

CONTRACT DOCUMENTS

TOWN OF PELHAM, ONTARIO

Fonthill Core Storm Sewer Scheme

Project
EO 78106

November 1978

THE PROCTOR AND REDFERN GROUP,
Consulting Engineers and Planners,
110 James Street, St. Catharines, Ontario.
L2R 7E9

GKS:MD:
tp

TENDERER'S CHECK LIST

Before submitting your tender, check the following points:

1. Has your tender been signed, sealed and witnessed? ☐
2. Have you enclosed the Tender Deposit, i.e. certified cheque or bid bond? (whichever is required by the Contract Documents) ☐
3. Have you enclosed the Agreement to Bond, signed and sealed by your proposed Surety? ☐
4. Have you completed all schedules and prices in the Form of Tender? ☐
5. Have you indicated and included the Contingency Allowance in the Form of Tender? (if you are required to do so) ☐
6. Have you indicated the number of addenda included in the tender price? ☐
7. Have you shown the time for completion of the work? (if applicable) ☐
10. Have you listed your Senior Staff? (if applicable) ☐
11. Have you listed the Tenderer's Plant? (if applicable) ☐
12. Are the documents complete? ☐

Note: Items 13 and 14 are for Ministry of Transportation and Communication projects only.

14. Have you enclosed the Form of Tender stamped "For Tendering Purposes Only" (if applicable) ☐

Note: 1. Your tender will be informal and may be disqualified if Any of the foregoing points (if applicable) have not been complied with.

MAKE SURE THAT YOU SEAL THE TENDER IN AN ENVELOPE AND MARK THEREON THE CONTRACT NAME AND E.O. NUMBER.

Proctor and Redfern Limited
Form CD-30- February 1973

LIST OF CONTRACT DOCUMENTS

| | <u>Paper Colour</u> | <u>No. of Pages</u> |
|--|-------------------------|-------------------------|
| Addenda Numbered <u>Nil</u> to <u>Nil</u> | Green | |
| Tenderer's Check List | Bright Pink | 1 |
| List of Contract Documents | Pink | 1 |
| Tendering Information | Blue | 3 |
| Form of Tender | Yellow | 6 |
| Agreement | White | 1 |
| Agreement to Bond (CD-22) | White | 1 |
| Bid Bond (CCA Document (S)20) | White | 1 |
| Performance Bond (CCA Document (S)21) | White | 1 |
| Labour and Material Payment Bond (CCA Document (S)22) | White | 1 |
| List of Sub-Contractors (CD-3) | White | 1 |
| Tenderer's Experience (CD-4) | White | 1 |
| Tenderer's Senior Staff (CD-5) | White | 1 |
| Tenderer's Plant (CD-6) | White | 1 |
| Certificate of Insurance (CD-23) | White | 1 |
| Supplementary Conditions | Blue | 2 |
| General Conditions of the Contract (CD-1) | Blue | 8 |
| Project Specifications | | |
| Section 01010 - General | White | 3 |
| Section 02550 - Site Clearing, Excavating, Backfilling and Restoration of Trenches | White | 5 |
| Section 02560 - Sewers | White | 4 |

LIST OF DRAWINGS

B-78106-P1 Fonthill Core Storm Sewer

LIST OF STANDARDS

| | |
|------------|---------------------------------------|
| E-STD-2-10 | Aluminum Safety Ladder Rungs |
| S-2 | Standard Pipe Bedding Details |
| S-3 | 48-in. Dia. Pre-cast Concrete Manhole |
| S-7 | Depressed Catchbasin Frame and Grate |

SECTION 00100 - TENDERING INFORMATION

TI.01 DELIVERY AND OPENING OF TENDERS

- A. Sealed tenders, marked with the name of the project, will be received by -
Mr. L.C. Hunt, Clerk-Treasurer, Town of Pelham, 43 South Pelham Street, Ponthill, Ontario.
up to 2:00 p.m., Local Time -
TUESDAY, NOVEMBER 14th, 1978.
- B. The tenders will be opened publicly as soon after the closing time as possible.
- C. Tenders shall be completed on the detachable Form of Tender included in the Contract Documents.

TI.02 DISCREPANCIES

- A. If a Tenderer finds discrepancies in, or omissions from the Contract Documents, or if he is in doubt as to their meaning, he shall notify the Engineer, who may issue a written addendum. Neither the Owner nor the Engineer will make oral interpretations of the meaning of the Contract Documents.
- B. Should the Tenderer not agree that the materials and methods specified, or designed on the Drawings, will provide an installation to meet the requirements of the project, he shall notify the Engineer in writing, stating his reason for objection and may submit a suggested alternative. In such an event, the Engineer may choose to issue an addendum.
- C. Addenda issued during the tendering period shall be allowed for by the Tenderer.

TI.03 EXAMINATION OF SITE

- A. The Tenderer shall visit the site of the Work before submitting his tender and shall by personal examination satisfy himself as to the local conditions that may be encountered during construction of the Work. He shall make his own estimate of the facilities and difficulties that may be encountered and the nature of the subsurface materials and conditions.
- B. He shall not claim at any time after submission of his tender that there was any misunderstanding of the terms and conditions of the Contract relating to site conditions.

TI.04 SALES TAX

- A. The Tenderer shall include or exclude sales tax in accordance with current sales tax legislation taking into account any changes that have been made known by the Government and that will occur during the life of the Contract.
- B. PROVINCIAL SALES TAX
 - 1. The prices shall exclude provincial sales tax on all materials to be incorporated into the Work, except for ready-mix concrete, and hot and cold asphaltic mix.

Except as noted above, the Contractor will be required to obtain a special permit from the Retail Sales Tax branch and may purchase materials exempt from provincial sales tax by supplying with his orders, a purchase exemption certificate. This procedure shall comply with

TI.04 SALES TAX (Cont'd)

B. (Cont'd)

1. (Cont'd)

ruling 21 of the Retail Sales Tax Branch.

The Contractor may be required to submit to the Owner, statements certifying quantities and strengths of ready-mix and hot and cold asphaltic mix, so that the Owner may apply for refund of taxes.

C. FEDERAL SALES TAX

1. The prices shall include federal sales tax on taxable items. Refunds will be applied for by the Owner, and will remain the property of the Owner. The Contractor shall supply the Owner with copies of receipted invoices for all materials purchased in connection with the Work, indicating federal sales tax amounts paid.
- D. If sales taxes are increased or decreased, or other amendments are made in the legislation, during the course of the Contract, that alter tax amounts carried in the Contract price, an adjustment will be made accordingly.
- E. The Contractor shall keep records and invoices of accounts subject to Federal and Provincial Sales Tax for the purpose of establishing taxes paid and for substantiation in the event of changes to the tax legislation during the course of the Contract.

TI.05 PROOF OF ABILITY

- A. The Tenderer shall be competent and capable of performing the various items of Work. The Tenderer shall complete the following statement sheets, which shall form a part of the Contract Documents -
 1. Tenderer's Experience on Similar Work (CD-4) with list of specific examples completed within the last 5 yrs., with appropriate references
 2. Tenderer's Senior Staff to be employed (CD-5)
 3. Tenderer's Plant to be used (CD-6)

TI.06 TENDER DEPOSIT

- A. Every tender shall be accompanied by a Bid Bond in an amount equal to \$2,500.00

C.C.A. Document (S)20 shall be used for the Bid Bond.

The Tenderer shall keep his tender open for acceptance for 60 days after the closing date. Withdrawal during this period will result in forfeiture or enforcement of the Bid Bond.

Upon being notified that his tender has been accepted, the Contractor shall execute copies of the Agreement, supply bonds and insurance documents as specified, and start Work as specified.

Failure to execute the copies of the Agreement, or to supply bonds and insurance documents, all within 2 weeks of the date of acceptance of the tender, or to start Work as specified, will automatically mean the forfeiture or enforcement of the Bid Bond.

Bid Bonds of unsuccessful Tenderers will be returned not later than 2 weeks following Contract award.

The Bid Bond of the successful Tenderer will be returned with the first progress certificate.

TI.07 AGREEMENT TO BOND

- A. Every tender shall be accompanied by an 'Agreement to Bond' in the form attached, and shall be completed by a surety company lawfully doing business in the Province.

TI.08 SUB-CONTRACTORS

- A. The Tenderer shall submit with his tender the names and addresses of Sub-contractors he proposes to use and the value for the subtrades listed in Form CD-3 'List of Sub-contractors'.

TI.09 ACCEPTANCE OF TENDERS

- A. The lowest or any tender need not necessarily be accepted by the Owner.

TI.10 EQUIVALENTS

- A. When an article is specified by its trade or other name (whether such name is followed by the phrase 'or approved equal' or not), the Tenderer shall base his tender price on the supply of the named article and no other.

FORM OF TENDER

FT.01 TENDER PRICE

1. Offer by - Name - M.J. Storm Ltd.

Address - 1413 Spears Rd., Fort Erie, Ontario

Date - Nov. 14th, 1978

2. To The Corporation of the Town of Pelham

A. We, the undersigned, having examined the site of the Work, having carefully investigated the conditions pertaining to the Work and having secured all the information necessary to enable us to submit a bona fide tender, and having inspected all the Contract Documents, hereby agree to enter into a contract and to perform all the Work in a good and Workmanlike manner in accordance with the Contract Documents to the satisfaction of the Engineer for the total tender price of

dollars (\$23,321.59)

FT.02 CONTINGENCIES AND ALLOWANCES

A. We agree that the tender price includes the contingency sum of \$1,500.00 and that no part of this sum shall be expended without the written direction of the Engineer, and any part not so expended shall be deducted from the tender price.

FT.03 QUANTITIES

A. The tender price is compiled from the Schedule Of Tender Prices included hereinafter. The quantities in the schedule being approximate, we agree that the final valuation will be made on the basis of actual quantities measured during and on completion of the Work at the prices in the schedule.

FT.04 ADDITIONS AND DEDUCTIONS

A. We agree that the valuation of additions to, and deductions from, the contract shall be made as follows -

1. The prices in the Schedule Of Tender Prices shall apply where appropriate.
2. If the prices in subsections 1 are not appropriate, valuation will be made by one of the following methods -
 - (A) The Engineer may ask the Contractor for a quotation for the proposed Work.
 - (B) If the quotation referred to in (A) above is not accepted by the Engineer, the actual cost of the Work will be determined as the total of only the following -
 - (1) Actual cost of labour, including such items as Workmen's Compensation and Unemployment Insurance.
 - (2) Actual cost of materials to be incorporated into the Work, including such items as freight and taxes.
 - (3) For Work done by the Contractor, an amount equal to 15 percent of the totals from subsections (1) and (2) above, which shall constitute overhead and profit of the Contractor.

FT.04 ADDITIONS AND DEDUCTIONS (Cont'd)

A. (Cont'd)

2. (B) (Cont'd)

- (4) For Work done by Sub-contractors, an amount equal to 20 percent of the totals from subsections (1) and (2) above, which shall constitute overhead and profit of the Contractor and Sub-contractors.
 - (5) Rental of equipment and plant having a new value greater than \$300. Rental rates shall be as set out in the current edition of MTC form 527.
3. Whenever extra Work is being performed under subsection 3(B) above, we agree to submit daily reports in writing, indicating the total chargeable costs incurred for the day. Valuation of the extra Work being so performed will be made only on the basis of the approved daily reports.

FT.05 ADDENDA

- A. We agree that we have received addenda Nil to Nil inclusive, and the tender price includes the provisions set out in such addenda.

FT.06 COMPLETION

- A. We agree to commence Work as specified, to proceed continuously to the completion and to complete all Work within 4 weeks from the date of issue of the written order to start Work.

FT.07 SCHEDULE OF TENDER PRICES

This Schedule is referred to in Clause FT.03 above.

| Item No. | Description | Unit | Quantity | Unit Price | T O T A L |
|-------------|-------------|------|----------|------------|-----------|
|-------------|-------------|------|----------|------------|-----------|

SECTION A - STORM SEWERS

| | | | | | |
|------------------|--|---------|-----|---------|--------------------|
| A1. | Supply & install 15-in. dia. storm sewer pipe CSA A257.1 ES from existing 15-in. dia. storm sewer to CBMH 6 | Lin.Ft. | 45 | \$10.46 | \$ 470.70 |
| A2. | Supply & install 15-in. dia. storm sewer pipe CSA A257.1 ES from CBMH 6 to CBMH 5 | Lin.Ft. | 200 | \$12.85 | \$ 2,570.00 |
| A3. | Supply & install 15-in. dia. storm sewer pipe CSA A257.1 ES from CBMH 5 to CBMH 2 | Lin.Ft. | 80 | \$13.71 | \$ 1,096.80 |
| A4. | Supply & install 15-in. dia. storm sewer pipe CSA A257.1 ES from CBMH 4 to CBMH 3 | Lin.Ft. | 220 | \$12.85 | \$ 2,827.00 |
| A5. | Supply & install 18-in. dia. storm sewer pipe CSA A257.1 ES from CBMH 3 to CBMH 2 | Lin.Ft. | 160 | \$17.68 | \$ 2,828.80 |
| A6. | Supply & install 21-in. dia. storm sewer pipe CSA A257.2 III from CBMH 2 to CBMH 1 | Lin.Ft. | 290 | \$19.04 | \$ 5,521.60 |
| A7. | Supply & install 21-in. dia. storm sewer pipe CSA A257.2 III from CBMH 1 to Ex. MH | Lin.Ft. | 50 | \$19.66 | \$ 983.00 |
| Section A: TOTAL | | | | | <u>\$16,297.90</u> |

SECTION B - CATCHBASIN MANHOLES

| | | | |
|-------------------|---|----------|-----------|
| B1. | CBMH 1 (including frame & grate) Depth to lowest invert - 6 ft. | Lump Sum | \$ 698.69 |
| Sub-Total Forward | | | \$ 698.69 |

| Item No. | Description | Unit | Quantity | Unit Price | T O T A L |
|-------------------|---|------|----------|------------|-------------------|
| Sub-Total Forward | | | | | \$ 698.69 |
| B2. | CBMH 2 (including frame & grate) Depth to lowest invert - 11 ft. | | | Lump Sum | \$ 797.44 |
| B3. | CBMH 3 (including frame & grate) Depth to lowest invert - 9 ft. | | | Lump Sum | \$ 638.41 |
| B4 | CBMH 4 (including frame & grate) Depth to lowest invert - 5 1/2 ft. | | | Lump Sum | \$ 519.49 |
| B5. | CBMH 5 (including frame & grate) Depth to lowest invert - 8 ft. | | | Lump Sum | \$ 698.69 |
| B6. | CBMH 6 (including frame & grate) Depth to lowest invert - 5 1/2 ft. | | | Lump Sum | \$ 579.77 |
| Section B: TOTAL | | | | | <u>\$3,932.49</u> |

SECTION C - FINAL GRADING AND RESTORATION

| | | | | | |
|-----|---|---------|-------|---------|-------------------|
| C1. | Regrade ground along sewer alignments as shown on Dwg. B-78106-P1 shape swale towards catchbasin manholes, replace topsoil and seed for full trench width | Lin.Ft. | 1,040 | \$ 1.53 | <u>\$1,591.20</u> |
|-----|---|---------|-------|---------|-------------------|

| | | |
|-----------------------------------|----------|--------------------|
| SECTION D - CONTINGENCY ALLOWANCE | Lump Sum | <u>\$ 1,500.00</u> |
|-----------------------------------|----------|--------------------|

SUMMARY

| | |
|--|----------------------------|
| Section A - Storm Sewers | \$ 16,297.90 |
| Section B - Catchbasin Manholes | \$ 3,932.49 |
| Section C - Final Grading and Restoration | \$ 1,591.20 |
| Section D - Contingency Allowance | <u>\$ 1,500.00</u> |
| TOTAL | <u><u>\$ 23,321.59</u></u> |

OFFERED ON BEHALF
OF THE CONTRACTOR

Signature

J M Moore

Signature

Contractor's Seal

M.J. Storm Limited

Company Name

Witness

1413 Spears Rd., Fort Erie, Ontario
Address

Date

Proctor & Redfern Limited
Project EO
Contract No. (if any)

(Type in name of
(Project as Heading

AGREEMENT

This Agreement made in triplicate this
1978, between
M.J. Storm Limited

20th

day of November

hereinafter called "The Contractor",

AND

The Town of Pelham

hereinafter called "The Owner".

WITNESSETH, that the Contractor agrees with the Owner to perform all the Work in accordance with the Contract Documents referred to in the tender of the Contractor dated the 14th day of November, 1978, (which shall be deemed to form part of this Contract) to the satisfaction of the Engineer for the total contract price of \$ * 23,321.59 which Contract Documents are attached hereto and which are hereby expressly made part of this Contract.

The Owner hereby agrees with the Contractor, that in consideration of the Work being performed by the Contractor as specified, the Owner shall pay the Contractor for said Work in accordance with the prices set out in the Form of Tender attached hereto, and in accordance with the provisions set out in the attached Contract Documents.

Time shall be deemed the essence of this Contract.

IN WITNESS WHEREOF the parties hereto have executed this Agreement under their respective corporate seals and by the hands of their proper officers thereunto duly authorized.

SIGNED, SEALED AND DELIVERED
in the presence of:

OWNER

The Town of Pelham

Name

E.S. Bergenstein
Signed
MAYOR

Name and Title

L.C. HUWT
Signed
CLERK

Name and Title

Witness

Name and Title

CONTRACTOR

M.J. Storm Limited

Name

Signed

M. Moore
Name and Title
Signed
PRESIDENT

Name and Title

Witness

A. S. Naylor
Name and Title
SUPERINTENDENT

N.B. Where legal jurisdiction, local practice or Owner or Contractor requirement calls for proof of authority to execute this document, proof of such authority in the form of a certified copy of a resolution naming the person or persons in question as authorized to sign the Agreement for and on behalf of the Corporation or Partnership, parties to this Agreement, should be attached.

* Leave enough space for \$10,000,000.00 when reduced to 8 1/2 in. x 11 in.

AGREEMENT TO BOND

Date _____ 19____

Project No. E.O. 78106

*

Gentlemen:

Construction of Fonthill Core Storm Sewers
in the Town of Pelham, Ontario

In consideration of the Owner accepting the tender of and executing
an Agreement with

(hereinafter referred to as 'the Tenderer') for the construction of
Fonthill Core Storm Sewers in the Town of Pelham, Ontario subject
to the express condition that the Owner receive the Performance
Bond and the Payment Bond in accordance with the said tender,
we the undersigned hereby agree with the Owner to become bound
to the Owner as surety for the Tenderer in a performance bond
and a payment bond each in an amount equal to 100% of the
tender price, in the standard forms of the Canadian Construction
Association and in accordance with the said tender, and we agree
to furnish the Owner with the said bonds within 7 days after
notification of the acceptance of the tender has been mailed to
us.

Yours very truly

Note: This Agreement must be executed on behalf of the surety
company by its authorized officers under the company's
corporate seal.

*Enter name and address of surety company at the top of the page.

Form CD-22

Revised April, 1973

BID BOND

No. \$

KNOW ALL MEN BY THESE PRESENTS THAT
..... as Principal
hereinafter called the Principal, and
a corporation created and existing under the laws of
and duly authorized to transact the business of Suretyship in
as Surety, hereinafter called the Surety, are held and firmly bound unto
..... as Obligee
hereinafter called the Obligee, in the amount of

..... Dollars (\$)
lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind
themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a written tender to the Obligee, dated the
day of 19 , for

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the aforesaid Principal shall have the
tender accepted within sixty (60) days from the closing date of tender and the said Principal will, within the time
required, enter into a formal contract and give the specified security to secure the performance of the terms and
conditions of the Contract, then his obligation shall be null and void; otherwise the Principal and the Surety will pay
unto the Obligee the difference in money between the amount of the bid of the said Principal and the amount for
which the Obligee legally contracts with another party to perform the work if the latter amount be in excess of the
former.

The Principal and the Surety shall not be liable for a greater sum than the specified penalty of this Bond.
Any suit under this Bond must be instituted before the expiration of six months from the date of this Bond.

IN WITNESS WHEREOF, the Principal and the Surety have Signed and Sealed this Bond this
..... day of 19

SIGNED and SEALED
In the presence of

(
(
(
(..... (Seal)
(Principal
(
(
(..... (Seal)
(Surety

No. \$

KNOW ALL MEN BY THESE PRESENTS THATas Principal,
hereinafter called the Principal, and
a corporation created and existing under the laws of
and duly authorized to transact the business of Suretyship in
as Surety, hereinafter called the Surety, are held and firmly bound unto
..... as Obligee,
hereinafter called the Obligee, in the amount of
..... Dollars (\$)
lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind
themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a written contract with the Obligee, dated the
day of 19 , for

In accordance with the Specifications and Drawings submitted therefor which contract, Specifications and Drawings, are
by reference made part hereof and are hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall promptly and
faithfully perform the Contract then this obligation shall be null and void; otherwise it shall remain in full force and
effect.

Whenever the Principal shall be, and declared by the Obligee to be, in default under the Contract, the Obligee having
performed the Obligee's obligations thereunder, the Surety may promptly remedy the default, or shall promptly

- (1) complete the Contract in accordance with its terms and conditions or
- (2) obtain a bid or bids for submission to the Obligee for completing the Contract in accordance with its terms and
conditions, and upon determination by the Obligee and the Surety of the lowest responsible bidder, arrange for
a contract between such bidder and the Obligee and make available as work progresses (even though there
should be a default, or a succession of defaults, under the contract or contracts of completion, arranged under
this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price; but not
exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set
forth in the first paragraph hereof. The term "balance of the Contract price," as used in this paragraph, shall
mean the total amount payable by the Obligee to the Principal under the Contract, less the amount properly
paid by the Obligee to the Principal.

Any suit under this Bond must be instituted before the expiration of two (2) years from the date on which final
payment under the Contract falls due.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

No right of action shall accrue on this Bond, to or for the use of, any person or corporation other than the Obligee
named herein, or the heirs, executors, administrators or successors of the Obligee.

IN WITNESS WHEREOF, the Principal and the Surety have Signed and Sealed this Bond this
day of 19

SIGNED and SEALED
In the presence of:

(
(
(
(..... (Seal)
Principal
(
(
(..... (Seal)
Surety

LABOUR AND MATERIAL PAYMENT BOND
(TRUSTEE FORM)

No. \$

Note: This Bond is issued simultaneously with another Bond in favour of the Oblige conditioned for the full and faithful performance of the Contract.

KNOW ALL MEN BY THESE PRESENTS THAT

..... as Principal,

hereinafter called the Principal, and

a corporation created and existing under the laws of

and duly authorized to transact the business of Suretyship in

as Surety, hereinafter called the Surety are, subject to the conditions hereinafter contained, held and firmly bound unto

..... as Trustee,

hereinafter called the Oblige, for the use and benefit of the Claimants, their and each of their heirs, executors,

administrators, successors and assigns, in the amount of

..... Dollars (\$

) of lawful money of Canada for the payment of which sum well and truly to be made the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a written contract with the Oblige, dated the

day of 19, for

.....

.....

.....

which contract, Specifications & Drawings are by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Principal shall make payment to all Claimants for all labour and material used or reasonably required for use in the performance of the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A Claimant for the purpose of this Bond is defined as one having a direct contract with the Principal for labour, material, or both, used or reasonably required for use in the performance of the Contract, labour and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment directly applicable to the Contract provided that a person, firm or corporation who rents equipment to the Principal to be used in the performance of the Contract under a contract which provides that all or any part of the rent is to be applied towards the purchase price thereof, shall only be a Claimant to the extent of the prevailing industrial rental value of such equipment for the period during which the equipment was used in the performance of the Contract. The prevailing industrial value of equipment shall be determined, insofar as it is practical to do so, in accordance with and in the manner provided for in the latest revised edition of the publication of the Canadian Construction Association titled "Rental Rates on Contractors Equipment" published prior to the period during which the equipment was used in the performance of the Contract.

LIST OF SUB-CONTRACTORS

| SUB-TRADE | NAME OF SUB-CONTRACTOR | ADDRESS OF SUB-CONTRACTOR |
|-----------|---------------------------|------------------------------|
| | | |

Proctor & Redfern Limited
Consulting Engineers
June 11th, 1975
AS:hs

TENDERER'S EXPERIENCE IN SIMILAR WORK

| YEAR COMPLETED | DESCRIPTION OF CONTRACT | FOR WHOM WORK PERFORMED | VALUE |
|-------------------|-----------------------------------|----------------------------|--------------|
| 1978 | Dominion Rd. Trunk Storm Sewer | Town of Fort Erie | \$304,000.00 |

Proctor & Redfern Limited
Consulting Engineers
June 11th, 1975
AS:hs

TENDERER'S PLANT

The Tenderer shall list the plant, machinery and equipment he proposes to use on the work.

PLANT UNDER TENDERER'S CONTROL:

980 B Case backhoe
3 - 580 B Case backhoes
4 - Tandem dump trucks
Plate tampers
W20 Case loader

PLANT TO BE RENTED:

None

PLANT TO BE PURCHASED:

None

Proctor & Redfern Limited
Consulting Engineers
June 11th, 1975
AS:hs

CERTIFICATE OF INSURANCE

- This is to certify that in connection with a contract between

_____ (Owner) and

_____ (Contractor)

for (name of project) _____

Proctor & Redfern Limited Project No. E.O. _____ that:

Name of Assured (Contractor): _____

Address of Assured: _____

is insured by _____

which insurance is listed below:

CoveragePolicy Number

Contractual Liability _____

Cross Liability _____

Contingent Employer's Liability _____

Completed Operations Liability _____

Non-Owned Automobile Liability _____

Automobile Insurance _____

* Damage Insurance _____

- We certify that all Liability Insurance listed above complies with Clause 24 of the General Conditions of the Contract, a copy of which is attached hereto and is in the joint names of:

_____ (Owner) and;

_____ (Contractor) and;

All subcontractors

and;

Proctor & Redfern Limited (Engineer)

- We certify that all Automobile Insurance listed above complies with Clause 25 of the General Conditions of the Contract, a copy of which is attached hereto.

*- We certify all Damage Insurance listed above complies with Clause 28 of the General Conditions of the Contract, a copy of which is attached hereto and is in the joint names as listed above for Liability Insurance.

- We certify that all insurance policies listed above shall stay in force and not be amended, cancelled or allowed to lapse without thirty (30) days prior notice to all parties named in the policies listed above.

Date _____, 19____

Name of Insurance Company _____

Address _____

Authorized Signature _____

* If the Supplementary General Conditions cancels Damage Insurance, then delete these references.

SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

SC.01 GUARANTEE PERIOD

- A. The guarantee period for the Contract shall be twelve months, unless an extended guarantee period is called for in any specific Section.

SC.02 DEFINITION

- A. 'Department of Highways' and 'DHO' means 'The Ministry of Transportation and Communications' and 'MTC'.
- B. 'The Department of Transportation and Communications' and 'DTC' means 'The Ministry of Transportation and Communications' and 'MTC'.
- C. The word 'provide' shall mean - supply labour, materials, equipment, handling and cartage required for complete installation of the item concerned.
- D. The words 'work' or 'works' have the same meaning as for 'Work' as defined in the General Conditions.

SC.03 INSURANCE

- A. Damage insurance
 - 1. Notwithstanding the provisions of clause 28 of the General Conditions, no 'Damage Insurance' will be required on this Contract.

SC.04 LIQUIDATED DAMAGES

- A. Should the Contractor fail to complete the Work in accordance with the Contract and to the satisfaction of the Engineer, within the time specified in the Form of Tender, or as amended on the written authority of the Engineer, the Contractor shall pay to the Owner the sum of \$200.00 for each calendar day that the Work shall remain unfinished after such time.
- B. Such payments are agreed upon and fixed as liquidated damages that the Owner will suffer by reason of delay and default, and not as a penalty. The Owner may deduct and retain the amounts of such liquidated damages out of the monies which may be due or become due to the Contractor under the Contract.

SC.05 HOLDBACK FOR RECTIFICATION AFTER ACCEPTANCE OF THE WORK

- A. To cover rectification costs during the guarantee period, the Owner will retain 5 percent of the value of Work done, such amount being held back in each progress certificate. This holdback will be retained for a period of 1 year from the 'Acceptance Date' which is described in article 35 of the General Conditions. Additional monies will be held back as required by provincial statutes.

SC.06 PAYMENT BOND

- A. The Contractor, together with a surety company approved by the Owner and authorized by law to carry on business in the Province shall furnish a 100 percent labour and materials payment bond to the Owner using C.C.A. Document (S) 22. The bond shall remain in effect until the issue by the Engineer of the final payment certificate.

SC.07 PERFORMANCE BOND

- A. The provisions of the General Conditions shall apply except that C.C.A. Document (S) 21 shall be used.

SC.08 RELEASE OF HOLDBACK

- A. Holdbacks held under the provisions of the Mechanics' Lien Act will be released upon application by the Contractor, and will be subject to the requirements of the Act. For the purpose of reducing the amount of holdback, the whole Contract is divided into two sections -
1. Contract I - Underground Services
 2. Contract II - Surface Works.
- B. The statutory 15 percent holdback will apply to each Contract separately. The holdback will be released on each Contract under the following conditions -
1. Contract I - When the underground Works have been accepted by the Engineer, and the Town, a Total Performance Certificate will be issued as outlined in G.C. 35 followed in sixty (60) days by a holdback certificate under the terms of G.C. 34, but releasing the entire 15 percent holdback. This release will be contingent upon the Contractor supplying the necessary copies of paid invoices and completed excise department forms to enable the Owner to apply for rebate of federal sales tax on sewer and watermain pipe and appurtenances, in accordance with clause TI.04 C. of 'Tendering Information'. The percent maintenance retention will be released at the expiry of the maintenance period.
 2. Contract II - When road and surface Works have been accepted by the Engineer and the Town, Total Performance and holdback certificates will be issued for Contract II in accordance with the terms of G.C. 34 and 35. At the end of the guarantee period for Contract II, provided the provisions of the Contract have been fully met, the Final Certificate will be issued.

GENERAL CONDITIONS OF THE CONTRACT

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PROCTOR & REDFERN LIMITED
CONSULTING ENGINEERS

75 EGLINTON AVENUE EAST, TORONTO, ONT. M4P 1H3

APPENDIX 2 OF THE GENERAL CONDITIONS OF THE CONTRACT

APPLICATION FOR RELEASE OF CONTRACTOR'S HOLDBACK

Owner:

Project:

EO:

Contractor:

We,
hereby confirm:

the said Contractor,

- (i) that the Work under the above Contract is "substantially complete" as defined in the Mechanics' Lien Act, and
- (ii) that there are no outstanding liens, garnishees, attachments or other charges affecting the Work, and
- (iii) that the value of Work done to the date of substantial completion is \$
and
- (iv) that the value of Work remaining to be done is \$

and hereby apply for release of holdback monies in accordance with the provisions of the Mechanics' Lien Act.

Date: _____ Signature: _____

SEAL:

PART 1 GENERAL

PART 1.01 DESCRIPTION OF WORK

1. This Contract is for the construction of the following work in the Town of Pelham, Ontario:

Fonthill Core storm sewer system with pipe sizes ranging from 15-inch diameter to 21-inch diameter.

PART 1.02 LIMITS OF SITE

- A. The limits of the site are -

1. The road or street allowances on which Work is to be performed.
2. Such additional land as indicated in the Contract.
3. Such additional land designated as easements indicated in the Contract.
4. Such areas of private property adjacent to road or street allowances on which the Contractor is directed, in writing, to enter to carry out Work.

PART 1.03 SITE OFFICE

- A. Provide an insulated field office incorporating the following -

1. A minimum floor area of 18 sq. metre (200 sq. ft.)
2. A lockable door and screen door.
3. A plan table of 1.4 sq. metre (15 sq. ft.) min. area.
4. A desk and chair.
5. A private telephone line.
6. A private sanitary facility.
7. A first-aid box as required by the Workmens Compensation Board for 6 to 15 Workmen.

- B. Light the site office with fluorescent fixtures to a 650 lux (60 ft. candle) level and maintain a temperature above 21 degrees C. and below 30 degrees C.

- C. Service, maintain and carry insurance on the site office and contents. Provide evidence of insurance to the Engineer before Work commences.

PART 1.04 SETTING OUT OF THE WORK

- A. The Engineer will set such stakes as are necessary to mark the location, alignment, elevation and grade of the Work. Give adequate notice of the need for such setting out.

Carefully protect and preserve stakes, lot pins, marks and reference points and replace if destroyed or removed.

Provide grade stakes, masts, scaffolds, batter boards, straight edges, templates and other equipment necessary for laying out, and inspecting the Work.

Wherever necessary suspend Work temporarily to permit the Engineer to inspect and check the line and grade of any portion of the Work.

PART 1 GENERAL (Cont'd)

PART 1.05 CONSTRUCTION SCHEDULE

- A. Within 2 weeks after being awarded the Contract, submit proposed construction schedule to the Engineer for approval. In the schedule show proposed progress in weekly stages for the main sections and subsections of the Work.

PART 2 PRODUCTS

PART 2.01 TESTS

- A. Where required by the Engineer, supply certified copies of tests upon materials to be used in the construction of the Work, indicating that the materials comply with the Specifications. Have an approved testing laboratory make such tests at no expense to the Owner.

PART 2.02 CANADIAN MATERIALS

- A. Unless otherwise specifically approved, use materials and equipment of Canadian manufacture in constructing the Work.

PART 3 EXECUTION

PART 3.01 REQUIREMENTS OF MUNICIPALITIES

- A. Be sure that the Work complies with the specifications of the municipalities.
- B. The Engineer's acceptance of the Work may be withheld until the municipalities have issued their approvals.

PART 3.02 MUNICIPAL INSPECTORS

- A. Municipal inspectors may be present during the construction of the Work. They have the power to order the Contractor to stop Work if the Work, in their opinion, is not being done in accordance with the set lines and grades or to the Drawings and Specifications.

Unless otherwise specified, the cost of municipal inspectors will not be charged to the Contractor.

PART 3.03 USE OF HYDRANTS

- A. Keep fire hydrants accessible and free of obstructions.
- B. Fire hydrants may be used as a source of water only with the approval of the water authority, and subject to its rules and conditions.

PART 3.04 INCLEMENT WEATHER

- A. Make adequate protection and take precautions at times of inclement weather.
- B. Inclement weather or extra Work caused by such weather will not be accepted as reason for additional payment.

PART 3 EXECUTION (Cont'd)

PART 3.05 MUD AND DUST

- A. Keep streets and other construction areas clean. If it is necessary to haul wet material, use suitable watertight trucks.
- B. Control dust by the use of water or calcium chloride, or both.

PART 3.06 OTHER CONSTRUCTION

- A. Other construction may be proceeding at the same time near the Work of this Contract. Extend cooperation and free access to other companies and employees who may be Working in the area.

PART 3.07 RAILWAYS

- A. Carry out Work on or near railway property to the satisfaction and requirements of the railway authority and conform to the regulations of the Canadian Transport Commission. Pay railway costs and charges except that inspection and flagmen provided by the Railway Authority will be paid for by the Owner.

PART 3.08 ADJACENT STRUCTURES AND UTILITIES

- A. Perform temporary and permanent support and temporary relocation and replacement of underground or overhead utilities as detailed in the General Conditions.
- B. Permanent relocation of underground or overhead utilities will be carried out by others, if necessitated by coincidence of lines or grades, or both.

PART 3.09 TEMPORARY ACCESS

- A. Where necessary for access, provide and maintain suitable safe, temporary roads, walkways and bridges. Remove temporary access facilities and restore disturbed areas, after the Work of the Contract has been completed.

PART 3.10 CLEAN-UP

- A. On a daily basis as the Work progresses and on completion of the Work, clean-up and remove the rubbish and debris from the site. Remove excess material that is not required to be left on the site by the conditions of the Contract.

SECTION 02550 - SITE CLEARING, EXCAVATING, BACKFILLING AND RESTORATION OF TRENCHES

PART 1 GENERAL

PART 1.01 INTENT

- A. This Section covers the Work for site clearing, excavating, backfilling and restoration for sewers, from 2 ft. beyond the exterior wall of structures. It also covers the site clearing, excavating, backfilling and restoration for manholes and catchbasins.
- B. Work included is as follows -
 - 1. Existing utilities
 - 2. Site clearing
 - 3. Stripping topsoil
 - 4. Excavating
 - 5. Backfilling
 - 6. Restoration
- C. Related Work specified elsewhere is as follows -
 - 1. Section 02560 - Sewers

PART 1.02 EXISTING UTILITIES

- A. Contact the various utility companies prior to commencing Work and become informed of the exact location of utilities and protect them during construction and assume liability for damage to utilities.
- B. Utilities that require relocation will be the responsibility of the Utility Company concerned at no expense to the Contractor. Cooperate with the utility companies and always provide them free access to their plant.
- C. Where existing pipes, ducts, or other underground services intersect the pipe trench support the pipe trench to the approval of the Engineer and the Utility Company.
- D. Where existing overhead pole lines are adjacent to the excavation, temporarily support them to the approval of the Engineer and the Utility Company concerned.

PART 1.03 EXISTING DRAINAGE

- A. Maintain temporary and permanent flow in sewers, drains, gutters, ditches, watercourses, house and inlet connections.

PART 1.04 MEASUREMENT FOR PAYMENT

- A. The Engineer will -
 - 1. Measure in place timber sheathing left in the trench on the written order of the Engineer prior to backfilling of the trench. The Engineer will not measure sheathing specified on the Drawings to be left in place.

PART 1 GENERAL (Cont'd)

PART 1.04 MEASUREMENT FOR PAYMENT (Cont'd)

A. (Cont'd)

2. Measure rock excavation on a cubic yard basis.
3. Measure excavation for additional bedding on a cubic yard basis.

PART 1.05 BASIS FOR PAYMENT

A. Conditions

1. Unless otherwise specified, include temporary access, site clearing, earth excavating, shoring, sheathing, support of existing utilities, dewatering, testing of material, backfilling, removal of surplus excavation, restoration and other labour, equipment and materials necessary for the complete installation of the Work, in unit prices for sewers, manholes, catch-basin manholes, and catchbasins.

PART 2 PRODUCTS

PART 2.01 MATERIALS

- Conform to latest edition of reference standards.

- Where MTC specifications are referred to comply also with supplements to those specifications.

A. Granular Materials

1. Granular 'A', 'B' and 'D' in accordance with MTC Form 1010.
2. Granular Bedding Material - Meet with the following gradation requirements.

(A) MTC Sieve Designation Percent Passing by Weight

| | |
|---------|--------|
| 6 in. | - |
| 4 in. | - |
| 1 in. | - |
| 7/8 in. | 100 |
| 5/8 in. | - |
| 1/2 in. | - |
| 3/8 in. | - |
| No. 4 | 25-100 |
| No. 16 | 10-85 |
| No. 50 | 5-40 |
| No. 100 | - |
| No. 200 | 0-8 |
| No. 270 | - |

(B) Granular Bedding Material - Meet with the following quality requirements.

Physical Test

| | |
|----------------------|-----|
| Los Angeles Abrasion | - |
| Percent Loss Maximum | - |
| Petrographic Number | - |
| Max. | 200 |
| Percent Crushed | - |
| Minimum | - |
| Plasticity Index | 0 |

3. Crushed Slag - Do not use as bedding for cast iron pipe or fittings.

PART 2 PRODUCTS (Cont'd)

PART 2.01 (Cont'd)

A. (Cont'd)

4. Crushed Stone - Produce from bedded or massive rock formation and from boulders. Break into fragments to conform to the following gradation requirements.

| (A) Sieve Size | Percentage Passing by Weight |
|----------------|------------------------------|
| 1 in. | 100 |
| 3/4 in. | 90-95 |
| No. 4 | 5-10 |

B. Topsoil

1. Use existing topsoil wherever suitable and as approved by the Engineer. Before re-using the topsoil clean out foreign matter and stones over 2 in. in size.
2. Imported Topsoil - Medium loam from a meadow or farm area known to be free from weeds.
3. Notify the Engineer at least 3 days before starting topsoil stripping operations. Sources of supply will require the Engineer's approval before being brought on the job.

C. Seed

1. Use certified seed meeting the requirements of the Seeds Act for Canada, No. 1 seed.

- (A) A mixture of -
- 55 percent creeping red fescue
 - 25 percent Canadian blue
 - 12 percent perennial ryegrass
 - 5 percent red top
 - 3 percent white Dutch clover.

PART 3 EXECUTION

PART 3.01 SITE CLEARING

- A. Remove trees, shrubs, roots, vegetation, loose surface rock, fences, and other obstructions on the line of the Work.
- B. Carefully protect trees, fences, shrubs and other vegetation designated by the Engineer and save from injury during the construction operation.

PART 3.02 TOPSOIL

- A. If suitable for sodding and seeding, strip the topsoil from within the limits of excavation and from fill areas in advance of construction and stockpile in areas completely separated from subsoil and as designated by the Engineer.
- B. Strip topsoil in such a manner as to prevent damage to the roots of trees designated to be saved.
- C. Import topsoil to satisfy thickness of topsoil required under Restoration in this Section.

PART 3 EXECUTION (Cont'd)

PART 3.03 EXCAVATING

- A. Dig the trench to the alignment and depth required and only so far in advance of pipe laying as the Engineer will permit.
- B. Minimum and maximum trench widths up to a point 1 ft. above top of pipe, for single pipe -
 - 1. Minimum
 - (A) 1 ft. greater than the external diameter of pipe or 2 ft. 6 in. for earth excavation or 3 ft. for rock excavation whichever is greater, excluding an allowance for shoring.
 - 2. Maximum
 - (A) Not more than 16 in. greater than the external diameter of pipe or 2 ft. 6 in. whichever is greater for pipe up to and including 33 in. dia., excluding an allowance for shoring.
- C. The width of the trench at ground level is not to be less than the width at any depth in the trench. Fill overbreak and slides that have occurred during excavation with approved materials.
- D. Where trench excavations are not kept within the design limits of the pipe, the Engineer may order sheathing and shoring, and/or a heavier class of pipe, and/or use of a higher class of bedding.
- E. Grade and shape the pipe trench and the specified bedding to give uniform and even bearing for the length of the pipe. Dig bell holes at each joint. Make corrections in the grade with compacted granular material acceptable to the Engineer, or with fill concrete.

PART 3.04 SHEATHING AND SHORING

- A. Supply, install and remove temporary sheathing and shoring where directed by the Engineer and in accordance with applicable safety regulations.

PART 3.05 DEWATERING

- A. Always maintain the excavation free of water.
- B. Do not use sanitary sewers for the discharge of water from the trenches.

PART 3.06 BACKFILLING

- A. Backfill trenches from the top of the pipe bedding to the underside of surface restoration with site selected excavated material. Provide backfill free of roots, organic material and stone larger than 9 in. Place backfill material in lifts not exceeding 9 in. Compact to 95 percent Standard Proctor Density.
- B. If the Engineer decides that the site selected excavation material either wholly or partially, is not suitable for backfill, then provide imported material of a type approved by the Engineer. Compact to 95 percent Standard Proctor Density.

PART 3.07 COMPACTION TESTS

- A. Where compaction of backfill is called for, the Engineer may order compaction tests by an independent testing company. Tests will be arranged for by the Engineer and paid for by the Owner.

PART 3 EXECUTION (Cont'd)

PART 3.07 COMPACTION TESTS (Cont'd)

A. (Cont'd)

1. Where tests show that the compaction does not meet the specified requirement, carry out further compaction in a manner directed by the Engineer, and pay for further testing to establish proof of the specified compaction.
2. For backfill compaction, tests will be made at every 18 in. max. depth, after each two 9 in. lifts have been placed.
3. Co-operate with the Engineer and Testing Company by scheduling the placing and compaction of backfill so that tests can be progressively taken.

PART 3.08 DISPOSAL OF SURPLUS EXCAVATED MATERIAL

- A. Remove surplus excavated material from the site.

PART 3.09 RESTORATION

A. Preparation of Subgrade for Seeding and Sodding

1. Verify the subgrade and if required make adjustments to allow for topsoil and seeding or sodding to finish level with adjacent surfaces.
2. Scarify the backfill and disturbed areas to a minimum depth of 3 in. to produce an even, loose textured surface, free of stones, roots, branches larger than 3 in. dia., and live weeds.
3. Have the finished subgrade approved by the Engineer prior to placing the topsoil.

B. Preparation of Finish Grade

1. Spread the topsoil evenly over the approved subgrade to a minimum of 4 in. Compact to 80-85 percent Standard Proctor Density.

C. Seeding

1. Spread seed by means of a mechanical dry seeder, 'Brilliant', or equivalent, at a rate of 30 lb. per acre.
2. Spread seed in two (2) intersecting directions at right angles to each other.
3. Work seed into the top 1 in. of the topsoil by raking or harrowing and compact so that the surface is smooth and firm.
4. After working the seed into the topsoil and compacting, water with sufficient amounts to ensure germination and continued healthy growth.

5. Time of Seeding

- (A) The following periods are in order of preference -

- (1) Early spring to May 30th
- (2) July 15th to September 15th

SECTION 02560 - SEWERS

PART 1 GENERAL

PART 1.01 INTENT

- A. This Section covers sewer Work, manholes and catchbasins from 2 ft. beyond the exterior walls of structures.
- B. Sewer Work - in accordance with Town of Pelham standard specifications.
- C. This Section covers sewer Work including -
 - 1. Pipe
 - 2. Manholes and catchbasins
 - 3. Safety gratings
 - 4. Line and grade
 - 5. Bedding
 - 6. Testing

PART 1.02 DELIVERY, STORAGE AND HANDLING

- A. Delivery
 - 1. Replace materials found to be defective in manufacture or damaged in handling after delivery including the furnishing of material and labour required for the replacement of installed material found to be defective.
- B. Handling
 - 1. Load and unload materials so as to avoid shock or damage.
- C. Storage
 - 1. Place materials in safe storage. Keep interiors of pipes, and fittings clean.

PART 1.03 MEASUREMENT FOR PAYMENT

- A. The Engineer will -
 - 1. Measure sewers along the centreline of constructions from centre to centre of manhole.
 - 2. Count each type of manhole.
 - 3. Count each type of catchbasin manhole.

PART 1.04 BASIS OF PAYMENT

- A. Conditions
 - 1. Unless otherwise specified include testing of materials, bedding and testing of pipes after installation and the requirements of Section 02550 - Site Clearing, Excavating, Backfilling and Restoration of Trenches.

PART 1 GENERAL (Cont'd)

PART 1.04 BASIS OF PAYMENT (Cont'd)

A. (Cont'd)

2. The Engineer will measure the Work when completed and the Contract Price will be increased or decreased in accordance with the final measurement.

B. Items

1. Include in the unit price per lineal ft. of sewer, the pipe and the complete installation of the pipe, including the connections to manholes, catchbasins, existing sewers or other facilities.
2. Include in the unit price for each catchbasin manhole, the complete installation of the catchbasin manhole including concrete, benching, brickwork, reinforcing steel, ladder rungs, drop pipe and safety grating if required, frame and grating as shown on the Drawings.
3. Include in the unit price for each manhole, the complete installation of the manhole including concrete, benching, brickwork reinforcing steel, ladder rungs, drop and safety grating if required, frame and cover as shown on the Drawings.

PART 2 PRODUCTS

PART 2.01 GENERAL

- A. Tender on the basis of the type of material specified on the Drawings and in the Form of Tender.

PART 2.02 MATERIALS - Conform to latest edition of reference standards.

A. Concrete sewer pipe

1. Concrete pipe -

- (A) Non-reinforced Circular Concrete Pipe - CSA A257.1
- (B) Reinforced Circular Concrete Pipe - CSA A257.2

2. Pipe Diameter and Class - As shown on the Drawings.
3. Fittings and Specials - In accordance with the specification for the type of pipe being used.
4. Rubber Gaskets - ASTM C443.

B. Manholes and Catchbasin Manholes.

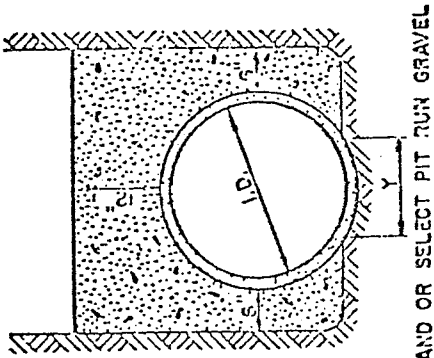
1. Precast Concrete Manholes and Catchbasin Manholes with sump - ASTM C478 and as shown on S3. Rubber type gaskets - ASTM C443.
2. Cast Iron Gratings for Catchbasin Manholes - as shown on Dwg. S7
3. Ladder rungs - as shown on Dwg. E-STD-2-10
4. Safety Gratings - 6061 T4 aluminum alloy.

PART 3 EXECUTION

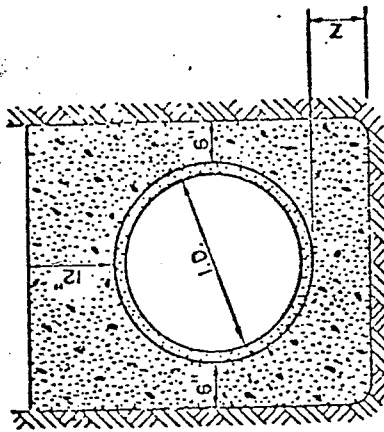
PART 3 EXECUTION (Cont'd)

PART 3.07 CLEANING AND INSPECTION OF STORM SEWERS

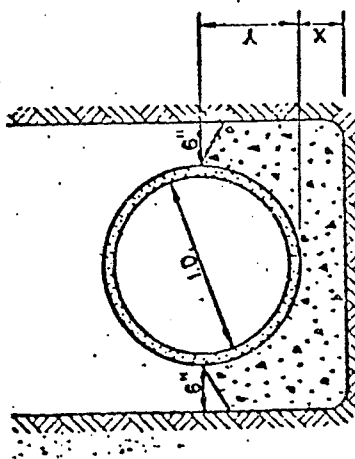
- A. Flush and clean sewers, manholes and catchbasins prior to acceptance.
- B. Inspect manholes for defects and signs of leakage. Repair visible leaks or faults as approved by or as directed by the Engineer.
- C. The alignment of sewers between manholes may be tested at each section as laid. The Engineer may order a strong light to be shone through the pipe from manhole to manhole. If less than one-half of the full diameter of the pipe at the light source is visible from the far end, the Engineer may order the pipes re-aligned.



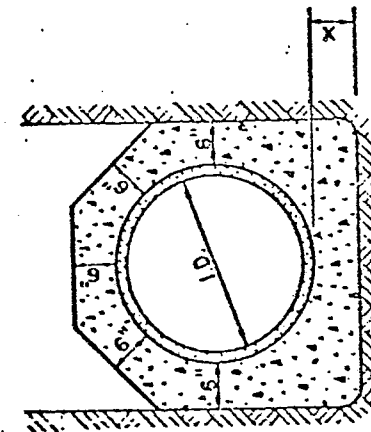
CLASS C BEDDING



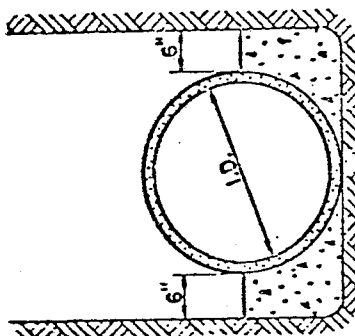
CLASS B BEDDING



CLASS A BEDDING



CLASS AA BEDDING



CLASS BB BEDDING

NOTES

- X = 1/4 INSIDE DIAMETER OF PIPE WITH MIN. OF 6"
- Y = 1/2 OUTSIDE DIAMETER OF PIPE
- Z = 1/3 INSIDE DIAMETER OF PIPE WITH MIN. OF 6" & MAX. OF 12"
- CONCRETE OR GRANULAR MATERIAL TO EXTEND TO SOLID TRENCH WALLS
- SELECTED FINE MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE OVER CLASSES 'A' - 'A' - 'B'

STANDARD PIPE BEDDING DETAILS

TOWN OF PELHAM STANDARD

August 13th, 1970
Proctor & Redfern Ltd.