

DIVISION II
TECHNICAL SPECIFICATIONS
SECTION S-002
GRAVITY SANITARY SEWER SYSTEM

I. PART 1: DESCRIPTION:

All “gravity sanitary sewer system” work shall be performed in total conformance with Jefferson Parish standards, requirements, and as per materials manufacturer’s requirements and recommendations.

All work associated with the gravity sanitary sewer system shall be performed under this section (S-002) and to the lines and grades shown on plans.

This work will include furnishing and constructing all manholes, pipes, fittings, couplings, and other incidentals required and as indicated on the drawings and in accordance with the provisions of the Jefferson Parish Department of Engineering and the Specifications herein. Where the word “pipe”, “line”, and/or “sewer line” are used it shall refer to all applicable parts of manholes, pipes (mains & house service connections), fittings, couplings, and other required incidentals unless otherwise noted.

The Contractor shall furnish all labor, equipment and materials required to perform all work required for removal of any existing manholes, pipes, fittings, couplings, etc. and for installation of new manholes, pipes, fittings, couplings, and other required incidentals. Removal and installation, replacement or relocation shall be as indicated on the drawings and specified herein. Damage to any part of the gravity sanitary sewer system by the Contractor, subcontractors, material and equipment suppliers or other persons, prior to acceptance, shall be repaired by the Contractor to the satisfaction of the Engineer and Owner at the expense of the Contractor.

The drawings attempt to indicate the alignment of all known sewer lines within the limits of the work. However, the Contractor shall be responsible to inspect the entire project to verify all existing sewer lines and to determine the existence of any additional conflicts with his work. The location of proposed sewer lines may be field adjusted, with prior approval from the Jefferson Parish Department of Engineering, to avoid conflicts with other utilities.

II. PART 2: COORDINATION:

Removal and replacement or relocation of sewer lines shall be done in close coordination with the Owner (Owner herein shall mean either the Jefferson Parish Engineering or Sewerage Department). Removal and replacement or relocation work shall be planned in advance so that inconvenience to the Owner and utility users caused by the disruption of service is minimized. The contractor shall be responsible for immediately notifying the Owner and Engineer of existing conditions that differ from that shown on the plans.

The contractor shall notify the Department of Sewerage at 736-6661 and the Department of Engineering, Inspection Division at 736-6793, 48 hours prior to any field work relating to the Jefferson Parish Sanitary Sewer system.

III. PART 3: CONSTRUCTION LAYOUT:

1. The Contractor will be responsible for establishing all lines and grades and staking out all “Sewer System” work on this project from controls provided in the construction documents. There shall be no separate payment for construction layout related to the “Sanitary Sewer System” with the exception of the “Connectivity Report”, if included in the contract (see section 2, below).
2. **Sewer house connection pre-construction “Connectivity Report”:**

The purpose of this “Connectivity Report” is to investigate and summarize all sewer house connections’ connectivity issues, prior to construction of any underground utilities. The term “Connectivity” shall mean the ability to connect a sewer house connection to existing or proposed sewer gravity mains in accordance with Jefferson Parish standard requirements and guidelines without conflicts with other underground utilities.

This report shall include two general sections:

- Elevations of the existing sewer house connections, at the property line, which are anticipated to have connectivity issues. These house connections may or may not be identified on plans.
 - This section shall be performed by the contractor.
- Resolutions to any connectivity problems.

- This section is typically performed as a joint venture between the contractor and the A/E.
- The A/E shall be responsible for any required design change.
- The contractor is ultimately responsible for making sure that the design or redesign actually works.

Even though, typically only a small percentage of sewer house connections may have connectivity issues, it is vital for them to be identified early on, to avoid unnecessary and expensive conflict resolutions at a later time during the construction.

The contractor shall be compensated for this report under “House Connection Survey” Contingency Pay Item S-908, per each.

IV. PART 4: MATERIALS:

All materials shall be as specified in Jefferson Parish Standard Notes and Drawings and as specified herein. All Ductile Iron Pipes, Fittings, etc. used in sewer gravity system shall have a factory applied interior coating/lining of “Protecto 401” ceramic epoxy lining as per Jefferson Parish and manufacturer’s recommendations and requirements for Sanitary Sewer applications.

Polyethylene Encasement in accordance with ANSI/AWWA C105/A21.5 (Minimum 8 mil thick) shall be required for all Ductile Iron Pipes and Fittings.

V. PART 5: EXECUTION:

A. GENERAL

1. Underground Installation of sewer gravity mains and service connections shall be in accordance with all applicable requirements of Jefferson Parish and ASTM standards.
2. Underground Installation of Thermoplastic sewer gravity mains and service connections shall be in accordance with all applicable requirements of Jefferson Parish and ASTM D-2321 standards.
3. Manholes, pipes, fittings, couplings, and all other incidentals and accessories shall be handled in a manner that will insure installation in sound, undamaged condition. Equipment, tools, and methods used in handling and installing pipe and fittings shall not

damage the pipe and fittings. Hooks inserted in ends of pipe shall have broad, well-padded contact surfaces.

4. All pipe and fitting coatings which have been damaged shall be repaired by the Contractor before installation. Any such repairs shall be done in total conformance with the manufacturer's requirements and recommendations and shall require prior approval and final acceptance from the Jefferson Parish Department of Engineering.
5. Sewer system installation shall be done with pipe sections and fittings such that pipe cutting is not required. Should pipe cutting be required, cutting shall be done in a neat manner, without damage to the pipe or to the lining or coating (any lining or coating which have been damaged shall be repaired by the Contractor before installation. Any such repairs shall be done in total conformance with the manufacturer's requirements and recommendations and shall require prior approval and final acceptance from the Jefferson Parish Department of Engineering). Cuts shall be smooth, straight, and at right angles to the pipe axis. After cutting, the end of the pipe shall be dressed with a file to remove all roughness and sharp corners.
6. All cutting of ductile iron pipe shall be done with mechanical pipe cutters except where the use of mechanical cutters would be difficult or impracticable. Ends of ductile iron pipe shall be cut with a saw, abrasive wheel, or oxyacetylene torch. Field cut holes for saddles shall be cut with mechanical cutters; oxyacetylene cutting will not be permitted.
7. The interior of all pipe and fittings shall be thoroughly cleaned of foreign matter prior to installation and shall be kept clean until the work has been accepted. Before jointing, all joint contact surfaces shall be wire brushed if necessary, wiped clean, and kept clean until jointing is completed.
8. Precautions shall be taken to prevent foreign material from entering the pipe during installation. Debris, tools, clothing, or other materials shall not be placed in or allowed to enter the pipe.
9. A representative of the Jefferson Parish Engineering Department shall be present during the installation of all sewer system items or be given the chance, through proper notification requirements, to inspect all sewer system items installed, prior to backfill. The contractor is advised not to take this requirement lightly as Jefferson Parish reserves the authority to require the contractor to uncover any or all sewer system related items installed for inspection.

B. TRENCHING

1. Excavation work shall be performed in a safe and proper manner with appropriate precautions being taken against all hazards. As always, Trench Safety shall remain the contractor's responsibility at all times.
2. Excavate and maintain trenches to the indicated or required depth and width. Provide minimum of 12" clearance on both sides of pipe or conduit.
3. Trench construction for sewer mains and service connections shall be in accordance with the Jefferson Parish standard drawings and specifications. Protect excavations by any acceptable methods to prevent cave-in or loose soil from falling into excavation.
4. Notify the Engineer and the Jefferson Parish Department of Engineering of any undesirable, unexpected subsurface conditions, which would affect the integrity of the system, and discontinue work in affected area until receipt of notification to resume work.
5. Grade excavation top perimeter to prevent surface water run-off into excavation.
6. Hand trim excavation and leave free of loose matter.
7. Correct unauthorized excavation at no cost to Owner.

C. BEDDING AND BACKFILL

1. Both Crushed Limestone and Recycled Portland Cement Concrete are acceptable for pipe Bedding, Haunching, and Initial Backfill as required in the Jefferson Parish Standard Drawings and Specifications. Haunching and Initial Backfill areas must be compacted to a minimum of:
 - # 610 Stone – 90% of Standard Proctor (ASTM D698).
 - #57 Stone – 75% of Relative Density (ASTM D4253 & ASTM D4254)
2. **Crushed Limestone and Recycled Portland Cement Concrete shall be either # 57 or modified # 610** (as specified herein) depending on the Trench Type. When # 57 mix is used, the Crushed Limestone and Recycled Portland Cement Concrete shall be wrapped with filter fabric ("Mirafi 500X" or "Propex Geotext 200ST" with minimum 18" overlap).

Trench Type	Bedding, Haunching, and Initial Backfill	Final Backfill
I	# 57 or # 610	River Sand, Min. Density 95% Standard Proctor (ASTM D698)
II	# 57 or # 610	
III	# 57 or # 610	
IV	# 57	
V	# 57	

57 LIMESTONE		
U.S. SIEVE	METRIC SIEVE	PERCENT PASSING
1 ½"	37.5 mm	100
1"	25 mm	95-100
1/2"	12.5 mm	25-60
# 4	4.75 mm	0-10
# 8	2.36 mm	0-5

MODIFIED 610 LIMESTONE		
U.S. SIEVE	METRIC SIEVE	PERCENT PASSING
1 ½"	37.5 mm	100
1"	25 mm	90-100
3/4"	19 mm	70-100
1/2"	12.5 mm	60-90
3/8"	9.5 mm	50-80
# 4	4.75 mm	35-65
# 40	425 µ m	12-32
# 200	75 µ m	5-12

3. Backfill material shall be Mississippi River “pumped sand”, AASHTO A-4 or better having a maximum liquid limit of 25 and a maximum plasticity index of 6. All sands shall be free of trash, weeds, lumps, humus, pieces of wood or any other deleterious material. Backfill material shall have a group index number not to exceed 6.
4. If required and proper compaction of required stone is not practical to achieve in the area of Bedding, Haunching, and Initial Backfill of Sewer Service Connections, Sand may be used (by flooding) in the place of the required Crushed Limestone or Recycled Portland Cement Concrete immediately beneath the pipe and above the required foundation lumber and stone. **It is recommended that the Crushed Limestone or Recycled Portland Cement Concrete used for these sewer service connections’ foundation to be # 610 stone which does not require to be wrapped with filter fabric.** The intention of this variance is to allow the contractor to achieve proper compaction around Service

Connections' pipes, fittings, couplings, etc. The contractor shall support all service connection components during placement and compaction of pipe backfill. This variance shall only apply to the Service Connections and not the Mains.

5. Document and photograph material and installation of all manholes, pipes, fittings, couplings, and other incidentals including pipe trench (mains, service connections, et.) construction prior to backfill. Each photograph must accompany adequate identification information such as manhole number, manhole station, property address for sewer service connections, etc.
6. A representative of the Jefferson Parish Engineering Department shall inspect all installed sewer system items prior to backfill.

D. CONNECTION TO EXISTING SYSTEM

1. A representative from the Jefferson Parish Engineering Department must be present during all work being done at the tie-in points.
2. All tie-ins to the existing sewer system shall be done by the Contractor.
3. All tie-in locations shall be identified and tie-in method shall be investigated prior to ordering material and equipment, and especially prior to the scheduled tie-in event.
4. Connections between new work and existing piping shall be made using approved fittings or couplings suitable for the conditions encountered and/or as indicated on the drawings.
5. Each connection to an existing pipe or manhole shall be made at a time and under conditions which will least interfere with service to customers, and as authorized by the Owner.
6. Facilities shall be provided for proper dewatering and for disposal of all ground water (or sewage) removed from the trenches or excavated areas.

E. NOTCHING OF CONCRETE DRAIN PIPE

1. If notching of the top of a concrete drain pipe is required in order to install a 6" sewer house connection which is crossing over the concrete pipe, use of a Concrete Chain Saw is recommended. Use of Concrete Chain Saws will minimize damage to the pipe and will maximize depth control. The contractor may choose any other notching method that may be safe and acceptable to the owner.

2. The purpose of this item is to avoid construction of conflict boxes for minor conflicts (Minor conflicts shall mean when a sewer house connection is in conflict with the top of drain pipe only a few inches).
3. The width of the notching shall be $\pm 9"$. Notching shall be done as close to a 90° angle to the drain pipe as possible.
4. The cut surfaces of the concrete pipe shall be coated (2 coats, 20 mils each) with "Sika Armatec® 110 EpoCem" - "Bonding Agent and Reinforcement Protection" coating (or approved equal) as per manufacturer's recommendations and requirements.
5. If the depth of the required notch exceeds the thickness of the concrete pipe wall and consequently a hole is created on top of the pipe, the contractor shall seal this hole to the satisfaction of the owner. Use of Plastic Lumber along with "RAM-NEK" type materials, filter fabric, etc. may be required to satisfactory seal the top of the concrete pipe.
6. The contractor must secure written permission from Jefferson Parish Construction Project Manager prior to utilizing this item.

F. BYPASS

7. Bypass of sewage (pumping or gravity) shall be done in accordance with all applicable Jefferson Parish, State, and Federal regulations and requirements. Bypass operations and the bypass method shall be planned in advance so that inconvenience to the owner and utility users is minimized.
8. Install and operate all required plugs, piping, and bypass pumping equipment to maintain sewage flow and to prevent backup or overflow.
9. Obtain approval for bypass pumping equipment and procedures from the Engineer and the Jefferson Parish Department of Engineering. Granting approval shall not relieve the contractor from total responsibility for the bypass operation.
10. No sewage shall be diverted into any area outside of sanitary sewer system.
11. In the event of accidental spill or overflow, immediately stop overflow and take action to clean up and disinfect spillage. Promptly notify the authorities so that required documentation and reporting can be made.
12. There shall be no direct payment for Sewage Bypass Operations unless otherwise specified.

G. PIPE CLEANING AND VIDEO INSPECTIONS

Pipe cleaning and video inspection shall be per Jefferson Parish Standards. Pipe cleaning and video inspection shall be coordinated and planned in advance so that inconvenience to the owner and utility users is minimized.

H. SERVICE CONECTION BY REMOTE CUT

Restoration (cutting and brushing) of the existing Sewer Service Connections by TV Controlled Remote Cutting and Brushing Devices shall be made by experienced operators so that no blind attempts or holes are made in the liner pipe. Location shall be verified carefully with earlier TV inspection for accuracy, especially where dimples are not defined or clearly ascertained. The Parish reserves the right to require the restoration of any service connection by excavation, at no additional cost to the Parish, if the quality and workmanship of remote cut is poor and not satisfactory.

VI. DEVIATION FROM JEFFERSON PARISH STANDARDS

Any deviations from Jefferson Parish "Sanitary Sewer" Standards will be included in a separate appendix (appendix DS).

VII. PART 6: MEASUREMENT AND PAYMENT:

1. **Payment** for this work will be made after receipt of approval from the Jefferson Parish Department of Engineering.

The price and payment shall constitute full compensation for furnishing all labor, materials, and equipment to construct any segment of the sanitary sewer system {all applicable parts of manholes, pipes (mains & house service connections), fittings, couplings, and other required incidentals} including excavation, trenching, bedding, pipe laying, backfill, tie-ins to existing sewer lines, acceptance testing of mains, manholes, and all incidental work necessary for a complete and functional sewer distribution system.

2. **Sewer Lines or Mains** shall be measured horizontally through manholes along the centerline of pipeline and shall be paid for per linear feet for specific size, complete and in place.

3. **Sewer Line Point Repairs:**

- a. **Shallow Sewer Line Point Repairs** - Payment for shallow sewer line point repairs is on a unit price basis for, specific size of the repair pipe (PVC or Ductile Iron), for each point repair constructed, complete and in place, including the tie-in couplings and bypass pumping. Shallow point repairs will have a depth of 6 feet or less measured by averaging the invert elevation of the sewer line at the upstream and downstream manholes of the repair. This item will be full compensation for removal and replacement of up to 18 feet of pipe, regardless of the existing pipe material. Minimum of 8 feet of pipe shall be replaced under this item. This item shall be paid under pay item; "Shallow Sewer Line Point Repair".
 - b. **Medium Depth Sewer Line Point Repairs** - Payment for medium depth sewer line point repairs is on a unit price basis for, specific size of the repair pipe (PVC or Ductile Iron), for each point repair constructed, complete and in place, including the tie-in couplings and bypass pumping. Medium depth point repairs will have a depth greater than 6 feet, and up to 10 feet measured by averaging the invert elevation of the sewer line at the upstream and downstream manholes of the repair. This item will be full compensation for removal and replacement of up to 18 feet of pipe, regardless of the existing pipe material. Minimum of 12 feet of pipe shall be replaced under this item. This item shall be paid under pay item; "Medium Depth Sewer Line Point Repair".
 - c. **Deep Sewer Line Point Repairs** - Payment for deep sewer line point repairs is on a unit price basis for, specific size of the repair pipe (PVC or Ductile Iron), for each point repair constructed, complete and in place, including the tie-in couplings and bypass pumping. Deep point repairs will have a depth greater than 10 feet measured by averaging the invert elevation of the sewer line at the upstream and downstream manholes of the repair. This item will be full compensation for removal and replacement of up to 18 feet of pipe, regardless of the existing pipe material. Minimum of 12 feet of pipe shall be replaced under this item. This item shall be paid under pay item; "Deep Sewer Line Point Repair".
4. **Removal and disposal of Existing "AC" sewer gravity lines** shall be in accordance with all applicable local and federal regulations and requirements. There shall be no direct payment for non-AC pipe removal and disposal unless otherwise specified.

Existing AC Sewer Gravity Lines which shall be removed and disposed of shall be measured horizontally through manholes along the centerline of pipeline and shall be paid for per linear feet for specific size. This item shall be paid under pay item; "Removal and disposal of Existing "AC" sewer gravity lines".

In case the contractor encounters AC pipes larger than the size that is in his contract, he shall be compensated 10%, per size, in addition to his bid price for smaller size pipe.

5. **Lining of Existing Mains** shall be measured horizontally through manholes along the centerline of pipeline and shall be paid for per linear feet for specific size, complete and in place. Lining of existing mains or existing service connections shall be as specified in Jefferson Parish Standard Notes and Drawings and as specified herein. There shall be no direct payment for cleaning and video inspection of the existing sewer mains or service connections (before or after lining) which are proposed to be lined by the contractor.
6. **Sewer service connection items** - The following are different possible “sewer service connection” items. These items shall be measured and paid for as described herein, unless otherwise specified:
- a. Item No. S-501-S , **New Complete Single Sewer Service Connection** – This item shall include all pipes, fittings, couplings, etc., required to provide a single, complete service connection between a new main (or new manhole) and a new or an existing cleanout. This item does not include a new cleanout. This item shall be measured and paid for per each. {This item generally is intended for work which includes new mains and new service connections. This item normally includes one wye, pipes, fittings, one coupling, etc.}
 - b. Item No. S-501-D , **New Complete Double Sewer Service Connection** – This item shall include all pipes, fittings, couplings, etc., required to provide a double, complete service connection between a new main (or new manhole) and two cleanouts (new or existing). This item does not include new cleanouts. This item shall be measured and paid for per each. {This item generally is intended for work which includes new mains and new service connections. This item normally includes two wye, pipes, fittings, two coupling, etc.}
 - c. Item No. S-502 , **“Sewer Service Connection “pipe”** – Sewer service connection pipe shall be measured along the centerline of the pipeline, through fittings, and shall be paid for per linear feet. This item shall include all pipes and fittings to install a single or double service connection, excluding; the actual connection to existing or lined mains, the actual connection to new or existing sewer service or existing or new cleanouts.

{This item is intended to separate the measurement and payment of the service connection “pipe” from “tie-in” at the main side or the property side.}
 - d. Item No. S-503 , **Tie New or Existing Sewer Service Connection “Pipe” to an existing main** – This item shall include all fittings and couplings (usually one wye and two or three couplings), and pipes (usually two short spool pieces). This item shall be measured and paid for per each for specific size of the main. {This item is normally referred to as installing in a “Wye” by point repair}.
 - e. Item No. S-504 , **Tie New or Existing Sewer Service Connection “Pipe” to an existing lined or new lined main** – This item shall include the connection of a New or Existing Sewer Service Connection “Pipe” to an existing lined or newly

lined main by “LMT Wyes or Tees” per Jefferson Parish Standards. This item shall be measured and paid for per each. {The procedure for this item shall follow the LMT™ (LINED MAIN TAP™) installation guidelines by LMK® Technologies, or approved equal.}

- f. Item No. S-505 , **Tie New or Existing Sewer Service Connection “Pipe” (PVC or Lined) to an existing service connection, or an existing cleanout, or New Cleanout** – This item shall include all fittings and couplings (usually only one shielded coupling), and pipes (may require one short spool piece). This item shall be measured and paid for per each. {This item is normally referred to as connection at the property, however this item is intended to include connecting to the existing service connection on the main side or any other specified location of the service connection as well.} Work and material required and included in this item may simply be bid under "Shielded Coupling Items".
- g. Item No. S-506 , **Lined Sewer Service Connection “Pipe”** – Lined sewer service connection pipe shall be measured horizontally, unless otherwise specified, along the centerline of pipeline and shall be paid for per linear feet for specific size. Typically service connections are 6" in diameter. This item is similar to item S-502 which does not include the actual connection to existing or lined mains, the actual connection to new or existing sewer service, or existing or new cleanouts.
- h. Item No. S-507 , **Tie New lined Sewer Service Connection “Pipe” to an existing lined or new lined main** – This item shall include the connection of a New Lined Sewer Service Connection “Pipe” to an existing lined or newly lined main through the main and/or the cleanout. This item shall be measured and paid for per each.
- i. Item No. S-508 , **Capping of an existing or new Sewer Service Connection** – This item shall include capping of a sewer service connection complete in place. This item is usually used when a sewer service connection is being abandoned or removed and requires to be capped at the main (the wye) or near to the main (tie to the existing service connection). {This item usually will include one 6" shielded coupling, one 6" SDR 35 PVC Solvent Weld Cap (or one 6" SDR 26 PVC Gasketed Cap, secured and thrust blocked in place properly), a short section of 6" PVC SDR 26 pipe). Since capping may or may not require a coupling, payment for this item shall be for the cap and installation of the cap complete and in place. The coupling and the pipe shall be paid under coupling and pipe items respectively. This item shall be measured and paid for under "Installation of a Sewer Cap" per each for specified size. This item shall be applicable to capping sewer pipes in general.
- j. Item No. S-509 , **Service Connection by Remote Cut** – This item shall include Restoration (cutting and brushing) of an existing Sewer Service Connections by TV Controlled Remote Cutting and Brushing Devices. This item shall be

measured and paid for under "Service **Connection by Remote Cut**" per each. This item shall be full compensation for restoring the sewer service connection to the satisfaction of the Parish.

7. **Sewer Cleanouts (Item No. "S-902")** shall be measured and paid for per each complete and in place. This item shall only include installation of a new cleanout or the removal and replacement of an existing sewer cleanout. This item shall not include connection of the cleanout to the existing or new sewer service connection. (See Pay Item "S-505").
8. There shall be no direct payment for gravity sewer lines removal and disposal unless otherwise specified. If removal and disposal of gravity sewer lines are specified to be compensated for, they shall be measured horizontally through manholes along the centerline of pipeline and shall be paid for per linear feet of pipe removed.
9. **Existing Gravity Sewer lines (Item "S-901")** which shall be **abandoned** shall be measured horizontally through manholes along the centerline of pipeline and shall be paid for per linear feet of pipe abandoned. There shall be no additional compensation or credit for different size gravity pipe under this item unless otherwise specified. All abandoned sewer lines within public Right-of-Ways (roadways, canals, etc.) shall be filled with flowable fill, unless otherwise specified. Flowable fill shall be per DOTD Standard Specifications for Roads and Bridges section 710.

10. **Manholes:**

- a. **Shallow Depth Manholes** - Payment for shallow depth manholes is on a unit price basis for each manhole installed, complete and in place. Shallow depth manholes have a depth of 5 feet or less measured from top of cover to the sewer manhole invert.
- b. **Normal Depth Manholes** – Payment for normal depth manholes is on a unit price basis for each manhole installed, complete and in place. Normal depth manholes have a depth greater than 5 feet, and up to 8 feet. Manhole depth is measured from top of cover to the sewer manhole invert.
- c. **Extra Depth Manholes** - Payment for extra depth manholes is on a unit price basis per vertical foot installed, complete and in place. Extra depth manholes have a depth greater than 8 feet. Manhole depth is measured from top of cover to the sewer manhole invert.
- d. **Drop Manholes** – Payment for drop manholes is on a unit price basis per vertical foot installed, complete and in place. Manhole depth is measured from top of cover to the sewer manhole invert.

11. **Tie-in, new mains to existing sewer manholes (Item No. "S-903")** shall be measured and paid for per each.
12. **Tie-in, new sewer service connections to existing sewer manholes (Item No. "S-904")** shall be measured and paid for per each.
13. There shall be no direct payment for connection of new or existing mains and/or service connections to new manholes.
14. **Shielded Couplings** shall be measured and paid for per each for specific size complete and in place.
15. **Existing Sewer Manhole Rehab** shall be measured and paid for per each complete and in place. Manhole Rehab shall be as specified in Jefferson Parish Standard Notes and Drawings and as specified herein.
16. There shall be no direct payment for Bypass Pumping unless otherwise specified.
17. There shall be no direct payment for dewatering unless otherwise specified.
18. There shall be no direct payment for cleaning and video inspections of new sewer gravity mains and service connections, installed by the contractor, as part of final inspection and acceptance.
19. **Pre-construction and post-construction pipe cleaning and video inspection** shall be measured and paid for per linear feet of pipe cleaned and video inspected.
20. **Notching of the top of a concrete pipe** shall be measured as described herein, and shall be paid for per each:
 - a. Item No. S-907-S , **Notching of the top of a concrete pipe (Shallow)** – This item shall include notching of the pipe which does not penetrate the pipe inside wall.
 - b. Item No. S-907-M , **Notching of the top of a concrete pipe (Medium)** – This item shall include notching of the pipe which does penetrate the pipe inside wall with maximum penetration of $\pm 6"$.
 - c. Item No. S-907-D , **Notching of the top of a concrete pipe (Deep)** – This item shall include notching of the pipe which does penetrate the pipe inside wall with maximum penetration of $\pm 12"$.
21. **House Connection Survey** shall be measured and paid for per each House Connection Surveyed. A good quantity for this contingency item would be at least 50% of the number of house connections with potential connectivity issues.

VIII. TABULATED GENERAL JEFFERSON PARISH PAY ITEMS

<u>Item No.</u>	<u>Item Description (Pay Item)</u>	<u>Unit of Measure (Pay Unit)</u>
S-104	Sewer Line (4") (PVC/SDR 26 Pipe)	Linear Foot
S-106	Sewer Line (6") (PVC/SDR 26 Pipe)	Linear Foot
S-108	Sewer Main (8") (PVC/SDR 26 Pipe)	Linear Foot
S-110	Sewer Main (10") (PVC/SDR 26 Pipe)	Linear Foot
S-112	Sewer Main (12") (PVC/SDR 26 Pipe)	Linear Foot
S-115	Sewer Main (15") (PVC/SDR 26 Pipe)	Linear Foot
S-118	Sewer Main (18") (PVC, ASTM F679, Pipe)	Linear Foot
S-121	Sewer Main (21") (PVC, ASTM F679, Pipe)	Linear Foot
S-124	Sewer Main (24") (PVC, ASTM F679, Pipe)	Linear Foot
S-127	Sewer Main (27") (PVC, ASTM F679, Pipe)	Linear Foot
S-130	Sewer Main (30") (PVC, ASTM F679, Pipe)	Linear Foot
S-136	Sewer Main (36") (PVC, ASTM F679, Pipe)	Linear Foot
S-142	Sewer Main (42") (PVC, ASTM F679, Pipe)	Linear Foot
S-148	Sewer Main (48") (PVC, ASTM F679, Pipe)	Linear Foot
S-204	Sewer Line (4") (Ductile Iron)	Linear Foot
S-206	Sewer Line (6") (Ductile Iron)	Linear Foot
S-208	Sewer Main (8") (Ductile Iron)	Linear Foot
S-210	Sewer Main (10") (Ductile Iron)	Linear Foot
S-212	Sewer Main (12") (Ductile Iron)	Linear Foot
S-214	Sewer Main (14") (Ductile Iron)	Linear Foot
S-216	Sewer Main (16") (Ductile Iron)	Linear Foot
S-218	Sewer Main (18") (Ductile Iron)	Linear Foot
S-220	Sewer Main (20") (Ductile Iron)	Linear Foot
S-224	Sewer Main (24") (Ductile Iron)	Linear Foot
S-230	Sewer Main (30") (Ductile Iron)	Linear Foot
S-236	Sewer Main (36") (Ductile Iron)	Linear Foot
S-204-P	Sewer Line (4") (PVC C-900, GREEN)	Linear Foot
S-206-P	Sewer Line (6") (PVC C-900, GREEN)	Linear Foot
S-208-P	Sewer Main (8") (PVC C-900, GREEN)	Linear Foot
S-210-P	Sewer Main (10") (PVC C-900, GREEN)	Linear Foot
S-212-P	Sewer Main (12") (PVC C-900, GREEN)	Linear Foot
S-214-P	Sewer Main (14") (PVC C-905, GREEN)	Linear Foot
S-216-P	Sewer Main (16") (PVC C-905, GREEN)	Linear Foot
S-218-P	Sewer Main (18") (PVC C-905, GREEN)	Linear Foot
S-220-P	Sewer Main (20") (PVC C-905, GREEN)	Linear Foot
S-224-P	Sewer Main (24") (PVC C-905, GREEN)	Linear Foot
S-230-P	Sewer Main (30") (PVC C-905, GREEN)	Linear Foot

S-236-P	Sewer Main (36") (PVC C-905, GREEN)	Linear Foot
S-304	Sewer Line (4") (Lined)	Linear Foot
S-306	Sewer Line (6") (Lined)	Linear Foot
S-308	Sewer Main (8") (Lined)	Linear Foot
S-310	Sewer Main (10") (Lined)	Linear Foot
S-312	Sewer Main (12") (Lined)	Linear Foot
S-315	Sewer Main (15") (Lined)	Linear Foot
S-401	Shallow Depth Manhole (Brick)	Each
S-402	Shallow Depth Manhole (Concrete)	Each
S-403	Shallow Depth Manhole (Fiber Glass)	Each
S-404	Shallow Depth Manhole (Concrete / Conshield)	Each
S-411	Normal Depth Manhole (Brick)	Each
S-412	Normal Depth Manhole (Concrete)	Each
S-413	Normal Depth Manhole (Fiber Glass)	Each
S-414	Normal Depth Manhole (Concrete / Conshield)	Each
S-415	Normal Depth Manhole (Polymer Concrete)	Each
S-421	Extra Depth Manhole (Brick)	Vertical Foot
S-422	Extra Depth Manhole (Concrete)	Vertical Foot
S-423	Extra Depth Manhole (Fiber Glass)	Vertical Foot
S-424	Extra Depth Manhole (Concrete / Conshield)	Vertical Foot
S-425	Extra Depth Manhole (Polymer Concrete)	Vertical Foot
S-431	Drop Manhole (Brick)	Vertical Foot
S-432	Drop Manhole (Concrete)	Vertical Foot
S-433	Drop Manhole (Fiber Glass)	Vertical Foot
S-434	Drop Manhole (Concrete / Conshield)	Vertical Foot
S-435	Drop Manhole (Polymer Concrete)	Vertical Foot
S-441	Lifesaver Stainless Steel Stopper, Manhole Insert	Each
S-501-S	New Complete Sewer Service Connection (single)	Each
S-501-D	New Complete Sewer Service Connection (double)	Each
S-502	Sewer Service Connection "Pipe"	Linear Foot
S-503-08	Tie New or Existing Sewer Service Connection "Pipe" to an existing 8" Main	Each
S-503-10	Tie New or Existing Sewer Service Connection "Pipe" to an existing 10" Main	Each

S-503-12	Tie New or Existing Sewer Service Connection "Pipe" to an existing 12" Main	Each
S-503-15	Tie New or Existing Sewer Service Connection "Pipe" to an existing 15" Main	Each
S-503-18	Tie New or Existing Sewer Service Connection "Pipe" to an existing 18" Main	Each
S-503-21	Tie New or Existing Sewer Service Connection "Pipe" to an existing 21" Main	Each
S-503-24	Tie New or Existing Sewer Service Connection "Pipe" to an existing 24" Main	Each
S-503-27	Tie New or Existing Sewer Service Connection "Pipe" to an existing 27" Main	Each
S-503-30	Tie New or Existing Sewer Service Connection "Pipe" to an existing 30" Main	Each
S-504	Tie New or Existing Sewer Service Connection "Pipe" to an Existing Lined or New Lined Main	Each
S-505	Tie New Sewer Service Connection "Pipe" <u>(PVC or Lined)</u> to an Existing Service Connection, or an Existing Cleanout, or a New Cleanout.	Each
S-506	Lined Sewer Service Connections	Linear Foot
S-507	Tie New lined Sewer Service Connection "Pipe" to an existing lined or new lined main	Each
S-508-6	Installation of a Sewer Cap (6")	Each
S-509	Service Connection by Remote Cut	Each
S-604	Shielded Coupling (4")	Each
S-606	Shielded Coupling (6")	Each
S-608	Shielded Coupling (8")	Each
S-610	Shielded Coupling (10")	Each
S-612	Shielded Coupling (12")	Each
S-615	Shielded Coupling (15")	Each

S-616	Shielded Coupling (16")	Each
S-618	Shielded Coupling (18")	Each
S-704-SPR	Shallow Sewer Line Point Repair (4")	Each
S-706-SPR	Shallow Sewer Line Point Repair (6")	Each
S-708-SPR	Shallow Sewer Line Point Repair (8")	Each
S-7010-SPR	Shallow Sewer Line Point Repair (10")	Each
S-7012-SPR	Shallow Sewer Line Point Repair (12")	Each
S-7014-SPR	Shallow Sewer Line Point Repair (14")	Each
S-7015-SPR	Shallow Sewer Line Point Repair (15")	Each
S-7016-SPR	Shallow Sewer Line Point Repair (16")	Each
S-7018-SPR	Shallow Sewer Line Point Repair (18")	Each
S-7020-SPR	Shallow Sewer Line Point Repair (20")	Each
S-7021-SPR	Shallow Sewer Line Point Repair (21")	Each
S-7024-SPR	Shallow Sewer Line Point Repair (24")	Each
S-704-MPR	Medium Depth Sewer Line Point Repair (4")	Each
S-706-MPR	Medium Depth Sewer Line Point Repair (6")	Each
S-708-MPR	Medium Depth Sewer Line Point Repair (8")	Each
S-7010-MPR	Medium Depth Sewer Line Point Repair (10")	Each
S-7012-MPR	Medium Depth Sewer Line Point Repair (12")	Each
S-7014-MPR	Medium Depth Sewer Line Point Repair (14")	Each
S-7015-MPR	Medium Depth Sewer Line Point Repair (15")	Each
S-7016-MPR	Medium Depth Sewer Line Point Repair (16")	Each
S-7018-MPR	Medium Depth Sewer Line Point Repair (18")	Each
S-7020-MPR	Medium Depth Sewer Line Point Repair (20")	Each
S-7021-MPR	Medium Depth Sewer Line Point Repair (21")	Each
S-7024-MPR	Medium Depth Sewer Line Point Repair (24")	Each
S-704-DPR	Deep Sewer Line Point Repair (4")	Each
S-706-DPR	Deep Sewer Line Point Repair (6")	Each
S-708-DPR	Deep Sewer Line Point Repair (8")	Each
S-7010-DPR	Deep Sewer Line Point Repair (10")	Each
S-7012-DPR	Deep Sewer Line Point Repair (12")	Each
S-7014-DPR	Deep Sewer Line Point Repair (14")	Each
S-7015-DPR	Deep Sewer Line Point Repair (15")	Each
S-7016-DPR	Deep Sewer Line Point Repair (16")	Each
S-7018-DPR	Deep Sewer Line Point Repair (18")	Each
S-7020-DPR	Deep Sewer Line Point Repair (20")	Each
S-7021-DPR	Deep Sewer Line Point Repair (21")	Each
S-7024-DPR	Deep Sewer Line Point Repair (24")	Each
S-901	Abandoned Existing Gravity Sewer Lines	Linear Foot
S-902	Sewer Cleanouts	Each
S-903	Tie-in, New Main to Existing Sewer Manhole	Each

S-904	Tie-in, New Service Connection to Existing Sewer Manhole	Each	
S-905	Existing Sewer Manhole Rehab	Each	
S-906	Pre-construction and post-construction pipe cleaning and video inspection	Linear Foot	
S-907-S*	Notching of the top of a concrete pipe (Shallow)	Each	
S-907-M*	Notching of the top of a concrete pipe (Medium)	Each	
S-907-D*	Notching of the top of a concrete pipe (Deep)	Each	
S-908*	House Connection Survey	Each.	
S-909-4	Removal & Disposal of existing AC Sewer Gravity Line (4")	Linear Foot	
S-909-6	Removal & Disposal of existing AC Sewer Gravity Line (6")	Linear Foot	
S-909-8	Removal & Disposal of existing AC Sewer Gravity Line (8")	Linear Foot	
S-909-10	Removal & Disposal of existing AC Sewer Gravity Line (10")	Linear Foot	
S-909-12	Removal & Disposal of existing AC Sewer Gravity Line (12")	Linear Foot	
S-909-14	Removal & Disposal of existing AC Sewer Gravity Line (14")	Linear Foot	
S-909-16	Removal & Disposal of existing AC Sewer Gravity Line (16")	Linear Foot	
S-909-18	Removal & Disposal of existing AC Sewer Gravity Line (18")	Linear Foot	
S-909-20	Removal & Disposal of existing AC Sewer Gravity Line (20")	Linear Foot	

*** Contingency Items**