



CITY OF NEW YORK

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BUREAU OF WATER SUPPLY



CONSTRUCTION DIVISION

WATER MAINS

FIELD MANUAL

DATE ISSUED

AUG 19

1991

CITY OF NEW YORK
BUREAU OF WATER SUPPLY
MANUAL OF PROCEDURES

DATE ISSUED	TITLE	PROCEDURE NUMBER
October 1976	Duties and Responsibilities of the B. W. S. Representative on Water Main Construction	1000
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I PURPOSE

This procedure is a guide to the B. W. S. Representative employed by the Bureau's Infrastructure Construction Division on Water Main Construction. The terms Pipe Laying Inspector, Inspector, etc. in this and other manuals refer to the B.W.S. Representative in the field and do not imply that persons with only these titles are qualified or can be assigned this type of work. The word "he" should be interpreted as meaning he or she.

It is written NOT AS A SUBSTITUTE for, or to supercede his duties as stated by the Civil Service Commission or the regulations and specifications of the Department of Personnel. It is intended to supplement these duties, regulations and specifications and aid the Pipe Laying Inspector in the performance of the work assigned.

II GENERAL DUTIES, PRACTICES AND RESPONSIBILITIES

The Pipe Laying Inspector is responsible for the inspection of the construction work to which he is assigned. He shall enforce the Rules, Regulations and Specifications of the Department and the Bureau, together with all regulations of the City of New York, the other City Departments, the State and the Federal Regulations with relation to the contract work.

- . He shall make all the required reports such as "Daily Reports", "Tap Cards", etc.
- . He shall assist the Engineer in providing line and grade.
- . He shall inspect the work site each day to see that the work site is safe.
- . He shall keep the Engineer informed of all pertinent facts pertaining to the work and shall report any and all unusual conditions immediately.
- . He shall make drawings or sketches when and where necessary to explain or clarify his reports.

- He shall keep himself fully familiar with the Standard Specifications.

NOTE: Any dangerous condition which he reports to the Contractor and is not immediately corrected, shall be reported to the Engineer, who will take the necessary corrective steps. A notation of any lack of cooperation, dangerous conditions, etc., caused by the Contractor shall be noted on the Daily Report.

NOTE: Failure of the Inspector to enforce the specifications (within practiced limits) will be the basis of charges against him.

III DUTIES AND RESPONSIBILITIES

The following Sub-Procedures describe the steps, detailed methods, and responsibilities of the Pipe Laying Inspector.

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Upon assignment to a particular contract, the Pipe Laying Inspector should do the following:

- A. Familiarize Himself with the Contract Specifications in general, with special attention to the following areas.
- Material which is to be recovered or reused,
 - Limits of work (Contract drawings),
 - Department of Traffic permit specifications & requirements,
 - Department of Highways' restoration requirements,
 - Any special standard drawings and specifications peculiar to the contract.
- B. Obtain the necessary Supplies and Forms. These include:
- Copy of Highway Street Opening Permit
 - Inspector's Field Book
 - Requisitions (Form No. W.S. 113)
 - Inspector's Daily Report
 - Materials Returned (Form No. W.S. 114)
 - Fifty (50) foot cloth tape
 - Six (6) foot folding ruler, hard hat, rain gear, etc.
 - Copies of pertinent parts of the contract (such as Pavement Restoration Requirements)
- C. Check Available Records on Existing Water Mains at the locations to which he is assigned, as time permits.
- Detailed Distribution Main Maps, Field Cards, Tap Locations.

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D. Preliminary to Contract Work.

- A survey of the buildings should be made before pipework is started to try to anticipate problems which might develop.

E. General Guidelines for the Pipe Laying Inspector.

The following is not intended to be a complete list, but includes most of the rules, regulations and requirements that the pipe laying inspector must be familiar with during the normal course of the work:

1. All shut-downs must be called in to the office before 12:00 noon on the preceding work day. (Ref. Std. Water Main Specs. for Laying Pipes and Appurtenances, Form No. 6)
2. Shut-downs must include all mains affected by boundary gates or dead-ends.
3. Another call must be made to the office between 2:30 and 3 PM the preceding work day of a shut-down to check if there are any problems.
4. Shut-downs are not to be made before 9:00 AM unless otherwise specified.
5. If there are businesses which cannot tolerate a shut-down during normal working hours, the validity of the assertion must be verified. Those businesses known to be affected should be conferred with in advance of an imminent shut-down. (i.e. dentists, beauty parlors, car washes, etc.)
6. If the contractor makes an emergency shut-down, the yard must be called and notified of which lines and valves are shut. This procedure is also to be followed when the water is turned on again. (Only in emergency - See Section III, Proc. 1000.03)
7. Water must be restored to all consumers at the end of each day. If the contractor must work overtime to accomplish this, the office must be notified. (Ref. Std. Water Main Specs. for Withdrawing and Replacing House Connections, Form No. 21)
8. Every effort should be made to cause as little inconvenience as possible to consumers in shutting-down.
9. All wet connections are to be cut by personnel from the Bureau of Water Supply. (Ref. Std. Water Main Spec. for Laying Pipes and Appurtenances, Form 6)
10. The contractor must have the connection installed on the pipe and any other preparations completed for the personnel of the Bureau of Water Supply. (Ref. Std. Water Main Specs for Laying Pipes and Appurtenances, Form 6)

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11. The Tapping Division must be contacted at least 24 hours before any cut required in order to schedule the cut with the yard.
 12. All pipe and fittings required to connect the wet connections to the existing service lines must be supplied by the contractor. (Ref. Std. Water Main Specs. General Conditions, Article 25)
 13. No new lead service pipe is to be used for reconnecting old service lines to new mains. (Ref. Std. Water Main Specs General Conditions, Article 5C)
 14. The contractor's plumber must obtain any permits for work which is not contract related.
 15. All material furnished by the City is to be ordered from the Pipe Yard designated in the contract by a requisition order from the Pipe Laying Inspector or a person who has been authorized to do so. This requisition is a five part form; the Pipe laying Inspector retains the fifth part and the contractor is to take the original and other three parts to the yard. (Ref. Std. Water Main Spec., General Conditions, Article 25.)
 16. If the contractor must pick up a large quantity of material from the yard, he must make arrangements with the personnel in the yard.
 17. If the yard does not have any material needed, the office must be contacted and arrangements will be made to obtain the items from another city yard.
 18. The inspector must receive any receipts for binder, sand, etc. when delivered and note such deliveries on his daily report.
 19. A survey of all valve boxes should be done before water work commences. This survey is to determine if the boxes are standard or old style. All recovered standard valve boxes must be either reused or returned to the Bureau's pipe yard. (Ref. Std. Water Main Specs. for Removing Existing Mains, Valves, Valve Boxes and Hydrants, Form 22, Sect. 3).
 20. All recovered fittings less than ten years old must be reused or returned to the Bureau's pipe yard. (Ref. Std. Water Main Specs. for Removing Existing Mains, Valves, Valve Boxes and Hydrants, Form 22, Sect. 2, Addendum 4/76).

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21. Filler pieces must be installed for all sleeves except metal to metal connections which must be reported as such on the inspector's report.
 22. When connecting into existing smaller mains, a minimum of a full length of pipe must be installed between the valve and the reducer.
 23. Retainer glands are used for all mechanical joints. Set screws, however, should not be tightened when joints are made on cast iron pipe.
 24. All gaskets are to be kept above 40 degrees F. (Ref. Manufacturer's recommendation).
 25. All hydrant branches are to be restrained from the 3-way to the hydrant.
 26. A minimum cover of two feet must be maintained over the water lines. If this is not feasible, the office must be notified. (Std. Dwg. 42063-Y)
 27. The normal cover for all water mains is approximately four feet from final grade. However, to avoid the necessity of sheeting which is required in all trenches greater than five feet deep, the cover may be adjusted. In cases of no grade change, 8" mains are laid at 3'9" of cover and 12" mains at 3'6" of cover. (Std. Water Main Specs. for Excavation and Backfilling, Form 5, Sect. 6, Addendum)
 28. Joints are to be broken only where necessary, with the approval of the Bureau and not to exceed the manufacturer's specifications.
 29. Wherever the new water main crosses under railroad tracks, the type of pipe used must be reviewed by the Design Division.
 30. The contractor must blow out the water main before opening taps, to remove any foreign matter from the main. He must also block any temporary caps before opening the mains up. Care must be used by the contractor in operating the water gates so as not to snap the top plates by over-opening or over-tightening.
 31. All pipe ends must be capped at the end of each work day. The use of valves as caps is not to be permitted.

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32. All pipe work must be chlorinated and wooden plugs used on each pipe length installed to prevent debris from entering into the pipe. (Ref. Std. Water Main Specs. for Laying Pipes and Appurtenances, Form 6, Sect. 7)
 33. Housekeeping, such as backfilling and temporary paving plus the removal of scrap and debris, is to be constantly maintained.
 34. All water work must be done under the inspector's supervision including temporary pavement delivered and placed, sand backfill delivered and placed, any hydrants removed, and installation of fenders and permanent pavement.
 35. The inspector's records must be kept accurately in case of any future claims by the contractor. If the contractor runs into difficulty due to his own fault, records must be kept stating all particulars.
 36. All taps must be included on the inspector's report in addition to the required tap card for each tap.
 37. Utility companies must pay for any additional water main work performed by the contractor in order to avoid interference with the utility lines.
 38. The use of any fittings not indicated on the plans, such as bends and offsets must have a reason indicated on the inspector's reports.
 39. All gaskets, glands, bolts, etc. not used are to be returned, even if damaged or defective. Plainly mark these accordingly so that there is no re-issue of them.

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THE CITY OF NEW YORK
DEPARTMENT of ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
INSPECTOR'S DAILY REPORT

Contractor _____ Contract No. _____ Date _____ 19____
Location _____

WEATHER	NO.	HOURS EACH	PIPE AND CASTINGS LAID
LABOR:			
FOREMEN			
LABORERS			
OPER. ENG.			
CHAUF			
CAULKER			
EQUIP:			
BACKHOE (COMB.)			
PAYLOADER			
DUMP			
TAMPER			
COMPRESSOR			
PAVT CUTTER			
TRUCKS: DUMP			
: PICKUP			

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Copy of "Inspector's Daily Report". Back Side
(Actual size 5" x 8")

TRENCH OPEN: (PAVT TAKEN UP: SHEETING ROCK)
FROM - TO

SHEETING RECD: ☐ NOT RECD: ☐

TRENCH CLOSED: (TEMP. SAND - PAVEMENT PLACED)
FROM - TO

WATER OFF

WATER ON

COMMENTS - SKETCHES ETC.

PENALTY FOR FALSIFICATION:

Falsification of any statement made herein is an offense punishable by a fine or imprisonment or both.
(N.Y.C. Adm. Code, Sec. 1151-9.0)

(Labor and material account for different streets, etc., must be reported on separate blanks.)

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Copy of Form W.S. 113, "Material Requisition". This is a white
form. (Actual size 5 1/2" x 8 1/2")

FORM NO. W.S. 113 - 50M-700734(05)		PIPE YARD ADDRESS		CONTRACTOR OR SHOP		LOCATION FOR MATERIAL USAGE		PROJECT NO.		CONTRACT NO.			
THE CITY OF NEW YORK DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF WATER SUPPLY MATERIAL REQUISITION		OTHER											
ITEM	DESCRIPTION (Part)	QUANTITY REQUESTED	INVENTORY NUMBER	QUANTITY ISSUED	REMARKS	1	2	3	4	5	6	7	8
<div>NOTES: 1 DO NOT MAKE CHANGES ON THE "QUANTITIES REQUESTED". IF INCORRECT, MAKE A NEW REQUEST. 2 ONLY ORDER FOR MATERIAL(S) TO BE PICKED UP AT ONE TIME AND FROM ONE PIPE YARD. 3 CROSS OUT UNUSED "ITEMS". PENALTY FOR FALSIFICATION Falsification of any statement made herein is an offense punishable by a fine or imprisonment or both. (N.Y.C. Adm. Code, Sec. 1191-9.0)</div>													
REQUESTED BY		PRINT NAME		SIGN NAME		DATE		ISSUED BY		RECEIVED BY		UTILITY REPRESENTATIVE	

ORIGINAL - INVENTORY CONTROL SECTION

TITLE

Preparation of Pipe Laying Inspector
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Copy of Form W.S. 114, "Material Returned". This is a yellow
form. (Actual size 5 1/2" x 8 1/2")

PIPE YARD ADDRESS		CONTRACTOR OR SHOP			
Form No. WS 114 Rev A (5-63)					
DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF WATER SUPPLY					
PROJECT NO.		CONTRACT NO.			
OTHER					
ITEM	DESCRIPTION (Parcel)	QUANTITY RETURNED	INVENTORY NUMBER	QUANTITY RECEIVED	REMARKS
1					
2					
3					
4					
5					
6					
7					
8					
NOTES:		1. DO NOT MAKE CHANGES ON THE "QUANTITIES RETURNED". IF INCORRECT, USE A NEW "MATERIAL RETURNED" FORM.			
2. ONLY RETURN NON-DEFECTIVE MATERIAL.		3. ONLY THOSE MATERIALS TO BE RETURNED AT ONE TIME AND TO ONE PIPE YARD SHOULD BE INDICATED.			
PENALTY FOR FALSIFICATION		Falsification of any statement made herein is an offense punishable by a fine or imprisonment or both. (U.S.C. App. Code, Sec. 1151-9.0)			
RETURNED BY		PRINT NAME		DATE	
RECEIVED BY		SIGNATURE			
OFFICIAL REPRESENTATIVE		SIGNATURE			

ORIGINAL- INVENTORY CONTROL SECTION

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Copy of Form W.S. 129, "Tap Card". (Actual Size 3" x 5")

FRONT SIDE

WS 129 Rev. 8 (9-81)
100M-1026057(82) 346

CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY

SEC.	BLOCK	LOT
WARD	DIST.	PLOT

HOUSE SERVICES ORDER
PERMIT NO. _____
INSP. NO. _____

BOROUGH _____

LOCATION _____

INSERT _____ TAP ON _____ MAIN. READY _____ M.

INSERT _____ PLUG ON _____ MAIN. READY _____ M.

INSPECT SERVICE PIPE _____ READY _____ M.

SPECIAL ORDERS _____

OWNER _____ ADDRESS _____

PLUMBER _____ ADDRESS _____

BUILDING { STORIES _____
FT. FRONT _____
FT. DEEP _____

BACK SIDE

REPORT _____

LOCATION _____ SIDE _____ FT. _____ OF _____ ST. AVE _____

SIZE OF TAP _____ PLUG _____ MAIN _____ DEPTH _____ ST. AVE _____

LOCATION IS _____ FT. _____ OF _____ BUILDING LINE OF _____

KIND AND SIZE OF SERVICE PIPE { NEW _____ AND _____ FT. FROM _____ CURB LINE
OLD _____

NEW SERVICE LENGTH _____ IS CURB COCK AND BOX SET ? _____ KIND AND MAKE _____

OPENING SIDEWALK OR ROADWAY _____ FOR BUILDING PURPOSES _____

VIOLATIONS _____ RE-EXAMINED _____ VIOL. REMOVED _____

REMARKS: _____

I CERTIFY THAT THE ABOVE REPORT IS CORRECT. TAPPER/INSPECTOR _____

PENALTY FOR FALSIFICATION

Falsification of any statement made herein is an offense punishable by a fine or imprisonment or both. (N.Y.C. Adm. Code, Sec. 1151-9.0)

Print: _____
Sign: _____

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THE CITY OF NEW YORK

DEPARTMENT of ENVIRONMENTAL PROTECTION

BUREAU OF WATER SUPPLY INSPECTOR'S DAILY REPORT - CHECKLIST

Contractor _____ Contract No. _____ Date _____ 19 _____

Location _____

PROCEDURE

SPRAY CAN:

On site _____

Used _____

CHLORINE POWDER:

On site _____

Quantity Used _____

TORQUE WRENCH:

On Site _____

Proper Setting _____

PIPE PLUGS:

On Site _____

Proper Size _____

PIPE SUPPORT:

Sand Bags _____

Other (explain) _____

LEAKAGE TEST:

Open Joint _____

Pressure _____

FLUSHING:

1½" Tap & Hose _____

Hydrant _____

Time (minutes) _____

BACKFILL:

Clean Trench of _____

Debris _____

Material: _____

To one foot above _____

pipe _____

Remainder of Trench _____

REMARKS

TITLE

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<u>PROCEDURE</u>	<u>REMARKS</u>
<p><u>Tamping:</u> Number of Lifts _____</p> <p><u>NOTE:</u> If any of the procedures cannot be followed, explain in remarks column.</p>	
<p>Borough Chief and Area Engineer to initial procedures observed.,</p>	
<p><u>Inspector Signature</u> _____</p>	
<p><u>Reviewed by:</u> _____ <u>Date</u> _____ Resident Engineer</p>	
<p><u>Reviewed by:</u> _____ <u>Date</u> _____ Borough Chief</p>	<p><u>Time @ Site</u> _____</p>
<p><u>Reviewed by:</u> _____ <u>Date</u> _____ Area Engineer</p>	<p><u>Time @ Site</u> _____</p>

CITY OF NEW YORK
BUREAU OF WATER SUPPLY
MANUAL OF PROCEDURES

DATE ISSUED	TITLE	PROCEDURE NUMBER
October 1976 REV. B	Record Keeping APRIL 1986	1000.02 Sheet 1 of 19
I.	<u>PURPOSE</u>	

This procedure describes the steps, methods and requirements of the Pipe Laying Inspector for completing the Water Supply records and forms.

II. PROCEDURE

A. INSPECTOR'S DAILY REPORT FORM

The Inspector's Daily Report is THE MOST IMPORTANT SINGLE RECORD of the progress of the work. The inspector is on the job site at all times and therefore his record should be the most accurate. It is the responsibility of the Inspector to make this report clear, concise, accurate and neat. It should be completed so that the information submitted can be used to reconstruct the entire job. On complicated work or where there are unusual conditions, supplementary sketches or reports should be attached to clearly depict the occurrences of the day.
ALL ENTRIES ON THIS REPORT ARE TO BE MADE IN INK.

The Inspector's Daily Report is to be ready with complete information of the day's operations, contractor's forces, equipment and other pertinent data of the contract work, and is to be given to the Engineer on the day following the operations listed. The report is to be complete in all details, particularly as to trench opened and closed, pipe and fittings used, cover on each section of pipe and fittings, type of joint, rodding and other related operations encountered in the work. Reports are to contain a listing of all unusual happenings, such as accidents, breaks, etc. More complete details of any such unusual events are to follow on other forms or report sheets. Under the heading, 'Trench Open', all trench openings are to be listed and noted daily at the end of the work day. All service connections, and material used, the joints completed, the name of the plumber, and any other pertinent data shall be listed and become part of the record of the work performed.

In areas where relay of water mains are part of the contract work, the Inspector shall insure the proper connection of all services (Domestic and Fire) to the new main.

The Pipe Laying Inspector shall be present at the work site when transfers to the new main are made.

The Pipe Laying Inspector shall certify to his personal inspection of the tap, tap valve openings, the joints completed, for the premises served by the transferred service. All information concerning transfers shall be listed on the "INSPECTOR'S DAILY REPORT" in addition to tap transfer cards regularly filed for the work.

The general method to be used in writing the report is shown on the samples and is to be followed with such modifications and any special conditions that become necessary.

1. Heading

The Contractor's name, Contract Number (Project Number), Date and particular location should be indicated in the space provided on the front of the report.

In the space provided in the upper left hand corner, the weather conditions should be entered. It should be indicated according to the factors having a bearing on the work; ie. "clear-20 degrees", "Light rain-75 degrees", or "A.M.-cloudy -- P.M. snow".

2. Labor Force

The number of each type of worker used by the Contractor and the number of hours worked by each of these men should be entered in the columns provided. Avoid duplication of labor.

3. Equipment

All major equipment used by the Contractor in the course of the day's work should be accurately listed, together with the number of hours the equipment was used. Standby equipment should also be noted.

4. Work Performed

The description of the work performed by the Contractor's forces should be contained in the body of the report beneath the words "Pipe and Castings Laid". If necessary, two or more cards should be used.

a. Interferences

Any use of offsets, bends, grade changes, etc. due to interference should be noted, giving a brief description of the interference. Where possible, indicate the cover of such facilities.

Examples may be 10" sewer, 6" x 6" Con Ed ducts, 10" gas main, etc.

b. Abandoned Mains

Abandoned mains may be removed or left in place.

- When removed, indicate the size of the main and limits. (This is usually the same as the new main.)
- When left in place, indicate size and lane of the main and stations where possible. Be sure the ends of all abandoned pipes are properly plugged and state so on the report.

5. Trench Open

Indicate the average width and depth of the trench.

6. Trench Closed

Other work, such as backfilling (if brought in and placed), installing temporary pavement, placing permanent pavement, etc., should be noted and located by stations and described using average measured depth and width of trench.

7. Open Excavations

Any excavation left open at the end of the day should be noted. The notation should state the size of the opening and the type of protection, ie. steel plates, barricades, lights, etc.

8. Additional Work

All additional work done by the Contractor should be noted on this report. This includes the following:

- Rock excavation, station to station - covers
- Boulder excavation, dimensions and station removed from
- Masonry excavation, dimensions, station to station
- Pavement excavation, type and thickness, station to station
- Trolley ties, rails, yokes, piling, etc., amount and location (station)
- Excess depth of excavation, including test pits, size, location and purpose sewer or catch basin repairs, reinforced concrete excavation, concrete cradles, reinforcing steel, structural steel, etc.
- Any other unusual item or items of work which is not part of the contract requirements

9. Shutoffs

All shutoffs for the installation of water mains should be recorded on the back face of the report as follows:

- Water off 9:10 A.M. 12" main e/s of First Avenue from East 5th to East 7th Streets. Water on 4:00 P.M. (NOTE: If Contractor operated gates to provide water at the end of the day, indicate the name of the shop person notified, and the statement "Notified shop to open all other gates.")

10. Transferring Taps

When taps are transferred, the Pipe Laying Inspector shall record the number and location of each tap that is transferred to the new main, and note any unusual conditions such as search, poor service pipe, etc. This information shall also be recorded on the "House Service Order", also known as the "Tap Records Card".

11. Sketches, Comments, etc.

Any and all unusual happenings should be noted in the report. These include lack of cooperation by the Contractor, accidents, visits by others involved in the construction (persons from utilities, other agencies) all instructions given to the Contractor. Inspectors shall sign (not print) the report, in ink.

Results and dates of all pressure tests shall be recorded and so noted on the "Daily Report" on the day on which the tests were made.

Sketches should include offsets, intersections, etc. which would best be described in this manner.

The Pipe Laying Inspector is to collect copies of all material tickets for sand, concrete, asphalt, packing slips for pipe and other pertinent materials.

The Pipe Laying Inspector shall submit his report to the Engineer-in-Charge not later than one day after the date of the report.

If the Contractor and a Department Inspector disagree as to the need for sheeting a trench, the following procedure shall be used.

- a. If the Inspector believes sheeting is required and the Contractor does not, sheeting shall be installed. The Contractor may appeal such an order in accordance with Article 27 of the Contract Agreement.
- b. If the Contractor believes sheeting is required and the Inspector does not, the Borough Construction Engineer shall be called. If the Borough Construction Engineer believes sheeting is required, the trench shall be sheeted. If the Borough Construction Engineer believes sheeting is not required, the Contractor shall be ordered to proceed without sheeting. This should be noted on the "Inspector's Daily Report" and signed by the Borough Construction Engineer. Again, the Contractor may follow the procedures of Article 27 of the Contract Agreement if he wishes to formally protest this determination.

NOTE: The following abbreviations are standards accepted by the Bureau of Water Supply.

S & S (SS)	Spigot & Spigot	Br. Pave.	Break Pavement
B & S (BS)	Bell & Spigot	T.O.	Trench Open
C.I.D.	Cast Iron Drain	I.C.	Trench Closed
D.I.P.	Ductile Iron Pipe	C.I.P.	Cast Iron Pipe
F.L.	Full Length	Temp.	Temporary Pavement
H.V.B.	Hydrant Valve Box	Conc.	Concrete
L.J.	Lead Joint Fitting	Asph.	Sheet Asphaltic Conc.
M.J.	Mechanical Joint Fitting	Asph. Conc.	Asphaltic Concrete
M.L.V.B.	Main Line Valve Box	P.O.	Push-on Pipe
P.G.	Plain Gland	Rec.	Recovered
R.G.	Retainer Gland	S.O.	Shut Off
W.M.	Water Main	O.S.	Offset
Slv.	Sleeve	T.P.	Test Pit
Sta.	Station	Hyd.	Hydrant

Sample of completed "Inspector's Daily Report", with front side filled in - Card 1 of 4.

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THE CITY OF NEW YORK
DEPARTMENT of ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
INSPECTOR'S DAILY REPORT

Contractor ABC Const. Co. Contract No. WED 100 Date 5/27 1986
Location Middle St. bet. Upper & Lower Ave. 3.

WEATHER	NO.	HOURS EACH	PIPE AND CASTINGS LAID
<u>Fair - 56°</u>			
LABOR:			
FOREMEN	<u>1</u>	<u>8</u>	<u>Cutting in a 20 x 12 3 way at the int. of Upper Ave. & Middle</u>
LABORERS	<u>8</u>	<u>8</u>	<u>St. for a new water main in Middle St.</u>
OPER. ENG.	<u>1</u>	<u>8</u>	
CHAUF			<u>Out of the existing 20" spigot</u>
CAULKER	<u>1</u>	<u>8</u>	<u>9' N/S S.C.L. of Upper Ave.</u>
			<u>& 5' E/S w. Comb Line of Middle St. 4 ft. Cover going east.</u>
			<u>20" Sln lead</u>
EQUIP:			
BACKHOE (COMB.)	<u>1</u>	<u>8</u>	<u>20 x 12 3way Sta. 0+61 into existing 20" Spigot -</u>
PAYLOADER			<u>12" outlet facing South.</u>
DUMP			<u>Installing new 12" main out of the 12" outlet of the</u>
TAMPER			<u>20 x 12 3way Sta. 0+61 going So. 7' E/S w.c. line of Middle St. & 4' Cover.</u>
COMPRESSOR			<u>12" SS 2.0' #502</u>
PAVT. CUTTER			<u>12" BS 18.0' #301 P.O.</u>
TRUCKS: DUMP			<u>12" BS 18.0' #303 P.O. 4' Cover</u>
: PICKUP			<u>12" BS 8.0' #302 P.O.</u>
			<u>12" R. Gland (Contr. Card 2)</u>

Sample of completed "Inspector's Daily Report", with front side filled in - Card 2 of 4.

2 of 4

THE CITY OF NEW YORK

DEPARTMENT of ENVIRONMENTAL PROTECTION

BUREAU OF WATER SUPPLY
INSPECTOR'S DAILY REPORT

Contractor ABC Const. Co. Contract No. WED 100 Date 5/27 1986
Location Middle St. bet. Upper & Lower Aves.

WEATHER	NO.	HOURS EACH	PIPE AND CASTINGS LAID
			(Cont. from Card 1)
LABOR:			12x6 3 way Sta. 1+09
FOREMEN			12" R. Gland - 6" Outlet
LABORERS			facing South.
OPER. ENG.			12" SS 6.0' #305 Cor. 4.0'
CHAUF			12" R. Gland
CAULKER			12x12 0.5. Sta. 1+19
"			gang down under
			12" V.C. Sewer Sta. 1+25
			12" L. Gland
			12" SS 6' #305 Cov. 5'
EQUIP:			12" R. Gland
BACKHOE (COMB.)			12" 0.5. Up M.J. Sta. 1+28
PAYLOADER			12" R. Gland
DUMP			12" SB 18.0' #306 Cov. 4'
TAMPER			12" SB 18.0' #307 Cov. 3.5'
COMPRESSOR			12" SS 2.0' } Temp.
PAVT. CUTTER			12" Cap lead Sta. 1+68
TRUCKS: DUMP			
PICKUP			Laying w/o 12x6 3 way
			6" R. Gland Sta. 1+09
			6" SS 2.0' #999
			6" R. Gland
			6" Valve #1 M.J. (Cont. Card 3)

Sample of completed "Inspector's Daily Report", with front side filled in - Card 3 of 4.

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THE CITY OF NEW YORK
DEPARTMENT of ENVIRONMENTAL PROTECTION

BUREAU OF WATER SUPPLY
INSPECTOR'S DAILY REPORT

Contractor ABC Const. Co. Contract No. WED No. 5/27 Date 5/27 1986
Location Middle St. bet. Upper & Lower Aves.

WEATHER	NO.	HOURS EACH	PIPE AND CASTINGS LAID
			(Cont from Card 2)
LABOR:			6" R. Gland
FOREMEN			6" SS 7.0' #999
LABORERS			6" R. Gland
OPER. ENG.			Hyd. 5-2-LP
CHAUF			C.I.D. & 3/8" ϕ Tail Piece
CAULKER			H.V. Box C. Iron (Compl.)
			Transfer of Services
			#777 Middle Ave.
			3/4" Tap Sta. 1+32.1" ϕ Copper
EQUIP:			Ext. 5.0' - 3' 5/4BL
BACKHOE (COMB.)			9.0' E/WEL Cov. 3.5'
PAYLOADER			
DUMP			Removed Existing Hyd.
TAMPER			Sta. 1+39 (No. C.I.D.)
COMPRESSOR			
PAVT. CUTTER			bedding
TRUCKS: DUMP			① Fr. Lugs on 12' outlet of
: PICKUP			20x12 3way Sta. 0+61 to
			12" band behind hub of
			Pipe #301
			4-1" ϕ Pads 4.0'
			(Cont: Card 4)

Sample of completed "Inspector's Daily Report", with front side filled in - Card 4 of 4.

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THE CITY OF NEW YORK
DEPARTMENT of ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
INSPECTOR'S DAILY REPORT

Contractor ABC Const. Co. Contract No. HEd 100 Date 5/27 1986
Location Middle St. bet. Upper & Lower Aves.

WEATHER	NO.	HOURS EACH	PIPE AND CASTINGS LAID
			(Cont. from Card 3)
LABOR:			② Fr. 12" band behind 12"
FOREMEN			R. Gland on Spigot end of
LABORERS			Pipe #301 to 12" band
OPER. ENG.			behind hub of pipe #303.
CHAUF			4 - 1" ϕ Rods 4.0'
CAULKER			
			③ Fr. 12" band behind 12"
			R. Gland on Spigot end of
			pipe #303 to 12" band behind
			hub of pipe #302
EQUIP:			
BACKHOE (COMB.)			④ Fr. 12" band behind hub
PAYLOADER			of pipe #306 to 12" band
DUMP			behind 12" R. Gland on Spigot
TAMPER			end of pipe #307.
COMPRESSOR			Temporary Cap
PAVT. CUTTER			
TRUCKS: DUMP			⑤ Fr. 12" band behind hub
: PICKUP			of pipe #307 to lugs on
			12" Cap
			4 - 1" ϕ Rods 4.0'

TITLE

Record Keeping

PROCEDURE NUMBER

1000.02

Sheet 11 of 19

Sample of completed "Inspector's Daily Report", with back side filled in.

TRENCH OPEN: (PAVT TAKEN UP: SHEETING ROCK)		
FROM -- TO		
<i>B.P. 0+55 - 3+00</i>		
<i>T.O. 0+55 - 1+68 3" Asph. on 6" of Conc.</i>		
SHEETING	REQ'D. <input checked="" type="checkbox"/>	NOT REQ'D. <input type="checkbox"/>
TRENCH CLOSED: (TEMP. SAND - PAVEMENT PLACED)		
FROM -- TO		
<i>T.C. 0+55 - 1+62 and Hyd. Br.</i>		
<i>T.P. 0+55 - 1+62 and Hyd. Br. and on Satewell</i>		
<i>Area at Sta. 1+19 to 1+39, 5'x5', 4" thick hot</i>		
<i>rolled asph.; Sand Sta. 1+07 - 1+65 3' wide - 2' over</i>		
<i>WATER OFF 9:00 A.M. WATER ON 4:45 P.M. Pipe</i>		
<i>20" main on Upper Ave., East St. to West St.</i>		
COMMENTS - SKETCHES ETC.		

Sheeting at Sta. 0+61. Excavation

Sheeted - 6' x 3.5' x 6.2'

John Smith
Inspector.

PENALTY FOR FALSIFICATION:

Falsification of any statement made herein is an offense punishable by a fine or imprisonment or both. (N.Y.C. Adm. Code, Sec. 1151-9.0)

(Labor and material account for different streets, etc., must be reported on separate sheets.)

B. HOUSE SERVICE ORDER (Tap Record), Form WS129

A "Tap Card" will be made out for every tap, wet connection or plug installed under the work supervised by the Construction Division. "Tap Cards" will be filled out for every tap or wet connection abandoned, destroyed and/or not transferred.

The "Tap Card" shall be filled in completely, front-and-back, and signed by the person inspecting the work.

The "Tap Card" shall contain the following information: Plumber's name and License number, Contractor, Building Address, size of tap, size of main, date, location of tap (usually from building line of premises), location of main (from curb), depth of main where tap is located, type of service (domestic, fire, commercial, dual fire and domestic, dual fire and commercial), and any other pertinent information such as the condition of the service pipe or tubing, etc.

1. In the event there are two (2) services to a building, the "Tap Card" shall be marked: 1 of 2 and 2 of 2 respectively.
2. In the event there is one tap servicing two or more buildings, it should be noted on the "Tap Card".
3. In the event there is an unusual or illegal connection or condition with regard to taps, the matter shall be brought to the attention of this Bureau's Tapping Division immediately and so noted on the "Tap Card".

NOTE: All taps which are found open shall be connected to new taps on the new main. In the event of flooding of a cellar due to a failure by the Plumber to properly kill such a tap, the new tap which has been installed in a new main shall be shut and disconnected. This shall be noted on the "Tap Card".

Sample of completed "House Service Order" filled in.

FRONT SIDE

WS 129 Rev. 8 (9-81)

100M-1026057(82) 346

CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY

SEC.	BLOCK	LOT
WARD	DIST.	PLOT

HOUSE SERVICES ORDER		
City Work	PERMIT NO.	
HED-100		
INSP. NO.		

LOCATION #250 Middle Street (E/Side) BOROUGH Bronx

INSERT 3/4" TAP ON 12" MAIN. READY 3:20 P. M.

INSERT PLUG ON MAIN. READY M.

INSPECT SERVICE PIPE READY M.

SPECIAL ORDERS New Main - Transfer from 6" Main

OWNER ADDRESS

PLUMBER ABC Const. Co. ADDRESS Contractor's Address

Plumber's name & Lic. No.

BUILDING { STORIES

FT. FRONT

FT. DEEP

BACK SIDE

REPORT May 27, 19 86 M

LOCATION #250 Middle Street ST. AVE

West SIDE 60 FT. South of Upper Ave. ST. AVE

SIZE OF TAP 3/4" PLUG MAIN 12" DEPTH 3.5'

LOCATION IS 3 FT. South of North BUILDING LINE OF #250

Middle Street AND 9.0 FT. FROM East/West CURB LINE

KIND AND SIZE OF SERVICE PIPE { NEW 1" Copper

NEW SERVICE LENGTH 7.0' IS CURB COCK AND BOX SET 7' KIND AND MAKE

OPENING SIDEWALK OR ROADWAY Roadway FOR BUILDING PURPOSES

VIOLATIONS RE-EXAMINED VIOL. REMOVED

REMARKS:

I CERTIFY THAT THE ABOVE REPORT IS CORRECT. TAPPER/INSPECTOR

PENALTY FOR FALSIFICATION

Falsification of any statement made herein is an offense punishable by a fine or imprisonment or both. (N.Y.C. Adm. Code, Sec. 1151-9.0)

Print:

SIGN: Inspector's Signature

C. REQUISITIONS, Form W.S. 113

1. Requisitions for City Contracts

The representative of the Department, usually the Pipe Laying Inspector, shall issue to the Contractor the requisition for the material which is supplied by the Bureau and which is to be picked up at the Department's yards.

An original and four copies, or as applicable to each borough, of the requisition shall be made.

- a. The Contractor shall receive the original and the first, second and third copies.

The Pipe Laying Inspector shall retain the fourth copy for the Engineer's records.

- b. The Contractor shall submit the requisition to the respective pipe yard, receive the materials and have them delivered to the work site.

The person who issues the material shall sign the original and the three copies of the requisition.

The person who receives the material shall sign the original and the three copies of the requisition.

The Contractor or his representative shall receive Copy 2 of the requisition. The yard shall keep Copy 3 and forward the Original to the Inventory Control Section and Copy 1 to the Borough Construction Chief for the contract records.

NOTE: The Pipe Laying Inspector should take care to order only enough material that can be carried in one load. To put several loads on one requisition often leads to confusion and errors.

2. Requisitions for Private Work

All material for private work shall be requisitioned by the Main Office. There will be no requisitions issued from the field personnel, unless specifically directed to do so by the engineer.

In an effort to facilitate work or if it is to the good of the City to install new material such as valves or hydrants, it will be permissible to issue a requisition for such material.

- This requisition shall be marked "EXCHANGE FOR MATERIAL".
- This decision is at the discretion of the Engineer in-Charge.

Sample of Form W.S. 113, "Requisitions", filled in.

FORM NO. W.S. 113 - 50M-703734(65)		3201 Jerome Ave.		THE CITY OF NEW YORK DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF WATER SUPPLY MATERIAL REQUISITION		PROJECT NO. XC 0000 CONTRACT NO. HED-100	
3201 Jerome Ave.		ABC Const. Co.		LOCATION FOR MATERIAL USAGE Middle St. & Upper Ave.			
ITEM	DESCRIPTION (Plant)	QUANTITY REQUESTED	INVENTORY NUMBER	QUANTITY ISSUED	REMARKS		
1	12" x 8" 3-Way	2					
2	12" Valve (MJ)	1					
3	Main Line Valve Box-Top Sect.	1					
4	Main Line Valve Box-Bot. Sect.	1					
5	Main Line Valve Box - Cover	1					
6	4 1/2" Bury Hydrant-Breakaway	1					
7	12" Retainer Glands (MJ)	2					
8	12" Rubber Gaskets (MJ)	2					
NOTES: 1 DO NOT MAKE CHANGES ON THE "QUANTITIES REQUESTED". IF INCORRECT, MAKE A NEW REQUEST. 2 ONLY ORDER FOR MATERIALS TO BE PICKED UP AT ONE TIME AND FROM ONE PIPE YARD. 3 CROSS OUT UNUSED "ITEMS". PENALTY FOR FALSIFICATION of any statement made herein to an offense punishable by a fine or imprisonment of both. (U.S.C. App. Code, Sec. 1151-5.0)						REQUESTED BY Inspector	
ISSUED BY Yard keeper						SIGN NAME	
ACCEPTED BY Pick-Up Man						DATE	
UTILITY REPRESENTATIVE							

ORIGINAL - INVENTORY CONTROL SECTION

D. MATERIALS RETURNED, Form W.S. 114

1. Materials Returned for City Contracts

The Pipe Laying Inspector shall issue to the Contractor a Material Return form for all unused material. The material shall be returned to the Department's yards. If the contractor is furnishing pipe and returning surplus, only full lengths will be returned.

An original and three copies of the form shall be made.

- a. The Contractor shall receive the original and the first, second and third copies.
The Pipe Laying Inspector shall retain the fourth copy for the Engineer's records.

- b. The Contractor shall return the material to the respective pipe yard.

The Storekeeper or person who receives the material shall sign the original and the three copies of the "Materials Return" form.

The Contractor or his representative shall receive Copy 2 of the form. The yard shall keep Copy 3 and send the Original to the Inventory Control Section and Copy 1 to the Borough Construction Chief for contract records.

NOTE: Material that is recovered or salvaged, as required by the contract to be returned, shall be marked "RECOVERED".

2. Materials Returned for Private Work

No material will be credited for private work.

Where a material exchange is permitted by the Engineer, the words, "EXCHANGE OF MATERIAL", shall be noted on the Materials Return form.

Sample of Form W.S. 114, "Materials Returned", filled out.

Form No. WS 114 Rev A (5-83)		3201 Jerome Ave. ABC Const. Co. CONTRACTOR OR SUB			
PROJECT NO. XC 0000		CONTRACT NO. HED 100			
OTHER		--MATERIAL RETURNED--			
THE CITY OF NEW YORK DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF WATER SUPPLY					
ITEM	DESCRIPTION (Print)	QUANTITY RETURNED	INVENTORY NUMBER	QUANTITY RECEIVED	REMARKS
1	12" x 8" - 3 way (M)	1			
2	8" Valve (M)	1			
3	8" x 45° Bend	1			
4	Main Line Valve Box - Top Section	1			
5	Hydrant (Recovered)	1			
6	12" Plain Glands	3			
7	8" Gasket (M)	6			
8	3/4" T-Bolts 4"	25			
NOTES: 1. DO NOT MAKE CHANGES ON THE "QUANTITIES RETURNED". IF INCORRECT, USE A NEW MATERIAL RETURNED FORM. 2. ONLY RETURN NON-DEFECTIVE MATERIAL. 3. ONLY THOSE MATERIALS TO BE RETURNED AT ONE TIME AND TO ONE PIPE YARD SHOULD BE INDICATED. PENALTY FOR FALSIFICATION Violation of any statement made herein is an offense punishable by a fine or imprisonment or both. (N.Y.C. Admin. Code, Sec. 24-219.1)					
PRINT NAME PICK-UP MAN		RECEIVED BY YARD KEEPER		SIGN NAME Pick up Man.	
DATE 2/8/86		DATE 2/8/86		UTILITY REPRESENTATIVE Peter Supp.	

ORIGINAL-INVENTORY CONTROL SECTION

E. INSPECTOR'S FIELD BOOK

1. In addition to his daily reports, each Pipe Laying Inspector will be issued a numbered field book which is assigned to him alone. He shall keep this book with him from assignment to assignment and enter daily all information and notes pertinent to his work. The field book is the property of the City and must be turned in upon its completion or upon request by the engineer.
2. On regular water main work, the notes should include all the basic information entered on his daily report as well as any personal comments, reminders, observations, etc., that he feels are pertinent.
3. When a Pipe Laying Inspector is not assigned to a water main contract, he should enter a brief description of the job, project or duty to which he is assigned.

Examples:

- "Field measurements and inspection for drafting section - 95th Street, between 101st and 105th Avenues."
- "Assisted Engineer _____ with balance of material".

F. ACCIDENT REPORTS

All accidents occurring on the work site are to be reported. This is to be done if the Department employee witnesses the accident, sees evidence thereof or is informed thereof by any responsible person or persons.

Accidents include all occurrences in connection with the work which may lead to claims against the Contractor or the City for personal injury or for property damage.

G. BI-WEEKLY TIME SHEET

The Bi-Weekly Time Sheets (two weeks, Monday through Sunday) are to be submitted the first day after the period ends, by the Pipe Laying Inspector.

H. MONTHLY EXPENSE SHEET

The Monthly Expense Sheet is to be submitted before the 6th day of the month for the period of the previous month.

I. IFA REPORTS

The IFA Reports (15 days - 1 through 15 and 16 through 30 or 31) are to be submitted, the first day after the period ends, by the Pipe Laying Inspector.

TITLE

Record Keeping

PROCEDURE NUMBER
1000.02 ADDENDA 1
Sheet 1 of 1

J. INSPECTORS DAILY REPORT - CHECK LIST

This corollary to the inspector's daily report is designed to assist the inspector in assuring that essential items of work are performed in accordance with the latest specifications.

1. When contract pipelaying operations are active, this form is to be completed by the inspector and reviewed by the project engineer on a daily basis. This applies to consultant supervised contracts as well.
2. The Borough Chief and Area Engineer will periodically review these forms as well as initial procedures witnessed during job site visits. On consultant supervised contracts the liaison engineer will review and initial accordingly.
3. Deviation from the Standard Specification should be noted in the remarks column, justification given, and where necessary, record of the supervisory personnel contacted concerning these conditions.

CITY OF NEW YORK
BUREAU OF WATER SUPPLY
MANUAL OF PROCEDURES

DATE ISSUED	TITLE	PROCEDURE NUMBER
October 1976 REV. B	Water Main Shutdown APRIL 1986	1000.03 Sheet 1 of 11

I. PURPOSE

This procedure is intended to eliminate the overlapping responsibility and authority and to make all personnel's tasks in serving the public easier.

II. BACKGROUND

A. Primary Purpose

The primary purpose of the Bureau of Water Supply's Construction Division is to give the most efficient service to the public.

At times, the public may be inconvenienced due to our operations. Only by efficient operation, the Bureau can keep this inconvenience to a minimum.

B. Definition

Where "Inspector" is mentioned, this will mean the representative of the Construction Division assigned to the contract. This could be an Engineer, Technician, Pipe Laying Inspector or designated employee.

Where "Foreman" is mentioned, this will mean the representative of the Maintenance Division. This could be the District Foreman, Foreman, Caulker or other designated employee.

C. Cooperation and Responsibility

Cooperation and respect for the other person's opinion by the personnel of the Construction and Maintenance Divisions and the Contractor are necessary if the Bureau is to obtain an efficient operation.

Invariably, there will be times when the following defined areas of responsibility and procedure will fall short or overlap. In these cases, the "Inspector" and the "Foreman" should not lose sight of the basic fact that he should strive to give the public the best possible service and act accordingly.

TITLE

Water Main Shutdown

PROCEDURE NUMBER

1000.03

Sheet 2 of 11

There are times that the Contractor may be required to notify, operate gates and perform any of the field work required for shutdown on contract work. This practice will vary according to specific situations, ie. size of shutdowns, desired control by the Borough, availability of maintenance personnel, etc. It is for this reason, that the "Inspector" is the coordinator and person primarily responsible for the efficient operation of all shutdowns on contract work.

NOTE: CARE SHOULD BE TAKEN TO CONSIDER CONSUMERS, BUSINESS, ETC.
WHEN PLANNING A SHUTDOWN. NEEDLESS NOTIFICATIONS AND
CANCELLATIONS SHOULD NOT BE TOLERATED.

III. PROCEDURE

A. Planning Water Main Shutdown

Both the Engineer-in-Charge and the "Inspector" should check the area affected by a proposed shutoff for facilities such as refrigeration, transformers, restaurants, laundries, beauty parlors, photo-processing laboratories, schools, hospitals, nursing homes, etc., to which continuous water supply is crucial. Such facilities should be given as much advance notice and consideration as possible.

Prior to noon of the day preceeding a shutoff, the Contractor shall inform the "Inspector" of the shutoff he will require the next day. If the shutoff is approved, the "Inspector" shall inform the Construction Division's Main Office immediately. (This means before noon.)

The "Inspector" shall provide the following information:

- Size of the main,
- Location of the main (East or West side of the street),
- Time the shutoff is to be made. (Not before 9:00 AM, unless otherwise specified.)
- Limits of the shutoff needed for the work. (Watch for dead ends, etc.)
- Contract number and Contractor's name,
- Inspector's name,
- Charge, if any,
- Reason for work,
- Estimate of how long shutoff will be (if possible).

A sample of this is as follows:

S.O. 12 inch main west side of 10th Avenue from West
6th Street to West 8th Street at 9:00 A.M. on
September 10, 1976.

Contract No. 109633 John Doe, Contractor
 John Smith, Inspector-----

No charge -

To install new main. Approximate duration of S.O. will
be 8 hours.

The main office will record the shut off in the appropriate
book and transmit the information, by telephone, to the Shop.
The Shop personnel will notify the consumers affected.

At the time of the shutdown, the shop personnel will operate
all valves. (The Contractor will operate valves only under
the supervision of a representative of the Bureau, and only
in dire emergencies.)

Whenever a shut down is made by Contractor's forces, the
"Inspector" will immediately notify the Shop, in detail,
indicating which valves were operated and the extent of
alterations to service in the area. This detail includes
information concerning hydrants affected and which mains
were shut down and which mains were opened. The "Inspector"
will also note on his "Inspector's Daily Report" the limits
of the shut down and the number of gates operated by the
Contractor.

Upon completion of a shut off, it is the responsibility of the
Shop personnel to test the hydrants behind or outside the shut
off area for low pressure and adequate water supply.

B. Shutting Down a Main

At the appointed time of shutdown, the "Foreman" shall
consult with the "Inspector". The "Inspector", at this time,
shall advise the "Foreman" of the following:

- . That all is in readiness and the shutdown should be
made as planned, or should be cancelled,

TITLE

Water Main Shutdown

PROCEDURE NUMBER

1000.03

Sheet 4 of 11

- . That certain unusual conditions, peculiar to the construction work (ie. temporary valves, caps, unusual consumer conditions, boundaries, whether main is greater than 20", etc.) exist which affect the shutoff. Both men will consult and agree on which valves will be operated to shut down the water main in question. At this time, the "Foreman" shall proceed to have his gang shut the necessary valves.

GENERAL PROCEDURES FOR MAKING A SHUTDOWN

1. Shut the valves, starting with the largest valves first, and count the number of turns.

- . For standard 12" valves, the number of turns is 38.
- . For standard 8" valves, the number of turns is 27.
- . For standard 6" valves, the number of turns is 21.

2. Immediately after the shut off, check the hydrants on the live side for any unacceptable drop in pressure.

If the pressure has dropped to an unacceptable low, make arrangements to restore adequate pressure.

- . Check the area for unintentionally shut valves.

3. A hydrant shall be opened to test shutoff.

- a. If the hydrant at the highest point on the shut off has no pressurized water flow, then the shut off is complete and not leaky.

- b. If the hydrant has a pressurized water flow, then the shut off is possibly incomplete, leaking or has backfeeding check valves on multi-service premises.

- c. If the test indicates a good shut off, the "Foreman" shall notify the "Inspector" that the shut off has been made and the "Inspector" shall have the Contractor, where possible, break out the pipe immediately.

- d. If the test indicates that the shut off is not good, proceed as follows:

- . To check for incomplete shut off, consult with the Main Office or Shops, to check if any recent water main work that may not yet be shown on the maps.
- . To check for leaking valves, open a hydrant on the shut off side and aquaphone all the valves for water noise. The noisy valves should be operated repeatedly up and down (only five to ten turns) while in the shut down position until no further effects are noticed on the leakage. This procedure grinds away the crust and permits the valve to seat properly and snugly.

TITLE

Water Main Shutdown

PROCEDURE NUMBER

1000.03

Sheet 6 of 11

- To check for backfeeding of defective check valves, check the valves on multi-service premises and aquaphone them. Shut the service valve that is directly connected with the shut off and defective check valve.

- e. When necessary to extend a shut off, consult with the Main Office.

All the rules that applied to the original shut off also apply to the extension.

C. Shut Down Under Unusual Conditions

If it becomes necessary to shut off a main due to unusual conditions, the "Inspector" will contact the maintenance shop and the "Foreman" will, if possible, dispatch a gang immediately.

If the "Foreman" is unable to dispatch a gang immediately, and the nature of the condition necessitates an immediate shut off, the Contractor's men shall be directed by the "Inspector" to shut off the necessary valves. Before the actual shutting of the valves, the "Inspector" shall notify the affected consumers so that damage to boilers, etc., can be avoided.

Upon completion of the shut down, the "Inspector" shall inform the Shop and the Main Office of the following data: (He shall record the data in his report along with the name of the person receiving it.)

- . Limits of the shut off,
- . Hydrants affected,
- . Approximate length of time of the shut off,
- . Reason for the shut off,
- . Whether or not hydrants or buildings have been tested behind the shut off for possible discontinuance of service,
- . If further assistance is required when a maintenance gang is available.

D. Putting a Main Back Into Service

1. The "Inspector" will call the shop and the "Foreman" will send a maintenance gang to open the valves necessary to return the water main to service. The "Inspector" will remain at the job site until the gang arrives, except in unusual cases.

- . If it becomes necessary, due to unusual conditions, on the particular job, to return the main to service immediately after completing the work by the Contractor, the Contractor's men, under the direction of the "Inspector", shall operate only sufficient gate valves as necessary to provide service.

- When the main is back in service, the "Inspector" shall notify the Shop, indicating which valves were operated. The "Inspector" will also note on his "Inspector's Daily Report" the number of gates operated by the Contractor and the name of the shop personnel reported to.
- The "Inspector" shall notify the Shop of the following:
 - .. Exactly what valves have been opened,
 - .. Limits of the main returned to service,
 - .. Number and location of hydrants returned to service,
 - .. Number and location of hydrants out of service,
 - .. What portions of the mains are still out-of-service, such as an intersection portion between two caps, and whether it can be returned to service when a gang is available.

The Shop should make every effort to dispatch a gang as soon as possible to restore complete service and circulation by operating the remaining closed valves as quickly as possible.

2. It is suggested that the "Inspector", when the work is about to be completed, call the Shop and notify them of the anticipated time when the main will be ready to be returned to service.

- Any unforeseen circumstances which delay this time appreciably should be noted, and the Shop notified of the delay so that a gang will not be dispatched until necessary.

3. The "Foreman" of the maintenance gang will consult with the "Inspector" on the job site for the same reasons described in the 'Shut Down Procedure'.

At this time, the "Foreman" will supervise the gang operating the valves, and thus return the main to service.

IV. RESPONSIBILITIES OF THE PIPE LAYING INSPECTOR RE: SHUTDOWNS

The Pipe Laying Inspector will plan and order as per the procedures, as described previously. This should be done so there is a minimum of inconvenience to the public.

The Pipe Laying Inspector shall be on the job site when the shut off is scheduled.

- If, in a special case, it is not necessary for the Pipe Laying Inspector to be on the job site, he will note this at the time of ordering the shut off. This information will be relayed to the Shop by the Main Office.
- If, due to unforeseen circumstances, (transit failure, etc.), the Pipe Laying Inspector is unable to be at the job site at the appointed time, he will immediately notify the Main Office so that necessary coverage of the job site can be arranged.

The Pipe Laying Inspector will limit the work so that the work is completed as near as possible within the normal working hours of 8:00 A.M. to 4:30 P.M.

The Pipe Laying Inspector will cooperate fully with the Foreman so that efficient operation is attained in making the shut off and returning the main to service. He will acquaint the Foreman as to all unusual conditions on the job.

He shall request the Foreman to check behind all closed valves to insure that service is maintained in areas adjacent to the shutoff.

The Pipe Laying Inspector, after concurrence with the Engineer, if possible, shall cancel shut off at any time he feels the Contractor is not equipped or ready to do the work scheduled or if adequate working conditions are not present due to weather, inadequate shutdown, etc.

V. RESPONSIBILITIES OF MAINTENANCE DIVISION RE: SHUTDOWNS

The Maintenance Division shall make a preliminary investigation of the shut off location.

- Check limits of the shut off as received from the Main Office.
- Check any special conditions in area or adjacent areas such as regulation boundary gates, known defective gates, etc., that will be affected by the shut off, and determine what adjustments must be made to remedy these conditions.
- Brief the "Foreman" of the shut off crew as to gates to be operated, etc. and supply him with a distribution map.
- Make test shut down and clean out valve boxes if deemed necessary.

The Maintenance Division should notify all consumers that may be affected by the shutdown no later than 4:00 P.M. on the day prior to the shutdown. No shutdown should be made EXCEPT in dire emergency unless consumers have been notified.

The Foreman of the maintenance gang should consult with the Pipe Laying Inspector on the job site as to limits and peculiarities of the shut off, and then proceed with the shut off as planned. Upon completion of the shut off, the gang will check the hydrant within the shut off.

The Maintenance Division's gang should check behind each closed valve to insure that service has not been interrupted.

The Foreman of the Maintenance gang should note on the work ticket:

- . Time of shutoff (or turn on),
- . Gates operated and closed,
- . Gates operated and opened,
- . Gates operated by the Contractor's men under the direction of the "Inspector", if any.

If the main is to be broken out by the Contractor immediately, the maintenance gang shall standby, unless ordered otherwise, so that the shut off can be made certain.

In the event the shut down is not sufficient to permit work, the "Foreman" will once again consult with the "Inspector" as to the various possibilities that might be the trouble. Among these are:

- . Valve not fully closed - go over valves,
- . Backfeed - check corner buildings, etc.,
- . All valves have not been operated - check distribution map.

The "Foreman" and the "Inspector", in consultation, will determine which of these possibilities is the most likely and then the "Foreman" will have the gang attempt to remedy the situation.

In the event of a defective valve which will cause the shut off to be "back up", all consumers should be given sufficient notice before shutting down. This practice should be avoided where possible.

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Water Main Shutdown

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WHERE POSSIBLE, THE SHUT OFF SHOULD BE MADE AS CLOSE TO THE SCHEDULED TIME AS POSSIBLE. FOR EXAMPLE: THE MAINTENANCE GANG SHOULD BEGIN TO CLOSE THE LAST VALVE ON THE SHUT OFF AT THE APPOINTED TIME.

CARE SHOULD BE TAKEN TO CONSIDER CONSUMERS, BUSINESS, ETC., WHEN PLANNING A SHUT DOWN. NEEDLESS NOTIFICATIONS AND CANCELLATIONS SHOULD NOT BE TOLERATED.

CITY OF NEW YORK
BUREAU OF WATER SUPPLY
MANUAL OF PROCEDURES

DATE ISSUED	TITLE	PROCEDURE NUMBER
October 1976 REV. B DATE: APRIL 1986	Proper Installation of Lead, "Push-on" and Mechanical Joints	1000.04 Sheet 1 of 9

I PURPOSE

This procedure describes the proper methods of using "push-on" pipe, bell and spigot lead joint fittings and/or mechanical joint fittings, and the means of completing the joints.

II APPLICABLE SPECIFICATIONS

- A. Bureau of Water Supply Standard Water Main Specifications
- B. American Water Works Association's Standards
- C. The City of New York's "Rules and Regulations Governing and Restricting the Use and Supply of Water"

III INSTALLING LEAD JOINT FITTINGS

The installation of lead joint fittings shall be as described in the Standard Water Main Specifications, Form 6, "For Laying Pipes and Appurtenances".

A. Section 10 reads as follows:

"The spigot end of the pipe shall be inserted into the hub approximately the full depth, and the space between the spigot and the hub shall be equalized. The inner portion of the annular space between the spigot and the hub shall be packed with an approved solid molded rubber ring; any exception to the use of this ring must be approved by the Engineer and if so approved then rope yarn shall be used. The remaining space in the hub shall then be run full of lead at one pouring and the joint shall be well caulked with proper tools and made watertight. In pouring the joint sufficient metal shall be provided, so that when the joint is caulked the lead shall be flush with the face of the hub. The lead used shall be of the best quality, pure soft lead, practically free from all impurities; it shall show upon analysis not less than 99.5% by weight of pure metallic lead. No cold lead shall be used for caulking or filling in. The depth of lead joints for straight pipe hubs, from the face to the nearest edge of the

rubber ring or from the hub face to the rope yarn shall not be less than the following: two and three-eighth inches for 4-inch and 6-inch pipe; two and three-quarter inches for 8-inch and 12-inch pipe; two and seven-eighth inches for 16-inch, 20-inch and 24-inch pipe; three inches for 30-inch and 36-inch pipe; and three and one-half inches for 48-inch pipe.

The depth of lead joints for special castings from the hub face to the nearest edge of the rubber ring or from the hub face to the rope yarn shall be not less than the following: two and one-quarter inches for 4-inch, 6-inch and 8-inch pipe; two and five-eighth inches for 12-inch, 16-inch, 20-inch and 24-inch pipe; three inches for 30-inch and 36-inch pipe; and three and one-half inches for 48-inch pipe."

NOTE: AMWA Standard C 600-64 indicates that the "yarning or packing material shall be as specified in the purchaser's addendum to this standard. It shall consist of molded rubber rings; rope yarn or other treated rope may be used only with the approval of the engineer when the space between the bell and spigot will not permit the use of a rubber ring."

B. Section.11 reads as follows:

"Wherever required, solid lead joints shall be used, not more than one strand of joint packing material being permitted for small pipe. These shall be made by running the whole joint depth full of lead at one pouring and on large pipe, caulking the joint both inside and outside the pipes."

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Proper Installation of Lead, "Push-on"
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IV. INSTALLING "PUSH-ON" PIPE

The inside of the bell and outside of the spigot end shall be thoroughly cleaned to remove oil, grit, excess coating, and any other foreign matter.

The circular rubber gasket shall be flexed inward and inserted in the gasket recess of the bell.

A thin film of gasket lubricant shall be applied to the inside surface of the gasket and the spigot end of the bell.

The spigot end of the pipe shall be entered into the socket with care used to keep the joint from contacting the ground. The joint shall then be completed by forcing the plain end to the bottom of the socket with a forked tool or jack-type tool or other device approved by the Engineer. Pipe that is not furnished with a depth mark shall be marked before assembly to assure that the spigot end is inserted to the full depth of the joint. Field cut pipe lengths shall be filed or ground to duplicate the spigot end of such pipe as manufactured, and thus remove the rough edges of the cut pipe that may damage the gasket.

Complete assembly instructions are available from the manufacturer. The following pages of this procedure show one manufacturer's method of installing the "push-on" pipe.

ASSEMBLY OF 2"-24" PUSH-ON PIPE (Page 1 of 3)

CAUTION: The inside of the socket, the gasket and the inserting plain end must be kept clean throughout the assembly. Joints are only as water-tight as they are clean. If the joint is somewhat difficult to assemble, inspect for proper gasket position, adequate lubricant and presence of foreign matter in joint.

Figure 1. Insertion of Gasket

All foreign matter in the socket must be removed, i.e., mud, sand, cinders, gravel, frozen material, etc. The gasket seat should be thoroughly inspected to be certain it is clean. Foreign matter in the gasket seat may cause a leak. The gasket must be wiped clean with a clean cloth, flexed, and then placed in the socket with the large round end entering first, so that the gasket is seated evenly around the inside of the socket with the heel of the gasket fitting snugly in the retainer seat. When installing TYTON JOINT pipe in sub-freezing weather, the gaskets, prior to their use, must be kept at a temperature of 40°F or higher by suitable means, such as storing in a heated area or keeping immersed in a tank of warm water. If the gaskets are kept in warm water, they should be dried before placing in the pipe socket.

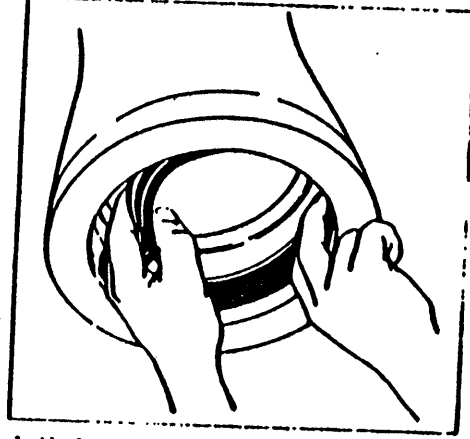


Figure 3. Initial Entry of Plain End in Socket

The plain end of the pipe should be aligned and carefully entered into the socket until it just makes contact with the gasket. This is the starting position for the final assembly of the joint. Note two painted stripes near plain end.

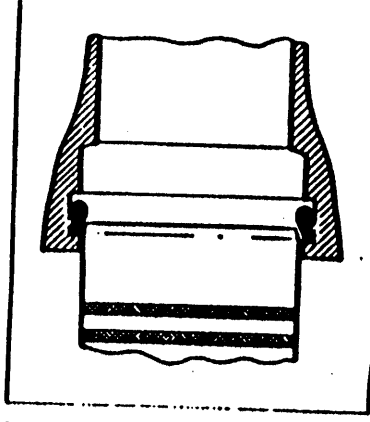


Figure 4. Completely Assembled Joint

Joint assembly should then be completed by one of the methods described herein (Figs. 5, 6 and 8) by forcing the plain end of the entering pipe past the gasket (which is thereby compressed) until the plain end makes contact with the bottom of the socket. Note that the first painted stripe will have disappeared into the socket and the front edge of the second stripe will be approximately flush with the bell face. If assembly is not accomplished with the application of reasonable force by the methods indicated, the plain end of the pipe should be removed to check for the proper positioning of the gasket.

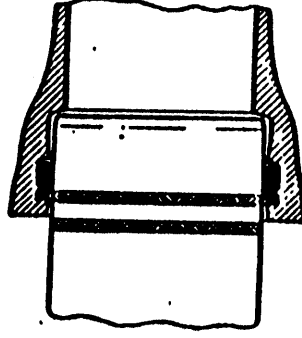


Figure 2. Application of Lubricant

A thin film of TYTON JOINT® lubricant should be applied to inside surface of gasket which will come in contact with entering plain end of pipe. The plain end of the pipe must be cleaned of all foreign matter on the outside from the plain end to the stripes. Frozen material may cling to the pipe in cold weather and it must be removed. In some cases, it is desirable to apply a thin film of lubricant to the outside of the plain end for about 1" back from the end. Do not allow the plain end to touch the ground or trench side after lubricating since foreign matter may adhere to the plain end and cause a leak. Lubricant other than that furnished with the pipe should not be used.

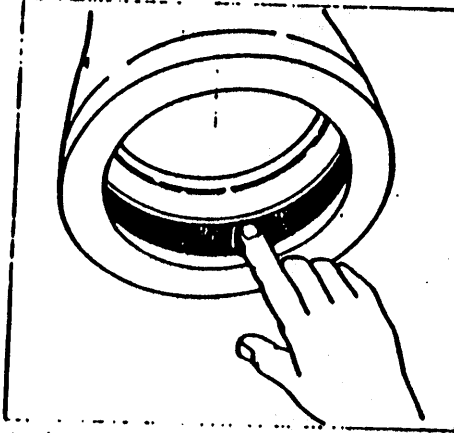


Figure 5. Crowbar Method of Assembly

For joint assemblies 8" and smaller socketing of the plain end may be accomplished in some cases by pushing against face of bell of entering pipe with crowbar or spade.

