

City of Mt. Pleasant, Michigan

CONTRACT DOCUMENTS

2017 MANHOLE REHABILITATION PROJECT



KATHLEEN LING

Mayor

NANCY RIDLEY

City Manager

Prepared By:
Division of Public Works

JOHN ZANG

DPW Director

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City of Mt. Pleasant, Michigan

T A B L E O F C O N T E N T S

2017 Manhole Rehabilitation Project

Bidding Information

Notice to Bidders
Instructions to Bidders
Insurance Requirements
W-9 Form

Contract Documents

Proposal

Technical Specifications

Special Conditions
Section 20: Specifications for Manhole Rehabilitation
City Street Map – available upon request



THE CITY OF
MT. PLEASANT, MICHIGAN

CITY HALL
320 W. Broadway • 48858-1698
(989) 779-5300
(989) 773-4691 fax

PUBLIC SAFETY
804 E. High • 48858-3595
(989) 779-5100
(989) 773-4020 fax

PUBLIC WORKS
1303 N. Franklin • 48858-4682
(989) 779-5400
(989) 772-6250 fax

NOTICE TO BIDDERS

2017 Manhole Rehabilitation Project

The City of Mt. Pleasant, Michigan, is requesting sealed bids at the Office of the City Clerk, City Hall, 320 W. Broadway Street, Mt. Pleasant, Michigan 48858, until 1:30 p.m. (local time), on March 7, 2017, at which time and place the bids will be publicly opened and read. All bids shall be submitted in a sealed envelope, plainly marked "2017 Manhole Rehabilitation Project – March 7, 2017."

Proposals are solicited on a unit price basis, for the following work:

Sanitary Manhole Rehabilitation –
2.6' Dia to 4.5' Dia Chimney Section Only 900 LFT

All bid proposals must be accompanied by a bid bond, bank cashier's check, bank draft, or certified check for not less than five percent (5%) of the bid price, made payable to the City of Mt. Pleasant.

To view and download complete Plans and Specifications at no charge, visit the City of Mt. Pleasant website at www.mt-pleasant.org and navigate to the Bids and Quotes page.

The City of Mt. Pleasant reserves the right to accept or reject any or all bids, to waive any irregularities in the bids, and to select the bid considered most advantageous to the city.

Jennifer A. Flachs
City Inspector
(989) 779-5406

Jeremy Howard
City Clerk

INSTRUCTIONS TO BIDDERS

1. Proposals

Proposals must be made upon the forms provided therefore, with the Bid amount both written and shown in figures, and all other data required submitted.

The Proposal, bound together with all Proposal Documents, must be enclosed in a sealed envelope marked as specified in the Notice to Bidders for such Bid and clearly indicating the name and address of the Bidder and must be received by the City Clerk, City Hall, 320 W. Broadway Street, Mt. Pleasant, Michigan 48858, no later than the time and date specified in the Notice to Bidders. At such specified time, Proposals shall be publicly opened and read aloud.

2. Basis of Proposals

Proposals are solicited on the basis of unit price(s) and/or lump sum(s), as specified on the Proposal form.

The City of Mt. Pleasant (also referred to as "Owner"), reserves the right to accept any Bid, to reject any or all Bids, to waive any irregularities in the Bids, and to select the Bid considered most advantageous to the city.

3. Comparison of Bids

In comparing Bids, consideration shall be given to the time proposed for completion of the Contract, qualifications of Bidder, price differentials, alternate Proposals for the alternate items listed in the Proposal (if applicable), and any other pertinent factors. **The City of Mt. Pleasant grants a preference to businesses located within the Mt. Pleasant City Limits. The preference given is a differential above the low bid if the low bid is not from a City of Mt. Pleasant bidder. The differential allowed is 3% of the total for bids between \$5,000 and \$9999 and 2% of the total for bids over \$10,000. The maximum credit allowed is \$1500.00.** The Owner reserves the right to make an award to the Bidder whose Proposal is deemed to be in the best interest of the Owner.

4. Time

Time is of the essence in the performance of the Contract, and each Bidder, by submitting a Proposal, certifies his/her acceptance of the time allowed by the Contract for the completion of the work specified.

5. Indemnification

The Contractor shall save and hold harmless the city and its employees from and against all claims, damages, losses, or expenses, including attorney's fees, arising out of or resulting from the performance of the work; provided that any such claim, damage, loss or expense is caused in whole or in part by any negligent or willful act of omission of the contractor, subcontractor, employee, or anyone under their direction. The Contractor shall at his/her own expense, defend any and all such actions and shall pay all attorney's fees, costs, and expenses pertaining thereto.

6. **Bid Deposits**

Each Proposal shall be accompanied by a certified check, or a Bid Bond by a recognized Surety Company similar to a U. S. Government Standard Form Bid Bond, in the amount of five percent (5%) of the total amount of the Bid, made payable to the City of Mt. Pleasant, subject to forfeiture to the Owner in the event of failure on the part of the successful Bidder to enter into the attached form of agreement to do the work specified by said Proposal at the price and within the time stated therein. The Bid Deposit of all Bidders, except the three (3) lowest acceptable Bidders, shall be returned within two (2) weeks after opening of bids. The bid deposits of the three (3) lowest acceptable bidders shall be returned within 48 hours after the executed Contract(s) have been finally approved by the Owner.

7. **Liquidated Damages**

A liquidated damage clause, as given in the Contract form, provides that the Contractor shall pay the Owner as liquidated damages, and not as a penalty, the amount indicated in the Special Conditions for each and every calendar day that the Contractor may be in default of substantial completion of the work required under said Contract.

8. **Insurance and Bonds**

The successful Bidder will be required to execute (2) Bonds, in the form attached hereto, with Surety acceptable to the Owner and insurance, as follows:

- a. Bond in the amount of 100% of the Estimated Contract Price running to the City of Mt. Pleasant, Michigan, to insure the completion of the entire work, according to the statutes of the State of Michigan in effect at that time.
- b. Bond in the amount of 100% of the Estimated Contract Price running to the People of the State of Michigan for the protection of Subcontractors and Labor and Material Men, according to the statutes of the State of Michigan in effect at that time.
- c. Insurance in the amounts required by City Ordinance as specified in the Section 1 - General Construction Specifications, attached hereto.

The successful bidder shall be required to furnish for each set of executed Contract Documents, and conformed copies thereof, an original conformed Performance Bond, Labor and Materials Bond, Maintenance Bond, and Insurance Certificates.

9. **Permits and Local Codes**

The Owner shall procure the required permits for municipal sanitary sewer construction, municipal water system construction, and soil erosion control.

The Contractor shall obtain, at his/her expense, all other required local construction permits and shall comply with local building code and inspection requirements.

10. **Qualifications of Bidders**

It is the intent of the Owner to award the Contract to a Bidder fully capable, both financially and with regard to experience, to perform and complete all work in a satisfactory and timely manner. Evidence of such competency must be furnished on the forms included in the proposal, listing projects of similar difficulty, scope of work, and size which the Bidder has satisfactorily undertaken and completed.

It is the intention of the City to award the contract to a Contractor whose ability and financial resources are fully equal to the task of performing the work in a satisfactory manner. With this in view, the Proposal calls for at least five (5) references, using specific names of persons to contact concerning the Contractor's ability to do this particular class of work. References from municipalities are preferred. The mere ability to furnish a Performance Bond shall not be accepted as sufficient evidence of responsibility on the part of the Bidder. The Bidder may also be required to furnish evidence of his current financial status.

11. **Interpretation of Documents**

If any Bidder is in doubt as to the true meaning of any part of the Plans, Specifications or any Contract Document, he/she may submit to the Owner a written request for an interpretation thereof. Any interpretation made in response to such a query shall be made only by Addendum, duly issued, and a copy of such Addendum shall be mailed or duly delivered to each prospective Bidder. The Owner shall not be responsible for any other explanation or interpretation of the Contract Documents. Alternative proposals that are suggested by bidders will be given consideration, if presented before the bid opening. If accepted, an addendum will be issued and sent out to all potential bidders, so that they may bid on the alternatives that have been identified.

12. **Execution of Bid Proposal**

A Bid Proposal which is not signed by the individual making it should have attached thereto a Power of Attorney evidencing authority to sign the Bid Proposal in the name of the person for whom it is signed.

A Bid Proposal which is signed by a partnership shall be signed by all of the partners or by an Attorney-in-Fact. If signed by an Attorney-in-Fact, there should be attached to the Bid a Power of Attorney evidencing authority to sign the Bid Proposal in the name of the partnership and such Power of Attorney shall be signed by all partners of the partnership.

A Bid Proposal which is signed for a corporation should have the correct corporate name thereof and the signature of the President, or other authorized officer(s) of the corporation, manually written below the corporate name and on the line indicating "By: _____." If such a Bid Proposal is manually signed by an officer other than the President of the corporation, a certified copy of a Resolution of the Board of Directors evidencing the authority of such officer(s) to sign the Bid Proposal should be attached thereto. Such a Bid Proposal should also bear the attested signature of the Secretary of the corporation and an impression of the corporate seal.

13. **Execution of Contract**

The successful Bidder to whom an award is made shall be required to enter into a written agreement, in the form attached hereto, within ten (10) days after receipt of a Notice of Award and copies of the documents to be executed. In the event the successful Bidder fails to comply with this provision, he/she may be considered by the Owner to have abandoned all his/her rights and interests in the award and his/her certified check or amount of the Bid Bond may be declared to be forfeited to the Owner, and the Contract may be awarded to another.

14. **Bidder Responsibility For Conditions of Work and Site**

The Bidder, or his/her representative, shall make personal investigation of the site of work and of existing structures and shall determine to his/her own satisfaction the conditions to be encountered, the nature of the ground, the difficulties involved in making connections to existing structures and pipes, and any and all other factors affecting the work proposed under the Contract.

The Bidder to whom the Contract is awarded shall not be entitled to any additional compensation by reason of conditions being different from those anticipated or by reason of his/her failure to fully acquaint himself/herself with the conditions at the site affecting the work of the Contract.

15. **Changes in Work**

If any change is required to be made in the work of the Contract, a payment adjustment therefore shall be determined as specified in the "TECHNICAL SPECIFICATIONS, Section 1 - General Construction Specifications" of the Contract.

Revised: July 2011

City of Mt. Pleasant, Michigan

ADMINISTRATIVE MEMO NO 8-78

Issued: October 10, 1978

Revised: June 21, 1989

Subject: **MINIMUM INSURANCE REQUIREMENTS FOR CONTRACTORS**

Summary Statement

The provision of adequate insurance by persons and businesses working for the city or on street right-of-way is essential to protect the public from the costs of injury or damage and to protect the city from unnecessary liability resulting from the acts of persons and businesses working for the city. Minimum insurance requirements are needed to provide this protection.

Memo

Persons or businesses which provide professional services to the city under the terms of a written contract or provide labor and/or material to accomplish work for the city or for others on or over street right-of-way or other city property shall carry insurance and bonds to protect the public and the City from exposure to unnecessary financial risks.

Prior to signing of contracts, issuance of purchase orders or permits, or other authorization to begin work, certificates of insurance evidencing the purchase of insurance in amounts not less than required by the Administrative memo or bid specifications, whichever is greater, shall be filed with City Clerk. Such certificates shall:

- a. Show that the insurance is currently in force and termination date of each policy.
- b. State the limits of liability of the policies covered by the certificate.
- c. Show that the City of Mt. Pleasant is to be specifically named in policy as an "additional insured" and should be issued to the City of Mt. Pleasant as the certificate holder.
- d. Provide that the City will receive not less than 10 days written notice of the cancellation of any listed policy.
- e. Be issued in the name of an insurance company authorized to conduct business in the State of Michigan.

Required bonds shall be filed with the City Clerk prior to the signing of contracts or other authorizations to proceed with work.

Insurance and bonds shall meet or exceed the following requirements. Exceptions to recognize more or less hazardous operations and financial risks should be considered and with approval of the City Manager may be made in specifications or contract requirements prior to awarding contracts or issuing purchase orders.

INSURANCE REQUIREMENTS

Type	Limit of Liability	Required of:	
		City Contractor	Contractor On R-O-W
Worker's Compensation and Employer's Liability	Statutory Coverage B \$100,000	X	X
Public Liability (including products and completed operations liability)			
Bodily Injury	\$250,000 each person	X	X
	\$500,000 each accident	X	X
Property Damage	\$250,000 each accident	X	X
	\$250,000 each aggregate	X	X
Automobile Liability (including hired cars and automobile non-ownership)			
Bodily Injury	\$250,000 each person	X	X
	\$500,000 each occurrence	X	X
Property Damage	\$250,000 each accident	X	X
	\$250,000 each aggregate	X	X
Additional Insured Clause	City of Mt. Pleasant to be specifically named in policy as an "additional insured"	X	X
Excess Liability (Required unless risk occurrence is nominal)	\$1,000,000 each	X	

Persons or businesses engaged to provide labor and material in an amount in excess of \$10,000, or who will receive partial payments as work progresses will provide labor, performance and material bonds equal to the value of the work being performed. Such bonds are not required where the work to be done is of a type in which the failure to perform will not adversely affect the city's ability to function or increase the city's cost of completing the work.

Request for Taxpayer Identification Number and Certification

**Give Form to the
 requester. Do not
 send to the IRS.**

Print or type See Specific Instructions on page 2.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.		
	2 Business name/disregarded entity name, if different from above		
	3 Check appropriate box for federal tax classification; check only one of the following seven boxes: <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. <input type="checkbox"/> Other (see Instructions) ▶ _____		4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>
	5 Address (number, street, and apt. or suite no.)		Requester's name and address (optional)
	6 City, state, and ZIP code		
	7 List account number(s) here (optional)		

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number									
or									
Employer identification number									

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶ _____	Date ▶ _____
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note. ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C Corporation, or S Corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

- A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)
- B—The United States or any of its agencies or instrumentalities
- C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)
- E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)
- F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state
- G—A real estate investment trust
- H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940
 - I—A common trust fund as defined in section 584(a)
 - J—A bank as defined in section 581
 - K—A broker
 - L—A trust exempt from tax under section 664 or described in section 4947(a)(1)
 - M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note. You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.ssa.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number to Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ³
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor ⁴
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ⁴
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

*Note. Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

City of Mt. Pleasant, Michigan
BID PROPOSAL
2017 Manhole Rehabilitation Project

TO: City Clerk
City Hall
320 W. Broadway Street
Mt. Pleasant, MI 48858

BID DATE: March 7, 2017
TIME: 1:30 p.m.

The undersigned, as Bidder, hereby declares that this bid is made in good faith without fraud or collusion with any person or persons bidding of the same Contract; that he has carefully read and examined the Contract Documents, including the Notice to Bidders, Instructions, Bond Forms, Technical and Detailed Specifications, and Contract Drawings, for the designated work and understands all of the same; that he, or his representative, has made such a personal investigation at the site as is necessary to determine the character and difficulties attending the execution of the proposed work; and he proposes and agrees that if this Proposal is accepted, he will contract with the Owner in the form of the Contract hereto annexed, to provide necessary machinery, tools, apparatus and other means of construction, including utility and transportation services, necessary to do all the work and furnish all the materials and equipment specified or referred to in the Contract Documents, including Addenda No. __, __, and __, in the manner and time therein prescribed, and according to the requirements of the Owner as therein set forth to furnish Contractor Bonds and Insurance required of the Contractor by the Contract Documents, and that he will take in full payment therefore the unit prices set forth in the following Proposal.

The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any irregularities in the bidding.

The Bidder agrees that his bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving the bids.

Upon receipt of a written Notice of Award of the Bid, the Bidder shall execute the formal Contract Agreement attached hereto within ten (10) days and shall deliver to the Owner a Surety Bond or Bonds required. In the event the Contract and Bond are not executed within the time above set forth, the Bid Deposit attached in the sum of five percent (5%) of the Bid Proposal shall become the property of the Owner as liquidated damages for the delay and additional expense to the Owner caused thereby.

The Bidder hereby agrees to commence work under this Contract on or before the date to be specified in the written Notice to Proceed executed by the Owner and to fully complete the project as stipulated in the Special Conditions of these Specifications. The Bidder further agrees to pay as liquidated damages the sum indicated in the Special Conditions for each consecutive calendar day thereafter, until substantial completion, that is when all work items in the proposal are complete and notification of substantial completion of work items and final quantities is given to the Director of Public Works by the contractor.

The below unit prices shall include all labor, materials, overhead, profit, insurance, etc., to cover the finished work of the several kinds specified, and the Bidder agrees to perform all of the work described in the Specifications and/or shown on the Plans for the following unit prices:

ITEM NO.	DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL
----------	-------------	-----	------	-----------	-------

#1 Sanitary Manhole Rehabilitation

- 2.6' Dia to 4.5' Dia Chimney Section Only	900	LFT	\$ _____	\$ _____
---	-----	-----	----------	----------

TOTAL BID

\$ _____
 \$ _____
 =====
 (figures)

_____ and ____/100 Dollars
 (written).

RESPECTFULLY SUBMITTED,

COMPANY NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

AREA CODE/TELEPHONE NUMBER _____ DATE _____

Authorized Signature _____

Print or Type Name and Title _____

Fax Number _____

EXPERIENCE QUESTIONNAIRE
TO BE FURNISHED BY BIDDER
CITY OF MOUNT PLEASANT, MICHIGAN

The signatory of this proposal guarantees the truth and accuracy of all statements and of all answers hereinafter made.

1. How many years have you been in business as a contractor under your present name?

2. How many years have you been a principal officer of a firm under a different name?

Name of Firm _____

3. What projects of a similar nature has your organization contracted for within the past five years? (NOTE: Fill out each blank completely.)

Name of Owner & Location	Name/Address/Phone # of Person in Charge as Reference	Type of Work	Value of Work	Date Completed
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____

City of Mt. Pleasant, Michigan
2017 MANHOLE REHABILITATION PROJECT
SPECIAL CONDITIONS

SCOPE:

This project involves the rehabilitation of sanitary sewer manholes in accordance with the specifications. All work required to complete the rehabilitation, and return the manholes to full service shall be included in the unit prices in the proposal.

TIME CONSTRAINT:

The Contractor shall commence this work on August 28, 2017 and complete all work on or before September 22, 2017. Liquidated damages at the rate of \$300.00 per day will be assessed for each day the work is not completed after September 22, 2017 unless otherwise approved by the City Inspector. No work to take place on Labor Day.

SCHEDULE:

The Contractor shall notify the City Inspector regarding their schedule for performing the work at least a week prior to the work beginning. The City of Mt. Pleasant Street Department will perform basic cleaning of the structures prior to the contractor beginning work on the project.

STANDARD CONSTRUCTION SPECIFICATIONS:

The City of Mt. Pleasant Standard Construction Specifications dated February 2007 must be followed for construction on this project. They are available on the City webpage at

www.mt-pleasant.org/docs/dept/engineering/genspec07.pdf

MANHOLE LOCATIONS:

Manholes for this project are located on various local streets throughout the City. See attached overview map.

BY-PASS PUMPING:

The Contractor shall be responsible for any by-pass pumping that may be required.

City of Mt. Pleasant, Michigan
TECHNICAL SPECIFICATIONS
Section 20
MANHOLE REHABILITATION

20.01 SCOPE

- A. The Contractor shall furnish all labor, equipment, and materials necessary for manhole rehabilitation to stop inflow, infiltration, and exfiltration; repair voids; restore structural integrity; and provide protection against corrosion. A monolithic, fiber-reinforced, structurally enhanced, cementitious-based liner material is spray applied to the wall and bench surfaces of the manhole.

20.02 PRODUCT, MANUFACTURER/INSTALLER QUALIFICATION REQUIREMENTS

- A. Product Data: Submit manufacturer's product data, including physical properties, surface preparation, repair, application, curing, and field quality control.
- B. Manufacturer Qualifications:
 - 1. Material Qualifications: Minimum of five-year history of being used for rehabilitation of sanitary sewer manholes.
 - 2. Manufacturer Qualifications: Submit list of a minimum of ten manhole rehabilitation projects completed during past three years.
- C. Applicator Qualifications: Submit qualifications or applicator.
 - 1. Certification stating applicator is factory trained and approved by manufacturer in application of the specified products.
 - 2. List of recently completed manhole rehabilitation projects, including project name and location, names of owner and engineer, and description of products used, substrates, and application procedures.

20.03 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

- B. Storage:
 - 1. Store materials in accordance with manufacturer's instructions.
 - 2. Keep containers sealed until ready for use.
 - 3. Store materials in a cool, dry environment.
- C. Handling: Protect materials during handling and application to prevent damage.

20.04 ENVIRONMENTAL CONDITIONS

- A. Do not apply materials if ambient temperature is below 40 degrees F.
- B. Do not apply materials to frozen surfaces or if freezing is expected within substrate within 24 hours after application.
- C. Keep mix temperature at time of application below 90 degrees F.
- D. Do not exceed water temperature of 80 degrees F.

20.05 MATERIALS

- A. General:
 - 1. Materials from single manufacturer.
 - 2. Materials compatible with substrate and with each other.
 - 3. Materials approved by manufacturer.
- B. Patching Material: rapid-setting, fiber-reinforced, high-early-strength, corrosion-resistant, hand-mixed and hand-applied, calcium aluminate based cementitious material, or approved equal.
 - 1. Cement: Calcium aluminate cement.
 - 2. Minimum Compressive Strength, ASTM C 109: 1,400 psi at 6 hours.
 - 3. Minimum Bond, ASTM C 321: 145 psi at 28 days.
 - 4. Applied Density: 105 plus or minus 5 pounds per cubic foot.
 - 5. Shrinkage, ASTM C 596: 0 percent at 90 percent relative humidity.

- C. Infiltration Control Material: rapid-setting, high-early-strength, hand-applied, cementitious material.
1. Compressive Strength, ASTM C 109: 400 to 600 psi at 1 hour; 1,800 to 2,400 psi at 24 hours.
 2. Expansion, ASTM C 827: 0.10 percent.
 3. Sulfate Resistance, ASTM C 267: no weight loss after 15 cycles; 2,000 ppm; test continuing.
 4. Freeze/Thaw Resistance, ASTM C 666, Method A: 100 cycles.
 5. Pull-Out Strength, ASTM C 234: 14,000 pounds.
- D. Cementitious Grout: cementitious grout, volume stable.
1. Minimum Compressive Strength, ASTM C 109: 250 psi at 28 days.
- E. Storm Sewer Manhole Liner Material: fiber reinforced, spray-applied, cementitious mortar.
1. Minimum Compressive Strength, ASTM C 109: 9,000 psi at 28 days.
 2. Minimum Tensile Strength, ASTM C 496: 900 psi at 28 days.
 3. Minimum Flexural Strength, ASTM C 78: 1400 psi at 28 days.
 4. Shrinkage, ASTM C 596: 0 percent at 28 days, 90 percent relative humidity.
 5. Minimum Bond, ASTM C 952: 2,000 psi at 28 days.
 6. Applied Density: 133 plus or minus 5 pounds per cubic foot.
 7. Freeze/Thaw Resistance, ASTM C 666, Method A: 100 cycles, no visible damage.
 8. Factory Blended: requires only addition of water at site.
 9. Minimum Cement Content: 50 percent of total weight bag.
 10. Dry Bulk Density: 74 to 76 pounds per cubic foot.

11. Fiber Requirement: 1/2 to 5/8 inch alkaline-resistant fiberglass rods.
- F. Sanitary Sewer Manhole Liner Material: fiber-reinforced, spray-applied, cementitious mortar.
1. Cement: 100 percent pure fused calcium aluminate clinker and calcium aluminate cement.
 2. Minimum Compressive Strength, ASTM C 109: 8,000 psi at 28 days.
 3. Minimum Tensile Strength, ASTM C 496: 800 psi at 28 days.
 4. Minimum Flexural Strength, ASTM C 78: 1,200 psi at 28 days.
 5. Shrinkage, ASTM C 596: 0 percent at 28 days, 90 percent relative humidity.
 6. Minimum Bond, ASTM C 952: 2,000 psi at 28 days.
 7. Applied Density: 150 plus or minus 5 pounds per cubic foot.
 8. Freeze/Thaw Resistance, ASTM C 666, Method A: 100 cycles, no visible damage.
 9. Factory Blended: requires only addition of water on site.
 10. Dry Bulk Density: 88 to 92 pounds per cubic foot.
 11. Fiber Reinforcement: 1/2 to 5/8 inch alkaline-resistant fiberglass rods.
- G. Water: Clean and potable. Test non-potable water in accordance with ASTM C 94.

20.06 SURFACE PREPARATION

- A. Examine surfaces to receive manhole rehabilitation. Notify the City Inspector in writing if surfaces are not acceptable. Do not begin surface preparation, repair, or application until unacceptable conditions have been corrected.
- B. Prepare surfaces in accordance with manufacturer's instructions.

- C. Protection: Place covers over invert to prevent extraneous material from entering sewer lines.
- D. Cleaning: Clean manhole walls and bench by using a minimum of 1,500 psi water spray to remove contaminants, dirt, debris, and other foreign materials.
- E. Remove loose, unsound, and protruding brick, mortar, and concrete.
- F. Inspection by City Inspector: Before application of each material, surfaces to be sprayed or coated will be inspected by the Engineer. Correct defects or deficiencies identified by the City Inspector before application of subsequent material.
- G. Voids: Repair and fill voids greater than two-inches in depth with patching material. Apply patching material in accordance with manufacturer's instructions.
- H. Active Leaks:
 - 1. Stop active leaks with patching material or infiltration control material. Apply material in accordance with manufacturer's instructions.
 - 2. Install weep holes as required to localize infiltration during application of patching material or infiltration control material.
 - 3. Plug weep holes after application with infiltration control material before application of liner material.
 - 4. Severe Infiltration: Drill as required to pressure grout using a cementitious or chemical grout. Apply grout in accordance with manufacturer's instructions.
- I. Advance Notice: Give the City Inspector a minimum of three days' advance notice of start of application.

20.07 INVERT REPAIR

- A. Remove loose and unsound materials and wash walls, after surface preparation is complete.
- B. Repair bench, invert, or service line using patching material. Apply in accordance with manufacturer's instructions.
- C. Repair inverts with visible damage, where infiltration is present, or when vacuum testing is specified.

- D. Apply patching material to invert, after blocking flow through manhole and thoroughly cleaning invert.
- E. Uniformly trowel patching material onto damaged invert at a minimum thickness of 1/2 inch at invert. Extend out onto bench of manhole sufficiently to tie into liner material.
- F. Ensure finished invert surfaces are smooth and free of ridges.
- G. Reestablish flow in manhole after a minimum of 30 minutes after application of patching material.

20.08 APPLICATION OF LINER MATERIAL

- A. Apply liner material in accordance with manufacturer's instructions.
- B. Equipment: Spray apply liner material using approved equipment designed and manufactured by material manufacturer for the specific application.
- C. Mixing:
 - 1. Mix liner material with water in accordance with manufacturer's instructions.
 - 2. Discharge prepared mix into hopper.
 - 3. Continue mixing as liner material is continuously sprayed.
- D. Cleaning: Ensure surface is clean and free of foreign material.
- E. Saturated Surface: Ensure surface is damp and totally saturated with water without noticeable free water droplets or running water, just before application of liner material.
- F. Spraying: Spray apply liner in one or more passes from bottom of wall to bottom of frame to form a structurally enhanced monolithic liner.
 - 1. Minimum Total Thickness: 1/2 inch.
- G. Finishing:
 - 1. Trowel surface of sprayed liner material to relatively smooth finish. Do not over trowel.

2. Apply brush finish to trowel finished surface.
- H. Follow manufacturer's instructions whenever more than 24 hours have elapsed between applications.
- I. Application to Bench:
1. Remove wood covers.
 2. Spray bench with liner material mixed in accordance with manufacturer's instructions.
 3. Spray apply liner material to produce a gradual slope from walls to invert to form a structurally enhanced monolithic liner. Minimum thickness at invert of 1/2 inch.
 4. Round full circumference of intersection of wall and bench to a uniform radius.

20.09 CURING

- A. Cure materials in accordance with manufacturer's instructions.
- B. Exposure:
1. Minimize exposure of applied materials to sunlight and air movement.
 2. Cover structure if time between applications of additional coats is to be longer than 15 minutes.
 3. Do not expose finished materials to sunlight or air movement for longer than 15 minutes before covering or closing access.
 4. Shade manhole while rehabilitation is in process in hot and arid climates.
- C. Concrete Curing Compound:
1. Apply concrete curing compound if relative humidity is less than 70 percent within manhole.
 2. Apply curing compound in accordance with manufacturer's instructions.

- D. Cure Time: Allow a minimum of eight hours cure time before subjecting manholes to flows.

20.10 FIELD QUALITY CONTROL

- A. Inspection by the City Inspector or the waiver of inspection of any portion of the work shall not relieve the Contractor of responsibility to perform the work as specified.
- B. Field Quality Control Testing: Performed by the City Inspector at Contractor's expense.
- C. Compressive Strength Test:
 - 1. Cast four two-inch cubes each day or from each pallet of material.
 - 2. Label, package, and mail cubes to manufacturer.
 - 3. Manufacturer shall test cubes for compressive strength in accordance with ASTM C 109 and submit test results to the Contractor and Engineer.
- D. Leaks: Visually verify absence of leaks.

20.11 PROTECTION

- A. Do not allow traffic for a minimum of 24 hours after final application of liner material.