete alarm circuit. All circuit boards in the alarm panel are to be protected with a conformal coating on both sides and the AC power circuit shall include an auto resetting fuse.

The alarm panel shall include the following features: external audible and visual alarm; push-to-run switch; push-to-silence switch; redundant pump start; and high level alarm capability. The alarm sequence is to be as follows when the pump and alarm breakers are on:

- A. When liquid level in the sewage wet well rises above the alarm level, audible and visual alarms are activated, the contacts on the alarm pressure switch activate, and the redundant pump starting system is energized.
- B. The audible alarm may be silenced by means of the externally mounted, push-to-silence button.
- C. Visual alarm remains illuminated until the sewage level in the wet well drops below the "off" setting of the alarm pressure switch.

The visual alarm lamp shall be inside a red, oblong lens at least 3.75" L x 2.38" W x 1.5" H. Visual alarm shall be mounted atop the enclosure in such a manner as to maintain the NEMA 4X rating. The audible alarm shall be externally mounted on the bottom of the enclosure, capable of 93 dB @ 2 feet. The audible alarm shall be capable

of being deactivated by depressing a push-type switch that is encapsulated in a weatherproof silicone boot and mounted on the bottom of the enclosure (push-to-silence button).

The entire Alarm Panel shall be listed by Underwriters Laboratories, Inc. or approved equal.

The alarm panel shall include a 20 amp, 250 VAC generator receptacle with a spring-loaded, gasketed cover suitably mounted to provide access for connection of an external generator while maintaining a NEMA 4X rating. An automatic transfer switch shall be provided, which automatically switches from AC power to generator power. Power shall be provided to the alarm panel through the generator receptacle whenever power is present at the receptacle, allowing the audible and visual alarms to function normally in generator mode. When power is no longer applied to the generator receptacle, the panel shall be automatically switched back to the AC Mains power.

## **16.13 PROPERTY SERVICE CONNECTIONS**

### **16.13.1 General**

The property service connection (PSC) is the section of pipe between the R/W or easement line and the mainline sewer. The standard connection for single-family residences will be 1-1/4 inch HDPE; commercial or industrial connections shall be individually considered with the minimum size being 1-1/4 inch HDPE.

All PSC shall be installed with tracer wire as specified for the main line sewer, whether the PSC is installed via HDD or open-cut. Install green metallic "locator" tape labeled "SEWER" above the PSC at a depth of not more than 30 inches when installation is via open-cut.

The location of the PSC shall be approved by the New Albany inspector. See the standard detail SP-01-01 Property Service Connection.

The depth of the property service connection at the R/W line will conform to Exhibit 12-6 and shall be at least 3' deep.

The house connection line shall not be laid parallel to or within three feet of any bearing wall.

### **16.13.2 Uni-Lateral Valve Assembly**

Each PSC shall require a redundant stainless-steel curb stop/check valve assembly along the 1-1/4 inch service lateral between the grinder pump station and the LPSS main or gravity sanitary sewer main. This assembly is to be located at or near the right-of-way line where it meets the property line of the property owner. The curb stop shall be pressure-tight in both directions. The ball valve actuator shall include position stop features at the fully opened and closed positions. The curb stop/check valve assembly shall be designed to withstand a working pressure of 235 psi.

The stainless-steel check valve shall be integral with the curb stop valve. The check valve will provide a full-ported 1-1/4" passageway and shall introduce minimal friction loss at maximum rated flow. The flapper hinge design shall provide a maximum degree of freedom and ensure seating at low back pressure.

The stainless steel, combination curb stop/check valve assembly shall be provided by the grinder station manufacturer that the LPSS design is based around. The same manufacturer shall warrant the assembly to be free from defects in materials and factory workmanship for two (2) years from date of installation, or twenty-seven (27) months from date of shipment. Each individual assembly shall be hydrostatically tested to 150 psi in the factory.

All pipe connections shall be made using compression fitting connections including a Buna-N O-ring for sealing to the outside diameter of the pipe. A split-collet locking device shall be integrated into all pipe connection fittings to securely restrain the pipe from hydraulic pressure and external loading caused by shifting and settling.

Curb boxes shall be constructed of ABS, conforming to ASTM-D 1788. Lid top casting shall be cast iron, conforming to ASTM A-48 Class 25, providing magnetic detectability, and be painted black. All components shall be inherently corrosion-resistant to ensure durability in the ground. Curb boxes shall provide height adjustment downward (shorter) from their nominal height.

#### **16.13.3 Cleanouts**

Each PSC must have a Two-Way Cleanout suitable for pressure pipe and installed just inside the R/W or easement line upstream of the Uni-Lateral Valve Assembly. A one-way cleanout shall also be installed within ten feet of the exterior wall and shall be installed to open in the direction of the flow. If a grease interceptor is installed outside the building, then a cleanout shall be installed in both sewer lines that exit the building.

Cleanout locations shall be approved by the New Albany inspector. Cleanouts shall be a minimum of 6 inches. See standard details SC-01-02 One Way Cleanout and SC-02-02 Two Way Cleanout.

#### **16.14 LPSS MAIN LINE AIR VALVES**

Recommendations for air valve type, location, and model shall be provided by the LPSS designer in coordination with the grinder pump station and air valve suppliers. Air valves for LPSS shall be suitable for use in small diameter pressure sewer applications. The manufacturer shall be the same as referenced in Appendix C, New Albany Technical Specifications for Lift Stations or a pre-approved equal if more suitable for LPSS application.

#### **16.15 MANHOLES**

Manholes are not typically required for LPSS since all elements of the system are pressurized. Some LPSS may require air relief and/or combination air valves, depending on the topography, and these are to be accessible for maintenance via 60" diameter precast concrete manholes. The

overall requirements for these are identical to manholes for gravity sanitary sewers. Refer to Section 12.12, Manholes, for applicable requirements.

Cleanouts and flushing connections for LPSS can be brought to the surface for connection of flushing equipment without the need for standard precast manholes.

## **16.16 CONCRETE ENCASEMENTS**

Requirements for concrete encasement of LPSS pipe is similar to that of gravity sewers. Refer to Section 12.17, Concrete Encasements for applicable requirements.

## **16.17 HORIZONTAL DIRECTIONAL DRILLING (HDD)**

### **16.17.1 General**

Trenchless installation of LPSS using Horizontal Directional Drilling (HDD) is the preferred method to limit surface disruption. When open-cut installation of LPSS pipe is utilized for main line piping, PSC, HDD pits, or any other excavation, the requirements related to pipe bedding and encasement for flexible gravity sewer pipe and trench backfill shall apply. Refer to applicable portions of Section 12.11, Sewer Pipe.

The contractor will have the option to offer a different method of trenchless pipe installation, subject to approval and acceptance by New Albany. When an alternate method is proposed by the Contractor they will be responsible for the final design calculations. A plan of operation and list of proposed materials will be submitted for New Albany approval. Structural calculations will be required for all components. Items may include: casing and carrier pipe, tunnel liner plates, working pits, sheeting and shoring, electrical facilities, ventilation, and communications. All design calculations and plans must be signed and sealed and submitted by a professional engineer licensed in the State of Indiana. The contractor will also need to coordinate their excavations beforehand with Indiana 811 - Call Before you Dig.

### **16.17.2 Surface and Subsurface Conditions**

The Contractor shall verify the location of all known and unknown utilities and structures by test pitting prior to any boring or drilling. These utilities and structures may include, but are not limited to:

- A. Underground utilities such as, but not limited to, storm drains; electric cables; water mains; sewer lines and septic systems; gas, telephone, fiber optic and cable television lines; wells; field drain tiles.
- B. Above-ground utilities and other obstructions such as, but not limited to, electric and telephone poles, buildings, trees, and existing road signs.

Contractor is responsible for inspecting the site, for conducting investigations, surveys and tests, including subsurface investigations and tests, that Contractor determines are necessary for the complete execution of all the work.

### **16.17.3 Equipment**

The directional drilling system to be used shall have the following features:

- A. The system shall be remotely steerable and permit electronic monitoring of tunnel depth and location. The system shall be able to control the depth and direction of the pipe and must be accurate to a window of  $\pm 2$  inches.
- B. The system shall utilize a fluid-cutting process, using a liquid clay such as bentonite. This clay shall be totally inert and contain no risk to the environment.
- C. The liquid clay shall remain in the tunnel to increase the stability of the tunnel and to provide a lubricant to reduce frictional drag when the pipe is installed.
- D. The spoils shall be recovered by use of a vacuum system mounted on a vehicle for removal of the spoils. Spoils shall not be discharged into sewers or storm drains. Contractor is responsible for disposal of all spoil material.

### **16.17.4 Experience and Safety**

Prior to commencing any work, Contractor shall demonstrate experience and expertise in trenchless excavation methods by providing a list of six (6) references for which similar work has been performed. These references shall include a name and telephone number for contact so the claims may be verified.

Contractor shall also provide documentation showing successful completion of at least 50,000 linear feet of directional drilling or shall obtain the services of an experienced directional drilling subcontractor meeting the experience requirements of this Section to supervise the installation prior to commencing any work. Conventional trenching shall not be considered as applicable experience.

All supervisory personnel shall be adequately trained and shall have at least four (4) years of experience in directional drilling. Prior to commencing any work, Contractor shall also submit the names and resumes of all supervisory field personnel for review.

Mechanical, pneumatic or water-jetting methods shall not be acceptable due to the risk of surface subsidence and damage.

Upon completion of drilling and pipe installation, Contractor shall remove all spoils from all starting and termination pits and shall restore the surface to its original condition.

Where junctions, manholes or grinder pumps are to be installed, adequate protection in the form of steel plates in traffic areas and timber shutters in other areas shall be used until such times as the manhole or grinder pump is installed and the pit is backfilled and stabilized. Contractor shall be responsible for maintaining these areas.

Because directional drilling may be performed while existing buried electrical cables are energized; the following safety requirements shall be met:

- A. All drilling equipment must have a permanent, inherent alarm system capable of detecting an electrical current. The ground system shall be equipped with an audible alarm to warn the operator when the drill head nears electrified cable within a safe operating distance.
- B. All crews shall be provided with grounded safety mats, heavy gauge ground cables with connectors, hot boots and gloves.
- C. All supervisor personnel shall be adequately trained and have direct supervisory experience in directional drilling.

#### **16.17.5 Drilling Procedure**

Prior to any alterations to the work site, Contractor shall complete preconstruction audio-video documentation for the entire work area, including HDD entry and exit points. One copy of the recording shall be given to the City's representative and one copy shall remain with Contractor for a period of one year following the completion of the project.

The work site as indicated on the Contract Drawings shall be graded or filled to provide a level working area. No alterations beyond what is required for operations shall be made. Contractor shall confine all activities to the designated work areas and construction limits.

The entire drill path shall be accurately surveyed with entry and exit stakes placed in the appropriate locations within the areas indicated on the Contract Drawings. If Contractor is using a magnetic guidance system, the drill path will be surveyed for any surface geo-magnetic variations or anomalies.

Environmental protection necessary to contain any hydraulic or drilling fluid spills shall be put in place as needed, including berms, liners, turbidity curtains and other erosion control measures. Contractor shall adhere to all applicable environmental regulations. Fuel and oil must not be stored in bulk containers within 200 feet of any water-body or wetland.

Pipe resting on paved or hardened surfaces (i.e., sidewalks, asphalt, concrete, gravel, etc.) shall be placed on pipe rollers before being pulled into the drill hole with rollers spaced close enough to prevent excessive sagging and dragging of the pipe upon rough surfaces which could scar the pipe.

Contractor shall calibrate the directional drilling head locator at the start of the day and at each new directional drilling operation. A daily calibration log shall be kept for review.

The directional drilling operator shall have full control of the direction of the drilling tool at all times. Shallow, misdirected or other unsuccessful drill attempts shall be abandoned and filled at the direction of the City's representative and at no additional cost to the City.

The maximum drill angle shall be fifteen degrees measured perpendicular to grade to the design depth elevation.

A pilot hole shall be drilled on the drill path with no deviations greater than 5% of depth over a length of 100 feet. In the event that the pilot hole does deviate from the drill path more than 5% of depth in 100 feet, Contractor shall notify the City's representative, who may require Contractor to pull back and re-drill from the location along the drill path before the deviation at no additional cost to the City.

In the event of a drilling fluid fracture, inadvertent returns or returns loss occurs during pilot hole drilling operations, Contractor shall cease drilling, wait at least 30 minutes, inject a quantity of drilling fluid with a viscosity exceeding 120 seconds as measured by a Marsh funnel viscometer and then wait another 30 minutes. If mud fracture or returns loss continues, Contractor shall cease operations and notify the City's representative. The City's representative and the Contractor will discuss additional options and work will then proceed accordingly.

Upon successful completion of the pilot hole, Contractor will ream the drill hole to a minimum of 25% greater than the outside diameter of the installed pipe using the appropriate tools. In no case shall the size of the reaming operations result in a hole size greater than 150% of the outside diameter of the installed pipe. Contractor will not attempt to ream at one time more than the drilling equipment and mud system are designed to safely handle.

After successfully reaming the drill hole to the required diameter, Contractor shall pull the pipe through the drill hole. In front of the pipe will be a swiveling mandrel. Once pull-back operations have commenced, operations must continue without interruption until the pipe is completely pulled into the drill hole. During pull-back operations Contractor shall not apply more than the maximum safe pipe pull pressure at any time.

Two strands of tracer wire shall be pulled back with the pipe. The wires shall be installed along the pipe, fastened securely to the pipe at five (5) foot intervals, and terminating above ground with the lead taped around each structure. The wire shall be brought up to the ground level every four hundred (400) feet through a vinyl coated aluminum riser pipe with cap and/or at all line valve boxes. The wires shall be connected using DBR Direct Burial Splice Kit manufactured by 3M Electrical Products Division, Austin, TX or approved equal. The riser pipe and cap shall not be placed in areas subject to vehicular traffic. The tracer wire shall be capable of, and demonstrated to have, continuous transmission of tracing signal along the full length of the installed pipe.

In the event the pipe becomes stuck during pull-back, Contractor shall cease pulling operations to allow any potential hydro-lock to subside prior to re-commencing pulling operations. If the pipe remains stuck, Contractor shall notify the City's representative. Contractor shall discuss options with the City's representative and then work will proceed accordingly.

At all drill pits and directional drilling entrances and exits to the surface, a backhoe or equivalent shall be used to gradually return the bore depth to the prescribed depth. All drill pits and directional drilling entrances and exits to the surface shall be backfilled



and compacted as specified elsewhere in these Standards, depending on the final surface restoration.

Test/pressure relief holes (potholes) may be dug at the Contractor's discretion along the bore route to confirm alignment and grade, and to relieve subsurface pressure. The Contractor is fully responsible for ensuring installation along the correct alignment and grade and to comply with all other drilling operation logging and installation verification requirements.

Contractor shall provide completed forms or computer-generated output to the City's representative on a daily basis for checking line and grade of the drilling operation.

#### **16.17.6 Testing and Inspection**

After the pipe has been installed, allow pipe manufacturer's recommended amount of time, but not less than four (4) hours, for cooling and relaxation due to tensile stressing prior to hydrostatic testing.

The pipe is to be hydrostatically tested for leaks after complete installation of the entire LPSS. To identify any defects during installation, the pipe shall be hydrostatically tested after joining into continuous pullback sections following installation. Hydrostatic testing shall be in accordance with Section 16.11, LPSS Pipe

A horizontal tolerance of up to three (3) feet left or right of the planned alignment will be permitted at any point on the alignment provided the pipeline is still within the easement or right-of-way where it was planned.

Tolerances for vertical alignment compared to planned alignment will be judged on a case-by-case basis depending on the location relative to surrounding utilities, creation of new high or low points, required relocation of air/vacuum valves, and the effect on the pumping system curves.

Sections of pipe that do not meet the requirements shall be replaced by Contractor at no additional cost to the City. The rejected pipe shall be grouted and abandoned in place or removed and all voids filled as directed by the City's representative, at no additional cost to the City.

### **16.18 RAILROAD CROSSINGS**

The criteria for LPSS railroad crossings are similar to those for gravity sanitary sewers. Refer to Section 12.19, Railroad Crossings for requirements.

### **16.19 HIGHWAY CROSSINGS**

Criteria for LPSS pipe installations constructed under State, County, or City maintained roadways are similar to those for gravity sanitary sewers. Refer to Section 12.20, Highway Crossing for requirements.

## **16.20 CREEK, STREAM OR DITCH CROSSINGS**

Criteria for LPSS pipes crossing a creek, stream or ditch are similar to those for gravity sanitary sewers. Refer to Section 12.21, Creek, Stream or Ditch Crossings.



# NEW ALBANY SEWER BOARD

## Residential Sewer Bill Adjustment Request From

Request Date:

Name: Nicole Mitchell  
 Address: 1205 Ekin Ave.  
 City, ST Zip: \_\_\_\_\_  
 Account No: 50458005

**Please explain the type of leak**

Main line where supply line splits to go to outside spigots. Tennants claims to have used outside hose and did in fact turn on the inside valve. Water leak assumed to be somewhere between main shut off & spigot as usage reduced after shutting valve to spigot.

**Please explain where the water went**

Crawl space & constantly wet corner of basement.  
 House is partial crawl with dirt floor & part cellar with concrete floor.

Plumber & Cost

Base Period Total:

Base Period Avg:

112.12

**Penalties**

11/16/2023	114.43	1.56	0.42
12/15/2023	148.22	1.56	0.42
1/16/2024	173.57	1.56	0.42
2/15/2024	143.62	1.56	0.42
3/15/2024	89.09	1.56	0.42
4/15/2024	112.9	1.56	0.42
5/15/2024	59.9	1.56	0.42
	<b>841.73</b>	<b>10.92</b>	<b>2.94</b>

**Bill to be Adjusted:**

Date of Bill	Usage	Bill
10/20/2023	149	1,144.32
11/20/2023	193	1,482.24
12/20/2023	226	1,735.68
1/22/2024	187	1,436.16
2/20/2024	188	1,443.84
3/20/2024	147	1,128.96
4/22/2024	78	599.04

**TOTAL:** 8,970.24

Date of Bill	Usage	Bill
9/21/2023	7	53.76
5/20/2024	20	153.6
6/21/2024	16	122.88
7/22/2024	16	122.88
8/20/2024	14	107.52
		<b>560.64</b>

112.12\*7=784.84

8,970.24-576.00=8,394.24

**Establish Base Period Total and Average:**

**Compute Adjustment:**

Usage Adjustment

Bill Adjustment

8394.24

**GRAND TOTAL**

9,249.83



New Albany Municipal Utilities

303 Scribner Drive, Suite 101

New Albany, IN 47150

Phone: 812-948-5399

Fax: 812-948-5344

www.cityofnewalbany.com

9100164237

**LEAK ADJUSTMENT REQUEST**

Date: SEPT 4, 2024

Account Name: NICOLE MITCHELL

Account Number: 50458005

Service Address: 1205 E KIN AVE, NA, IN

Contact Number: 502 645 8167  
(DALE MITCHELL)

Where on your property did the leak occur? (Example: at the meter, main line, kitchen, etc.)

MAIN LINE WHERE SUPPLY SPLITS TO GO TO OUTSIDE SPIGOTS.  
TENANT CLAIMS TO HAVE USED OUTSIDE HOSE AND DID IN FACT  
TURN ON THE INSIDE VALVE. WATER LEAK ASSUMED TO BE  
SOMEWHERE BETWEEN MAIN SHUTOFF & SPIGOT AS USAGE REDUCED  
AFTER SHUTTING VALVE TO SPIGOT.

Where did the water go? (Example: yard, basement floor, etc.)

CRAWL SPACE & CONSTANTLY WET CORNER OF BASEMENT

Do you have a floor drain or sump pump? Yes X No

To where does the floor drain or sump pump drain? N/A

When did the leak occur? (approximate dates) SEPT 2023 ~ MAY 2024

Who repaired the leak? TENANT, BY SHUTTING OFF VALVE TO OUTDOOR SPIGOTS

Additional comments or details:

HOUSE IS ON PARTIAL CRAWL SPACE w/ DIRT FLOOR & PART CELLAR w/  
CONCRETE FLOOR. TENANT IS FAMILY MEMBER LEASING HOME FROM OWNER.  
OWNER IS WILLING TO IMMEDIATELY PAY/CATCH UP OUTSTANDING  
"NORMAL" BILLING & HAS REQUESTED TO BE COPIED ON ANY  
FUTURE BILLING AS OF SEPT 4, 2024 VISIT TO MAIN OFFICE.  
OWNER WAS NOT AWARE OF THIS SITUATION OF UNPAID  
SEWER BILLS UNTIL AUGUST THIS YEAR WHEN LIEN ISSUED.  
TENANT DID NOT FORWARD MAIL TO OWNER. GOODFAITH PAYMENT \$500<sup>00</sup>  
ON SEPT. 5, 2024

XZLEDGE7 Page: 2  
Date: 09/09/2024 Time: 08:32:43

History Printout

Billing Addr: C/O DALE MITCHELL  
4722 E. FARABEE RD.

Service Addr: 1205 EKin AVE

SALEM, IN 47167-

Date	04/22/2024		Waste Charge	\$599.04	Sanit Charge		\$15.63	Stormwater Charge	\$4.17	
Type	Billing									
Audit #	7444661									
	N/I Pres = 1284	N/I Prev = 1186				Cons	78	Total	\$618.84	Balance \$9530.79
Date	05/15/2024		Waste Penalty	\$59.90	Sanit Penalty		\$1.56	Stormwater Penalty	\$0.42	
Type	Penalty									
Audit #	7469632									
								Total	\$61.88	Balance \$9592.67
Date	05/20/2024		Waste Charge	\$153.60	Sanit Charge		\$15.63	Stormwater Charge	\$4.17	
Type	Billing									
Audit #	7480610					Cons	20	Total	\$173.40	Balance \$9786.07
	N/I Pres = 1284	N/I Prev = 1284								
Date	06/14/2024		Waste Penalty	\$15.95	Sanit Penalty		\$1.56	Stormwater Penalty	\$0.42	
Type	Penalty									
Audit #	7505969									
								Total	\$17.34	Balance \$9783.41
Date	06/21/2024		Waste Charge	\$122.88	Sanit Charge		\$15.63	Stormwater Charge	\$4.17	
Type	Billing									
Audit #	7517353					Cons	16	Total	\$142.63	Balance \$9925.09
	N/I Pres = 1300	N/I Prev = 1284								
Date	06/22/2024		Waste Lien	\$6794.53	Sanit Lien		\$133.31	Stormwater Lien	\$35.57	
Type	Lien		Waste Penalty Lien	\$669.54	Sanit Penalty Lien		\$12.11	Stormwater Penalty	\$3.26	
Audit #	7529585									
			Lien Amt	\$7648.32	Lien Fee	\$50.00				
								Total	\$50.00	Balance \$9976.09
Desc	LIEN 2ND FILING IN 2024									
Date	06/26/2024									
Type	Cert									
Audit #	7530407									
			Cert Fee	\$-20.00	Cert Amt.		\$-7698.32			
								Total	\$-7698.32	Balance \$2277.77
Desc	CERT									
Date	07/15/2024		Waste Penalty	\$12.29	Sanit Penalty		\$1.56	Stormwater Penalty	\$0.42	
Type	Penalty									
Audit #	7547515									
								Total	\$14.27	Balance \$2292.04
Date	07/22/2024		Waste Charge	\$122.88	Sanit Charge		\$15.63	Stormwater Charge	\$4.17	
Type	Billing									
Audit #	7559082					Cons	16	Total	\$142.68	Balance \$2434.72
	N/I Pres = 1315	N/I Prev = 1300								
Date	07/23/2024		Waste Paid	\$-10.31	Sanit Paid		\$-0.33	Stormwater Paid	\$-0.08	
Type	Payment									
Audit #	7568778									
								Total	\$-10.72	Balance \$2424.00
Desc	ACH 07/23/2024									
Date	07/31/2024		Waste Paid	\$10.31	Sanit Paid		\$0.33	Stormwater Paid	\$0.08	
Type	Payment									
Audit #	7571370									
								Total	\$10.72	Balance \$2434.72
Desc	REVERSE CASH # 7568778									
Date	07/31/2024		Waste Adjusted	\$-23.04	Sanit Adjusted		\$0.00	Stormwater Adjusted	\$0.00	
Type	Adjustment		Waste Penalty Adjusted	\$0.00	Sanit Penalty Adjusted		\$0.00	Stormwater Penalty	\$0.00	
Audit #	7571374									
								Total	\$-23.04	Balance \$2411.68
Desc	IAWC ERROR/ADJUSTMENT									
Date	08/16/2024		Waste Penalty	\$9.98	Sanit Penalty		\$1.56	Stormwater Penalty	\$0.42	
Type	Penalty									
Audit #	7584236									
								Total	\$11.96	Balance \$2423.64
Date	08/19/2024									
Type	Other Chg									
Audit #	7586978		Other Chg OD	\$10.00						
								Total	\$10.00	Balance \$2433.64
Desc	JULY RETURN PMT									
Date	08/20/2024		Waste Charge	\$107.52	Sanit Charge		\$15.63	Stormwater Charge	\$4.17	
Type	Billing									
Audit #	7595380					Cons	14	Total	\$127.32	Balance \$2560.96
	N/I Pres = 1329	N/I Prev = 1315								
Date	09/05/2024		Waste Paid	\$-398.17	Sanit Paid		\$-91.83	Stormwater Paid	\$0.00	
Type	Payment									
Audit #	7612398		Other Chg	\$-10.00						
								Total	\$-500.00	Balance \$2060.96
Desc	Credit									

## NEW ALBANY MUNICIPAL UTILITIES

XZLEDGE7 Page: 1  
Date: 09/09/2024 Time: 08:32:43

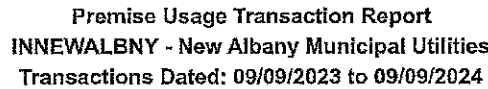
History Printout

History for account number 50458005 NICOLE MITCHELL

Billing Addr: C/O DALE MITCHELL  
4722 E. FARABEE RD.  
SALEM, IN 47167-

Service Addr: 1205 E KIN AVE

Date	09/15/2023	Waste Penalty	\$5.38	Sanit Penalty	\$1.56	Stormwater Penalty	\$0.42		
Type	Penalty								
Audit #	7167566								
						Total	\$7.36	Balance	\$170.28
Date	09/21/2023	Waste Charge	\$53.76	Sanit Charge	\$15.63	Stormwater Charge	\$4.17		
Type	Billing								
Audit #	7178910								
	N/1 Pres = 96	N/1 Prev = 89				Cons	7	Total	\$73.55
								Balance	\$243.84
Date	10/16/2023	Waste Penalty	\$5.38	Sanit Penalty	\$1.56	Stormwater Penalty	\$0.42		
Type	Penalty								
Audit #	7208666								
						Total	\$7.36	Balance	\$251.20
Date	10/20/2023	Waste Charge	\$1144.32	Sanit Charge	\$15.63	Stormwater Charge	\$4.17		
Type	Billing								
Audit #	7218248								
	N/1 Pres = 245	N/1 Prev = 96				Cons	149	Total	\$1164.12
								Balance	\$1415.32
Date	11/10/2023	Waste Paid	\$-18.80	Sanit Paid	\$-0.95	Stormwater Paid	\$-0.25		
Type	Payment								
Audit #	7235709								
						Total	\$-20.00	Balance	\$1395.32
Desc	CC 11/10/2023								
Date	11/16/2023	Waste Penalty	\$114.43	Sanit Penalty	\$1.56	Stormwater Penalty	\$0.42		
Type	Penalty								
Audit #	7242811								
						Total	\$116.41	Balance	\$1511.73
Date	11/20/2023	Waste Charge	\$1482.24	Sanit Charge	\$15.63	Stormwater Charge	\$4.17		
Type	Billing								
Audit #	7254108								
	N/1 Pres = 437	N/1 Prev = 245				Cons	193	Total	\$1502.04
								Balance	\$3013.77
Date	12/15/2023	Waste Penalty	\$148.22	Sanit Penalty	\$1.56	Stormwater Penalty	\$0.42		
Type	Penalty								
Audit #	7279131								
						Total	\$150.20	Balance	\$3163.97
Date	12/20/2023	Waste Charge	\$1735.68	Sanit Charge	\$15.63	Stormwater Charge	\$4.17		
Type	Billing								
Audit #	7290293								
	N/1 Pres = 664	N/1 Prev = 437				Cons	226	Total	\$1755.48
								Balance	\$4919.45
Date	01/16/2024	Waste Penalty	\$173.57	Sanit Penalty	\$1.56	Stormwater Penalty	\$0.42		
Type	Penalty								
Audit #	7318667								
						Total	\$175.55	Balance	\$5095.00
Date	01/22/2024	Waste Charge	\$1435.16	Sanit Charge	\$15.63	Stormwater Charge	\$4.17		
Type	Billing								
Audit #	7330302								
	N/1 Pres = 850	N/1 Prev = 664				Cons	187	Total	\$1455.96
								Balance	\$6550.96
Date	02/09/2024	Waste Paid	\$-48.86	Sanit Paid	\$-0.90	Stormwater Paid	\$-0.24		
Type	Payment								
Audit #	7346607								
						Total	\$-50.00	Balance	\$6500.96
Desc	CC 02/09/2024								
Date	02/15/2024	Waste Penalty	\$143.62	Sanit Penalty	\$1.56	Stormwater Penalty	\$0.42		
Type	Penalty								
Audit #	7355912								
						Total	\$145.60	Balance	\$6646.56
Date	02/20/2024	Waste Charge	\$1443.84	Sanit Charge	\$15.63	Stormwater Charge	\$4.17		
Type	Billing								
Audit #	7366772								
	N/1 Pres = 1038	N/1 Prev = 850				Cons	188	Total	\$1463.64
								Balance	\$8110.20
Date	03/08/2024	Waste Adjusted	\$-552.96	Sanit Adjusted	\$0.00	Stormwater Adjusted	\$0.00		
Type	Adjustment	Waste Penalty Adjusted	\$0.00	Sanit Penalty Adjusted	\$0.00	Stormwater Penalty	\$0.00		
Audit #	7384060								
						Total	\$-552.96	Balance	\$7557.24
Desc	IAWC ERROR								
Date	03/15/2024	Waste Penalty	\$88.09	Sanit Penalty	\$1.56	Stormwater Penalty	\$0.42		
Type	Penalty								
Audit #	7394069								
						Total	\$91.07	Balance	\$7648.31
Date	03/20/2024	Waste Charge	\$1128.96	Sanit Charge	\$15.63	Stormwater Charge	\$4.17		
Type	Billing								
Audit #	7405115								
	N/1 Pres = 1185	N/1 Prev = 1038				Cons	147	Total	\$1148.76
								Balance	\$8797.07
Date	04/15/2024	Waste Penalty	\$112.90	Sanit Penalty	\$1.56	Stormwater Penalty	\$0.42		
Type	Penalty								
Audit #	7433244								
						Total	\$114.88	Balance	\$8911.95



<b>Premise:</b> 9190164237	<b>Status:</b> SvcTapped/Meter Set NeedTumon	<b>Service:</b> 1205 Ekin Ave New Albany, IN 47150-3255
<b>Municipality:</b> New Albany Municipal Utilities		
<b>Meter Read Route:</b> SIC11101	<b>Route Read Dates --</b>	<b>Previous:</b> 08/13/2024 <b>Current:</b> 09/13/2024 <b>Next:</b> 10/14/2024 <b>Last Bill:</b> 08/13/2024
<b>Account:</b> 220035990408	<b>Name:</b> Nicole Mitchell	<b>Status:</b> Active
<b>Account Connect Date:</b> 11/12/2020	<b>Mailing:</b> 1205 Ekin Ave New Albany, IN 47150-3255	<b>Customer:</b> 1100781137
<b>Account Discontinued Date:</b>		
<b>Account Class:</b> Residential		
<b>Cut In Landlord:</b> N		

## Billing Transactions

<u>Transaction Type</u>	<u>Transaction Date</u>	<u>Transaction Number</u>	<u>Billed Usage</u>	<u>Unit of Measure</u>	<u>Reason Code</u>	<u>Days Billed</u>
Reg Bill Actual Read	09/21/2023	627508494120	1111.00	CGL		31
Reg Bill Actual Read	10/19/2023	606259842079	1442.00	CGL		28
Reg Bill Actual Read	11/27/2023	643757485624	1692.00	CGL		33
Reg Bill Actual Read	12/15/2023	616259557792	1397.00	CGL		29
Reg Bill Actual Read	01/18/2024	608760052446	1405.00	CGL		30
Reg Bill Actual Read	02/20/2024	637508088990	1103.00	CGL		32
	02/28/2024	500000687231	0.00	CGL		32
Reg Bill Actual Read	02/28/2024	500000687231	537.10	CGL	72 29 552.96 ✓	32
	03/18/2024	500000687230	0.00	CGL		31
Reg Bill Actual Read	03/18/2024	500000687230	20.54	CGL	3 29 23.04 ✓	31
Reg Bill Actual Read	03/18/2024	657509994887	584.00	CGL		27
Reg Bill Actual Read	04/16/2024	676258699509	148.00	CGL	576.00	35
Reg Bill Actual Read	05/21/2024	631259025020	119.00	CGL		28
Reg Bill Actual Read	06/14/2024	668759444229	116.00	CGL		31
Reg Bill Actual Read	07/16/2024	602510683021	101.00	CGL		29
Reg Bill Actual Read	08/14/2024	611260808650	121.00	CGL		32

### Meter Readings

[illegible]



# **New Albany Wastewater Utility Monthly Report Summary for June 2024**

## **Influent / Effluent Quality**

The treatment plant was in full compliance for the month of June.

## **Pretreatment**

There were 25 grease trap inspections submitted.

## **Facility Operations**

106 dry tons of bio solids were removed from the WWTP.

The WWTP was at 66% of its Total Suspended Solids design limit and at 79% of its CBOD design limit.

There was 1.38 inches of rain for the month.

## **Preventative and Unscheduled Maintenance**

343 preventative work orders were completed and 11 corrective work orders were completed for the WWTP and Lift Stations.

## **Highlights**

Replaced control fuse at Cobbler Crossing Lift Station.

Replaced starter motor on pump #2 at Crystal Creek Lift Station.

Repaired fine screen shaft and bearings.

Replaced 18 UV blubs on the UV system.

Replaced belt on Penn Vally Pump #3 at day tank #3.

Replaced scraper and springs on conveyor system.

## Sanitary Collection System

<i>Project</i>		<i>Current Month</i>		<i>Year-to-Date</i>	
<i>Sanitary Sewer Flushed/ft</i>		<i>12822</i>		<i>81488</i>	
<i>Sanitary Sewer Televised/ft.</i>		<i>8667</i>		<i>64481</i>	
<i>CIPP Installed/ft</i>		<i>0</i>		<i>0</i>	
<i>Tap Inspections</i>		<i>10</i>		<i>65</i>	
<i>Locates</i>		<i>715</i>		<i>3786</i>	
<i>Pipe Patches</i>		<i>2</i>		<i>23</i>	
<i>Service Requests</i>	<i>Odor Complaint</i>	<i>Main Block</i>	<i>Resident Problem</i>		<i>Emergency Locates</i>
<i>29</i>	<i>2</i>	<i>6</i>	<i>10</i>		<i>10</i>

## Preventative and Unscheduled Maintenance

114 preventative work orders were completed and 32 corrective work orders were issued for the Collection System.

## Construction Highlights

# Manhole Repairs

4

#Manhole Installations

0

#Pipe Patches

2

#Main Line Repairs

2

#Lateral Repairs

6

Easement Maintenance

3

## **Annual/Semi Annual, Monthly Routine and Preventative Sewer Cleaning**

928 Pennwood Dr  
1688 Long Meadow Dr  
1742 Ekin Ave  
1135 Griffin St  
2601 Pamela Dr  
126 Edgemont Dr  
347 E 15th St

## **Chemical Root Treatment**

411 Highland Ave  
1215 Indiana Ave  
615 Lynn Rd  
401 Captain Frank Rd  
3313 Norwood Dr  
Myrtle Ave  
918 Korb Ave  
907 Oakland Dr  
Bentbrook Dr  
3302 Crestwood Dr  
1831 1/2 Center St  
2105 Charlestown Rd  
480 Alan Dr  
608 Kent Dr  
1591 Slate Run Rd  
912 Korb Ave  
546 Beharrell Ave  
833 Cedar Bough Pl

## **Facility Safety**

The monthly safety inspection rating was 98.44%. The safety training covered Confined Space, Fire Extinguisher, Fire Prevention, and Ladder Safety.

## **Projects**

### **Elm Street Brick Sewer Replacement**

- The water main valve has been installed.
- The 30" sewer main replacement has begun.

### **720 Building Repair**

- The design phase is complete.

### **Phosphorus Building Expansion**

- The design phase is complete.