

# Grant Program for Improvements to Reduce Residential Sanitary Sewer Overflows

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# Grant Program for Improvements to Reduce Residential Sanitary Sewer Overflows

## Program Requirements

The City of Quincy may provide funds to owner-occupied residents that are connected to City-owned sanitary sewers, who have or may experience sanitary sewer backups during periods of heavy rainfall, for the installation of overhead sewers, backflow prevention devices or approved alternative systems for the purpose of reducing the likelihood of such events. The City has determined that certain requirements for the grant program are necessary to protect the City's sanitary sewer system, the integrity of such a program, and the financial well-being of the City. A grant program for the installation of overhead sewers, backflow prevention devices and approved alternative systems is hereby implemented in accordance with the following requirements:

1. **Grant Amount.** The City may grant an Owner in the amount defined in the "Funding Schedule" for eligible costs related to the installation of a City-approved overhead sewer system, backflow prevention device or alternative system. The program is limited to the actual costs of the construction of overhead sewer, installation of backflow prevention devices or alternative systems, and the elimination of cross-connections between the sanitary and storm sewer systems, subject to the funding limitations contained herein, but does not include incidental costs incurred during the installation of the overhead sewer, backflow prevention device or approved alternative system, including but not limited to:
  - Removal and/or replacement of landscaping, trees, bushes, hardscapes, etc.
  - Removal and/or replacement of tile, carpet, wood, composite or other flooring, except for repair of the basement concrete slab disturbed by construction
  - Painting, staining or surface refinishing of any kind
  - Construction or reconstruction of walls or dividers to "hide" backflow prevention system from view

The City retains sole authority to determine work that is eligible and ineligible for funding.

2. **Eligible Participants.** Eligibility to participate in the program is subject to the following:
  - a. Only owner-occupied single-family homes connected to the City of Quincy sanitary sewer system are eligible.
  - b. The grant program applies only to installations of overhead sewers, backflow prevention devices or approved alternative systems initiated after September 1, 2020.
  - c. No Owner shall be eligible for participation if there is an outstanding balance with respect to payment of any fees, charges, or penalties due to the City.
  - d. An owner shall be eligible for participation no more than one time for the same property.
  - e. The City shall have the sole authority to determine eligibility for participation, prioritization of requests and compliance with all City ordinances.
  - f. Pre-approval in the form of an executed *Agreement of Grant Funding* is required prior to the work.
  - g. The installation of all overhead sewers, backflow prevention devices and approved alternative systems shall be completed by a plumber licensed to work in the State of Illinois.
3. **Program Duration.** Financial participation of the City is limited to funds budgeted for the program. The program will be evaluated annually as part of the City's annual budget process, and the City may change or eliminate the program at any time.

4. **Waiver Required.** Owner(s) of the building where the overhead sewer, backflow prevention device or approved alternative system is installed shall execute an agreement which includes a clause whereby the owners release and waive any claim of liability against the City from any previous sanitary sewer backups or any consequence of the selection of the system to be installed, the contractor to be utilized, installation of the system, operation or maintenance of the system once it is installed, or the eligibility, participation or funding priority in this program.
5. **Contractual Relationship.** The contract to perform the work shall be between the property owner and the contractor. The City shall not be a party to any contract between the Owner and the contractor.
6. **Backflow Prevention Options**

**Overhead Sewers.** An overhead sewer does not rely upon a backflow valve or other mechanical device for protection, but rather uses the physical principle that water seeks its own level to prevent sanitary sewer overflows in residences. Refer to Figure 1 for a general schematic drawing that depicts an overhead sewer. An overhead sewer is believed to be the best backup prevention method and is the method recommended by the City.

Overhead sewers shall meet the following minimum requirements:

- a. Overhead sanitary sewers shall be provided to all floor levels that are less than one foot above the elevation of the rim of the City manhole immediately upstream of the point of connection of said building into the City sanitary sewer system. Plumbing fixtures on a building floor level below an overhead sewer shall drain into an ejector pit or sump, where the contents will be pumped up to the overhead sewer for disposal.
- b. A properly vented ejector basin or sump shall be installed under this program. Ejector basins and sumps shall comply with all City building code requirements. Ejector basins and sumps shall be at least ten feet from any clean water sump pits.
- c. The manufacturer and model number of the proposed ejector pump or grinder pump shall be specified in the contractor's proposal. The pump curve for the proposed ejector or grinder pump shall be provided with the contractor's proposal. All ejector pumps shall be able to pass a two-inch solid. The smallest capacity pump suitable for the proposed installation shall be specified.
- d. Connections to the proposed ejector basin or sump shall be specifically listed on the contractor's proposal and all such connections shall be for the disposal of sanitary wastes only.

**Whole House Pump Station.** In the event that conversion to an overhead sewer is not practical, a homeowner may consider installation of a whole house pump station. This type of system provides a higher degree of protection than backflow valves, check valves or gate valves, but not the level of protection provided by an overhead sewer. Refer to Figure 2 for a general schematic drawing that depicts the installation of a whole house pump station. Homeowners considering a whole house pump station should consider the following:

- a. A duplex (two pump) pump station and a separate high water alarm float switch are recommended.
- b. The manufacturer and model number of the proposed ejector pump or grinder pump shall be specified in the contractor's proposal. The pump curve for the proposed ejector or grinder pump shall be provided with the contractor's proposal. All ejector pumps shall be able to pass a two-inch solid. The smallest capacity pump suitable for the proposed installation shall be specified.

- c. Connections to the proposed ejector basin or sump shall be specifically listed on the contractor's proposal and all such connections shall be for the disposal of sanitary wastes only.

**In-Line Check Valve or Gate Valve.** Installation of a check valve or gate may be eligible for funding, in accordance with the "Funding Schedule," in cases where an overhead sewer or whole house pump station is cost prohibitive and/or impractical to construct. Refer to Figure 3 for a general schematic drawing that depicts the installation of an in-line check valve. Grant funding for check valves and gate valves will only be approved following the execution and recordation of a *Memorandum of Agreement* against the property that includes the following stipulations:

- a. Notice that a backflow prevention device, which requires maintenance for proper operation, has been installed on the property.
- b. Notice that a backflow prevention device has a limited life and requires periodic replacement.
- c. Notice that a backflow prevention device may clog or jam at any time and thereby fail to protect the property from a sanitary sewer overflow.

**Alternative Options for Backflow Reduction.** The City will consider alternatives on a case-by-case basis. The Owner shall submit sufficient details about the alternative option, including sketches, photographs, product documentation, etc., to allow the City to assess the viability of the alternative. Alternative options for backflow prevention will require a *Memorandum of Agreement* as described previously.

7. **Separation of Clean Water from Wastewater.** All sources and potential sources of infiltration and inflow to the City's sanitary sewer system shall be eliminated as part of this program, and such costs may be eligible for funding by the program. Infiltration and inflow includes any storm water, surface water, ground water, roof runoff water, sub-surface drainage, runoff water from ground or paved areas, cistern overflow, water from air-conditioning systems, or any other unpolluted water. If a sump pump for collecting and removing ground water is not present in the building, one shall be installed and any existing footing tiles, window well drains, and exterior area drains shall be reconnected to the new clean water sump. The discharge of the new clean water sump pump should be either to a storm sewer or to grade on the exterior of the building but located so as not to cause ponding, flooding, erosion or nuisance conditions. The costs of the installation of this clean water sump pump, as well as incidental under floor connections to existing footing tiles or drains, may be eligible for funding under this program. The installation of a footing tile drainage system and extensive reconstruction of the service lateral are not eligible for funding under this program.
8. **Comparative Proposals.** The Owner shall provide the City with proposals from three (3) qualified contractors for the work. All proposals shall provide sufficient detail for the City to determine the exact method of installation, the costs for labor and materials, the portion of the work eligible for this program, and compliance with all City ordinances and conditions. A sketch indicating the proposed work shall be included with each proposal.

The Owner may choose any contractor to complete the work, however grant funding will be based on the total of eligible items in the lowest proposal that is submitted by a qualified contractor. The City will not provide grant funding in the event that the Owner selects a contractor that the City has deemed unqualified and/or non-responsive.
9. **Permit Required.** The Owner or contractor shall obtain a City permit for the work. After issuance of the permit, any changes or modifications to the work will require review and approval of the City.
10. **Contractor's Surety Bond Requirement.** The contractor hired by the Owner to perform the work shall submit a copy of the State required \$20,000 surety bond.

- 11. Right of Final Inspection.** The City shall have the right to enter the building for inspection upon completion of the work and to impose penalties for violations of City ordinances regarding plumbing and sewers, as may be in effect at the time the violation of this section is discovered. Payment will not be made until the City has completed its inspection of the finished work.
- 12. Code Compliance.** All work under this program shall comply with City codes and requirements.
- 13. Waiver of Requirements.** The Director of Utilities & Engineering may, at his/her discretion, provide a waiver of those program requirements listed above as deemed appropriate based on an evaluation of the individual circumstances related to a request for funding.
- 14. Procedure.** An owner desiring to participate in this program shall complete the following steps:
  - Step 1.** Owner submits a completed and signed *Sewer Backflow Reduction Grant Program Application*.
  - Step 2.** The City determines whether the property is eligible for the program, and issues a *Notice of Eligibility* or denial to the owner. Eligibility will be granted if the property has a record of flooding, as evidenced by a report being on file with the City or evidence of an insurance claim for flood damage, or if an onsite inspection shows the likelihood of a future sanitary sewer backup. The *Notice of Eligibility* will be accompanied by several copies of the *Contractor Proposal Summary Form* for distribution to bidders for completing the work by the Owner.
  - Step 3.** Upon receipt of the *Notice of Eligibility*, the Owner shall seek proposals from Contractor to construct an overhead sewer as generally shown in Figure 1. The Owner may, at its discretion, seek proposals for installation of in-line check valve, gate valve or alternative backflow reduction system as described in Paragraph 6.
  - Step 4.** When the Owner has received at least three proposals, the Owner shall complete the *Proposal Evaluation Form* and forward it to the City along with copies of the contractor proposals. If the Owner does not submit all of the required information, including signed *Proposal Evaluation Form* within six (6) months of the date of the *Notice of Eligibility*, the Owner shall resubmit a *Sewer Backflow Reduction Grant Program Application* form and such application will be treated as a new application for determination of funding eligibility.
  - Step 5.** The City reviews the *Proposal Evaluation Form* and prepares an *Agreement for Grant Funding*. The Agreement and city-issued building permits are sent to the Owner.
  - Step 6.** The Owner notifies the contractor to complete the work.
  - Step 7.** Upon completion of the work, the City will conduct a final inspection. Upon approval by the City, acceptance by the Owner, and submission of a final bill from the contractor to the Owner, payment will be made directly to the Owner. Said payment will be made in the City's normal course of business. Owner shall complete the work and receive final inspection approval within six (6) months of the date of permit, or the funding commitment shall be withdrawn and the Owner must reapply and such application will be treated as a new application for determination of funding eligibility.
- 15. Tax Liabilities.** The City recommends that all grant recipients consult a Tax Professional regarding reporting requirements for Federal and State income taxes.

## Funding Schedule

Interval	City Funding	Owner's Responsibility
\$0 to \$5,000	100% of eligible expenses	0% of eligible expenses & 100% of ineligible expenses
\$5,001 to \$10,000	75% of eligible expenses	25% of eligible expenses & 100% of ineligible expenses
\$10,001 to \$15,000	50% of eligible expenses	50% of eligible expenses & 100% of ineligible expenses
\$15,000 and over	No funding	100% of eligible expenses & 100% of ineligible expenses

**Funding Example 1.** Owner selects low proposal that includes \$8,000 of eligible expenses and no ineligible expenses for a total project cost of \$8,000:

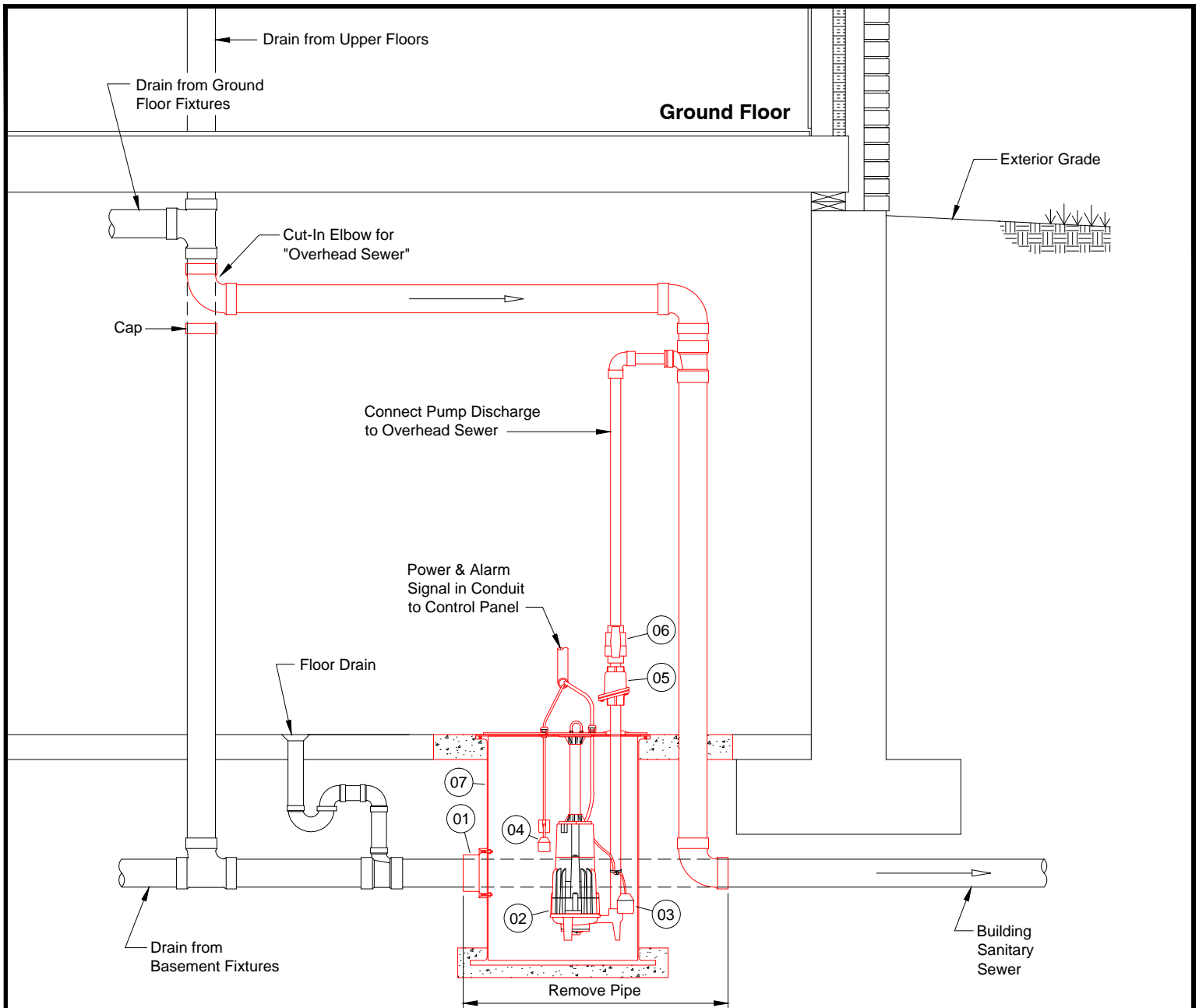
<u>Interval</u>	<u>Eligible Amount</u>	<u>Grant Funding</u>
100% on first	\$5,000 =	\$5,000
75% on next	\$3,000 =	\$2,250
<i>Total</i>	<i>\$8,000</i>	<i>\$7,250</i>

*Owner's Responsibility: \$8,000 - \$7,250 = **\$750***

**Funding Example 2.** Owner selects low proposal that includes \$16,000 of eligible expenses and \$4,000 of ineligible expenses for a total project cost of \$20,000.

<u>Interval</u>	<u>Eligible Amount</u>	<u>Grant Funding</u>
100% on first	\$5,000 =	\$5,000
75% on next	\$5,000 =	\$3,750
25% on next	\$5,000	\$2,500
0% of next	\$1,000 =	\$0
<i>Total</i>	<i>\$16,000</i>	<i>\$11,250</i>

*Owner's Responsibility: \$20,000 - \$11,250 = **\$8,750***



**Overhead Sewer Construction Notes:**

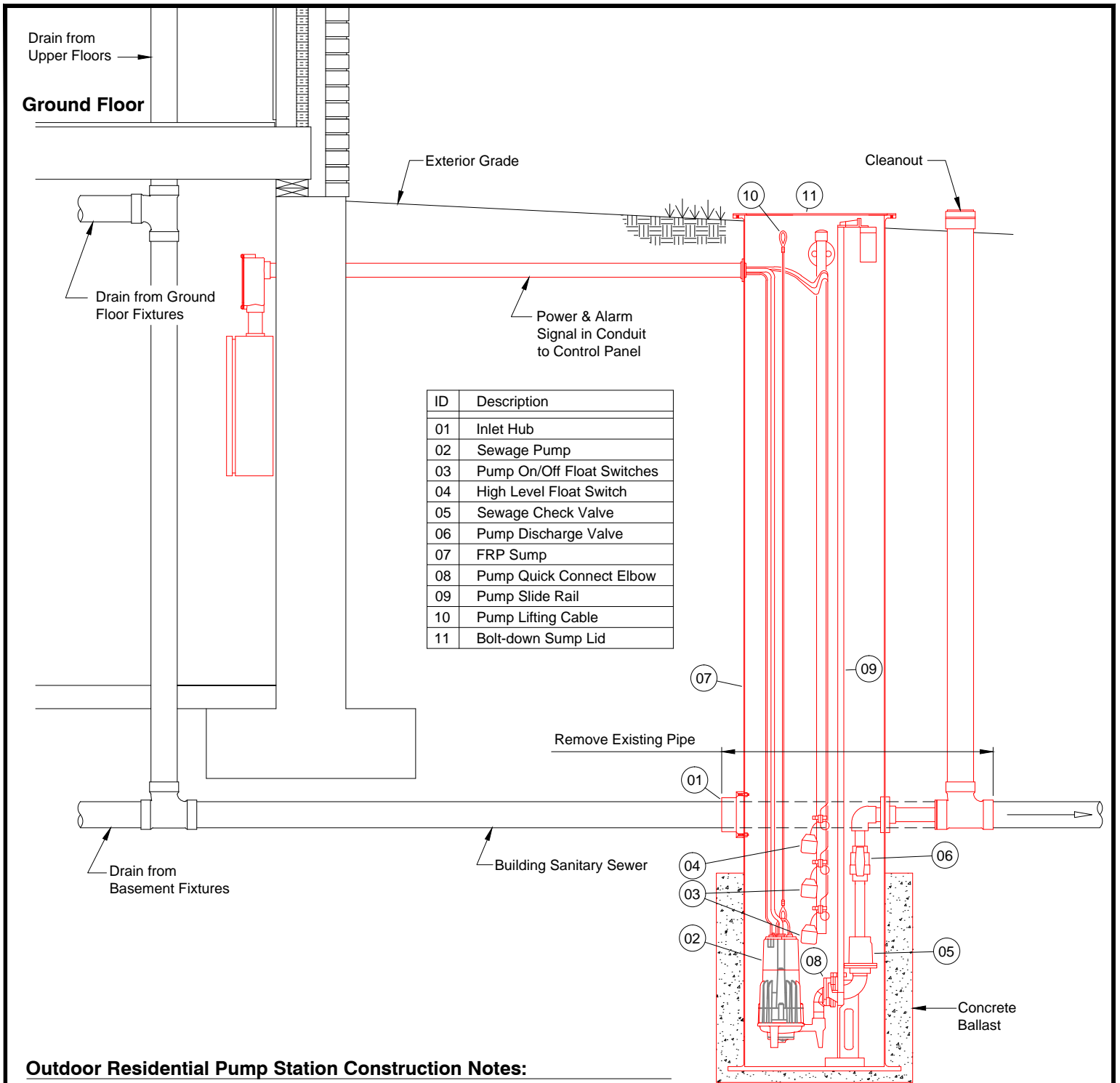
1. The illustration is very generalized and does not show all details required to make a complete and functioning system. Contractor shall alter construction to suit actual field conditions.
2. Clear water, including foundation drains, roof drains, basement sump pumps, and other non-polluted water, shall not be connected to the sanitary sump or otherwise discharged into the building sanitary sewer.
3. Both grinder pumps and sewage ejector pumps are acceptable for pumping sanitary waste into the overhead sewer. Pumps shall be rated for 20 gpm @ 20' head (minimum). Ejector pumps shall be capable of passing a 2" (min.) spherical solid.
4. Install pumping equipment and controls in accordance with the manufacturer's instructions.
5. All plumbing work shall be completed by a plumber licensed to practice in the State of Illinois.
6. All electrical work shall be completed by an electrician licensed to practice in the State of Illinois.
7. All work shall be inspected by the City of Quincy.

ID	Description
01	Inlet Hub
02	Sewage Pump
03	Pump On/Off Float Switch
04	High Level Float Switch
05	Sewage Check Valve
06	Ball or Gate Valve
07	FRP Sump

**Preferred Backflow Reduction System - Overhead Sewer**

**Department of Utilities & Engineering  
City of Quincy, Illinois**

September 2020 Figure 1.

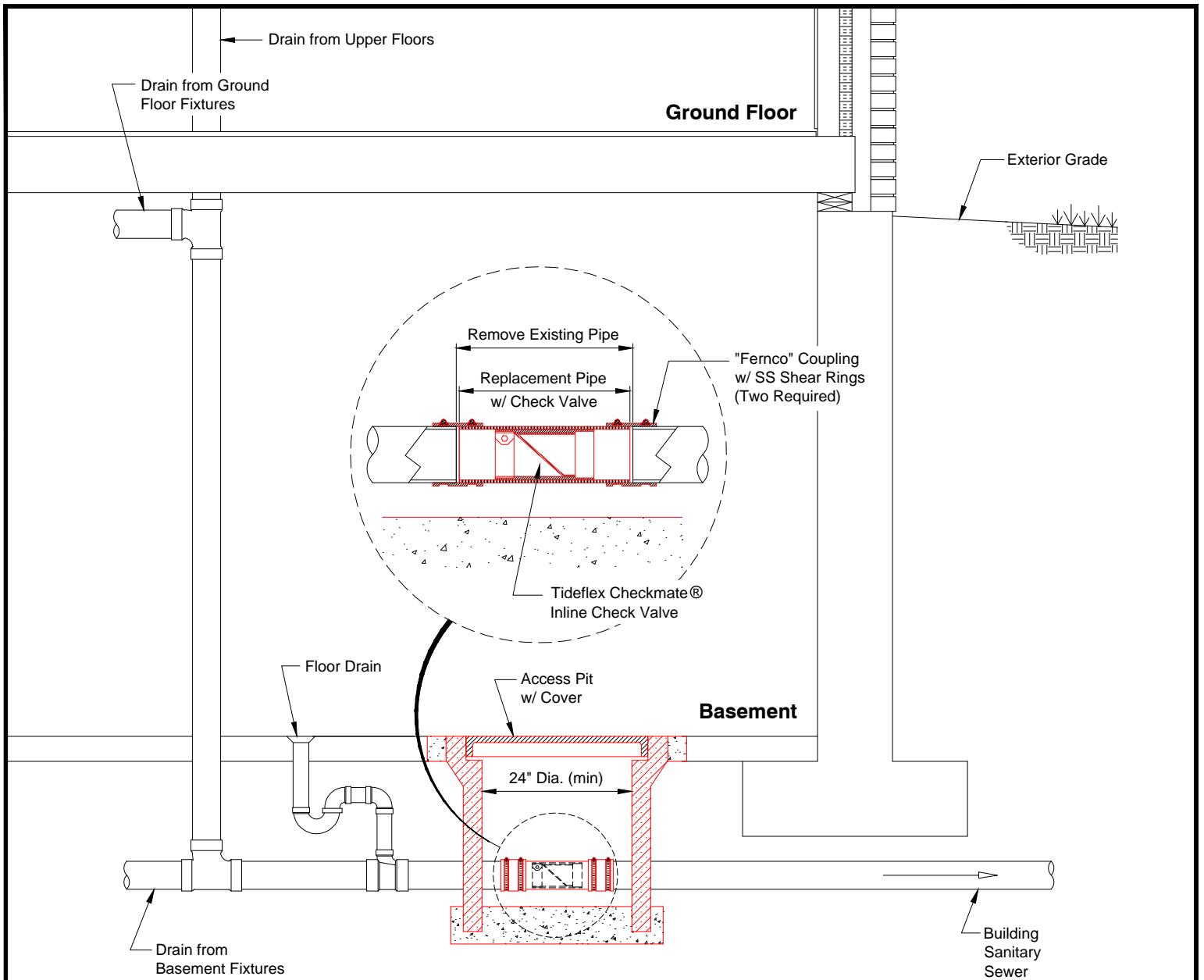


**Outdoor Residential Pump Station Construction Notes:**

1. The illustration is very generalized and does not show all details required to make a complete and functioning system. Contractor shall alter construction to suit actual field conditions
2. Pump station sump shall be vented in accordance with the Illinois Plumbing Code.
3. Clear water, including foundation drains, roof drains, basement sump pumps, and other non-polluted water, shall not be connected to the building sanitary sewer.
4. Both grinder pumps and sewage ejector pumps are acceptable for pumping sanitary waste into the overhead sewer. Pumps shall be rated for 20 gpm @ 20' head (minimum). Ejector pumps shall be capable of passing a 2" (min.) spherical solid.
5. Install pumping equipment and controls in accordance with the manufacturer's instructions.
6. All plumbing work shall be completed by a plumber licensed to practice in the State of Illinois.
7. All electrical work shall be completed by an electrician licensed to practice in the State of Illinois.
8. All work shall be inspected by the City of Quincy.

**Alternative System  
Whole House Pump Station**  
 Department of Utilities & Engineering  
 City of Quincy, Illinois  
 September 2020 Figure 2.





**Alternative Backflow Prevention Construction Notes:**

1. The illustration is very generalized and does not show all details required to make a complete and functioning system. Contractor shall alter construction to suit actual field conditions.
2. Clear water, including foundation drains, roof drains, basement sump pumps, and other non-polluted water, shall not be discharged to the building sanitary sewer.
3. Install check valve in accordance with the manufacturer's instructions.
4. Access pit shall be sized to provide easy access to the check valve for periodic inspection & maintenance.
5. All plumbing work shall be completed by a plumber licensed to practice in the State of Illinois.
6. All work shall be inspected by the City of Quincy.

**Alternative System  
Inline Check Valve**  
 Department of Utilities & Engineering  
 City of Quincy, Illinois  
 September 2020 Figure 3.

# Sewer Backflow Reduction Grant Program Application

**Owner's Name(s)** \_\_\_\_\_

**Project Address** \_\_\_\_\_

\_\_\_\_\_

**Telephone** \_\_\_\_\_

**E-Mail** \_\_\_\_\_

**Building Year of Construction** \_\_\_\_\_ (estimate if unknown)

**Basement Plumbing Fixtures (check all that apply)**

Floor Drains \_\_\_\_\_ Shower/Bathtub \_\_\_\_\_ Sink(s) \_\_\_\_\_ Washing Machine \_\_\_\_\_

Toilet \_\_\_\_\_ Sump Pump \_\_\_\_\_ Other (describe) \_\_\_\_\_

**Has there been a sewer backup at the project location that WAS NOT the result of a blockage in the sewer lateral?** \_\_\_\_\_

If yes, list date(s) of backups \_\_\_\_\_

**Basement Flooring Type(s) (check all that apply)**

Dirt/Gravel \_\_\_\_\_ Concrete \_\_\_\_\_ Ceramic/stone tile \_\_\_\_\_ Vinyl/linoleum \_\_\_\_\_

Wood \_\_\_\_\_ Carpeting or Area Rugs \_\_\_\_\_ Other (describe) \_\_\_\_\_

**Is the Basement Used for Any of These Purposes? (check all that apply)**

Laundry \_\_\_\_\_ Den/Rec Room/Bar \_\_\_\_\_ Bedroom \_\_\_\_\_ Entertainment Room \_\_\_\_\_

Bathroom \_\_\_\_\_ Other (describe) \_\_\_\_\_

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*Owner's Signature*

*Printed Name*

*Date*

## Contractor's Proposal Summary Form

**Contractor's Name** \_\_\_\_\_

**Contractor's Address** \_\_\_\_\_

\_\_\_\_\_

**Telephone** \_\_\_\_\_

**Project Owner's Name** \_\_\_\_\_

**Project Location Address** \_\_\_\_\_

**Elevation Data**

Ground Floor \_\_\_\_\_

Upstream Manhole Rim \_\_\_\_\_

**Proposed Backflow Reduction System (check type)**

Overhead Sewer \_\_\_\_\_ Whole House Pump Station \_\_\_\_\_ Inline Check Valve \_\_\_\_\_

Other (describe) \_\_\_\_\_

### Proposal Cost Breakdown

<b>Work Items</b>	<b>Amount</b>
Excavation & backfill for sewer connections	
Relocation of clear water discharges	
Furnishing & installing clear water sump/pit and pump	
Furnishing & installing clear water pump power & control equipment	
Furnishing & installing sanitary sewage sump/pit and pump	
Furnishing & installing sanitary sewage pump power & control equipment	
Furnishing & installing backflow prevention valves/devices	
Furnishing & installing pipe & fittings	
Furnishing & installing valve/device access pits & covers	
Repair of concrete floor slab	
Replacement of flooring (tile, vinyl, wood or composite)	
Construction or repair of walls, screens or dividers	
Wall/ceiling repairs, painting, staining & surface finishing	
Replacement of trees, bushes & landscaping	
Other Expenses (describe)	
<b>Total Project Cost</b>	

# Proposal Evaluation Form

(This form shall be completed by the Owner)

Owner's Name(s) \_\_\_\_\_

Project Address \_\_\_\_\_

Telephone \_\_\_\_\_

E-Mail \_\_\_\_\_

Scope of Work \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contractor Name & Address	Proposal Amount

If the Owner intends to use a contractor that DID NOT submit the low bid, please indicate the selected contractor and an explanation<sup>1</sup> \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

***Attach copies of proposals along with "Contractor's Proposal Summary Forms"***

Owner's Signature

Printed Name

Date

\_\_\_\_\_

<sup>1</sup> Grant funding will be limited to the amount for eligible items submitted by the lowest, qualified contractor as described in the Funding Schedule. All costs above the low proposal will be considered ineligible and be paid solely by the Owner.