

## **ERIE COUNTY WATER AUTHORITY**

#### INTEROFFICE MEMORANDUM

February 1, 2023

To: Terrence D. McCracken, Secretary to the Authority

From: Michael J. Quinn, PE, Senior Distribution Engineer

Subject: GP-010, Transmission and Distribution Mains

City of Lackawanna, Town of Hamburg and West Seneca NY

License Agreements

Norfolk Southern Railway Company ECWA Project No. 202100035

The Erie County Water Authority (ECWA) is undertaking a transmission main replacement project in the City of Lackawanna and the Towns of Hamburg and West Seneca (GP-010). The project in part includes the replacement of two separate mains along Abbott Road beneath a Norfolk Southern Railway Company (Norfolk Southern) railroad bridge. In order to construct the improvements as well as to operate and maintain the mains following completion of the project, the ECWA must execute two separate License Agreements (Agreement), one for each main, with Norfolk Southern.

In the past as part of project WSA-015, the ECWA Law and Engineering Departments with the assistance of Harris Beach negotiated the terms of these Agreements and collectively are recommending that the Board review and approve the attached Agreements and authorize the Chairman to execute same. In addition to executing the Agreement itself, it is requested that the Board approve payment of the associated Risk Financing Fee of \$1,900.00 for each agreement (\$3,800.00 total) which covers the required Railroad Protective Liability coverage. The ECWA's current insurance policies do not include this type of coverage.

Funds for the Risk Financing Fee payments are available as follows:

- Budget Unit: 2595 Eng/Const Transmission Mains
- Item: 101599 GP-010 Transmission Main Replacement.

Attached find one copy of each Agreement for the Board's information. It is Norfolk Southern's policy that all agreements be executed electronically through the DocuSign platform. Following approval, the agreements will be forwarded directly to the Chairman for execution. Thank you and please feel free to contact me if you have any questions.

MJQ:jmf Attachments cc: L.Kowalski W.Wheeler CONT-GP-010-2101-X-10

# ERIE COUNTY WATER AUTHORITY AUTHORIZATION FORM

For Approval/Execution of Documents (check which apply)

Contract: GP-010 Project No.: 2021000 Project Description: Water System Improvements, Transmission and Di City of Lackawanna, Town of Hamburg and West	istribution Mains
Item Description:   X Agreement Professional Service Contract Amendment   BCD NYSDOT Agreement Contract Docume   Recommendation for Award of Contract Recommendation   Request for Proposals Other	
Action Requested:  X Board Authorization to Execute  Board Authorization to Award  Board Authorization to Advertise for Bids  Board Authorization to Solicit Request for Proposals  Other	airman cretary to the Authority
Approvals Needed:  APPROVED AS TO CONTENT:  X Sr Distribution Engineer  X Chief Operating Officer  X Executive Engineer  X Director of Administration  X Risk Manager  X Chief Financial Officer  X Legal  APPROVED FOR BOARD RESOLUTION:  X Secretary to the Authority	Date: 2/2/2023  Date: 02/06/2023  Date: 02/06/2023  Date: 02/03/2023  Date: 02/03/2023  Date: 02/03/2023  Date: 2/2/2023  Date: 2/6/23
Remarks: Agreements with Norfolk Southern Railway Company for 24 DIP mains.	-inch and 12-inch

**Item No:** 

**Resolution Date:** 



September 06, 2022

Leonard Kowalski **ERIE COUNTY WATER AUTHORITY**295 Main Street, Room 350

Buffalo, New York, 14203-2494

RE: Proposed transverse underground 12" water DIP located within the public ROW at DOT Crossing# (519509X). Existing 12" pipe to be abandoned and filled with flowable grout material.

Keystone Division, at Mile Post BX-3.03 Lackawanna, Erie County, New York Latitude 42.813827, Longitude -78.800076 NS Activity No. 1302766

Dear Leonard Kowalski:

RailPros, as consultant for Norfolk Southern Railway Company ("Railway"), has reviewed the above-referenced request. Based on the information and documentation presented, Railway has no objections to the proposed work.

Attached you will find the requested offer of agreement for execution, by an official authorized to execute contract agreements on behalf of the Licensee. Please have the agreement executed via DocuSign. Note, however, that the attached offer of agreement does not constitute a binding contract, unless or until it is executed by both the Licensee and Railway.

In order for Railway to countersign the document, the following items are needed for review:

- 1. A Certificate of Insurance as required in the agreement, is to be submitted within the Application System.
- A separate Railroad Protective Liability Insurance policy, as required in the agreement, with Railway as the named insured, and the Activity ID referenced in the description, submitted within the Application System; OR
- 3. The submission of the Risk Management Fee adds the specific project/activity to the Norfolk Southern Master Railroad Protective insurance policy, and as such no further railroad protective liability insurance coverage is necessary or requested.

NOTE: No work shall be permitted on or about the Railway's property until the agreement becomes binding, and the Division Engineer or their authorized representative has reviewed and approved field services for the project, such as *flagging protection*, construction monitoring, and post-construction inspection services. Once the above items are received, the fully executed agreement will be sent, along with the name and contact information for field service coordination.

If we have not received the executed agreement and corresponding payments and/or documents within sixty (60) days from the date of this letter, we reserve the right to cancel this request.

If you have any questions, please contact me via the portal.

Sincerely,

Dan Pavlik Real Estate Specialist

Omaha, NE 68164

PO Box 642270 P: (402) 965-0539 F: (866) 762 - 7619

#### NORFOLK SOUTHERN RAILWAY COMPANY

## ACKNOWLEDGMENT FORM FOR WIRE AND/OR PIPE OCCUPATION WITHIN THE LIMITS OF A PUBLIC RIGHT OF WAY.

APPLICANT: ERIE COUNTY WATER AUTHORITY

295 Main Street, Room 350 Buffalo, New York, 14203-2494

SUBJECT: Lackawanna, Erie County, New York

Milepost BX-3.03, Buffalo Line, Keystone Division

Norfolk Southern Activity No. 1302766

Install a new transverse underground 12" water DIP located within the public ROW at DOT Crossing# (519509X). Existing 12" pipe to be abandoned and filled with

flowable grout material. (collectively, the "Facilities")

In response to Applicant's submittal dated May 26, 2022 regarding the proposed construction of the subject project, Norfolk Southern Railway Company ("Railway") does not object to the installation of the Facilities as shown on the attached Drawing marked Exhibit "A", last revised August 8, 2022, provided Applicant adheres to the following terms and conditions:

- The Facilities shall be installed, constructed, maintained, repaired, operated and removed by and at the sole risk, cost and expense of the Applicant, (collectively, "Operate" or "Operations").
- The Facilities must conform with all Federal, State and local laws, rules and regulations and will not be attached to any railroad structure or appurtenance and will not be located on any private property of Railway.
- The design and construction of aerial Facilities shall comply with Railway's NSCE-4 Specification, latest edition, and underground Facilities shall comply with Railway's NSCE-8 Specification, latest edition.
- Insurance
- (a) <u>Insurance Requirements.</u> Without limiting in any manner the liability and obligations assumed by Applicant under any other provision of this Agreement, and as additional protection to Railway, Applicant shall comply with the following provisions:
  - (i) Subject to subsection (ii) below, upon execution of this Agreement, Applicant shall pay Railway a risk financing fee of \$1,900 (the "Risk Financing Fee") to provide Railroad Protective Liability Insurance or such supplemental insurance (which may be self-insurance) as Railway, in its sole discretion, deems to be necessary or appropriate with respect to the initial construction and installation of the Facilities.
  - (ii) Prior to commencement of each Operations project that requires access to the Premises, unless Railway elects to make available and Applicant pays the then-current Risk Financing Fee for a given Operations project, Applicant shall furnish Railway with an original Railroad Protective Liability ("RPL") Insurance Policy naming Railway as the named insured and having a limit of (1) not less than a combined single limit of \$2,000,000 each occurrence and \$6,000,000 aggregate, or (2) if the value of a given operations project exceeds \$350,000, not less than a combined single limit of \$5,000,000 per occurrence and \$10,000,000 in the aggregate. Each RPL policy shall conform to CG 00 35 04 13 or equivalent and include coverage for Terrorism and the Physical Damage to Property Endorsement and shall name Norfolk Southern Corporation and its affiliates and subsidiaries as the insured. Applicant shall ensure that the project location, Applicant identification and work description appear on the declaration pages of a given RPL policy. Applicant shall provide an electronic copy of each RPL policy (and not merely the binder) to Railway at <a href="mailto:ns.permitting@railpros.com">ns.permitting@railpros.com</a> for review and approval prior to commencing any work on the associated Operations project. Applicant may submit inquiries about RPL issues at <a href="mailto:ns.permitting@railpros.com">ns.permitting@railpros.com</a>.

- (iii) Applicant shall maintain a Commercial General Liability ("CGL") policy containing products and completed operations and contractual liability coverage, with a combined single limit of not less than \$2,000,000 for each occurrence. Any portion of this requirement may be satisfied by a combination of General Liability and/or Excess/Umbrella Liability Coverage. The policy shall not deny any obligation of any insured under the Federal Employer's Liability Act, as amended. The CGL policy shall provide additional insured coverage equivalent to ISO CG 20 10 11/85.
- (iv) Applicant shall maintain Automobile Liability Insurance with a current ISO occurrence form policy (or equivalent) and apply on an "any auto" (Symbol 1) basis, including coverage for all vehicles used in connection with the Work or Services on the leased property, providing annual limits of at least \$1,000,000 per occurrence for bodily injury and property damage combined including uninsured and underinsured motorist coverage, medical payment protection, and loading and unloading.
- (v) Applicant shall maintain Workers' Compensation Insurance to meet fully the requirement of any compensation act, plan or legislative enactment applicable in connection with the death, disability or injury of Applicant's officers, agents, servants or employees arising directly or indirectly out of the performance of this Agreement;
- (vi) Applicant shall maintain Employers' Liability Insurance with limits of not less than \$1,000,000 each accident \$1,000,000 policy limit for disease, and \$1,000,000 each employee for disease;
- (b) <u>General Insurance Requirements.</u> Each insurance policy referred to in subsection (a) above shall also comply with the following requirements:
  - (i) <u>Additional Insureds</u>. Each insurance policy (excluding any RPL policy and Workers' Compensation policy) shall name Railway and its parent, subsidiary and affiliated companies as additional insureds with an appropriate endorsement to each policy.
  - (ii) Applicant's Coverage Primary and Without Right to Contribution. All policies secured by Applicant, whether primary, excess, umbrella or otherwise, and providing coverage to the Railway as an additional insured (i) are intended to take priority in responding and to pay before any insurance policies Railway may have secured for itself must respond or pay and (ii) may not seek contribution from any policies the Railway may have secured for itself.
  - (iii) <u>Severability of Interests (Cross Liability)</u>. No cross-liability exclusions are permitted that would apply to the additional insureds, and there may not be any restrictions in any policy that limits coverage for a claim brought by an additional insured against a named insured.
  - (iv) <u>Waiver of Subrogation</u>. To the fullest extent permitted by law, all insurance furnished by Applicant pursuant to this Agreement shall include a waiver of subrogation in favor of Railway with an appropriate endorsement to each policy.
  - (v) <u>Notice of Cancellation, Modification or Termination</u>. Each insurance policy shall not be subject to cancellation, termination, modification, changed, or non-renewed except upon thirty (30) days prior written notice to the additional insureds.
  - (vi) <u>No Limitation.</u> Each insurance policy shall not limit any of Applicant's indemnity obligations or other liabilities under this Agreement. The insurance available to Railway and its parent, subsidiary and affiliated companies as additional insureds shall not be limited by these requirements should Applicant maintain higher coverage limits.
  - (vii) Any deductibles or self-insured retentions of Applicant over \$50,000 must be declared and approved by Railway. Approval of such requests shall not be unreasonably withheld.
  - (viii) Applicant shall require all subcontractors who are not covered by the insurance carried by Applicant to maintain the insurance coverages set forth in subsection (a) above, except

for the RPL insurance, including but not limited to additional insured status for Railway and its parent, subsidiary and affiliated companies.

- (ix) Applicant shall furnish their memorandum of insurance and the RPL Insurance Policy to Railway's Managing Agent prior to execution of this Agreement at <a href="mailto:ns.permitting@railpros.com">ns.permitting@railpros.com</a>. The insurance coverage required herein shall in no way limit Applicant's liability under this Agreement.
- Railway shall, at Railway's option, furnish, at the sole expense of Applicant, Support Services. The term "Support Services" means such materials and services as necessary, in Railway's sole judgment, to support Railway's tracks and to protect Railway's traffic, including without limitation flagging services and construction monitoring during the installation, maintenance, repair, renewal or removal of the Facilities. Support Services shall be provided unless Railway's Division Engineer or his or her authorized representative provides to Applicant a written waiver of Support Services, whether in whole or in any part, in a given instance. The term "Construction Monitoring" means services comprised of one or more Railway representatives being assigned and present to monitor construction activities of Applicant, which may include a preconstruction site assessment and a post-construction site assessment.
- Prior to commencement of any work to be performed on or about Premises, Applicant shall notify the appropriate Division Engineer or their authorized representative for the scheduling of "Support Services". Within seventy-two (72) hours after the Division Engineer's or their authorized representative's actual receipt of such notification, they shall review the necessity and availability of Support Services for the proposed work and advise Applicant of such matters and the estimated cost therefor. No work shall be permitted on or about the Premises without the presence of Railway's Support Services or the Division Engineer's waiver of the requirement for Support Services. Entry on or about the Premises or any other Railway right-of-way without the Division Engineer's prior approval shall be deemed trespassing. Applicant agrees to pay Railway, within thirty (30) days after delivery of an invoice therefor, for any protection and inspection costs incurred by Railway, in Railway's sole judgment, during any such entry.
- In the event it becomes necessary for Applicant to deviate from the approved plans and specifications,
  Applicant shall seek prior approval from Railway's Division Engineer or his or her authorized
  representative and, when applicable, an authorized representative of the Division Engineer in the field
  during Construction Monitoring or inspection.
- All cost or expense resulting from any and all loss of life or property, or injury or damage to the person
  or property of any person, firm or corporation (including the parties hereto and their respective officers,
  agents and employees) and any and all claims, demands or actions for such loss, injury or damage,
  caused by or growing out of the presence or use, or the construction, maintenance, renewal, change
  or relocation and subsequent removal of the Facilities and appurtenances herein referred to shall be
  borne by Applicant unless caused solely by the negligence or willful misconduct of Railway.
- Upon abandonment of the Facilities by Applicant, Applicant shall seek direction from Railway's Chief Engineer, or his representative, regarding the method of abandonment if the Facilities will be abandoned in place.
- In the event the Facilities consist of electrical power or communication wires and appurtenances, Applicant shall promptly remedy any inductive interference growing out of, or resulting from the presence of, the Facilities.
- In the event the Facilities consist of an underground occupation, Applicant will be responsible for any settlement caused to the roadbed, right of way and/or tracks, facilities and appurtenances of Railway arising from or as a result of the installation of the Facilities, and Applicant shall pay to Railway on demand the full cost and expense.
- All rights and obligations conferred hereby shall extend to the successors and assigns of the parties
  hereto, provided that the Applicant shall in no event transfer or assign its rights hereunder without the
  written consent of Railway, which will not be unreasonably withheld.

- If the public road is abandoned by the appropriate governmental authority and the Facilities remain within the limits of Railway's right of way after such abandonment, as a condition for the continuing presence of the Facilities within Railway's right of way, Railway and Applicant shall agree upon an appropriate occupancy fee or rental for the Facilities and execute an amendment to this Agreement within ninety (90) days after the date upon which such public road is abandoned.
- Any and all notices, demands or requests by or from Railway to Applicant, or Applicant to Railway, shall
  be in writing and shall be sent by (a) postage paid, certified mail, return receipt requested, or (b) a
  reputable national overnight courier service with receipt therefor, or (c) personal delivery, and
  addressed in each case as follows:

If to Railway: c/o Norfolk Southern Corporation

650 West Peachtree St. Box 22

Atlanta, Georgia 30308 Attention: Director Real Estate

If to Applicant: ERIE COUNTY WATER AUTHORITY

295 Main Street, Room 350 Buffalo, New York, 14203-2494 Attention: Leonard Kowalski

Either party may, by notice in writing, direct that future notices or demands be sent to a different address. All notices hereunder shall be deemed given upon receipt (or, if rejected, upon rejection).

ACCEPTED BY:

NORFOLK SOUTHERN RAILWAY COMPANY		
 Real Estate Manager	DATE	
rtodi Estato inanago.		
ERIE COUNTY WATER AUTHORITY		
	DATE	
Title		

Activity Number: 1302766 Dan Pavlik: 09/06/2022



## **CERTIFICATE OF LIABILITY INSURANCE**

DATE (MM/DD/YYYY) 1/25/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER. AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

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PRO	DUCER License # 1009544				CONTACT Tai	nia La	nza				
Lawley, LLC			PHONE (A/C, No, Ext): (			546	FAX (A/C, No)-(	716)	849-8291		
	Delaware Avenue falo, NY 14202				E-MAIL ADDRESS: tlai				(A/O, 140). (	,	
	1410, 111 1 1202				ADDRESS.			RDING COVERAGE			NAIC#
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	CLAIMS-MADE X OCCUR	X	X	PHPK2434044	7/1/2	2022	7/1/2023	DAMAGE TO RENT PREMISES (Ea occi	ED urrence)	\$	1,000,000
		_						MED EXP (Any one	person)	\$	10,000
								PERSONAL & ADV	INJURY	\$	1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:							GENERAL AGGREC	SATE	\$	3,000,000
	X POLICY X PRO- JECT LOC							PRODUCTS - COM	P/OP AGG	\$	3,000,000
	OTHER:									\$	
Α	AUTOMOBILE LIABILITY							COMBINED SINGLE (Ea accident)	LIMIT	\$	1,000,000
	X ANY AUTO	X	X	PHPK2434044	7/1/2	2022	7/1/2023	BODILY INJURY (Pe	er person)	\$	
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	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	N/A						E.L. EACH ACCIDE			
	If yes, describe under							E.L. DISEASE - EA I			
	DESCRIPTION OF OPERATIONS below							E.L. DISEASE - POL	ICY LIMIT	\$	
DES Re:	CRIPTION OF OPERATIONS / LOCATIONS / VEHIC Proposed tranverse underground 12" v	water	DIP I	D 101, Additional Remarks Schedu ocated within the public RO	ile, may be attach OW at DOT Cr	ed if mor ossing	e space is requir #(519509X)	red)			
A .I.I											
	litional Insured and Waiver of Subrogat ns set forth as evidenced by the attach										
	and the control of th	•11	<b>.</b>								
SEE	ATTACHED ACORD 101										
CE	RTIFICATE HOLDER				CANCELLA	TION					
					1						

Norfolk Southern Corporation 650 West Peachtree Street Box 22 Atlanta, GA 30308 SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

ACORD 25 (2016/03)

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## ADDITIONAL REMARKS SCHEDULE

Page 1 of 1

AGENCY	License # 1009544	
Lawley, LLC		Erie County Water Authority 295 Main St. Suite #350
POLICY NUMBER		Buffalo, NY 14203-2494
SEE PAGE 1		
CARRIER	NAIC CODE	
SEE PAGE 1	SEE P 1	EFFECTIVE DATE: SEE PAGE 1

#### **ADDITIONAL REMARKS**

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

**Description of Operations/Locations/Vehicles:** 

When required by executed written contract, the following endorsements apply:

**General Liability:** 

CG 24 17 10 01 - Contractual Liability - Railroads CG 20 37 04 13 - Addititional Insured - Owners, Lessees or Contractors - Completed Operations PI-CANXAICH-002 (05/11) Cancellation Notice to Scheduled Additional Insured

**Automobile Liability:** 

PI-CA-003 (04/13) - Blanket Additional Insured CA 20 70 10 13 - Coverage for Certain Operations in Connection with Railroads PI-CANXAICH-002 (05/11) Cancellation Notice to Scheduled Additional Insured

**Excess Liability:** 

PI-WDI-101 (10/17) Commercial Excess Liabilty Coverage Form Water Districts Insurance Program

PI-CANXAICH-002 (05/11) - Cancellation Notice to Scheduled Additional Insured or Certificate Holder



#### CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

^^^^^ 166000337 LAWLEY LLC 361 DELAWARE AVE STE 200 BUFFALO NY 14202



SCAN TO VALIDATE AND SUBSCRIBE

POLICYHOLDER

ERIE COUNTY WATER AUTHORITY 295 MAIN STREET, ROOM 350 BUFFALO NY 142032494 CERTIFICATE HOLDER

NORFOLK SOUTHERN CORPORATION 650 WEST PEACHTREE ST BOX 22 ATLANTA GA 30308

POLICY NUMBER	CERTIFICATE NUMBER	POLICY PERIOD	DATE
B2009 327-4	745414	07/01/2022 TO 07/01/2023	1/25/2023

THIS IS TO CERTIFY THAT THE POLICYHOLDER NAMED ABOVE IS INSURED WITH THE NEW YORK STATE INSURANCE FUND UNDER POLICY NO. 2009 327-4, COVERING THE ENTIRE OBLIGATION OF THIS POLICYHOLDER FOR WORKERS' COMPENSATION UNDER THE NEW YORK WORKERS' COMPENSATION LAW WITH RESPECT TO ALL OPERATIONS IN THE STATE OF NEW YORK, EXCEPT AS INDICATED BELOW, AND, WITH RESPECT TO OPERATIONS OUTSIDE OF NEW YORK, TO THE POLICYHOLDER'S REGULAR NEW YORK STATE EMPLOYEES ONLY.

IF YOU WISH TO RECEIVE NOTIFICATIONS REGARDING SAID POLICY, INCLUDING ANY NOTIFICATION OF CANCELLATIONS, OR TO VALIDATE THIS CERTIFICATE, VISIT OUR WEBSITE AT HTTPS://WWW.NYSIF.COM/CERT/CERTVAL.ASP. THE NEW YORK STATE INSURANCE FUND IS NOT LIABLE IN THE EVENT OF FAILURE TO GIVE SUCH NOTIFICATIONS.

THE POLICY INCLUDES A WAIVER OF SUBROGATION ENDORSEMENT UNDER WHICH NYSIF AGREES TO WAIVE ITS RIGHT OF SUBROGATION TO BRING AN ACTION AGAINST THE CERTIFICATE HOLDER TO RECOVER AMOUNTS WE PAID IN WORKERS' COMPENSATION AND/OR MEDICAL BENEFITS TO OR ON BEHALF OF AN EMPLOYEE OF OUR INSURED IN THE EVENT THAT, PRIOR TO THE DATE OF THE ACCIDENT, THE CERTIFICATE HOLDER HAS ENTERED INTO A WRITTEN CONTRACT WITH OUR INSURED THAT REQUIRES THAT SUCH RIGHT OF SUBROGATION BE WAIVED.

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS NOR INSURANCE COVERAGE UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICY.

NEW YORK STATE/INSURANCE FUND

DIRECTOR, INSURANCE FUND UNDERWRITING

## **PIPE DATA SHEET**

	CARRIER PIPE	CASING PIPE
CONTENTS TO BE HANDLED	Potable Water	
MAX. ALLOWABLE OPERATING PRESSURE		
MAX. ALLOWABLE OF EXATING FRESSORE		
NOMINAL SIZE OF PIPE	12 inch	
OUTSIDE DIAMETER	13.2 inches	
OUTSIDE DIAWIETER	13.2 menes	
INSIDE DIAMETER	12 inches	
WALL THICKNESS	0.37 inches	
WALL ITHORNESS	0.57 menes	
WEIGHT PER FOOT	730 lbs	
MATERIAL	Ductile Iron Pipe	
WATERWAL	Duetne from ripe	
PROCESS OF MANUFACTURE	Centrifugally Cast	
SPECIFICATION	AWWA C151/A21.5	
GRADE OR CLASS	Class 52 (42,000 psi)	
(Specified Minimum Yield Strength)	Class 32 (42,000 psi)	
TEST PRESSURE	170 PSI	
TYPE OF JOINT	Bell & Spigot	
THE OF SOUNT	(Restrained)	
TYPE OF COATING	Asphaltic w/	
	Polyethylene Encasement	
DETAILS OF CATHODIC PROTECTION	Liteascinent	
DETAILS OF SEALS OR PROTECTION AT END OF CASING		
CHARACTER OF SUBSURFACE MATERIAL		
APPROXIMATE GROUND WATER LEVEL		
SOURCE OF INFORMATION		
ON SUBSURFACE CONDITIONS		
CONDITIONS		

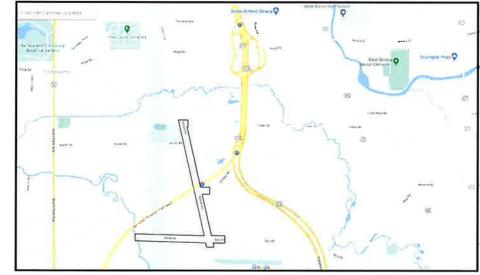
Proposed method of installation	n (refer to NSCE-8 Specification):
Bore & Jack	
Jacking	
Tunneling (with	unnel Liner Plate)
Directional Bore	e/Horizontal Direction Drilling – Method A
Directional Bore	e/Horizontal Direction Drilling – Method B
X Open Cut – All ir	stallations directly under any track must be designed as a bored installation. Open cut
installations will be co time of installation.	nsidered on a case-by-case basis by Norfolk Southern's Division Superintendent at the
Other – Please S	pecify:

E.C.W.A. CONTRACT NO. GP-010
WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS
WILLET RD., ABBOTT RD. and NORTH DR.
CITY OF LACKAWANNA, TOWN OF HAMBURG

and ORCHARD PARK, NY

## SECTIONS ALONG

- 1. WILLET ROAD CR204 (530 WILLET RD. TO INTERSECTION OF ABBOTT/BERG RD.)
- 2. ABBOTT ROAD CR4 (WILLET RD. TO FISHER RD.)
- 3. NORTH DRIVE CITY STREET (ABBOTT RD. TO 40 NORTH DR.)



PROJECT LOCATION MAP

E.C.W.A. PROJECT NO. 202100035 JULY 2022

# ERIE COUNTY WATER AUTHORITY

350 ELLICOTT SQUARE BUILDING 295 MAIN STREET BUFFALO, N.Y. 14203-2415

# AUTHORITY MEMBERS

JEROME D. SCHAD, ESQ. - CHAIR PEGGY A. Lagree - VICE CHAIR MICHELE M. IANNELLO - TREASURER

APPROVED BY:

RIE DUNTY WATER AUTHORITY ECKLARD F. KOWALSKI, P.E.-EXECUTIVE ENGINEER

## **EXHIBIT A**

1 of 12

## Norfolk Southern Railway Company

Accompanying Agreement With Erie County Water Authority

 Activity No.:
 1302766
 E.S.:
 157+85

 Division:
 Keystone
 Mile Post:
 BX-3.03

 Val Sec:
 22
 Map No.:
 137

 City:
 Lackawanna
 County:
 Erie

State: New York

Lat: 42.813827 Long: -78.800076

All work to be performed in accordance with the latest approved Norfolk Southern NSCE-4 and NSCE-8 Specifications

BLASTING NOT PERMITTED

8/8/2022

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	HOME ZONE MAILIO CONTINUE - 9

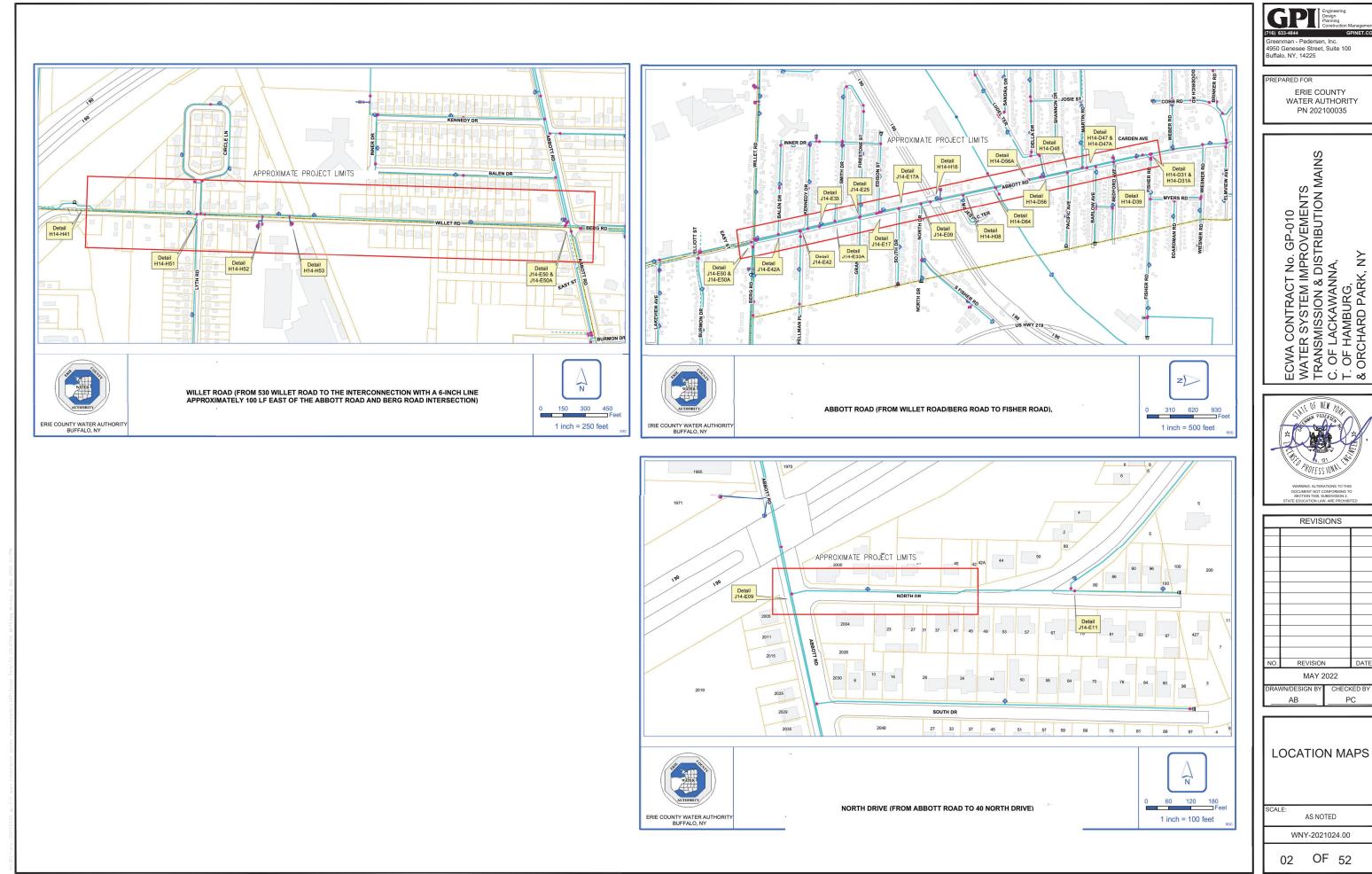
Sheet list Table

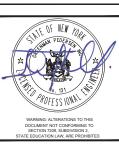






THOMAS J. WOLANSKI, P.E.





	REVIS	IONS	
NO.	REVISION	1	DATE
MAY 2022			
DRAWN/DESIGN BY CHECKED BY			
AB DC			

#### NOTES

- All elevations refer to USGS NAVD83 datum.
- The CONTRACTOR shall obtain necessary permits and furnish copies to the ENGINEER prior to commencing work
- The CONTRACTOR work area shall be confined to the limits of the right-of-ways and easements. The CONTRACTOR shall obtain any additional easements or work releases should the CONTRACTOR require additional area to accommodate his operations.
- The CONTRACTOR shall provide maintenance and protection of traffic in accordance with the Eric County Highway Department standards and the NYSDOT Manual of Uniform Traffic Control Devices
- 5. The locations and depths of existing underground utilities as shown on the plans and profiles are approximate. Other underground utilities not shown may be encountered. The CONTRACTOR shall perform test pits to verify the location and elevation of utilities at interconnections and crossings as shown, directed or required. The CONTRACTOR shall excavate in advance of the pipe laying operation and expose all existing underground utilities to prevent damage during construction and to determine required changes in grade necessary to install watermain to avoid conflicts.
- The CONTRACTOR shall install those measures required to limit erosion of areas disturbed by the work. Clearing shall be performed on an as needed basis, phased to reduce erosion and visual impact.
- 7. Blasting will not be permitted.
- No more than one connection may be made to any existing watermain prior to testing, disinfection, and approval of the Waterline Installation Completed Works Approval Report(s) by the Erie County Water Authority and the Erie County Health Department.
- The Erie County Water Authority only shall operate existing valves and fire hydrants, including newly installed valves and fire hydrants that have been placed into service.
   The CONTRACTOR is advised that watertight conditions may not exist when existing valves are closed.
- 10. The CONTRACTOR shall have all equipment, manpower, and materials required on site and ready for use prior to commencing any shut-down or removing any existing facilities from service. The CONTRACTOR shall notify all affected customers of any shut-down at least 48 hours in advance. The CONTRACTOR shall notify the appropriate fire stations 48 hours in advance prior to taking any fire hydrants out of service. Any fire hydrants not in service shall be bagged in burlap or plastic. Any shut-down shall be limited to 4 consecutive hours. It may be necessary to schedule shut-downs at night, weekends, or other off hours so as to not affect schools, businesses or other customers, as determined by the ENGINEER. Shut-down requests shall be submitted to the Eric County Water Authority a minimum of 5 business days in advance of the requested shut-down date.

#### PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD29\_GENERAL\_NOT

	ERIE COUNTY WATER AUTHORITY		SD29	
		STANDARD DETAIL GENERAL NOTES	DATE 3/05	REVISED 8/16
	BUFFALO, NEW YORK			

#### 11. All watermain piping shall be installed with a minimum of 5'-0" of cover.

- 12. All watermain piping shall be installed with a minimum of 1'-6" of vertical clearance and 10'-0" of horizontal clearance from sanitary and storm piping, measured from the outside of the pipes at the point of crossing, unless plans and profiles indicate otherwise.
- 13. If the material at the design grade is unsuitable as determined by the ENGINEER, the CONTRACTOR, when ordered in writing, shall excavate additional material to the depth necessary and shall backfill to the proposed grade with the select granular material.
- The installation of the 90 degree bends in the watermain is not allowed, unless approved by the Eric County Water Authority.
- Thrust restraint for watermain piping through 12-inch diameter shall consist of thrust blocks and pipe joint restraint.
- 16. The CONTRACTOR shall notify the owner of any utility pole in advance of any excavation work that will take place within 5'-0" of the utility pole. The CONTRACTOR shall include the cost of temporary pole support in the appropriate bid item. Where utility poles are required to be supported during construction, the CONTRACTOR shall make all necessary arrangements with the utility company.
- 17. If materials are encountered during the construction that are suspected of being contaminated, the CONTRACTOR shall immediately notify the NYSDEC for direction regarding testing, separation, containment and disposal procedures.
- Existing fire hydrants removed during construction and not reinstalled as part of the work shall be returned to the Eric County Water Authority Service Center, 3030 Union Road, Checktowaga.
- 19. The CONTRACTOR shall cold patch all trench excavations in traveled areas including roads, driveways, sidewalks, and parking areas if excavation occurs outside of the availability of hot mix asphalt. All permanent restoration will be in kind or as detailed in the contract plans.
- 20. The CONTRACTOR shall not restrict school bus access.

ING\CURRENT ECWA DETAILS\SD30\_GENERAL\_NOTES

- The use of existing fire hydrants for any reason is prohibited without prior approval of the Eric County Water Authority. This includes newly installed fire hydrants that have been placed into service.
- The CONTRACTOR shall submit procedures for testing and disinfection of the watermain to the ENGINEER for approval. Refer to project manual, technical specification section 15140 testing and disinfection for requirements
- The CONTRACTOR shall be present and assist in the Final Walk inspection. The CONTRACTOR shall provide sufficient personnel and equipment to demonstrate to the ENGINEER that all valves, fire hydrants and curb stops operate as required.

FRIE COUNTY		DWG. N SD30	DWG. NO. SD30		
WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL GENERAL NOTES	DATE 3/05	REVISED 8/16		
BOTTALO, NEW TORK					
	NOTE #40	DEVICED DV ODI	07/40/0000		

NOTE #12. REVISED BY GPI 03/18/2022 NOTE #19. REVISED BY GPI 03/18/2022 NOTE #22. REVISED BY GPI 03/18/2022

#### SPECIAL NOTE FOR 24-INCH TRANSMISSION MAIN INSTALLATION

GIVEN LIMITATIONS OF THE EXISTING SOURCE WATER SUPPLY SYSTEM, IT MAY NOT BE PRACTICAL TO ACHIEVE A MINIMUM 3-FPS SCOUR VELOCITY DURING FLUSHING OF THE 24-INCH WATER MAIN. AS SUCH CONTRACTOR SHALL COMPLY WITH PROJECT SPECIFICATION SECTION 15207 - PRE-CLEANING NEW TRANSMISSION WATER MAIN AND EMPLOY THE FOLLOWING MEASURES TO KEEP THE 24-INCH PIPING CLEAN BEFORE, DURING AND AFTER INSTALLATION:

- BEFORE PIPE INSTALLATION, THE CONTRACTOR SHALL BROOM SWEEP THE PROPOSED 24-INCH WATER MAIN TO THE SATISFACTION OF THE OWNER AND ENGINEER, CAREFULLY REMOVING ALL SWEEPINGS.
- DURING INSTALLATION, CONTRACTOR SHALL MAINTAIN A PROPER SUMP IN THE EXCAVATION AT ALL TIMES, PREVENTING MUD/DEBRIS FROM ENTERING THE INSTALLED PIPE. CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CAP THE INSTALLED MAIN AT THE END OF EACH WORK DAY WITH A WATERTIGHT CAP/PLUG.
- 3. CONTRACTOR SHALL PERFORM FLUSHING OF THE INSTALLED PIPING TO ACHIEVE THE MAXIMUM SCOURING VELOCITY THROUGH THE 24-INCH PIPE AS ALLOWED BY THE EXISTING SOURCE WATER SUPPLY SYSTEM AND UTILIZING STANDARD PRACTICES. PRIOR TO CONDUCTING FLUSHING OPERATIONS, CONTRACTOR SHALL SUBMIT FLUSHING, TESTING AND DISINFECTION PLANS TO THE ENGINEER AND OWNER FOR REVIEW AND APPROVAL. FLUSHING OF THE INSTALLED PIPING SHALL BE COMPLETED TO THE SATISFACTION OF THE ENGINEER, OWNER, AND ERIE COUNTY DEPARTMENT OF HEALTH.
- 4. IF THE INSTALLED WATER MAIN PIPING IS NOT MAINTAINED IN A CLEAN CONDITION TO THE SATISFACTION OF THE OWNER OR ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE TO EMPLOY ADDITIONAL MEASURES NECESSARY TO ACHIEVE A 3-FPS MINIMUM SCOUR VELOCITY PER AWWA C651 AT THEIR OWN EXPENSE UNTIL DEEMED ACCEPTABLE TO THE ENGINEER, OWNER, AND ERIE COUNTY DEPARTMENT OF HEALTH.

#### CONSTRUCTION NOTES

- IF THE EXCAVATION SLOPE IS STEEPER THAN 1 ON 1 AS MEASURED FROM THE EDGE OF PAVEMENT ELEVATION TO THE BOTTOM ELEVATION OF THE EXCAVATION, AN ENGINEERING SHORING SUPPORT SYSTEM SHALL BE PROVIDED TO ENSURE THE STABILITY OF THE ADJACENT PAVEMENT WILL NOT BE COMPROMISED BY THE EXCAVATION.
- 2. IF AN EXCAVATION WILL BE 5 FEET OR MORE IN DEPTH, A PROTECTION SYSTEM SUCH AS A TRENCH SHIELD SHALL BE USED.
- 3. IN EXCAVATIONS 4 FEET OR MORE IN DEPTH, ALL NECESSARY PRECAUTIONS SHALL BE TAKEN FOR THE POTENTIAL ACCUMULATION OF HAZARDOUS GASES.
- 4. SELECT FILL IS REQUIRED FOR THE FULL LENGTH OF WATERLINE TRENCH UNDER OR WITHIN 5' OF PAVEMENT AND SIDEWALK AREAS.
- 5. UPON COMPLETION OF FINAL PAVEMENT RESTORATION IN PUBLIC RIGHT—OF—WAYS, CONTRACTOR SHALL RE—APPLY PERMANENT PAVEMENT MARKINGS REMOVED DURING WATERLINE CONSTRUCTION. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND DETAILS, AND STANDARD SHEET 685—01. NO SEPARATE PAVMENT WILL BE MADE FOR THIS WORK, AS IT IS TO BE INCLUDED IN ITEM 1183 ASPHALT PAVEMENT TOP COURSE.
- ALL DRIVEWAY AND CURB RAMP RECONSTRUCTION WITHIN THE PUBLIC RIGHTS OF WAY SHALL BE IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SHEETS:
- 608-1 PEDESTRIAN FACILITIES
   608-3 RESIDENTIAL AND MINOR COMMERCIAL DRIVEWAYS

#### LEGEND

	LEGEND
<b>(</b>	PROPOSED WATER VALVE
-[]-	PROPOSED WATER SERVICE VALVE
	PROPOSED WATERMAIN
Т	PROPOSED TEE
₩	PROPOSED HYDRANT
∢	PROPOSED REDUCER
	PROPOSED WATERLINE SERVICE
]	PROP. CAP & BLOCKING
<b>\overline{\overline{\pi}}</b>	EXIST. WATER VALVE TO BE ABANDONED IN PLACE
$\boxtimes$	PROP. TEST PIT ITEM NO. 4A
0	EXIST .DECIDUOUS TREE
	EXIST. CONIFEROUS TREE
	EXIST. UTILITY POLE
<b>N</b> 90	EXIST. GAS VALVE
<b>W</b>	EXIST. WATER VALVE
-[]-	EXIST. WATER SERVICE VALVE
0	EXIST. SANITARY VENT
СВ	EXIST. CATCH BASIN
8	EXIST. HYDRANT
—— C ——	EXIST. TELEPHONE LINE
E	EXIST. ELECTRIC MANHOLE
(\$)	EXIST. SANITARY MANHOLE
D	EXIST. STORM MANHOLE
-	EXIST. ONE POST SIGN
M	EXIST. MAILBOX
<del></del>	EXIST. FENCE
W <sub>x</sub>	EXIST. WATERLINE
	EXIST. GAS LINE
SS <sub>x</sub>	EXIST. SAN. LINE
SD <sub>x</sub>	EXIST. STORM LINE
•	EXIST. SIGNAL CONTROL
<b>\$</b>	EXIST. LIGHT POLE
XX	PAVEMENT AREA TO BE COLD MILLED
////	TYPICAL WATER MAIN TRENCH RESTORATION NO MILL & OVERLAY MILLING REQUIRED
E <sub>x</sub>	EXIST. OVERHEAD WIRES
	EXIST. SECONDARY OVERHEAD WIRES
<del>///////</del>	EXIST. WATERMAIN TO BE ABANDONED IN PLACE AND FILLED WITH FLOWABLE FILL ITEM 13G



Greenman - Pedersen, Inc. 4950 Genesee Street, Suite 100 Buffalo, NY, 14225

PREPARED FOR

ERIE COUNTY

WATER AUTHORITY

PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY



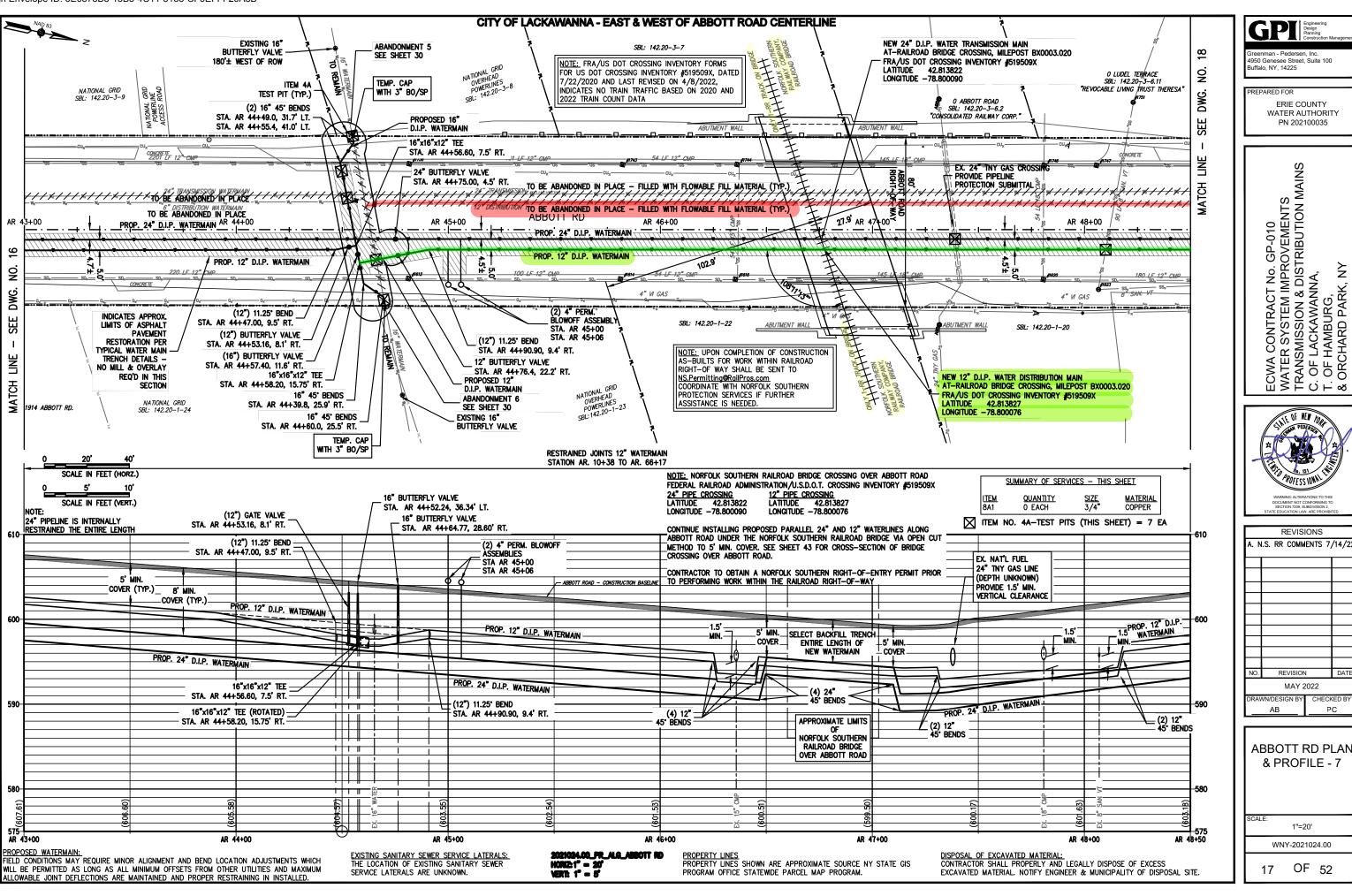
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	MAY 2	2022	
DRAV	WN/DESIGN BY	CHECK	ED BY

GENERAL NOTES & LEGEND

SCALE:

ALE:

N.T.S. WNY-2021024.00





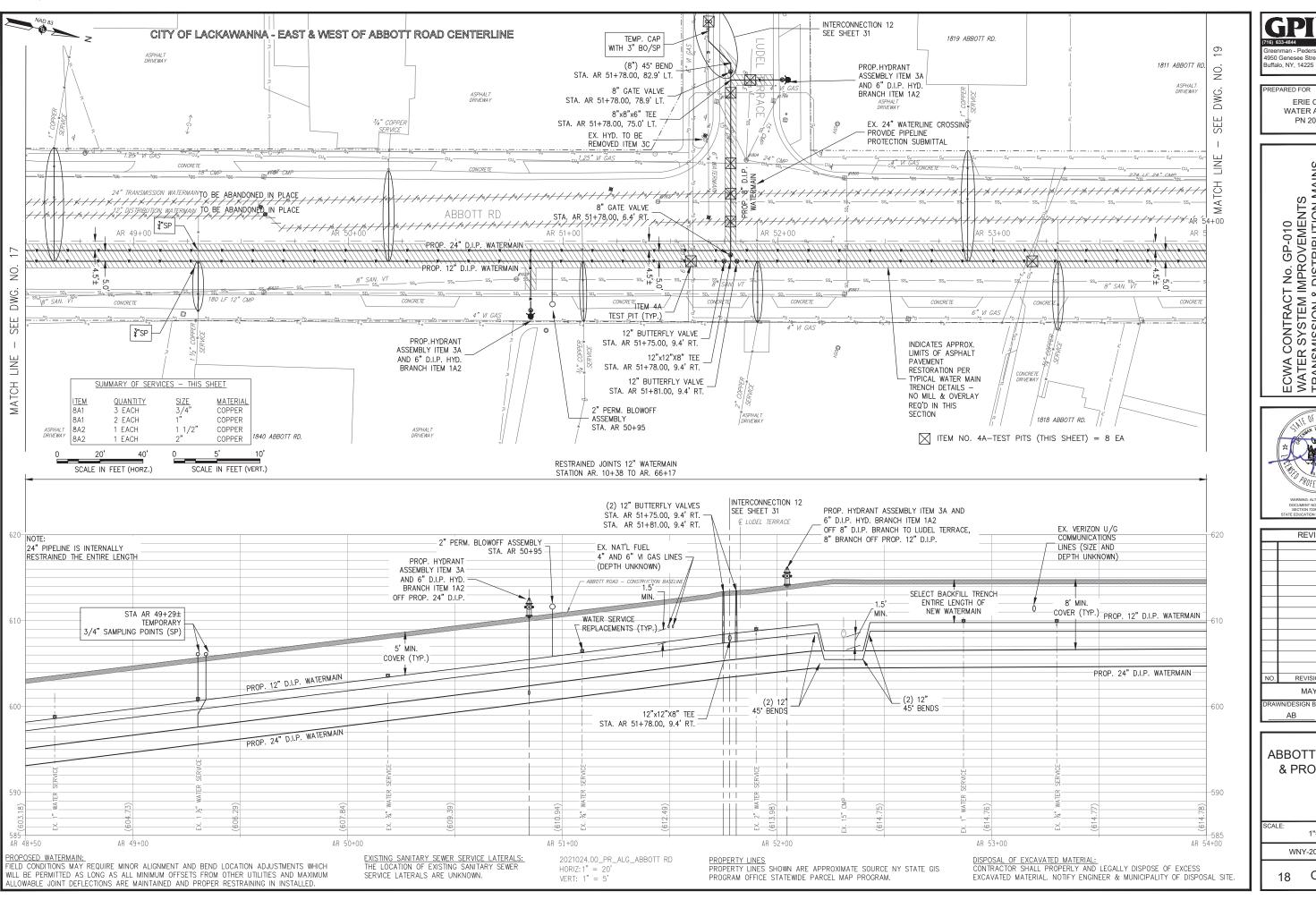
1950 Genesee Street, Suite 100

FRIF COUNTY WATER AUTHORITY PN 202100035



	REVISIONS											
A. N.S. RR COMMENTS 7/14/22												
NO.	REVISION	DATE										
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DRAV	VN/DESIGN BY	CHECK	ED BY									
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ABBOTT RD PLAN & PROFILE - 7 1"=20' WNY-2021024 00 17 OF 52





FRIF COUNTY WATER AUTHORITY PN 202100035

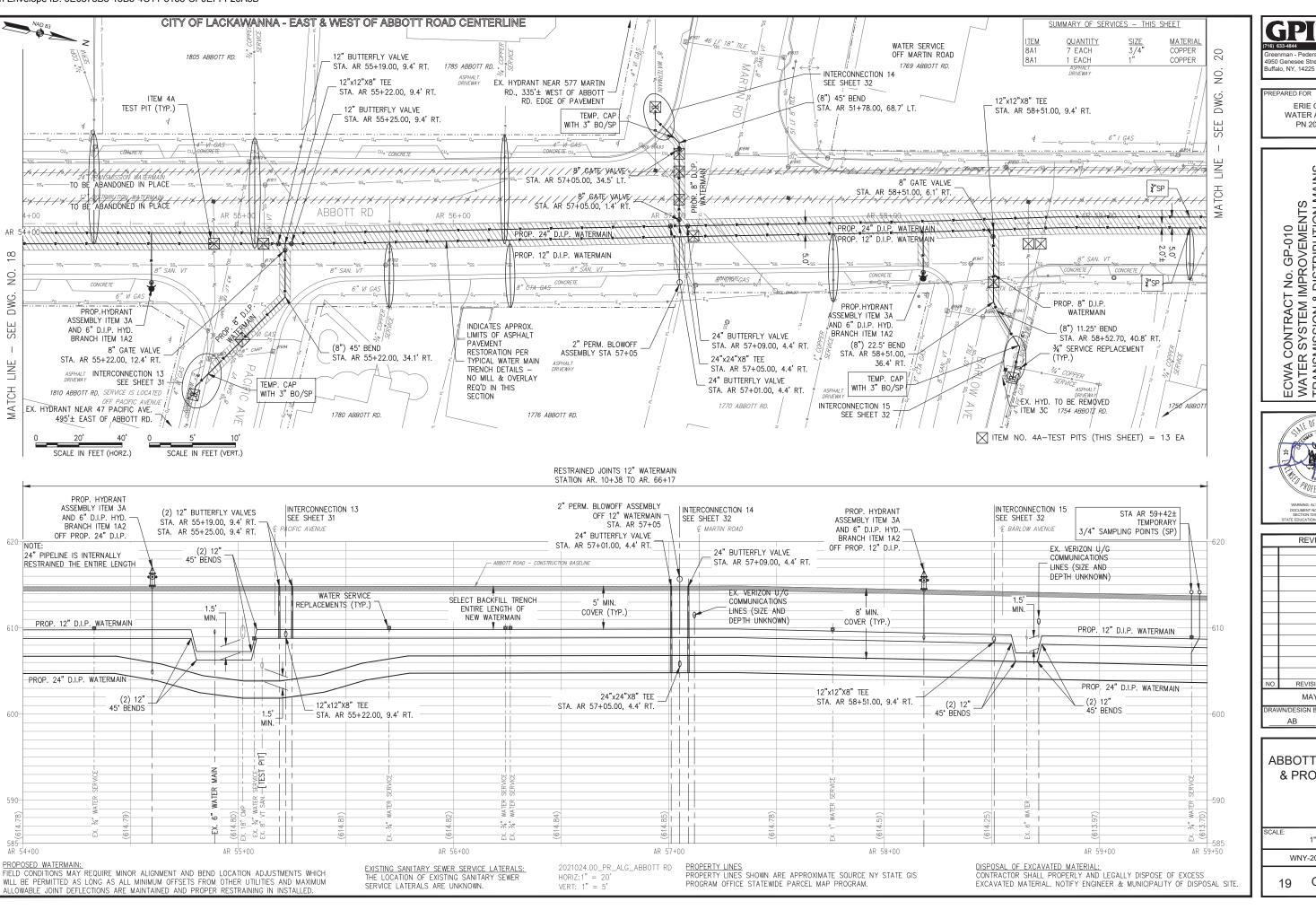
ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY



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ABBOTT RD PLAN
& PROFILE - 8

1"=20' WNY-2021024 00





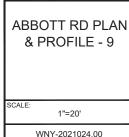
FRIF COUNTY

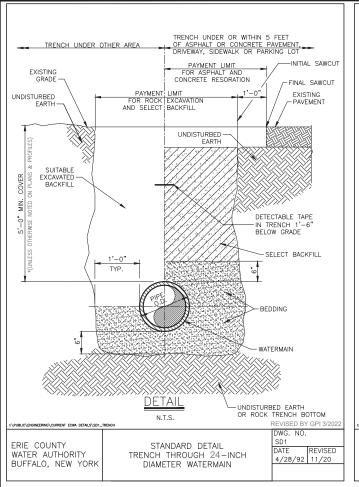
WATER AUTHORITY PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY



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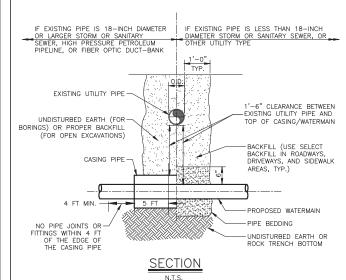




11'-0" PAYLIMIT FOR ASPHALT RESTORATION 9'-0" PAYLIMIT FOR ROCK EXCAVATION

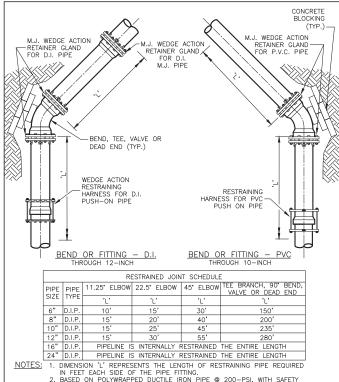
DETECTABLE TAPE

IN TRENCH 18" BELOW GRADE



- ALL EXISTING UTILITIES MUST BE SUPPORTED WITH APPROPRIATE CHAINS/STRAPS DURING CONSTRUCTION OF THE NEW WATERMAIN.
- 2. WHEN CROSSING A SEWERLINE WITH A NEW WATERMAIN (AND WITHOUT CASING PIPE). ONE FULL PIPE LENGTH (18. FT. MIN.) SHALL BE USED AT THE POINT OF CROSSING THE WATERMAIN SHALL BE PLACED SO THAT BOTH JOINT ENDS ARE AS FAR AS POSSIBLE FROM THE EXISTING SEWERLINE.
- 3. IF CASING PIPE IS USED, IT SHALL EXTEND 5 FEET BEYOND THE EXISTING PIPE OUTER WALL EDGE IN EACH DIRECTION, AND NO WATERLINE JOINTS OR FITTINGS SHALL BE LOCATED WITHIN 4 FEET FROM THE CASING PIPE EDGE.

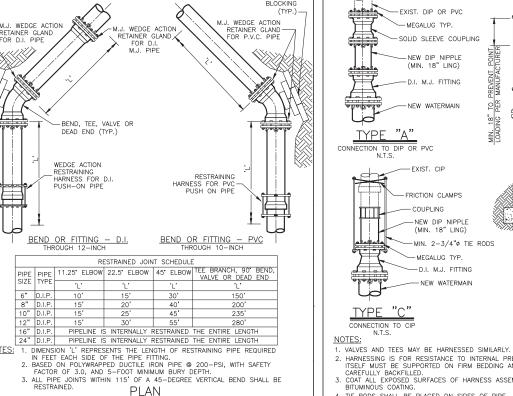
E\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD2_		sv	
ERIE COUNTY		DWG. NO. SD2	
WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL PIPE CROSSING	DATE 4/92	REVISED 8/21



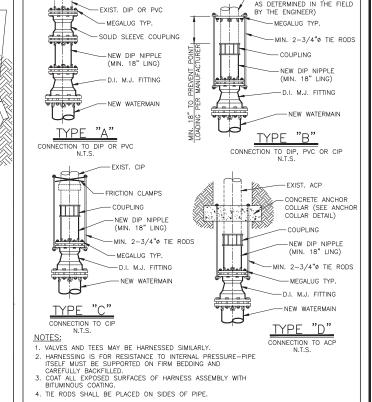
N.T.S.

STANDARD DETAIL

RESTRAINED JOINT SCHEDULE



4/28/92 7/16



STANDARD DETAIL

TYPICAL CONNECTION TO EXISTING

WATERMAIN THROUGH 12-INCH

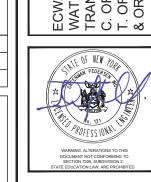
DIAMETER WATERMAIN

- ELBOW FITTING

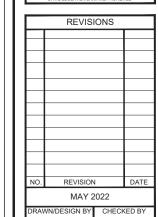
- WATERMAIN

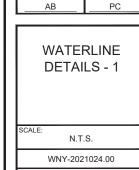
1. FITTING AND ALL RESTRAINTS TO BE POLYETHYLENE WRAPPED PRIOR TO CONCRETE PLACEMENT.

NOTE:



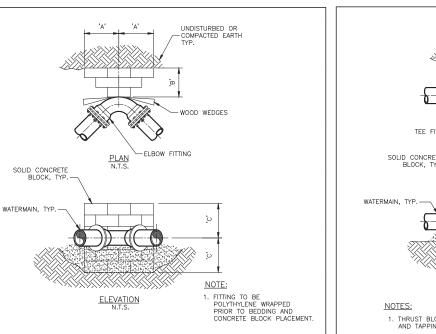
7/16





38

OF 52

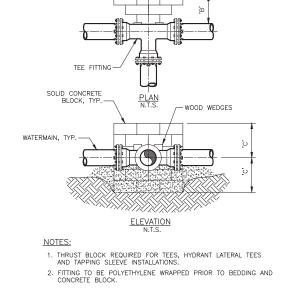


	DIMENSION SCHEDULE													
PIPE SIZE	11	.25° EL	.BOW	22.5* ELBOW			45' ELBOW			90° ELBOW				
	'A'	'B'	,c,	'A'	'B'	'C'	'A'	'B'	'C'	'A'	'B'	'C'		
6"	0'-6"	1'-0"	0'-6"	0'-6"	1'-0"	0'-6"	0'-9"	1'-0"	0'-6"	1'-6"	1'-0"	0'-6"		
8"	0'-6"	1'-0"	0'-6"	0'-9"	1'-0"	0'-6"	1'-6"	1'-0"	0'-6"	1'-6"	1'-0"	0'-9"		
10"	1'-0"	1'-0"	0'-8"	1'-0"	1'-0"	0'-8"	1'-6"	1'-6"	0'-10"	1'-6"	1'-6"	1'-0"		
12"	1'-2"	1'-2"	0'-9"	1'-2"	1'-2"	0'-9"	1'-9"	1'-9"	0'-10"	2'-0"	2'-0"	1'-0"		

TYPICAL TRENCH DETAIL FOR PARALLEL TRANSMISSION & DISTRIBUTION WATERMAINS

- FINAL SAWCUT, T

ERIE COUNTY STANDARD DETAIL WATER AUTHORITY THRUST BLOCKS BUFFALO, NEW YORK FOR ELBOW FITTING



BRANCH TEE	DIMENSION SCHEDULE					
SIZE	'A'	'B'	,C,			
6"	1'-0"	1'-0"	0'-6"			
8"	1'-6"	1'-0"	0'-6"			
10"	1'-6"	2'-0"	0'-8"			
12"	1'-6"	2'-0"	0'-9"			

DUDI (C) ENGINEERING) GUDDENT	 	 	

ERIE COUNTY	
WATER AUTHORITY	
WATER AUTHORITY BUFFALO, NEW YORK	
· ·	

4/28/92 11/20

ERIE COUNTY

WATER AUTHORITY

BUFFALO, NEW YORK

STANDARD DETAIL THRUST BLOCKS FOR TEE OR "DEAD END" FITTING

4/28/92 11/20

	DIMENSION SCHEDULE												
PIPE PIPE 11.25* ELBOW				22.5*	ELBOW		45° ELBOW						
SIZE	TYPE	'A'	'W'	'L'	ROD Ø	'A'	'w'	'L'	ROD Ø	'A'	'w'	'L'	ROD Ø
6"	D.I.P.	1'-0"	1'-0"	1'-0"	3/8"	1'-0"	1'-0"	1'-0"	3/8"	1'-0"	1'-6"	1'-6"	3/8"
8"	D.I.P.	1'-0"	1'-0"	1'-0"	1/2"	1'-0"	1'-9"	1'-9"	1/2"	1'-6"	2'-0"	2'-0"	1/2"
10"	D.I.P.	1'-0"	3'-4"	3'-4"	5/8"	1'-0"	4'-0"	4'-5"	5/8"	1'-6"	4'-4"	6'-1"	5/8"
12"	D.I.P.	1'-0"	3'-5"	4'-0"	5/8"	1'-0"	4'-6"	5'-0"	5/8"	1'-6"	4'-6"	7'-2½"	5/8"

**ELEVATION** 

N.T.S.

URLIO ENGINEERING GUIDDENT	rows.	DETAILED COR	THEFT	DI OCIVE	MEND	

FRIE COLINTY

WATER AUTHORITY

BUFFALO, NEW YORK

WITH BITUMINOUS COATING

ANCHOR INTO CONCRETE THRUST BLOCK WITH STEEL REINFORCING ROD TYP.

COMPACTED EARTH

CONCRETE THRUST BLOCK, TYP.

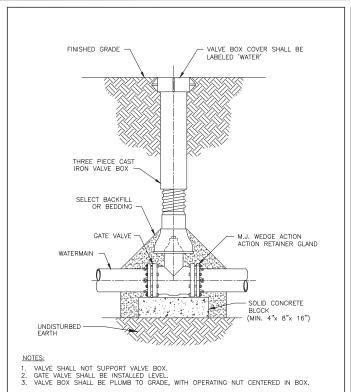
WATERMAIN

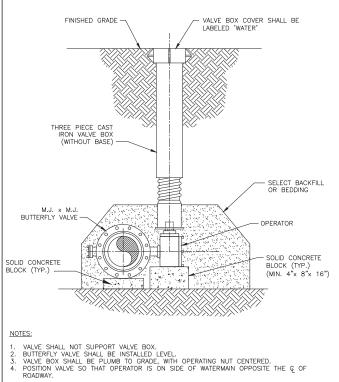
CODO (CHANELLINIO (CONTENT COMO DENALO (SOO_	THOUSE COUNTY OF THE PROPERTY		
		DWG. NO.	
FRIE COUNTY	STANDARD DETAIL	SD8	
WATER AUTHORITY	THRUST BLOCKS	DATE	REVISED
BUFFALO, NEW YORK		4/28/92	11/20
BUFFALO, NEW TORK	FOR VERTICAL BEND		

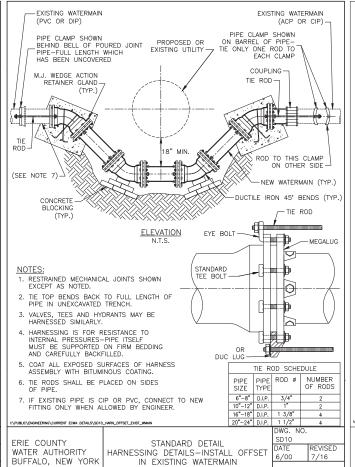


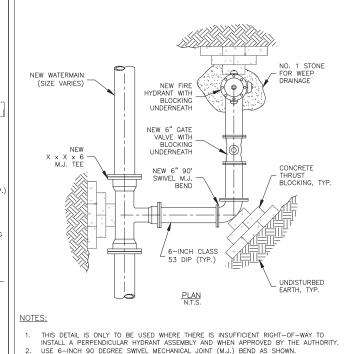
FRIF COUNTY WATER AUTHORITY PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY









INSTALL A PERPENDICULAR HYDRANI ASSEMBLY AND WHEN APPROVED BY THE AUTHORITY. USE 6-INCH 90 DEGREE SWIVEL MECHANICAL JOINT (M.J.) BEND AS SHOWN. HYDRANT RISER SHALL BE INSTALLED PLUMB. ALL JOINTS ARE TO BE FULLY RESTRAINED. ALL DUCTILE IRON PIPE AND FITTINGS TO BE POLYWRAPPED. HYDRANT VALVE SHALL NOT BE PLACED IN SIDEWALKS OR DRIVEWAYS. COMPLY WITH ALL REQUIREMENTS DEPICITED ON THE FIRE HYDRANT INSTALLATION DETAIL. PIPE LENGTHS WILL VARY BASED ON FIELD CONDITIONS.

DWG. NO. SD15 ERIE COUNTY STANDARD DETAIL DATE 11/20 REVISED WATER AUTHORITY HYDRANT ASSEMBLY BUFFALO, NEW YORK WITH BEND

1950 Genesee Street, Suite 100

FRIF COUNTY

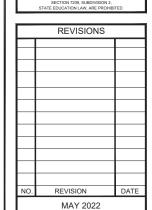
WATER AUTHORITY

PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY

Suffalo, NY, 14225

PREPARED FOR



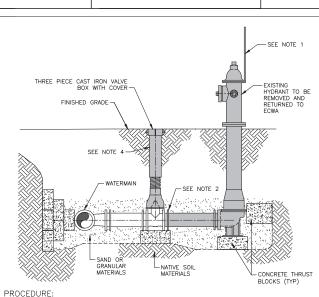
WATERLINE **DETAILS - 2** 

CHECKED BY

SCALE: N.T.S. WNY-2021024 00

DRAWN/DESIGN BY

OF 52 39



**SECTION** 

N.T.S.

STANDARD DETAIL

BUTTERFLY VALVE SETTING

ROCEDURE:

REMOVE HYDRANT MARKER AND RELOCATE TO NEW HYDRANT, OR RETURN TO APPROPRIATE MUNICIPALITY/FIRE DISTRICT.

WHEN WATERLINE IS TO BE ABANDONED, DEPRESSURIZE WATERLINE AND CLOSE WATER VALVE. EXCAVATE HYDRANT ASSEMBLY AND CAREFULLY DISCONNECT HYDRANT FROM GATE VALVE. DO NOT FORCE HYDRANT FROM VALVE WITHOUT PROPERLY DISCONNECTING.

WHEN WATERLINE IS TO REMAIN IN SERVICE, PERFORM SCHEDULED SHUTDOWN OF WATERLINE, REMOVE HYDRANT TEE AND REPLACE WITH NEW PIPE AND COUPLINGS.

REMOVE HYDRANT, HYDRANT TEE AND REPLACE WITH NEW PIPE AND COUPLINGS.

RETURN HYDRANT WITH PIPING TO ERIE COUNTY WATER AUTHORITY SERVICE CENTER, 3030 UNION ROAD, CHEEKTOWAGA, NY. HYDRANT IS TO BE HANDLED CAREFULLY TO AVOID ANY DAMAGE IN REMOVAL AND/OR TRANSIT. UNLOAD HYDRANTS AT LOCATION DEFINED BY ECWA. REMOVE ANY EXISTING CONCRETE BLOCKING, AND FILL EXCAVATION WITH SUITABLE BACKFILL MATERIALS. COMPACT BACKFILL MATERIALS. COMPACT BACKFILL MATERIALS. COMPACT BACKFILL WATERIALS. APPROPRIATELY.

REGRADE SUFFACE TO ENSURE PROPER DRAINAGE. RESTORE SURFACE APPROPRIATELY USING ASPHALT, CONCRETE, AND/OR TOPSOIL/SEED.

SECTION

SD37 FRIE COUNTY STANDARD DETAIL FIRE HYDRANT REVISED WATER AUTHORITY BUFFALO, NEW YORK ABANDONMENT

- CORPORATION STOP EXISTING WATERMAIN-NEW WATERMAIN TO BE ABANDONED EXISTING SERVICE -PUSH/DRILL NEW SERVICE UNDER ROADWAY SOLID CONCRETE BLOCK-(4" X 8" X 8" MIN.) ADJUST EXISTING SERVICE -

© OF ROAD

CONNECT TO EXISTING SERVICE WITH NEW CURB BOX AND CURB STOP

5'-0" MIN.

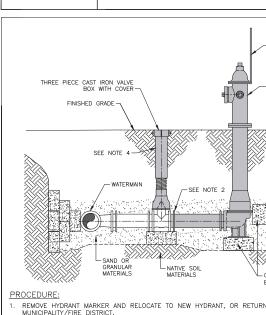
1. EXISTING SERVICES SHALL BE CRIMPED AND ABANDONED IN PLACE.

BUFFALO, NEW YORK

EXISTING SIDEWALK

3. CURB BOXES SHALL NOT BE PLACED IN SIDEWALKS, DRIVEWAYS, OR CURB RAMPS

SD16 FRIF COUNTY STANDARD DETAIL WATER AUTHORITY SERVICE REPLACEMENT/INSTALLATION 4/92 BUFFALO, NEW YORK



- TYPE 'K COPPER TUBING

2. SERVICE SADDLES SHALL BE USED UNDER THE FOLLOWING CONDITIONS: A. WHEN SERVICES AND PLACED ON 4" OR SMALLER PIPES.

3. WHEN SERVICES LARGER THAN 1" ARE PLACED ON A 6" PIPE.

C. WHEN SERVICES LARGER THAN 1 1/2" ARE PLACED ON AN 8" PIPE.

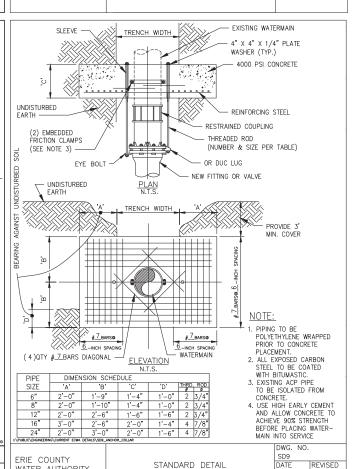
D. WHEN SERVICES LARGER THAN 1 1/2" ARE PLACED ON DUCTILE IRON PIPE.

WHEN TAPPING ALL PLASTIC (PVC) PIPE.
WHEN TAPPING ALL ASBESTOS—CEMENT PIPE.

4. USE POLYETHYLENE FOR 3/4" AND 1" SERVICES GREATER THAN 100 FEET IN LENGTH, AND FOR 1-1/2" AND 2" SERVICES GREATER THAN 60 FEET IN LENGTH. ALL POLYETHYLENE SERVICES SHALL INCLUDE A TRACER WIRE FOR DETECTION BY ECWA FORCES.

5. UNIONS ON COPPER TUBING ARE NOT ALLOWED UNLESS APPROVED BY ECWA PRIOR TO

WATER AUTHORITY

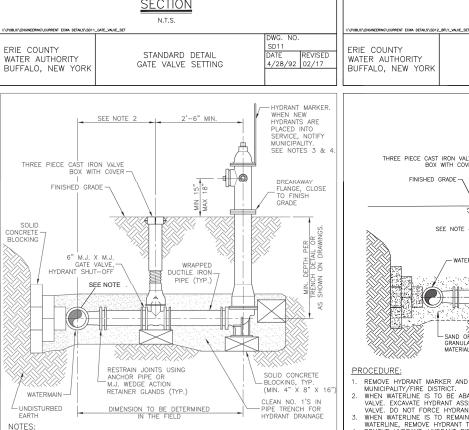


STANDARD DETAIL

ANCHOR COLLAR

BUFFALO, NEW YORK

4/28/92 7/16



HYDRANT RISER SHALL BE INSTALLED PLUMB.

VALVE BOX SHALL NOT BE PLACED IN PAVEMENT.

FOR WATERLINE REPLACEMENT PROJECTS, RELOCATE EXISTING MARKERS TO NEW HYDRANTS.

MUNICIPALITY SHALL BE RESPONSIBLE TO PROVIDE ANY NEW HYDRANT MARKERS AS

NEEDED. CONTRACT TO COORDINATE WITH ALL MUNICIPALITIES AND FIRE DISTRICTS.

HYDRANT FACE TO BE A MINIMUM OF 3' FROM THE BACK FACE OF ALL CURBS OR A

MINIMUM OF 5' FROM ALL EDGES OF PAVEMENT (IF NO CURB).

ROTATE TEE AT WATERMANN TO 45-DEGREES AS NECESSARY TO TRANSITION FROM

DEPTH AT WATERMANN TO 45-DEGREES AS NECESSARY TO TRANSITION FROM

DEPTH AT WATERMANN TO 45-DEGREES AS NECESSARY TO TRANSITION FROM

STANDARD DETAIL

FIRE HYDRANT

INSTALLATION

REVISED BY GPI 3/2022

DATE

REVISED

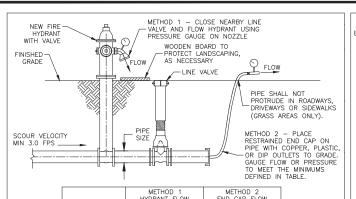
1/22

DEPTH AT WATERMAIN TO A 5' MINIMUM

DEPTH ON THE HYDRANT BRANCH.

WATER AUTHORITY

BUFFALO, NEW YORK



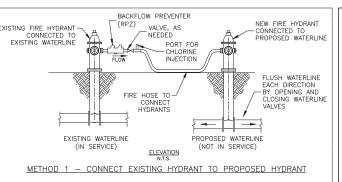
		METHOD 1 HYDRANT FLOW			OD 2 P FLOW
PIPE SIZE (IN)	REQUIRED FLOW (GPM)	2 1/2" NOZZLE PRESSURE (PSI)	4" NOZZLE PRESSURE (PSI)	2" I.D. PRESSURE (PSI)	3" I.D. PRESSURE (PSI)
6	275	7	1	7	2
8	500	9	2	22	5
10	750	20	4	50	10
12	1100	44	7	-	22
16	1900	-	20	-	62
20	3000	-	50	-	-

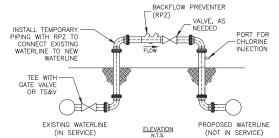
FOR 24 INCH - SEE SPECIAL NOTES ON SHEET 03

- 1. TO OBTAIN SCOUR VELOCITY (3.0 FPS) IN THE WATERLINE, CONTRACTOR SHALL ACHIEVE FLOWRATE AT NOZZLE DEFINED IN TABLE. PRESSURE GAUGE USED SHALL SHOW A HIGHER PRESSURE THAN THE MINIMUMS DEFINED IN THE TABLE.
- 2. OUTLET PRESSURE MEASURED BY PITOT GAUGE.
- 3. ENGINEER SHALL PROVIDE CALCULATIONS IF CONNECTIONS ARE OTHER THAN THOSE SHOWN, IF MULTIPLE CONNECTIONS ARE USED, OR AS REQUESTED BY ECWA.
- 4. TO FLUSH THREE PIPE VOLUMES, MINIMUM FLUSHING TIME (IN SECONDS) EQUALS THE LENGTH OF PIPE BEING FLUSHED, IN FEET.

E/PUBLIC/ENGINEERING/CURRENT ECWA DETAILS/SD36_WATERLINE_FLUSHING		N.T.S.	R	EVISED BY GPI 3/2022	
ERIE COUNTY				DWG. NO. SD36	
WATER AUTHORITY BUFFALO, NEW YORK		STANDARD DETAIL TERLINE FLUSHIN		DATE 6/16	REVISED 8/18

SECTION



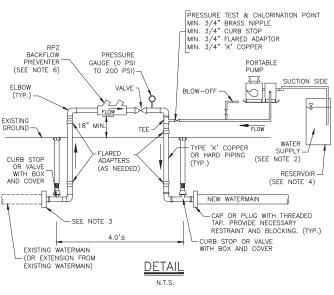


#### METHOD 2 - SERVICE TAP, TAPPING SLEEVE AND VALVE (TS&V), OR INTERCONNECTION NOTES:

- 1. THE PURPOSE OF THIS DETAIL IS TO DEPICT ACCEPTABLE METHODS OF CONNECTING EXISTING WATERLINES TO PROPOSED WATERLINES FOR FILLING, FLUSHING, AND TESTING PROCEDURES IF 2-INCH COPPER OR POLYETHYLENE TUBING IS NOT USED TO BYPASS A VALVE. OTHER METHODS REQUIRE SUBMITTAL AND APPROVAL BY THE AUTHORITY PRIOR TO
- 2. FIRE HOSES, TEMPORARY PIPING, AND BACKFLOW PREVENTERS SHALL NOT ENCROACH INTO ROADWAYS, DRIVEWAYS, OR SIDEWALK AREAS WITHOUT PROVIDING PROPER MAINTENANCE AND PROTECTION OF TRAFFIC MEASURES. CURRENT ECWA DETAILS\SD44\_SOURCE\_WATER\_CONNECTIONS

FRIE COLINTY

SD44 DATE STANDARD DETAIL WATER AUTHORITY SOURCE WATER CONNECTIONS 10/20 BUFFALO, NEW YORK



- 1. BACTERIOLOGICAL WATER SAMPLES SHALL BE TAKEN AT BEGINNING AND END OF NEW WATERMAIN SECTION AND AT MAXIMUM 1,000 FT. SPACINGS.
- 2. PROVIDE CLEAN WATER SUPPLY FOR PRESSURE TESTING. PROVIDE CHLORINATED WATER SUPPLY FOR DISINFECTION.
- CAP OR PLUG WITH THREADED TAP OR APPROPRIATE TAP INTO MAIN. PROVIDE NECESSARY RESTRAINT AND BLOCKING.
- 4. DIAMETER OF RESERVOIR SHALL BE 15" OR LESS. IF DIAMETER IS GREATER THAN 15", LEAKAGE TEST SHALL BE RUN A MINIMUM OF 4 HOURS.
- . BACKFLOW PREVENTER TO BE SIZED TO ACHIEVE MIN 3 FPS SCOUR VELOCITY DURING FLUSHING OF NEW WATERLINE.

12" DIA. OR LARGER TREE OR AS ORDERED

FRIE COLINTY STANDARD DETAIL
PRESSURE TESTING AND WATER AUTHORITY 6/00 11/20 BUFFALO, NEW YORK DISINFECTION APPARATUS SCHEMATIC

-PRUNE TREE TO COMPENSATE FOR ROOT LOSS

HARDWOOD SPECIES

MAXIMUM LENGTH OF

BE 16' PLUS TREE DIAMETER.

1. TREE BORES SHALL BE LOCATIONS SHOWN ON CONTRACT.

2. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A QUALIFIED LANDSCAPER TO TRIM AND REPAIR TREES AS NECESSARY.

ELEVATION

N.T.S.

-12" OR LARGER

OR LESS

. PRESSURE TEST CANNOT EXCEED 2,000 LINEAR FEET PER TEST SECTION.

-BORE ZONE

FILL VOID W/PEA GRAVEL - CASING SPACER - RUNNER NEW STEEL CASING PIPE-7 LB. PREPACKAGED SIZE AS REQUIRED SACRIFICIAL MAGNESIUM ANODE - CASING SPACER (TYP.) (TYP, EACH END) DUCTILE IRON PIPE (MUST EXTEND 5' BEYOND CASING, BOTH ENDS)

ERIE COUNTY

WATER AUTHORITY

BUFFALO, NEW YORK

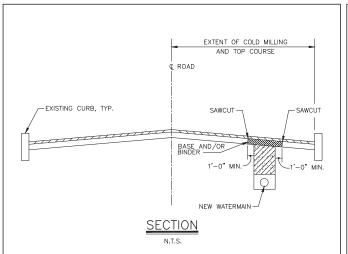
CONSTRUCT BULKHEAD AT BOTH ENDS OF CASING

- 1. ALL PIPE JOINTS WITHIN THE CASING PIPE SHALL BE RESTRAINED JOINTS.
- 2. THE PROPOSED NUMBER OF CASING SPACERS SHALL BE INSTALLED TO PROVIDE SUFFICIENT SUPPORT AS PER MANUFACTURER'S RECOMMENDATION.
- 3. SACRIFICIAL ANODE BAG SHALL BE WETTED BEFORE BACKFILLING.
- 4. WIRE TO BE PLACED LOOSELY ON PIPE SURFACE AND SECURED IN PLACE WITH POLYWRAP TAPE. WIRE SHALL BE PLACED WITHOUT TENSION ONTO BOTTOM OF EXCAVATION AND CAREFULLY BACKFILLED WITH STONE TO PREVENT DAMAGE.

## **ELEVATION**

N.T.S.

FRIE COLINTY STANDARD DETAIL WATER AUTHORITY CASING PIPE WITH 8/16 BUFFALO, NEW YORK CASING SPACERS

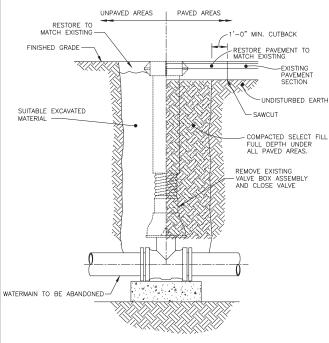


#### NOTES:

- APPLICABLE WHEN NEW WATERMAIN IS INSTALLED LONGITUDINALLY BENEATH A PAVED ROADWAY.
- 2. SEE DRAWINGS FOR LIMITS OF COLD MILLING.

LOCATION	COLD MILLING THICKNESS	ASPHALT TOP THICKNESS
WILLET RD.	1-1/2"	1-1/2"
NORTH DR.	1-1/2"	1-1/2"

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK STANDARD DETAIL COLD MILLING



#### **ELEVATION** N.T.S.

ERIE COUNTY STANDARD DETAIL WATER AUTHORITY EXISTING VALVE BOX ABANDONMENT BUFFALO, NEW YORK

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

NOTE:

STANDARD DETAIL TREE BORE

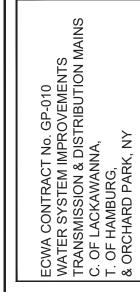
JACK AND BORF WITH STEEL CASING

PIPE. STEEL CASING PIPE SHALL BE OF THE SIZE AND THICKNESS AS SHOWN ON CONTRACT DRAWINGS

PIPE DIAMETER (in)	PIPE MA	TERIAL	WORKING PRESSURE (psi)	TEST PRESSURE (psi)
	Type (DIP, PVC, etc.)	Rating (Class/DR)		
6	D.I.P.	CLASS 52	150	170
8	D.I.P.	CLASS 52	150	170
12	D.I.P.	CLASS 52	150	170
16	D.I.P.	CLASS 52	150	170
24	D.I.P.	CLASS 52	150	170

PRESSURE TESTING

SCHEDULE



1950 Genesee Street, Suite 100

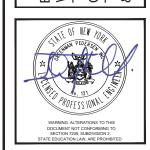
FRIF COUNTY WATER AUTHORITY

PN 202100035

Buffalo, NY, 14225

REPARED FOR

DUCTILE IRON PIPE

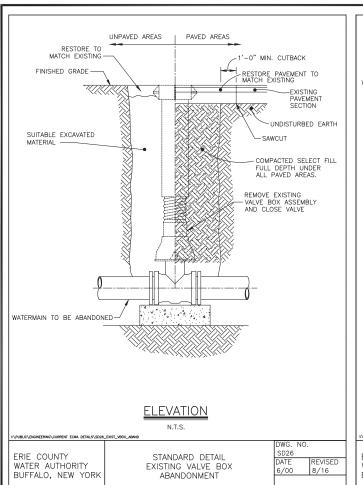


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	WATERLINE DETAILS - 3	
SCALE:	N.T.S.	
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OF 52

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TYPE 'K' COPPER PIPE

-FINISHED GRADE

2" TYPE 'K' COPPER PIPE FOR BLOWOFF -3/4" OR 2" TYPE 'K' COPPER PIPE FOR SAMPLE POINT (AS SHOWN ON PROFILE)

AFTER COMPLETION OF TEST, REPLACE CORPORATION STOP IN PIPE OR SERVICE SADDLE WITH A THREADED BRASS PLUG.

REVISED

4/28/92 7/16

CORPORATION STOP, TAPPED INTO WATERMAIN

NOTES:

SERVICE SADDLE

FI FVATION

STANDARD DETAIL

**TEMPORARY** 

BLOW-OFF/SAMPLING POINT

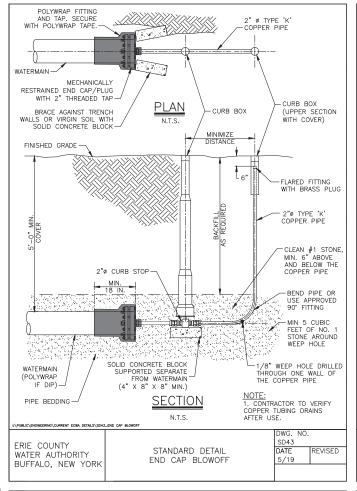
WATERMAIN

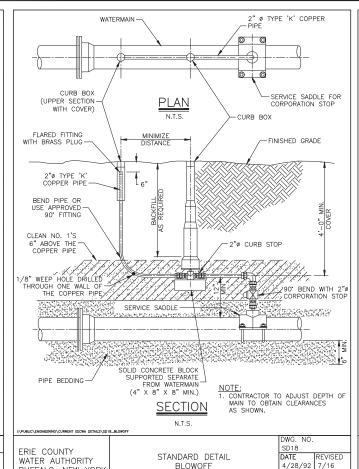
FRIE COUNTY

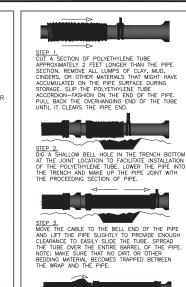
WATER AUTHORITY

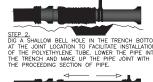
BUFFALO, NEW YORK

- CURB STOP











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ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

POLYETHYLENE -

STANDARD DETAIL POLYETHYLENE ENCASEMENT OF DUCTILE IRON PIPE

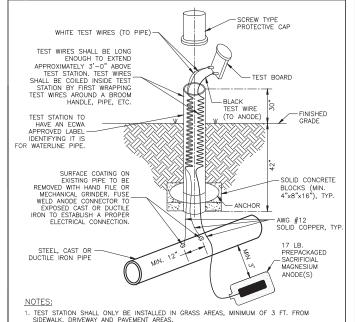
06/16 02/19

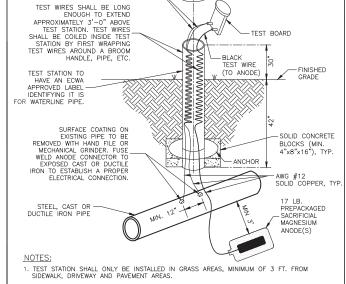
STEP 7. SECURE THE FOLD AT SEVERAL LOCATIONS ALONG THE PIPE BARREL (APPROXIMATELY EVERY 3 FEET, MAXIMUM OF 5 FEET).

STEP 9.

CAREFULLY BACKFILL THE TRENCH ACCORDING TO THE PROCEDURES IN AWWA C600 STANDARD. TO PREVENT DAMAGE DURING BACKFILLING ALLOW ADEQUATE SLACK IN THE TUBE AT THE JOINT BACKFILL SHOULD BE FREE OF CINDERS, ROCKS, BOULDERS, NAILS, STICKS, OR OTHER MATERIALS THAT MIGHT DAMAGE THE POLYETHYLENE. AVOID DAMAGING THE POLYETHYLENE. AVOID DAMAGING THE POLYETHYLENE WHEN USING TAMPING DEVICES.

IES:
- POLYETHYLENE WRAP (POLYWRAP) SHALL BE
OF PROPER DIAMETER TO FIT OVER BELLS AND
EXTERNAL WEGGE-ACTION RETAINER (GLANDS,
- CAST AND DUCTILE IRON FITTINGS (BENDS,
- TEES, VALYES, STC.) ARE TO BE WRAPPED IN
POLYWRAP AND SECURED IN PLACE
- DO NOT USE CHAINS, METAL WIRE, OR OTHER
SUPPORTING SYSTEMS WHICH MAY DAMAGE THE
POLYETHYLENE ENCASEMENT, REPLACE
DAMAGED POLYWRAP ACCORDINGLY.

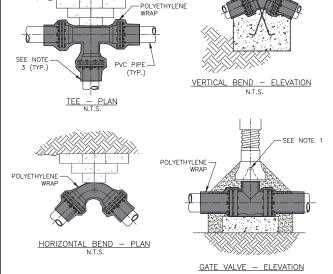




- 2. TEST STATION SHALL BE MADE OF POLYETHYLENE OR POLYCARBONATE AND BLUE IN COLOR.
- 3. SACRIFICIAL ANODE BAGS SHALL BE WETTED BEFORE BACKFILLING.
- 4. ANY EXISTING POLYWRAP AROUND WATERLINE SHALL BE RESECURED AROUND TEST WIRES WITH POLYWRAP TAPE TO PROTECT PIPE AND WIRING ACCORDINGLY.
- 5. CONTRACTOR SHALL DEMONSTRATE THAT TEST STATION IS FUNCTIONING PROPERLY AFTER INSTALLATION IS COMPLETE.

DETAIL ERIE COUNTY MAGNESIUM ANODE WATER AUTHORITY TESTING STATION FOR 7/16 10/19 BUFFALO, NEW YORK

STEEL CASING PIPE AND CIP/DIP



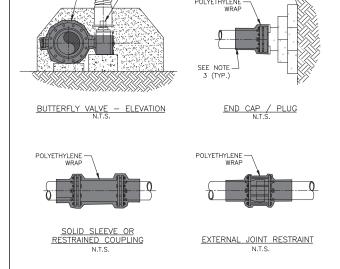
POLYETHYLENE -

BUFFALO. NEW YORK

- POLYETHYLENE WRAP IS TO BE PLACED AROUND THE ENTIRE FITTING, AND SECURED IN PLACE WITH POLYETHYLENE TAPE. PROVIDE SUFFICIENT SLACK SO THAT POLYETHYLENE WRAP IS NOT PUNCTURED DURING BACKFILL AND DOES NOT ENTRAP AIR. POLYETHYLENE WRAP IS NOT TO BE INSTALLED WITHIN 6 INCHES OF VALVE OPERATING NUT ON VALVES.
- 2. ALL FITTINGS TO BE POLYETHYLENE WRAPPED PRIOR TO BEDDING AND CONCRETE BLOCK
- POLYETHYLENE WRAP IS TO BE EXTENDED A MINIMUM OF 12" PAST THE FITTING ON EACH LEG AND SECURED TO THE PIPE (OR POLYWRAP IF DIP) WITH AT LEAST TWO CIRCUMFERENTIAL WRAPS OF POLYETHYLENE TAPE.

FRIF COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL POLYWRAPPING CAST/DUCTILE IRON FITTINGS



-SEE NOTE 1

12/18

- . POLYETHYLENE WRAP IS TO BE PLACED AROUND THE ENTIRE FITTING, AND SECURED IN PLACE WITH POLYETHYLENE TAPE. PROVIDE SUFFICIENT SLACK SO THAT POLYETHYLENE WRAP IS NOT PUNCTURED DURING BACKFILL AND DOES NOT ENTRAP AIR. POLYETHYLENE WRAP IS NOT TO BE INSTALLED WITHIN 6 INCHES OF VALVE OPERATING NUT ON VALVES.
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FRIF COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL POLYWRAPPING CAST/DUCTILE IRON FITTINGS

12/18

1950 Genesee Street, Suite 100 Suffalo, NY, 14225

PREPARED FOR

FRIF COUNTY WATER AUTHORITY PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY



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WATERLINE **DETAILS - 4** 

SCALE:

N.T.S. WNY-2021024 00

## SURFACE-**NOTES** PRIOR TO ANY EXCAVATION WORK, DAMAGE PREVENTION LAWS REQUIRE PERSONS TO MAKE CONTACT WITH THE APPROPRIATE ONE-CALL SYSTEM BY CALLING 811 OR IN NEW YORK 1-800-962-7962/ IN PENNSYLVANIA 1-800-242-1776. IF A NATURAL GAS FACILITY IS DAMAGED, RESULTING IN A RELEASE OF NATURAL GAS, IMMEDIATELY CALL 911 AND THE NATIONAL FUEL EMERGENCY NUMBER 1-800-444-3130. 3. IF A NATURAL GAS LINE IS SCRATCHED, GOUGED, DENTED, PULLED, OR BOWED DURING EXCAVATION WORK OR THE PROTECTIVE COATING IS DAMAGED, IMMEDIATELY CALL THE NATIONAL FUEL EMERGENCY NUMBER 1-800-444-3130 SO THAT WE CAN INVESTIGATE AND REPARE ANY DAMAGE THAT COULD AFFECT PUBLIC SAFETY. SEMINGLY INCONSEQUENTIAL DAMAGE CAN HAVE A MAJOR IMPACT AND CAN POTENTIALLY RESULT IN A FUTURE PIPELINE FAILURE. 4. NATIONAL FUEL REQUIRES THAT EXCANATORS SUPPORT OUR FACILITIES IF EXPOSED DURING CONSTRUCTION. THE EXCANATOR SHALL PROVIDE SUCH SUPPORT IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING FRACTICES. SHALL PROVIDE SUCH SUPPORT MUST BE MAINTAINED THROUGHOUT CONSTRUCTION AND BACKFILL OFFRATIONS. THE SUPPORT SYSTEM SHALL SUPPORT RECOMMENDATIONS AND INSPECTION WHERE ONE PROVIDED OF PROVIDED FOR A LENGTH OF 15' OR GREATER, OR WHENEVER A COUPLING OR FITTING IS EXPOSED. -SEE NOTE #7 5. UNDERGROUND UTILITIES AND OTHER STRUCTURES PLACED NEAR NATIONAL FUEL FACILITIES MUST MAINTAIN A MINIMUM CLEARANCE OF 12° FOR TRANSMISSION PIPELINES AND 6° FOR DISTREPUTION MAINS AND SERVICES. ANY METALLIC STRUCTURE PLACED NEAR STEEL PIPELINES REQUIRES THE INSTALLATION OF AN ELECTRIC TEST STATION. 6. BACKFILL MATERIAL AROUND NATIONAL FUEL GAS FACILITIES SHALL BE CLEAN DIRT, FREE OF SHALE OR SHARP STONES. ROUND STONES SHALL BE NO LARGER THAN 1" IN DIAMETER. ACCEPTABLE BACKFILL MATERIALS ARE: A. SAND (SAND IS THE PREFERRED MATERIAL WHERE WASHOUT IS NOT LIKELY). B. STONE "SCREENINGS" (LIMESTONE) ALL PASSING: 100% PASSING THE NO.40 SIEVE 70% PASSING THE NO.200 SIEVE GAS MAIN/SERVICE C. GRAVEL (A MODIFIED SIDEWALK MIX) OF A 50/50 BLEND OF NO.1A ROUND GRAVEL AND SAND. FILL MATERIAL BEYOND THE SELECT BACKFILL SHALL BE FREE OF LOGS, CINDERS, STUMPS, SKIDS, BRUSH OR ROCKS LARGER THAN 12 INCHES. 8. BACKFILL MATERIAL BENEATH AND AROUND ANY UNDERGROUND GAS FACILITY SHALL BE PROPERLY COMPACTED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES. 9. HEAVY LOADS AND EXCESSIVE FORCES SHALL NOT BE IMPOSED ON GAS FACILITIES AT ANY TIME DURING CONSTRUCTION OR BACKFILLING OPERATIONS. 10. #10 OR #12 LOCATING WIRE IS BURIED ALONG SIDE MOST PLASTIC GAS MAINS AND SERVICES. HEAVIER CABLES (PART OF CATHODIC PROTECTION SYSTEMS) MAY ALSO BE FOUND NEAR SOME STEEL PIPE FACILITIES. IF ANY WIRE OR CABLE IS DAMAGED INDISTURBED SOIL National Fuel TYPICAL GAS LINE CROSSING TYPICAL GAS LINE CROSSING OPEN TRENCH DETAIL

-45° OR A.O.B.E.

- ALTERNATE TERMINATIONS

EXISTING PAVEMENT

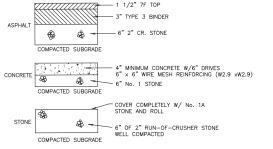
#### NATIONAL FUEL NOTES

#### Summary of Responsibilities of Contractor/Excavator

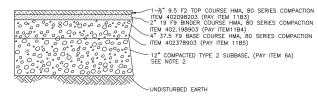
See One Call Regulations for details

- Notify the One Call center (Call 811) in accordance with regulations, typically 3 to 10 days prior to starting any work that might be considered excavation or demolition. Postponing the job will likely require re-notification to the One Call Center. Furthermore, if the job site becomes inactive, call to have the specific work area remarked prior to restrain the work. arked prior to restarting the work
- Designating the dig site in white will aid in the timely marking of underground facilities. Pre-marking proposed facilities in white is required in some cases.
- 3. If work is to be performed at multiple sites or over a large area, take reasonable steps to work with facility owners so that they may locate their facilities. Limit the size of each ticket. Using reasonable start dates for individual tickets facilitates getting the proper areas marked when needed.
- ncement of excavation or demolition work, the excavator is responsible for protecting and preserving the saking, or marking until excavation or demolition work in the area is complete. If necessary, call the One Call center to have the lines remarked.
- Where an underground facility has been staked, marked or otherwise designated, verify the precise location, type, size, direction actinn has been stated, marked of outerwise usesignated, verify the precise location, type, size, direction of run and depth of the underground facility. Use prudent techniques such as vacuum excavation or hand-dug test holes, to verify the precise location of facilities. It is best to verify prior to excavating in the general area, but verification must be done prior to excavating in the tolerance zone. Call the facility owner if a marked facility cannot be found.
- Inform each equipment operator of the information obtained from facility owners. Plan the excavation or demolition to avoid damage to or minimize interference with a facility owner's facilities in the construction
- 7. Consult the facility owner if:
  - Excavation or demolition work requires temporary or permanent interruption of a facility owner's service Such interruption must be coordinated with the affected facility owner in all cases.
  - A facility is exposed or undermined. The excavator must provide support and mechanical protection for facility owner's lines at the construction site during excavation or demolition work, including during packfilling operations.
- Report immediately to the facility owner any break, leak, dent, gouge, or other damage to the facility owner's
  lines made or discovered during the course of excavation or demolition work. Including, damage to pipeline
  coatings, locating wire and cables for cathodic protection.
- In the event of a emergency involving danger to life, health or property as a result of damage to an
  underground facility containing gas or liquid petroleum products or as a result of an electrical short or escape of
  gas or hazardous liquids, the exervator shall:
  - a. Proceed to evacuate his or her employees and all other endangered persons from the immediate vicinity to the best of his or her ability

Immediately contact 911 and the Facility Owner, reporting the exact location, nature of the emergency and type of



MINIMUM STANDARD FOR DRIVEWAY AND SIDEWALK REPLACEMENT



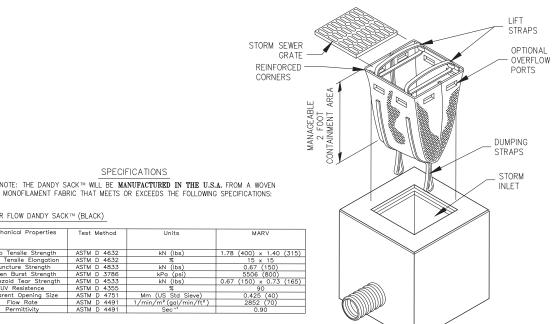
#### NOTES:

- IULES:

  1. WHERE CONCRETE BASE OR PAVEMENT IS ENCOUNTERED IT SHALL BE RESTORED IN-KIND. PAYMENT WILL BE MADE UNDER ITEM 11A3. REPAIRS MADE TO CONCRETE BASE/PAVEMENT SHALL BE DOWELLED TO THE EXIST. BASE/PAVEMENT WITH 1 "MIN. LONG NO. 5 EPOXY COATED BARS DRILLED AND GROUTED 6" INTO THE EXISTING BASE/PAVEMENT AT 1/2 OF ITS DEPTH. DOWELS SHALL BE SPACED AT A MAX. OF 3"-4" C-C. NO SEPARATE PAYMENT WILL BE MADE FOR DOWELS.
- DOWELS.

  IF UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED USE FABRIC FILTER OR UNDERCUT AS NECESSARY AS DIRECTED BY PROJECT ENGINEER

#### TYPICAL PAVEMENT SECTION



DANDY SACK **INLET PROTECTION** 

HOT MIX ASPHALT OHMA) OVERLAY SPLICES SHALL BE USED AT: ENDS OF HMA OVERLAY HIGHWAY SECTIONS, MAJOR INTERSECTIONS, AND OTHER LOCATIONS INDICATED IN THE PLANS.

K VALUE TABLE FT/IN

XSTED SPEED 30 35 40 45 50 55 60 65

K 16.67 19.17 21.67 24.17 27.50 30.00 32.50 35.00

SPECIFICATIONS 4. SAW CUTS SHALL BE MADE SO THAT SURFACE RUNOFF IS DIRECTED TO THE EDGE OF PAYEMENT. NOTE: THE DANDY SACKIM WILL BE MANUFACTURED IN THE U.S.A. FROM A WOVEN

#### REGULAR FLOW DANDY SACK™ (BLACK)

Mechanical Properties	Test Method	Units	MARV
· ·			
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.78 (400) x 1.40 (315)
Grab Tensile Elongation	ASTM D 4632	%	15 x 15
Puncture Strength	ASTM D 4833	kN (lbs)	0.67 (150)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	5506 (800)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.67 (150) x 0.73 (165)
UV Resistence	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	2852 (70)
Permittivity	ASTM D 4491	Sec -1	0.90

#### HI-FLOW DANDY SACK™ (SAFETY ORANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.62 (365) X 0.89 (200
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.51 (115) X 0.33 (75)
UV Resistence	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	5907 (145)
Permittivity	ASTM D 4491	Sec =1	2.1

# EFFECTIVE OVERLAY THICKNESS EXISTING HMA OR CONCRETE PAVEMENT

TRANSITION LENGTH (SEE NOTE 2)

TRANSITION LENGTH (SEE NOTE 2)

PLAN

EDGE OF PAVEMENT

CENTERLINE OR CROWNLINE

SECTION A-A

HOT MIX ASPHALT OVERLAY SPLICE (PAVEMENT TERMINATION DETAIL)

PC **MISCELLANEOUS DETAILS 1** 

CHECKED BY

REVISION

RAWN/DESIGN BY

MAY 2022

REVISIONS

1950 Genesee Street, Suite 100

FRIF COUNTY

WATER AUTHORITY

PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY

Buffalo, NY, 14225

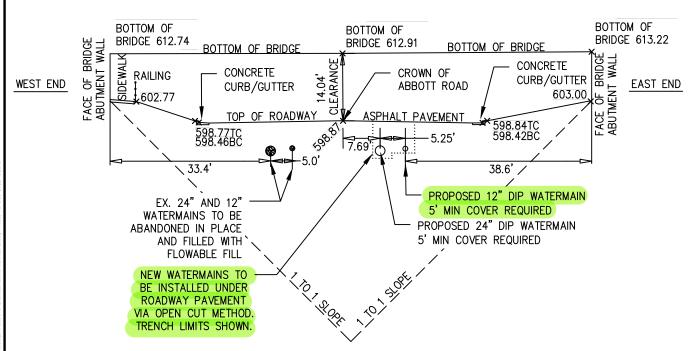
PREPARED FOR

SCALE: N.T.S. WNY-2021024 00



## PHOTO OF NORFOLK SOUTHERN RAILROAD BRIDGE CROSSING OVER ABBOTT ROAD LOOKING NORTHERLY AT SOUTH FACE OF BRIDGE

NOT-TO-SCALE



## DIMENSIONS MEASURED ALONG ALIGNMENT WITH SOUTH FACE OF BRIDGE

NOTE: SEE SHEET 17 FOR ADDITIONAL INFORMATION

CROSS-SECTION OF NORFOLK SOUTHERN RAILROAD BRIDGE CROSSING (U.S. D.O.T. CROSSING INVENTORY #519509X) OVER ABBOTT ROAD WITH WATERMAIN LOCATIONS NOTED

SCALE: 1" = 10'

#### STANDARD AND SPECIFICATIONS FOR COMPOST FILTER SOCK



A temporary sediment control practice composed of a de-gradable geotextile mesh tube filled with compost filter media to filter sediment and other pollutants associated with astruction activity to prevent their migration offsite

#### Condition Where Practice Applies

Compost filter socks can be used in many construction site applications where erosion will occur in the form of sheet erosion and there is no concentration of water flowing to the sock. In areas with steep slopes and/or rocky terrain, soil conditions must be such that good continuous contact between the sock and the soil is maintained throughout its length. For use on impervious surfaces such as road pavement or parking areas, proper anchorage must be provided to prevent shifting of the sock or separation of the contact between the sock and the pavement. Compost filter socks are utilized both at the site perimeter as well as within the construction areas. These socks may be filled after placement by blowing compost into the tube pneumatically, or filled at a staging location and moved into its designed loca-

#### Design Criteria

- Compost filter socks will be placed on the contour with both terminal ends of the sock extended 8 feet upslope at a 45 degree angle to prevent bypass flow.
- eters designed for use shall be 12" 32" except

- that 8" diameter socks may be used for residential lots to control areas less than 0.25 acres.
- The flat dimension of the sock shall be at least 1.5
- The Maximum Slope Length (in feet) above a compost filter sock shall not exceed the following limits:

D: (: )			5	Slope %			
Dia. (in.)	2	5	10	20	25	33	50
8	225*	200	100	50	20	_	_
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50



- The compost infill shall be well decomposed (matured at least 3 months), weed-free, organic matter. It shall be aerobically composted, possess no objectionable odors, and contain less than 1%, by dry weight, of manmade foreign matter. The physical parar compost shall meet the standards listed in Table 5.2 -Compost Standards Table. Note: All biosolids comp Compost Standards Table. Note: All biosolids comporoduced in New York State (or approved for importation) must meet NYS DEC's 6 NYCRR Part 360 (Solid Waste Management Facilities) requirements. The Part 360 requirements are equal to or nore stringent than 40 ĈFR Part 503 which ensur
- 6. The compost filter sock fabric material shall meet the

- Compost filter socks shall be anchored in earth with  $2^{\prime\prime}$  x  $2^{\prime\prime}$  wooden stakes driven  $12^{\prime\prime}$  into the soil on 10 foot centers on the centerline of the sock. On uneven terrain, effective ground contact can be enhanced by the placement of a fillet of filter media on the disturbed
- All specific construction details and material specifications shall appear on the crosion and sediment control constructions drawings when compost filter socks are included in the plan.

- Traffic shall not be permitted to cross filter socks.
- Accumulated sediment shall be removed when it reaches half the above ground height of the sock and disposed of in accordance with the plan
- Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired in the manner required by the manufacturer or replaced within 24 hours of inspection notification.
- Biodegradable filter socks shall be replaced after 6 months; photodegradable filter socks after 1 year. Poly propylene socks shall be replaced according to the
- Upon stabilization of the area contributory to the sock. takes shall be removed. The sock may be left in place stakes shall be removed in accordance with the stabi-lization plan. For removal the mesh can be cut and the compost spread as an additional mulch to act as a soil

#### **Table 5.1 - Compost Sock Fabric Minimum Specifications Table**

rable correspondence and a specifications rable						
Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi- Filament Polypropylene (HDMFPP)	
Material Character- istics	Photodegrada- ble	Photodegrada- ble	Biodegradable	Photodegrada- ble	Photodegradable	
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"	
Tensile Strength		26 psi	26 psi	44 psi	202 psi	
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.	
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years	

Table 5.2 - Compost Standards Table

_
25% - 100% (dry weight)
Fibrous and elongated
6.0 – 8.0
30% - 60%
100% passing a 1" screen and 10 - 50% passing a 3/8" screen
5.0 dS/m (mmhos/cm) maximum

FRIF COUNTY

uffalo, NY, 14225

950 Genesee Street, Suite 100

WATER AUTHORITY PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY



REVISIONS					
A. N	A. N.S. RR COMMENTS 7/14/22				
NO.	REVISION	1	DATE		
MAY 2022					
DRAV	DRAWN/DESIGN BY CHECKED BY				
_	ABPC				

**MISCELLANEOUS DETAILS 2** 

NTS WNY-2021024 00



September 06, 2022

Leonard Kowalski **ERIE COUNTY WATER AUTHORITY**295 Main Street, Room 350

Buffalo, New York, 14203-2494

RE: Proposed transverse underground 24" DIP water pipe located within the public ROW at DOT Crossing# (519509X). Existing 24" main to be abandoned and filled with flowable fill.

Keystone Division, at Mile Post BX-2.97 Lackawanna, Erie County, New York Latitude 42.813822, Longitude -78.80009 NS Activity No. 1302654

Dear Leonard Kowalski:

RailPros, as consultant for Norfolk Southern Railway Company ("Railway"), has reviewed the above-referenced request. Based on the information and documentation presented, Railway has no objections to the proposed work.

Attached you will find the requested offer of agreement for execution, by an official authorized to execute contract agreements on behalf of the Licensee. Please have the agreement executed via DocuSign. Note, however, that the attached offer of agreement does not constitute a binding contract, unless or until it is executed by both the Licensee and Railway.

In order for Railway to countersign the document, the following items are needed for review:

- 1. A Certificate of Insurance as required in the agreement, is to be submitted within the Application System.
- A separate Railroad Protective Liability Insurance policy, as required in the agreement, with Railway as the named insured, and the Activity ID referenced in the description, submitted within the Application System; OR
- 3. The submission of the Risk Management Fee adds the specific project/activity to the Norfolk Southern Master Railroad Protective insurance policy, and as such no further railroad protective liability insurance coverage is necessary or requested.

NOTE: No work shall be permitted on or about the Railway's property until the agreement becomes binding, and the Division Engineer or their authorized representative has reviewed and approved field services for the project, such as *flagging protection*, *construction monitoring*, and *post-construction inspection services*. Once the above items are received, the fully executed agreement will be sent, along with the name and contact information for field service coordination.

If we have not received the executed agreement and corresponding payments and/or documents within sixty (60) days from the date of this letter, we reserve the right to cancel this request.

If you have any questions, please contact me via the portal.

Sincerely,

Dan Pavlik Real Estate Specialist

PO Box 642270 Omaha, NE 68164 **P**: (402) 965-0539 **F**: (866) 762 - 7619

#### NORFOLK SOUTHERN RAILWAY COMPANY

# ACKNOWLEDGMENT FORM FOR WIRE AND/OR PIPE OCCUPATION WITHIN THE LIMITS OF A PUBLIC RIGHT OF WAY.

APPLICANT: ERIE COUNTY WATER AUTHORITY

295 Main Street, Room 350 Buffalo, New York, 14203-2494

SUBJECT: Lackawanna, Erie County, New York

Milepost BX-2.97, Buffalo Line, Keystone Division

Norfolk Southern Activity No. 1302654

Install a new transverse underground 24" DIP water pipe located within the public ROW at DOT Crossing# (519509X). Existing 24" main to be abandoned and filled

with flowable fill. (collectively, the "Facilities")

In response to Applicant's submittal dated May 17, 2022 regarding the proposed construction of the subject project, Norfolk Southern Railway Company ("Railway") does not object to the installation of the Facilities as shown on the attached Drawing marked Exhibit "A", last revised August 8, 2022, provided Applicant adheres to the following terms and conditions:

- The Facilities shall be installed, constructed, maintained, repaired, operated and removed by and at the sole risk, cost and expense of the Applicant, (collectively, "Operate" or "Operations").
- The Facilities must conform with all Federal, State and local laws, rules and regulations and will not be attached to any railroad structure or appurtenance and will not be located on any private property of Railway.
- The design and construction of aerial Facilities shall comply with Railway's NSCE-4 Specification, latest edition, and underground Facilities shall comply with Railway's NSCE-8 Specification, latest edition.
- Insurance
- (a) <u>Insurance Requirements.</u> Without limiting in any manner the liability and obligations assumed by Applicant under any other provision of this Agreement, and as additional protection to Railway, Applicant shall comply with the following provisions:
  - (i) Subject to subsection (ii) below, upon execution of this Agreement, Applicant shall pay Railway a risk financing fee of \$1,900 (the "Risk Financing Fee") to provide Railroad Protective Liability Insurance or such supplemental insurance (which may be self-insurance) as Railway, in its sole discretion, deems to be necessary or appropriate with respect to the initial construction and installation of the Facilities.
  - (ii) Prior to commencement of each Operations project that requires access to the Premises, unless Railway elects to make available and Applicant pays the then-current Risk Financing Fee for a given Operations project, Applicant shall furnish Railway with an original Railroad Protective Liability ("RPL") Insurance Policy naming Railway as the named insured and having a limit of (1) not less than a combined single limit of \$2,000,000 each occurrence and \$6,000,000 aggregate, or (2) if the value of a given operations project exceeds \$350,000, not less than a combined single limit of \$5,000,000 per occurrence and \$10,000,000 in the aggregate. Each RPL policy shall conform to CG 00 35 04 13 or equivalent and include coverage for Terrorism and the Physical Damage to Property Endorsement and shall name Norfolk Southern Corporation and its affiliates and subsidiaries as the insured. Applicant shall ensure that the project location, Applicant identification and work description appear on the declaration pages of a given RPL policy. Applicant shall provide an electronic copy of each RPL policy (and not merely the binder) to Railway at <a href="mailto:ns.permitting@railpros.com">ns.permitting@railpros.com</a> for review and approval prior to commencing any work on the associated Operations project. Applicant may submit inquiries about RPL issues at <a href="mailto:ns.permitting@railpros.com">ns.permitting@railpros.com</a>.

- (iii) Applicant shall maintain a Commercial General Liability ("CGL") policy containing products and completed operations and contractual liability coverage, with a combined single limit of not less than \$2,000,000 for each occurrence. Any portion of this requirement may be satisfied by a combination of General Liability and/or Excess/Umbrella Liability Coverage. The policy shall not deny any obligation of any insured under the Federal Employer's Liability Act, as amended. The CGL policy shall provide additional insured coverage equivalent to ISO CG 20 10 11/85.
- (iv) Applicant shall maintain Automobile Liability Insurance with a current ISO occurrence form policy (or equivalent) and apply on an "any auto" (Symbol 1) basis, including coverage for all vehicles used in connection with the Work or Services on the leased property, providing annual limits of at least \$1,000,000 per occurrence for bodily injury and property damage combined including uninsured and underinsured motorist coverage, medical payment protection, and loading and unloading.
- (v) Applicant shall maintain Workers' Compensation Insurance to meet fully the requirement of any compensation act, plan or legislative enactment applicable in connection with the death, disability or injury of Applicant's officers, agents, servants or employees arising directly or indirectly out of the performance of this Agreement;
- (vi) Applicant shall maintain Employers' Liability Insurance with limits of not less than \$1,000,000 each accident \$1,000,000 policy limit for disease, and \$1,000,000 each employee for disease;
- (b) <u>General Insurance Requirements.</u> Each insurance policy referred to in subsection (a) above shall also comply with the following requirements:
  - (i) <u>Additional Insureds</u>. Each insurance policy (excluding any RPL policy and Workers' Compensation policy) shall name Railway and its parent, subsidiary and affiliated companies as additional insureds with an appropriate endorsement to each policy.
  - (ii) Applicant's Coverage Primary and Without Right to Contribution. All policies secured by Applicant, whether primary, excess, umbrella or otherwise, and providing coverage to the Railway as an additional insured (i) are intended to take priority in responding and to pay before any insurance policies Railway may have secured for itself must respond or pay and (ii) may not seek contribution from any policies the Railway may have secured for itself.
  - (iii) <u>Severability of Interests (Cross Liability)</u>. No cross-liability exclusions are permitted that would apply to the additional insureds, and there may not be any restrictions in any policy that limits coverage for a claim brought by an additional insured against a named insured.
  - (iv) <u>Waiver of Subrogation</u>. To the fullest extent permitted by law, all insurance furnished by Applicant pursuant to this Agreement shall include a waiver of subrogation in favor of Railway with an appropriate endorsement to each policy.
  - (v) <u>Notice of Cancellation, Modification or Termination</u>. Each insurance policy shall not be subject to cancellation, termination, modification, changed, or non-renewed except upon thirty (30) days prior written notice to the additional insureds.
  - (vi) <u>No Limitation.</u> Each insurance policy shall not limit any of Applicant's indemnity obligations or other liabilities under this Agreement. The insurance available to Railway and its parent, subsidiary and affiliated companies as additional insureds shall not be limited by these requirements should Applicant maintain higher coverage limits.
  - (vii) Any deductibles or self-insured retentions of Applicant over \$50,000 must be declared and approved by Railway. Approval of such requests shall not be unreasonably withheld.
  - (viii) Applicant shall require all subcontractors who are not covered by the insurance carried by Applicant to maintain the insurance coverages set forth in subsection (a) above, except

for the RPL insurance, including but not limited to additional insured status for Railway and its parent, subsidiary and affiliated companies.

- (ix) Applicant shall furnish their memorandum of insurance and the RPL Insurance Policy to Railway's Managing Agent prior to execution of this Agreement at <a href="mailto:ns.permitting@railpros.com">ns.permitting@railpros.com</a>. The insurance coverage required herein shall in no way limit Applicant's liability under this Agreement.
- Railway shall, at Railway's option, furnish, at the sole expense of Applicant, Support Services. The term "Support Services" means such materials and services as necessary, in Railway's sole judgment, to support Railway's tracks and to protect Railway's traffic, including without limitation flagging services and construction monitoring during the installation, maintenance, repair, renewal or removal of the Facilities. Support Services shall be provided unless Railway's Division Engineer or his or her authorized representative provides to Applicant a written waiver of Support Services, whether in whole or in any part, in a given instance. The term "Construction Monitoring" means services comprised of one or more Railway representatives being assigned and present to monitor construction activities of Applicant, which may include a preconstruction site assessment and a post-construction site assessment.
- Prior to commencement of any work to be performed on or about Premises, Applicant shall notify the appropriate Division Engineer or their authorized representative for the scheduling of "Support Services". Within seventy-two (72) hours after the Division Engineer's or their authorized representative's actual receipt of such notification, they shall review the necessity and availability of Support Services for the proposed work and advise Applicant of such matters and the estimated cost therefor. No work shall be permitted on or about the Premises without the presence of Railway's Support Services or the Division Engineer's waiver of the requirement for Support Services. Entry on or about the Premises or any other Railway right-of-way without the Division Engineer's prior approval shall be deemed trespassing. Applicant agrees to pay Railway, within thirty (30) days after delivery of an invoice therefor, for any protection and inspection costs incurred by Railway, in Railway's sole judgment, during any such entry.
- In the event it becomes necessary for Applicant to deviate from the approved plans and specifications,
  Applicant shall seek prior approval from Railway's Division Engineer or his or her authorized
  representative and, when applicable, an authorized representative of the Division Engineer in the field
  during Construction Monitoring or inspection.
- All cost or expense resulting from any and all loss of life or property, or injury or damage to the person
  or property of any person, firm or corporation (including the parties hereto and their respective officers,
  agents and employees) and any and all claims, demands or actions for such loss, injury or damage,
  caused by or growing out of the presence or use, or the construction, maintenance, renewal, change
  or relocation and subsequent removal of the Facilities and appurtenances herein referred to shall be
  borne by Applicant unless caused solely by the negligence or willful misconduct of Railway.
- Upon abandonment of the Facilities by Applicant, Applicant shall seek direction from Railway's Chief Engineer, or his representative, regarding the method of abandonment if the Facilities will be abandoned in place.
- In the event the Facilities consist of electrical power or communication wires and appurtenances, Applicant shall promptly remedy any inductive interference growing out of, or resulting from the presence of, the Facilities.
- In the event the Facilities consist of an underground occupation, Applicant will be responsible for any settlement caused to the roadbed, right of way and/or tracks, facilities and appurtenances of Railway arising from or as a result of the installation of the Facilities, and Applicant shall pay to Railway on demand the full cost and expense.
- All rights and obligations conferred hereby shall extend to the successors and assigns of the parties
  hereto, provided that the Applicant shall in no event transfer or assign its rights hereunder without the
  written consent of Railway, which will not be unreasonably withheld.

- If the public road is abandoned by the appropriate governmental authority and the Facilities remain within the limits of Railway's right of way after such abandonment, as a condition for the continuing presence of the Facilities within Railway's right of way, Railway and Applicant shall agree upon an appropriate occupancy fee or rental for the Facilities and execute an amendment to this Agreement within ninety (90) days after the date upon which such public road is abandoned.
- Any and all notices, demands or requests by or from Railway to Applicant, or Applicant to Railway, shall
  be in writing and shall be sent by (a) postage paid, certified mail, return receipt requested, or (b) a
  reputable national overnight courier service with receipt therefor, or (c) personal delivery, and
  addressed in each case as follows:

If to Railway: c/o Norfolk Southern Corporation

650 West Peachtree St. Box 22

Atlanta, Georgia 30308 Attention: Director Real Estate

If to Applicant: ERIE COUNTY WATER AUTHORITY

295 Main Street, Room 350 Buffalo, New York, 14203-2494 Attention: Leonard Kowalski

Either party may, by notice in writing, direct that future notices or demands be sent to a different address. All notices hereunder shall be deemed given upon receipt (or, if rejected, upon rejection).

ACCEPTED BY:

NORFOLK SOUTHERN RAILWAY COMPANY			
Real Estate Manager	DATE		
ERIE COUNTY WATER AUTHORITY			
Title	DATE		

Activity Number: 1302654 Dan Pavlik: 09/06/2022



## **CERTIFICATE OF LIABILITY INSURANCE**

DATE (MM/DD/YYYY) 1/25/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER. AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

	ns certificate does not comer rights i	O tile	Cer	illicate libiuer ill lieu of st	ich endorsement	(S).				
PRO	DUCER License # 1009544				CONTACT Tania I	_anza				
Lawley, LLC			PHONE (A/C, No, Ext): (716		546 F	AX A/C No)·(	716)	849-8291		
361 Delaware Avenue Buffalo, NY 14202			E-MAIL ADDRESS: tlanza	@lawlevinsu	rance.com	4/C, NO). (				
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INSU	IRED				INSURER B :					
	Erie County Water Authority	INSURER C :								
	295 Main St Suite #350 Buffalo, NY 14203-2494				INSURER D :					
	Bullalo, N1 14205-2494				INSURER E :					
					INSURER F:					
СО	VERAGES CEF	RTIFI	CAT	E NUMBER:			<b>REVISION NUME</b>	BER:		
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Α	X COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE		\$	1,000,000
	CLAIMS-MADE X OCCUR	X	X	PHPK2434044	7/1/2022	7/1/2023	DAMAGE TO RENTED PREMISES (Ea occurre	ence)	\$	1,000,000
							MED EXP (Any one pe		\$	10,000
							PERSONAL & ADV IN.	JURY	\$	1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGA		\$	3,000,000
	X POLICY X PRO-						PRODUCTS - COMP/O		\$	3,000,000
	OTHER:						111020010 00111170		\$	
Α	AUTOMOBILE LIABILITY						COMBINED SINGLE L (Ea accident)	IMIT	\$	1,000,000
	X ANY AUTO	X	X	PHPK2434044	7/1/2022	7/1/2023	BODILY INJURY (Per p	person)	\$	
	OWNED SCHEDULED AUTOS						BODILY INJURY (Per a		\$	
	HIRED NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)		\$	
									\$	
Α	UMBRELLA LIAB X OCCUR						EACH OCCURRENCE		\$	10,000,000
	X EXCESS LIAB CLAIMS-MADE	:		PHUB821880	7/1/2022	7/1/2023	AGGREGATE		\$	10,000,000
	DED RETENTION \$								\$	
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						PER STATUTE	OTH- ER	Ψ	
							E.L. EACH ACCIDENT		\$	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	N/A								
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EM			
	DESCRIPTION OF OPERATIONS below						E.L. DISEASE - POLIC	Y LIMIT	\$	
DES Re:	CRIPTION OF OPERATIONS / LOCATIONS / VEHIO Proposed Tranverse underground 24"	LES (	ACOR	D 101, Additional Remarks Schedu pipe located within the pub	ile, may be attached if no Dlic ROW at DOT C	nore space is requ rossing# (519)	ired) 509X)			
						, , , , , , , , , , , , , , , , , , ,	,			
	itional Insured and Waiver of Subrogat ns set forth as evidenced by the attach									
. 611	ing oct form as evidenced by the attach	ou en		oment (a) identified off the	Acold 101					
SEE	ATTACHED ACORD 101									
CE	PTIEICATE HOLDER				CANCELLATIO	N				
UE	RTIFICATE HOLDER				CANCELLATIO	IN				

Norfolk Southern Corporation 650 West Peachtree Street Box 22 Atlanta, GA 30308 SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

ACORD 25 (2016/03)

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## ADDITIONAL REMARKS SCHEDULE

Page 1 of 1

AGENCY Licer		NAMED INSURED
Lawley, LLC		Erie County Water Authority 295 Main St Suite #350
POLICY NUMBER		Buffalo, NY 14203-2494
SEE PAGE 1		
CARRIER	NAIC CODE	
SEE PAGE 1	SEE P 1	EFFECTIVE DATE: SEE PAGE 1

#### **ADDITIONAL REMARKS**

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

Description of Operations/Locations/Vehicles: When required by executed written contract, the

following endorsements apply:

**General Liability:** 

CG 24 17 10 01 - Contractual Liability - Railroads
CG 20 37 04 13 - Addititional Insured - Owners, Lessees or Contractors - Completed Operations
PI-CANXAICH-002 (05/11) Cancellation Notice to Scheduled Additional Insured

Automobile Liability:
PI-CA-003 (04/13) - Blanket Additional Insured
CA 20 70 10 13 - Coverage for Certain Operations in Connection with Railroads
PI-CANXAICH-002 (05/11) Cancellation Notice to Scheduled Additional Insured

**Excess Liability:** 

PI-WDI-101 (10/17) Commercial Excess Liabilty Coverage Form Water Districts Insurance Program

PI-CANXAICH-002 (05/11) - Cancellation Notice to Scheduled Additional Insured or Certificate Holder



#### CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

^^^^^ 166000337 LAWLEY LLC 361 DELAWARE AVE STE 200 BUFFALO NY 14202



SCAN TO VALIDATE AND SUBSCRIBE

POLICYHOLDER

ERIE COUNTY WATER AUTHORITY 295 MAIN STREET, ROOM 350 BUFFALO NY 142032494 CERTIFICATE HOLDER

NORFOLK SOUTHERN CORPORATION 650 WEST PEACHTREE ST BOX 22 ATLANTA GA 30308

POLICY NUMBER	CERTIFICATE NUMBER	POLICY PERIOD	DATE
B2009 327-4	745414	07/01/2022 TO 07/01/2023	1/25/2023

THIS IS TO CERTIFY THAT THE POLICYHOLDER NAMED ABOVE IS INSURED WITH THE NEW YORK STATE INSURANCE FUND UNDER POLICY NO. 2009 327-4, COVERING THE ENTIRE OBLIGATION OF THIS POLICYHOLDER FOR WORKERS' COMPENSATION UNDER THE NEW YORK WORKERS' COMPENSATION LAW WITH RESPECT TO ALL OPERATIONS IN THE STATE OF NEW YORK, EXCEPT AS INDICATED BELOW, AND, WITH RESPECT TO OPERATIONS OUTSIDE OF NEW YORK, TO THE POLICYHOLDER'S REGULAR NEW YORK STATE EMPLOYEES ONLY.

IF YOU WISH TO RECEIVE NOTIFICATIONS REGARDING SAID POLICY, INCLUDING ANY NOTIFICATION OF CANCELLATIONS, OR TO VALIDATE THIS CERTIFICATE, VISIT OUR WEBSITE AT HTTPS://WWW.NYSIF.COM/CERT/CERTVAL.ASP. THE NEW YORK STATE INSURANCE FUND IS NOT LIABLE IN THE EVENT OF FAILURE TO GIVE SUCH NOTIFICATIONS.

THE POLICY INCLUDES A WAIVER OF SUBROGATION ENDORSEMENT UNDER WHICH NYSIF AGREES TO WAIVE ITS RIGHT OF SUBROGATION TO BRING AN ACTION AGAINST THE CERTIFICATE HOLDER TO RECOVER AMOUNTS WE PAID IN WORKERS' COMPENSATION AND/OR MEDICAL BENEFITS TO OR ON BEHALF OF AN EMPLOYEE OF OUR INSURED IN THE EVENT THAT, PRIOR TO THE DATE OF THE ACCIDENT, THE CERTIFICATE HOLDER HAS ENTERED INTO A WRITTEN CONTRACT WITH OUR INSURED THAT REQUIRES THAT SUCH RIGHT OF SUBROGATION BE WAIVED.

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS NOR INSURANCE COVERAGE UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICY.

NEW YORK STATE/INSURANCE FUND

DIRECTOR, INSURANCE FUND UNDERWRITING

## **PIPE DATA SHEET**

	CARRIER PIPE	CASING PIPE
CONTENTS TO BE HANDLED	Potable Water	
MAX. ALLOWABLE OPERATING PRESSURE		
MAX. ALLOWABLE OF EXATING FRESSORE		
NOMINAL SIZE OF PIPE	24 inch	
OUTSIDE DIAMETER	25.8 inches	
OUTSIDE DIAWIETER	23.6 menes	
INSIDE DIAMETER	24 inches	
WALL THICKNESS	0.44 inches	
WALL ITHORNESS	0.44 menes	
WEIGHT PER FOOT	2335 lbs	
MATERIAL	Ductile Iron Pipe	
WATERWAL	Buethe from ripe	
PROCESS OF MANUFACTURE	Centrifugally Cast	
SPECIFICATION	AWWA C151/A21.5	
GRADE OR CLASS	Class 52 (42,000)	
(Specified Minimum Yield Strength)	Class 32 (42,000)	
TEST PRESSURE	170 PSI	
TYPE OF JOINT	Bell & Spigot	
	(Restrained)	
TYPE OF COATING	Asphaltic w/	
	Polyethylene Encasement	
DETAILS OF CATHODIC PROTECTION	Lineascinent	
DETAIL OF SEAL		
DETAILS OF SEALS OR PROTECTION AT END OF CASING		
CHARACTER OF SUBSURFACE MATERIAL		
APPROXIMATE GROUND WATER LEVEL		
SOURCE OF INFORMATION		
ON SUBSURFACE CONDITIONS		
CONDITIONS		

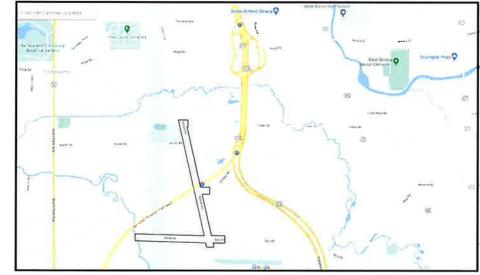
Proposed method of installation	n (refer to NSCE-8 Specification):
Bore & Jack	
Jacking	
Tunneling (with	unnel Liner Plate)
Directional Bore	e/Horizontal Direction Drilling – Method A
Directional Bore	e/Horizontal Direction Drilling – Method B
X Open Cut – All ir	stallations directly under any track must be designed as a bored installation. Open cut
installations will be co time of installation.	nsidered on a case-by-case basis by Norfolk Southern's Division Superintendent at the
Other – Please S	pecify:

E.C.W.A. CONTRACT NO. GP-010
WATER SYSTEM IMPROVEMENTS —
TRANSMISSION & DISTRIBUTION MAINS
WILLET RD., ABBOTT RD. and NORTH DR.
CITY OF LACKAWANNA, TOWN OF HAMBURG

and ORCHARD PARK, NY

## SECTIONS ALONG

- 1. WILLET ROAD CR204 (530 WILLET RD. TO INTERSECTION OF ABBOTT/BERG RD.)
- 2. ABBOTT ROAD CR4 (WILLET RD. TO FISHER RD.)
- 3. NORTH DRIVE CITY STREET (ABBOTT RD. TO 40 NORTH DR.)



PROJECT LOCATION MAP

E.C.W.A. PROJECT NO. 202100035 JULY 2022

# ERIE COUNTY WATER AUTHORITY

350 ELLICOTT SQUARE BUILDING 295 MAIN STREET BUFFALO, N.Y. 14203-2415

# AUTHORITY MEMBERS

JEROME D. SCHAD, ESQ. - CHAIR PEGGY A. Lagree - VICE CHAIR MICHELE M. IANNELLO - TREASURER

APPROVED BY:

IE DUNTY WATER AUTHORITY CNARD F. KOWALSKI, P.E. – EXECUTIVE ENGINEER

# ERIT

## **EXHIBIT A**

of 12

#### Norfolk Southern Railway Company

Accompanying Agreement With Erie County Water Authority

 Activity No.:
 1302654
 E.S.:
 287+41

 Division:
 Keystone
 Mile Post:
 BX-2.97

 Val Sec:
 22
 Map No.:
 137

 City:
 Lackawanna
 County:
 Erie

 State:
 New York

 Lat:
 42.813822
 Long:
 -78.80009

All work to be performed in accordance with the latest approved Norfolk Southern NSCE-4 and NSCE-8 Specifications

BLASTING NOT PERMITTED 8/8/2022

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01	TITLE SHEET
02	LOCATION MAPS
03	GENERAL NOTES & LEGEND
04	WILLET RD PLAN & PROFILE - 1
05	WILLET RD PLAN & PROFILE - 2
06	WILLET RD PLAN & PROFILE - 3
07	WILLET RD PLAN & PROFILE - 4
08	WILLET RD PLAN & PROFILE - 5
09	WILLET RD PLAN & PROFILE - 6
10	WILLET RD PLAN & PROFILE - 7
11	ABBOTT RD PLAN & PROFILE - 1
12	ABBOTT RD PLAN & PROFILE - 2
13	ABBOTT RD PLAN & PROFILE - 3
14	ABBOTT RD PLAN & PROFILE - 4
15	ABBOTT RD PLAN & PROFILE - 5
16	ABBOTT RD PLAN & PROFILE - 6
17	ABBOTT RD PLAN & PROFILE - 7
18	ABBOTT RD PLAN & PROFILE - 8
19	ABBOTT RD PLAN & PROFILE - 9
20	ABBOTT RD PLAN & PROFILE - 10
21	ABBOTT RD PLAN & PROFILE - 11
22	NORTH DR PLAN & PROFILE - 1
23	INTERCONNECTION & ABANDONMENT DETAILS - 1
24	INTERCONNECTION & ABANDONMENT DETAILS - 2
25	INTERCONNECTION & ABANDONMENT DETAILS - 3
26	INTERCONNECTION & ABANDONMENT DETAILS - 4
27	INTERCONNECTION & ABANDONMENT DETAILS - 5
28	INTERCONNECTION & ABANDONMENT DETAILS - 6
29	INTERCONNECTION & ABANDONMENT DETAILS - 7
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32	INTERCONNECTION & ABANDONMENT DETAILS - 10
33	INTERCONNECTION & ABANDONMENT DETAILS - 11
34	INTERCONNECTION & ABANDONMENT DETAILS - 12
35	INTERCONNECTION & ABANDONMENT DETAILS - 13
36	INTERCONNECTION & ABANDONMENT DETAILS - 14
37	INTERCONNECTION & ABANDONMENT DETAILS - 15
38	WATERLINE DETAILS ~ 1
39	WATERLINE DETAILS - 2
40	WATERLINE DETAILS - 3
41	WATERLINE DETAILS - 4
42	MISCELLANEOUS DETAILS 1
43	MISCELLANEOUS DETAILS 2
44	WORK ZONE TRAFFIC CONTROL - 1
45	WORK ZONE TRAFFIC CONTROL - 2
46	WORK ZONE TRAFFIC CONTROL - 3
47	WORK ZONE TRAFFIC CONTROL - 4
48	WORK ZONE TRAFFIC CONTROL - 5
49	WORK ZONE TRAFFIC CONTROL - 6
50	WORK ZONE TRAFFIC CONTROL - 6  WORK ZONE TRAFFIC CONTROL - 7
51	WORK ZONE TRAFFIC CONTROL = 7
52	WORK ZONE TRAFFIC CONTROL - 9
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Sheet List Table

Sheet Title

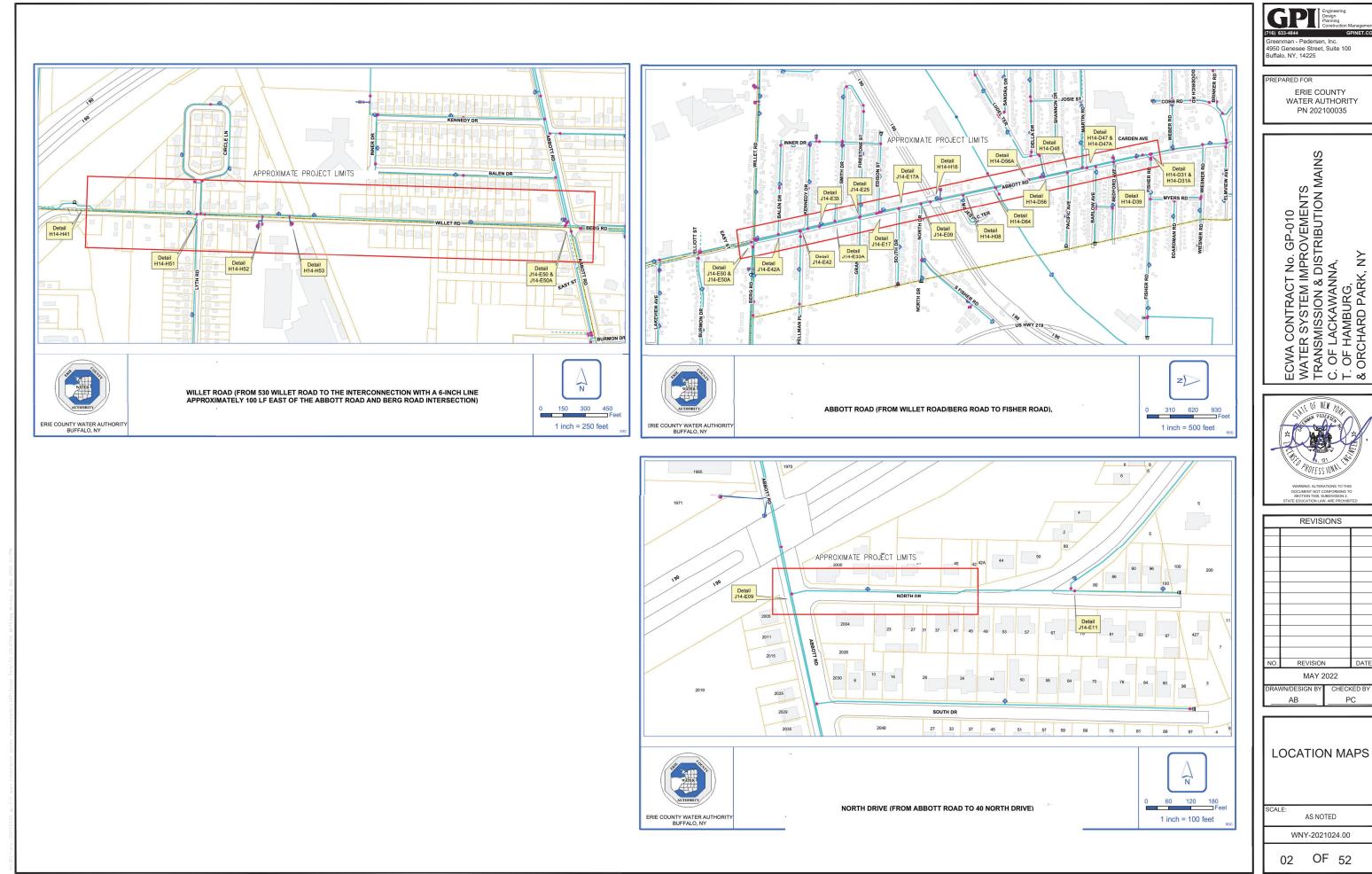
Sheet Number



PREPARED BY:



THOMAS J. WOLANSKI, P.E.



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**LOCATION MAPS** 

#### NOTES

- All elevations refer to USGS NAVD83 datum.
- The CONTRACTOR shall obtain necessary permits and furnish copies to the ENGINEER prior to commencing work.
- The CONTRACTOR work area shall be confined to the limits of the right-of-ways and easements. The CONTRACTOR shall obtain any additional easements or work releases should the CONTRACTOR require additional area to accommodate his operations.
- The CONTRACTOR shall provide maintenance and protection of traffic in accordance with the Eric County Highway Department standards and the NYSDOT Manual of Uniform Traffic Control Davices
- 5. The locations and depths of existing underground utilities as shown on the plans and profiles are approximate. Other underground utilities not shown may be encountered. The CONTRACTOR shall perform test pits to verify the location and elevation of utilities at interconnections and crossings as shown, directed or required. The CONTRACTOR shall excavate in advance of the pipe laying operation and expose all existing underground utilities to prevent damage during construction and to determine required changes in grade necessary to install watermain to avoid conflicts.
- The CONTRACTOR shall install those measures required to limit erosion of areas disturbed by the work. Clearing shall be performed on an as needed basis, phased to reduce erosion and visual impact.
- 7. Blasting will not be permitted.
- No more than one connection may be made to any existing watermain prior to testing, disinfection, and approval of the Waterline Installation Completed Works Approval Report(s) by the Erie County Water Authority and the Erie County Health Department.
- The Erie County Water Authority only shall operate existing valves and fire hydrants, including newly installed valves and fire hydrants that have been placed into service. The CONTRACTOR is advised that watertight conditions may not exist when existing valves are closed.
- 10. The CONTRACTOR shall have all equipment, manpower, and materials required on site and ready for use prior to commencing any shut-down or removing any existing facilities from service. The CONTRACTOR shall notify all affected customers of any shut-down at least 48 hours in advance. The CONTRACTOR shall notify the appropriate fire stations 48 hours in advance prior to taking any fire hydrants out of service. Any fire hydrants not in service shall be bagged in burlap or plastic. Any shut-down shall be limited to 4 consecutive hours. It may be necessary to schedule shut-downs at night, weekends, or other off hours so as to not affect schools, businesses or other customers, as determined by the ENGINEER. Shut-down requests shall be submitted to the Eric County Water Authority a minimum of 5 business days in advance of the requested shut-down date.

#### :\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD29\_GENERAL\_NO

FRIE COUNTY	OTANDADD DETAIL	SD29	Inc soco
WATER AUTHORITY	STANDARD DETAIL GENERAL NOTES	DATE 3/05	REVISED 8/16
BUFFALO, NEW YORK			

#### 11. All watermain piping shall be installed with a minimum of 5'-0" of cover.

- 12. All watermain piping shall be installed with a minimum of 1'-6" of vertical clearance and 10'-0" of horizontal clearance from sanitary and storm piping, measured from the outside of the pipes at the point of crossing, unless plans and profiles indicate otherwise.
- 13. If the material at the design grade is unsuitable as determined by the ENGINEER, the CONTRACTOR, when ordered in writing, shall excavate additional material to the depth necessary and shall backfill to the proposed grade with the select granular material.
- The installation of the 90 degree bends in the watermain is not allowed, unless approved by the Erie County Water Authority.
- Thrust restraint for watermain piping through 12-inch diameter shall consist of thrust blocks and pipe joint restraint.
- 16. The CONTRACTOR shall notify the owner of any utility pole in advance of any excavation work that will take place within 5'-0" of the utility pole. The CONTRACTOR shall include the cost of temporary pole support in the appropriate bid item. Where utility poles are required to be supported during construction, the CONTRACTOR shall make all necessary arrangements with the utility company.
- 17. If materials are encountered during the construction that are suspected of being contaminated, the CONTRACTOR shall immediately notify the NYSDEC for direction regarding testing, separation, containment and disposal procedures.
- Existing fire hydrants removed during construction and not reinstalled as part of the work shall be returned to the Erie County Water Authority Service Center, 3030 Union Road, Checktowaga.
- 19. The CONTRACTOR shall cold patch all trench excavations in traveled areas including roads, driveways, sidewalks, and parking areas if excavation occurs outside of the availability of hot mix asphalt. All permanent restoration will be in kind or as detailed in the contract plans.
- 20. The CONTRACTOR shall not restrict school bus access.

CURRENT ECWA DETAILS\SD30\_GENERAL\_NOTES

- The use of existing fire hydrants for any reason is prohibited without prior approval of the Eric County Water Authority. This includes newly installed fire hydrants that have been placed into service.
- The CONTRACTOR shall submit procedures for testing and disinfection of the watermain to the ENGINEER for approval. Refer to project manual, technical specification section 15140 testing and disinfection for requirements
- 23. The CONTRACTOR shall be present and assist in the Final Walk inspection. The CONTRACTOR shall provide sufficient personnel and equipment to demonstrate to the ENGINEER that all valves, fire hydrants and curb stops operate as required.

Γ			DWG. NO.	
	FRIE COUNTY		SD30	
	WATER AUTHORITY	STANDARD DETAIL	DATE	REVISED
	BUFFALO, NEW YORK	GENERAL NOTES	3/05	8/16
	BUFFALU, NEW TORK			

NOTE #12. REVISED BY GPI 03/18/2022 NOTE #19. REVISED BY GPI 03/18/2022 NOTE #22. REVISED BY GPI 03/18/2022

#### SPECIAL NOTE FOR 24-INCH TRANSMISSION MAIN INSTALLATION

GIVEN LIMITATIONS OF THE EXISTING SOURCE WATER SUPPLY SYSTEM, IT MAY NOT BE PRACTICAL TO ACHIEVE A MINIMUM 3-FPS SCOUR VELOCITY DURING FLUSHING OF THE 24-INCH WATER MAIN. AS SUCH CONTRACTOR SHALL COMPLY WITH PROJECT SPECIFICATION SECTION 15207 - PRE-CLEANING NEW TRANSMISSION WATER MAIN AND EMPLOY THE FOLLOWING MEASURES TO KEEP THE 24-INCH PIPING CLEAN BEFORE, DURING AND AFTER INSTALLATION:

- BEFORE PIPE INSTALLATION, THE CONTRACTOR SHALL BROOM SWEEP THE PROPOSED 24-INCH WATER MAIN TO THE SATISFACTION OF THE OWNER AND ENGINEER, CAREFULLY REMOVING ALL SWEEPINGS.
- DURING INSTALLATION, CONTRACTOR SHALL MAINTAIN A PROPER SUMP IN THE EXCAVATION AT ALL TIMES, PREVENTING MUD/DEBRIS FROM ENTERING THE INSTALLED PIPE. CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CAP THE INSTALLED MAIN AT THE END OF EACH WORK DAY WITH A WATERTIGHT CAP/PLUG.
- 3. CONTRACTOR SHALL PERFORM FLUSHING OF THE INSTALLED PIPING TO ACHIEVE THE MAXIMUM SCOURING VELOCITY THROUGH THE 24-INCH PIPE AS ALLOWED BY THE EXISTING SOURCE WATER SUPPLY SYSTEM AND UTILIZING STANDARD PRACTICES. PRIOR TO CONDUCTING FLUSHING OPERATIONS, CONTRACTOR SHALL SUBMIT FLUSHING, TESTING AND DISINFECTION PLANS TO THE ENGINEER AND OWNER FOR REVIEW AND APPROVAL. FLUSHING OF THE INSTALLED PIPING SHALL BE COMPLETED TO THE SATISFACTION OF THE ENGINEER, OWNER, AND ERIE COUNTY DEPARTMENT OF HEALTH.
- 4. IF THE INSTALLED WATER MAIN PIPING IS NOT MAINTAINED IN A CLEAN CONDITION TO THE SATISFACTION OF THE OWNER OR ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE TO EMPLOY ADDITIONAL MEASURES NECESSARY TO ACHIEVE A 3-FPS MINIMUM SCOUR VELOCITY PER AWWA C651 AT THEIR OWN EXPENSE UNTIL DEEMED ACCEPTABLE TO THE ENGINEER, OWNER, AND ERIE COUNTY DEPARTMENT OF HEALTH.

#### CONSTRUCTION NOTES

- IF THE EXCAVATION SLOPE IS STEEPER THAN 1 ON 1 AS MEASURED FROM THE EDGE OF PAYEMENT ELEVATION TO THE BOTTOM ELEVATION OF THE EXCAVATION, AN ENGINEERING SHORING SUPPORT SYSTEM SHALL BE PROVIDED TO ENSURE THE STABILITY OF THE ADJACENT PAVEMENT WILL NOT BE COMPROMISED BY THE EXCAVATION.
- 2. IF AN EXCAVATION WILL BE 5 FEET OR MORE IN DEPTH, A PROTECTION SYSTEM SUCH AS A TRENCH SHIELD SHALL BE USED.
- 3. IN EXCAVATIONS 4 FEET OR MORE IN DEPTH, ALL NECESSARY PRECAUTIONS SHALL BE TAKEN FOR THE POTENTIAL ACCUMULATION OF HAZARDOUS GASES.
- 4. SELECT FILL IS REQUIRED FOR THE FULL LENGTH OF WATERLINE TRENCH UNDER OR WITHIN 5' OF PAVEMENT AND SIDEWALK AREAS.
- 5. UPON COMPLETION OF FINAL PAVEMENT RESTORATION IN PUBLIC RIGHT—OF—WAYS, CONTRACTOR SHALL RE—APPLY PERMANENT PAVEMENT MARKINGS REMOVED DURING WATERLINE CONSTRUCTION. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND DETAILS, AND STANDARD SHEET 685—01. NO SEPARATE PAVMENT WILL BE MADE FOR THIS WORK, AS IT IS TO BE INCLUDED IN ITEM 1183 ASPHALT PAVEMENT TOP COURSE.
- ALL DRIVEWAY AND CURB RAMP RECONSTRUCTION WITHIN THE PUBLIC RIGHTS OF WAY SHALL BE IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SHEFTS:
- 608-1 PEDESTRIAN FACILITIES
   608-3 RESIDENTIAL AND MINOR COMMERCIAL DRIVEWAYS

#### LEGEND

	LLOCIND
<b>W</b>	PROPOSED WATER VALVE
-[]-	PROPOSED WATER SERVICE VALVE
	PROPOSED WATERMAIN
Т	PROPOSED TEE
¥	PROPOSED HYDRANT
⊲	PROPOSED REDUCER
	PROPOSED WATERLINE SERVICE
]	PROP. CAP & BLOCKING
<b>X</b>	EXIST. WATER VALVE TO BE ABANDONED IN PLACE
$\boxtimes$	PROP. TEST PIT ITEM NO. 4A
0	EXIST .DECIDUOUS TREE
-\{-	EXIST. CONIFEROUS TREE
	EXIST. UTILITY POLE
δο	EXIST. GAS VALVE
<b>W</b>	EXIST. WATER VALVE
-[]-	EXIST. WATER SERVICE VALVE
0	EXIST. SANITARY VENT
СВ	EXIST. CATCH BASIN
y	EXIST. HYDRANT
—— C -	EXIST. TELEPHONE LINE
(E)	EXIST. ELECTRIC MANHOLE
S	EXIST. SANITARY MANHOLE
D	EXIST. STORM MANHOLE
-	EXIST. ONE POST SIGN
M	EXIST. MAILBOX
— ×	* EXIST. FENCE
W <sub>x</sub>	—— EXIST. WATERLINE
G <sub>x</sub>	—— EXIST. GAS LINE
SS <sub>x</sub> -	—— EXIST. SAN. LINE
SD <sub>x</sub> -	—— EXIST. STORM LINE
□	EXIST. SIGNAL CONTROL
*	EXIST. LIGHT POLE
XX	PAVEMENT AREA TO BE COLD MILLED
///,	TYPICAL WATER MAIN TRENCH RESTORATION NO MILL & OVERLAY MILLING REQUIRED
——— E <sub>x</sub> —	EXIST. OVERHEAD WIRES
	EXIST. SECONDARY OVERHEAD WIRES
<del>////</del> /	### EXIST. WATERMAIN TO BE ABANDONED IN PLACE AND FILLED WITH FLOWABLE FILL ITEM 13G

Engineering
Design
Planning
Construction Management
(716) 633-4844
Greenman - Pedersen Inc.

Greenman - Pedersen, Inc. 4950 Genesee Street, Suite 100 Buffalo, NY, 14225

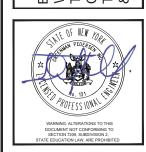
PREPARED FOR

ERIE COUNTY

WATER AUTHORITY

PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY



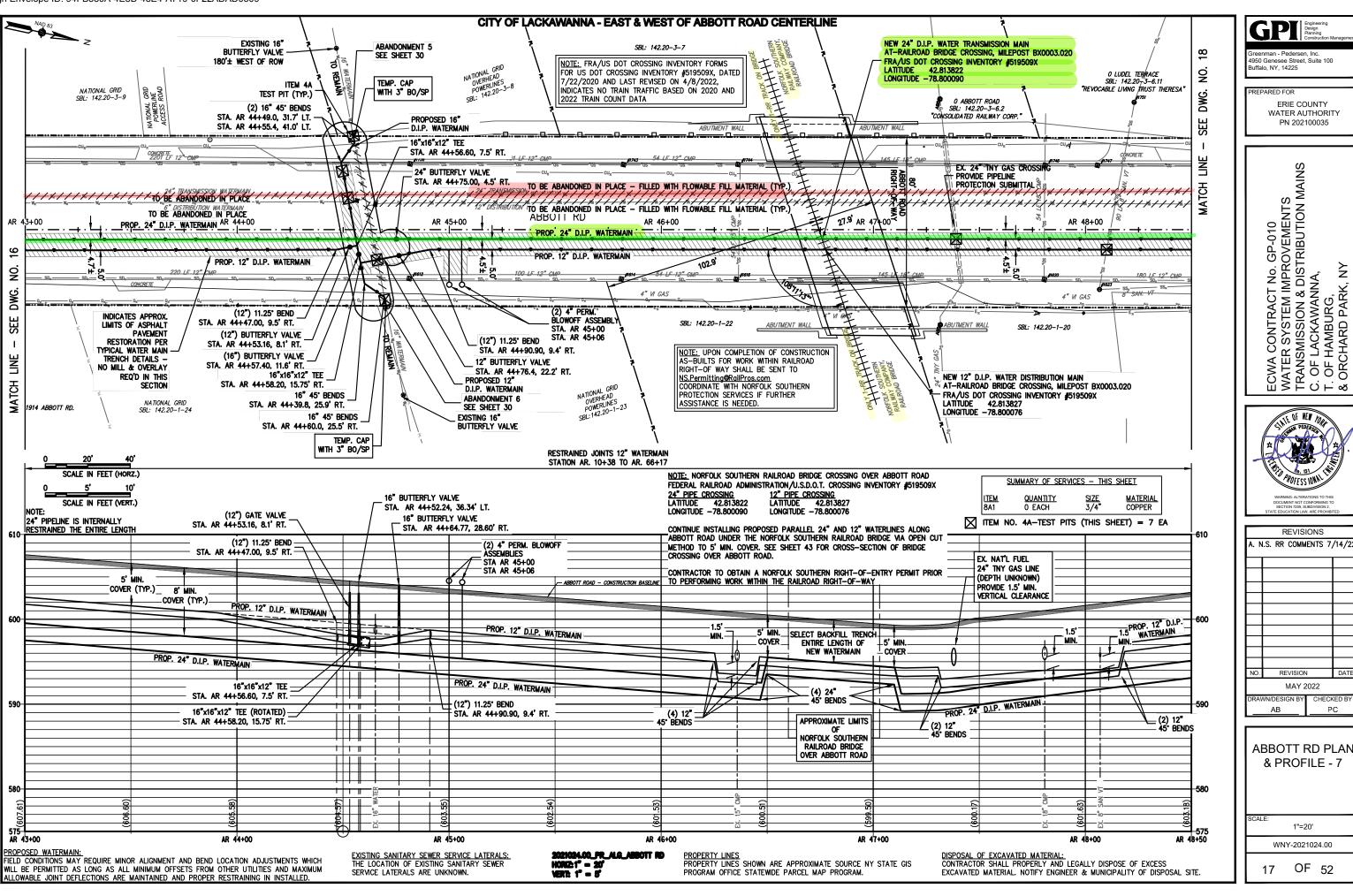
	REVIS	ONS			
NO.	REVISION	l	DATE		
MAY 2022					
DRAV	WN/DESIGN BY	ED BY			

GENERAL NOTES & LEGEND

SCALE:

N.T.S.

WNY-2021024.00



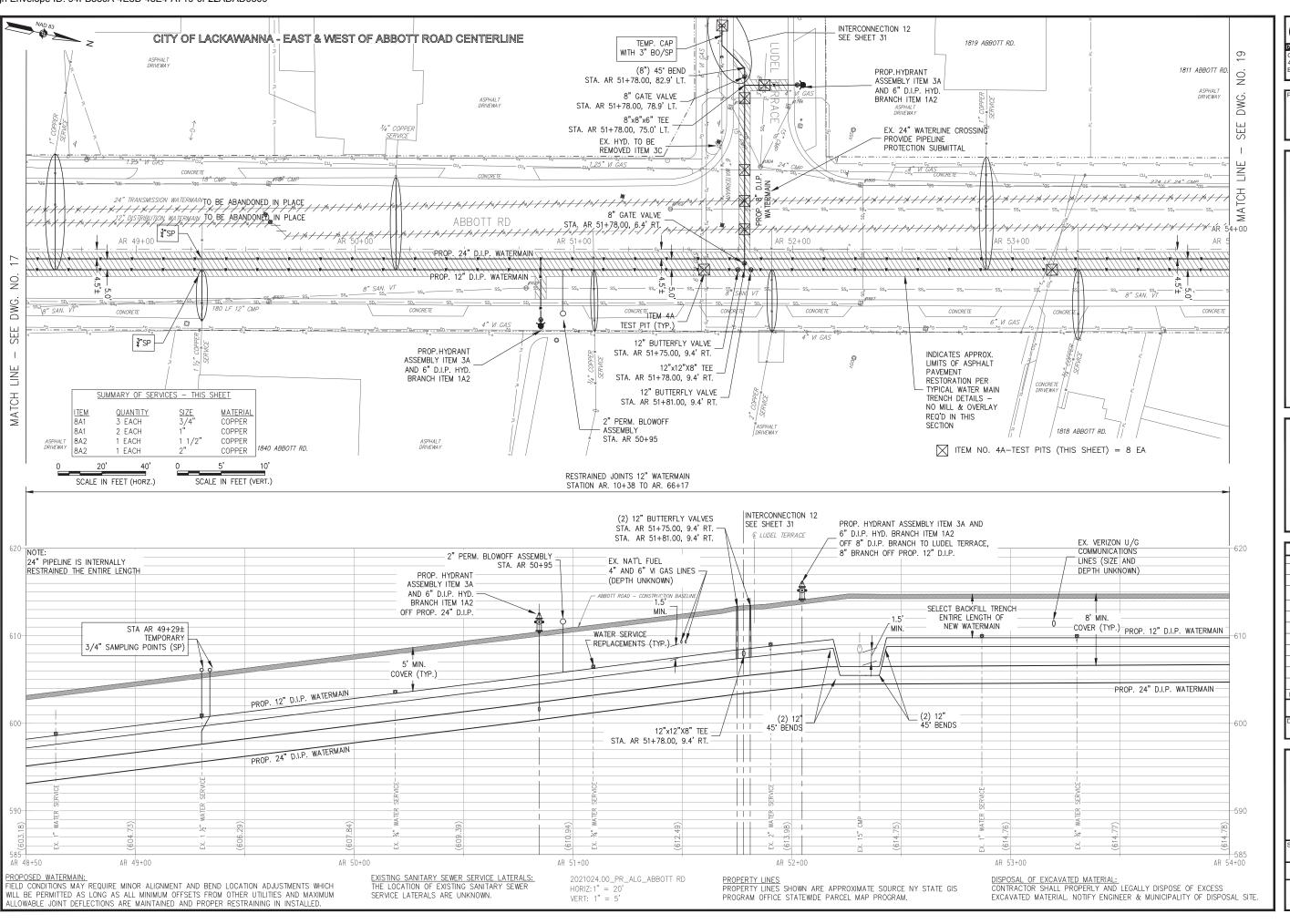
1950 Genesee Street, Suite 100

FRIF COUNTY WATER AUTHORITY PN 202100035



	REVISI	ONS	
A. N	I.S. RR COMM	ENTS 7	/14/22
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NO.	REVISION	I	DATE
	MAY 2	2022	
DRAV	DRAWN/DESIGN BY CHEC		C BY

ABBOTT RD PLAN & PROFILE - 7 1"=20' WNY-2021024 00 OF 52





Buffalo, NY, 14225

ERIE COUNTY WATER AUTHORITY PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY



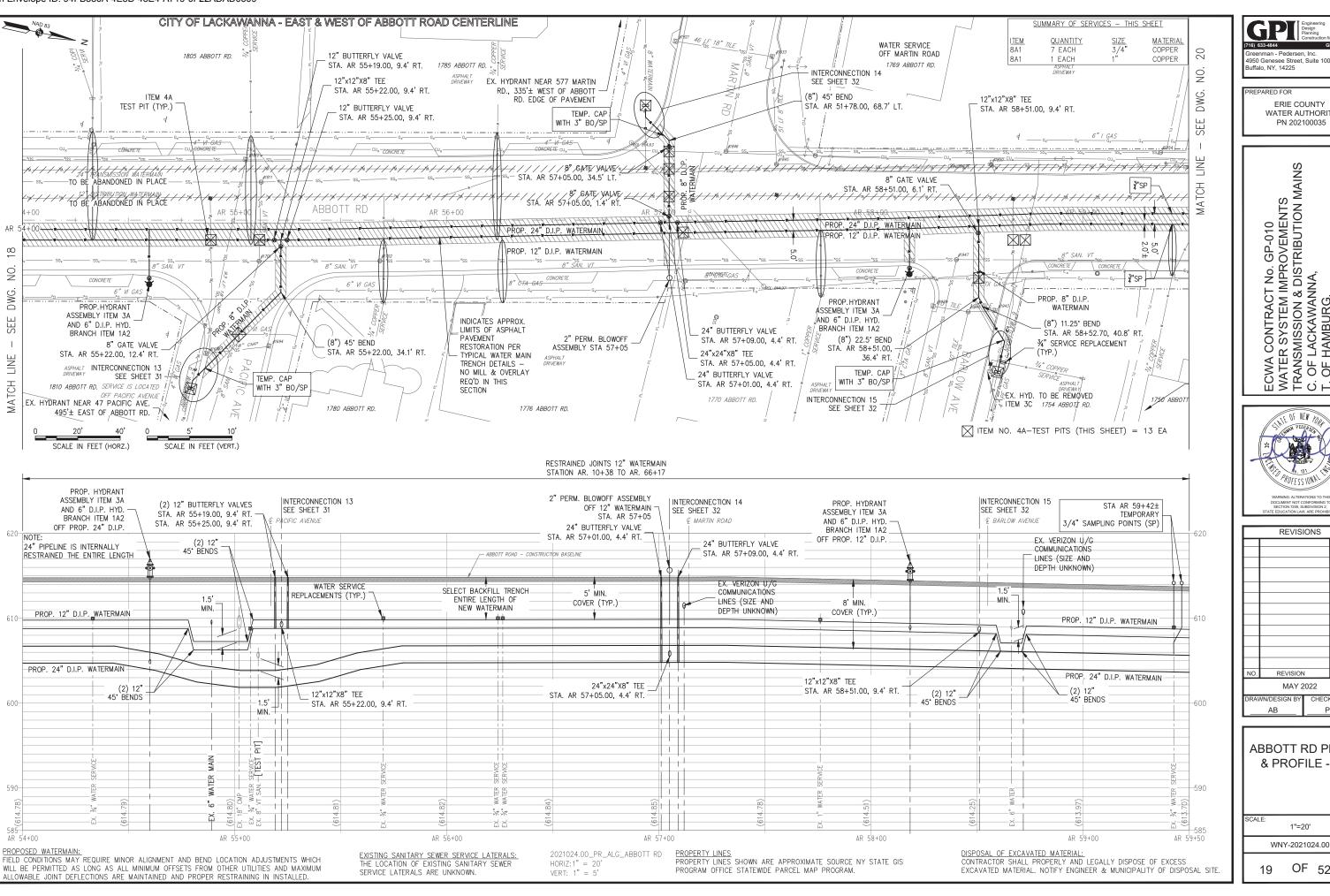
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MAY 2	2022	
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ABBOTT RD PLAN
& PROFILE - 8

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1"=20'

WNY-2021024.00



1950 Genesee Street, Suite 100

FRIF COUNTY WATER AUTHORITY PN 202100035

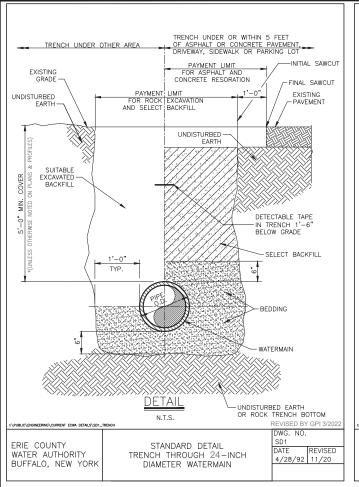
ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY

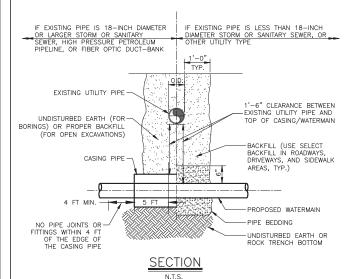


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ABBOTT RD PLAN & PROFILE - 9

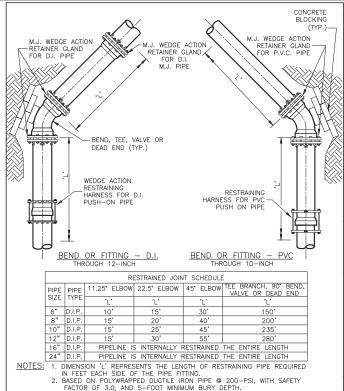
1"=20'





- 1. ALL EXISTING UTILITIES MUST BE SUPPORTED WITH APPROPRIATE CHAINS/STRAPS DURING CONSTRUCTION OF THE NEW WATERMAIN.
- 2. WHEN CROSSING A SEWERLINE WITH A NEW WATERMAIN (AND WITHOUT CASING PIPE). ONE FULL PIPE LENGTH (18. FT. MIN.) SHALL BE USED AT THE POINT OF CROSSING THE WATERMAIN SHALL BE PLACED SO THAT BOTH JOINT ENDS ARE AS FAR AS POSSIBLE FROM THE EXISTING SEWERLINE.
- 3. IF CASING PIPE IS USED, IT SHALL EXTEND 5 FEET BEYOND THE EXISTING PIPE OUTER WALL EDGE IN EACH DIRECTION, AND NO WATERLINE JOINTS OR FITTINGS SHALL BE LOCATED WITHIN 4 FEET FROM THE CASING PIPE EDGE.

E\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD2_	PIPE_CROSSING		s
ERIE COUNTY		DWG. NO SD2	
WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL PIPE CROSSING	DATE 4/92	REVISED 8/21
BOTTALO, NEW TORK			

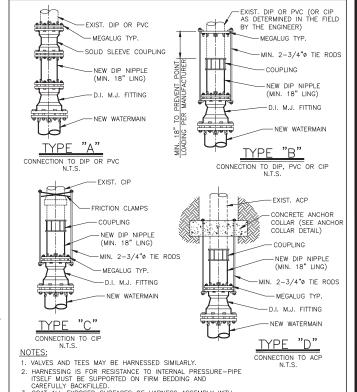


PLAN

N.T.S.

STANDARD DETAIL

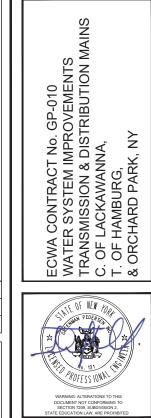
RESTRAINED JOINT SCHEDULE



TISELF MUST BE SUPPORTED ON FIRM BEDDING AND CAREFULLY BACKFILLED.

COAT ALL EXPOSED SURFACES OF HARNESS ASSEMBLY WITH BITUMINOUS COATING.

4. TIE RODS SHALL BE PLACED ON SIDES OF PIPE.



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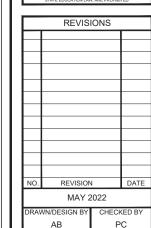
FRIF COUNTY

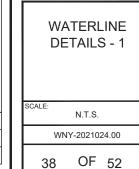
WATER AUTHORITY

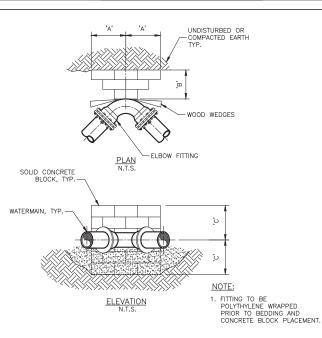
PN 202100035

Buffalo, NY, 14225

REPARED FOR







	DIMENSION SCHEDULE											
90° ELBOW		45° ELBOW		22.5* ELBOW		.BOW	PE 11.25° ELBOW		PIPE			
,C,	,B,	'A'	'C'	'B'	'A'	'C'	'B'	'A'	,c,	'B'	'A'	SIZE
0'-6"	1'-0"	1'-6"	0'-6"	1'-0"	0'-9"	0'-6"	1'-0"	0'-6"	0'-6"	1'-0"	0'-6"	6"
0'-9"	1'-0"	1'-6"	0'-6"	1'-0"	1'-6"	0'-6"	1'-0"	0'-9"	0'-6"	1'-0"	0'-6"	8"
1'-0"	1'-6"	1'-6"	0'-10"	1'-6"	1'-6"	0'-8"	1'-0"	1'-0"	0'-8"	1'-0"	1'-0"	10"
1'-0"	2'-0"	2'-0"	0'-10"	1'-9"	1'-9"	0'-9"	1'-2"	1'-2"	0'-9"	1'-2"	1'-2"	12"

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

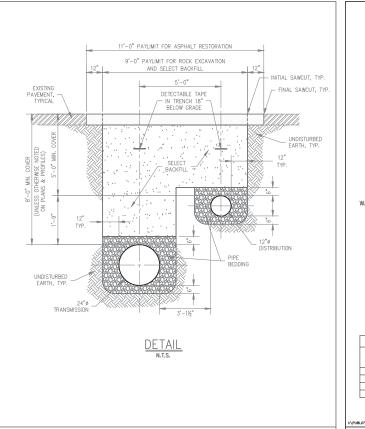
STANDARD DETAIL THRUST BLOCKS FOR ELBOW FITTING 4/28/92 11/20

ERIE COUNTY

WATER AUTHORITY

BUFFALO, NEW YORK

FRIE COLINTY STANDARD DETAIL WATER AUTHORITY THRUST BLOCKS 4/28/92 11/20 BUFFALO, NEW YORK FOR VERTICAL BEND

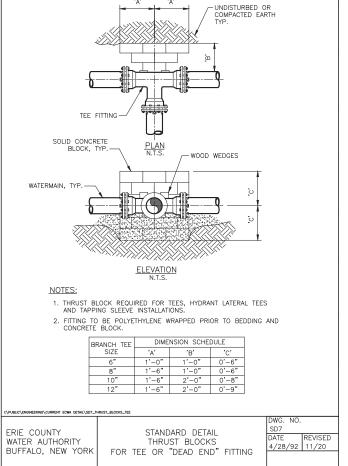


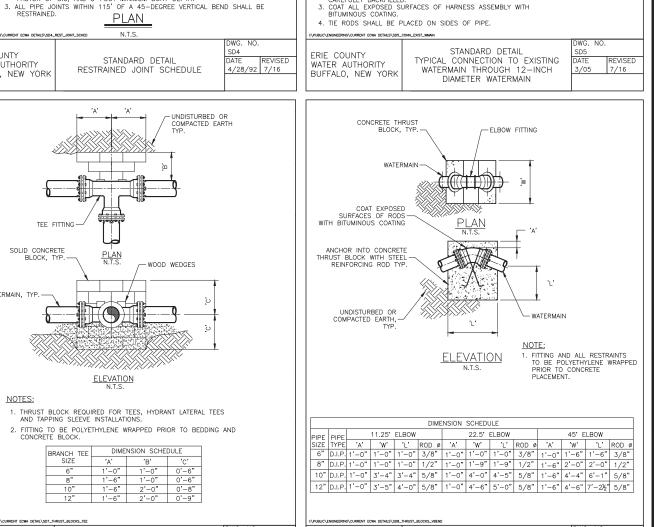
TYPICAL TRENCH DETAIL

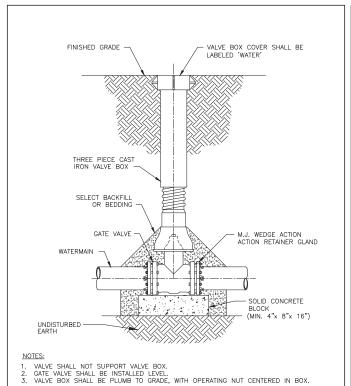
FOR PARALLEL

TRANSMISSION &

DISTRIBUTION WATERMAINS







N.T.S.

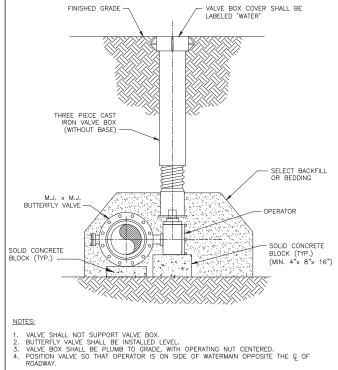
:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD11\_GATE\_VALVE\_SET

DEPTH AT WATERMAIN TO A 5' MINIMUM

DEPTH ON THE HYDRANT BRANCH.

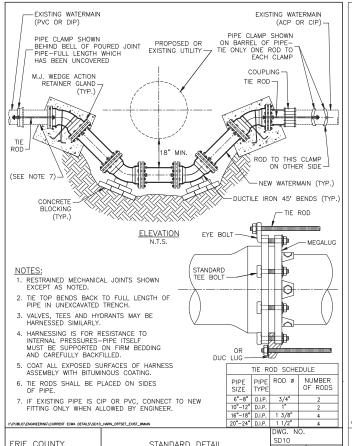
WATER AUTHORITY

BUFFALO, NEW YORK



**SECTION** 

N.T.S.



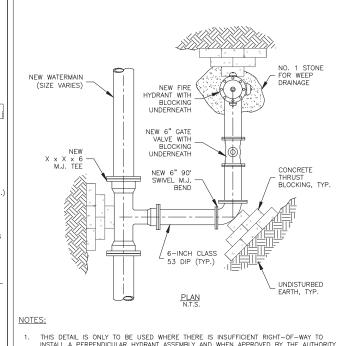
HARNESSING DETAILS—INSTALL OFFSET IN EXISTING WATERMAIN

CONNECT TO EXISTING SERVICE WITH NEW CURB BOX AND CURB STOP

TO BE ABANDONED EXISTING SERVICE -

SOLID CONCRETE BLOCK-(4" X 8" X 8" MIN.) ADJUST EXISTING SERVICE -

5'-0" MIN.



- INSTALL A PERPENDICULAR HYDRANT ASSEMBLY AND WHEN APPROVED BY THE AUTHORITY
- INSTALL A PERPENDICULAR HYDRANI ASSEMBLY AND WHEN APPROVED BY THE AUTHORITY. USE 6-INCH 90 DEGREE SWIVEL MECHANICAL JOINT (M.J.) BEND AS SHOWN. HYDRANT RISER SHALL BE INSTALLED PLUMB. ALL JOINTS ARE TO BE FULLY RESTRAINED. ALL DUCTILE IRON PIPE AND FITTINGS TO BE POLYWRAPPED. HYDRANT VALVE SHALL NOT BE PLACED IN SIDEWALKS OR DRIVEWAYS. COMPLY WITH ALL REQUIREMENTS DEPICITED ON THE FIRE HYDRANT INSTALLATION DETAIL. PIPE LENGTHS WILL VARY BASED ON FIELD CONDITIONS.

TRENCH WIDTH

PLAN

ELEVATION

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

SLEEVE -

UNDISTURBED EARTH

FRICTION CLAMPS

UNDISTURBED EARTH

(4)QTY #\_7\_BARS DIAGONAL -

PIPE SIZE

(SEE NOTE 3)

STANDARD DETAIL HYDRANT ASSEMBLY WITH BEND

DATE 11/20

- FXISTING WATERMAIN

REINFORCING STEEL RESTRAINED COUPLING

PROVIDE 3

. PIPING TO BE POLYETHYLENE WRAPPED PRIOR TO CONCRETE

2. ALL EXPOSED CARBON STEEL TO BE COATED WITH BITUMASTIC. 3. EXISTING ACP PIPE

TO BE ISOLATED FROM

DWG NO SD9
DATE REVISED

4/28/92 7/16

NOTE:

PLACEMENT.

CONCRETE. 4. USE HIGH EARLY CEMENT AND ALLOW CONCRETE TO ACHIEVE 90% STRENGTH BEFORE PLACING WATER— MAIN INTO SERVICE

(NUMBER & SIZE PER TABLE)

THREADED ROD

OR DUCTUG - NEW FITTING OR VALVE

<u>6</u>-inch spacing — WATERMAIN

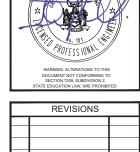
STANDARD DETAIL

ANCHOR COLLAR

WASHER (TYP.) 4000 PSI CONCRETE

4" X 4" X 1/4" PLATE

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY DWG. NO. SD15 REVISED



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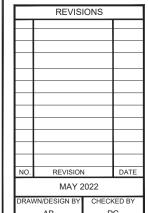
FRIF COUNTY

WATER AUTHORITY

PN 202100035

Suffalo, NY, 14225

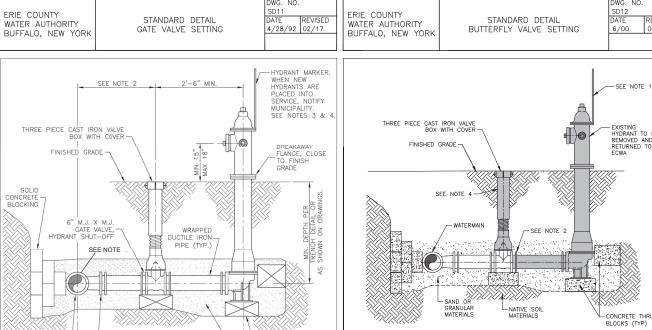
PREPARED FOR



WATERLINE **DETAILS - 2** 

SCALE: N.T.S. WNY-2021024 00

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## STANDARD DETAIL FIRE HYDRANT WATER AUTHORITY

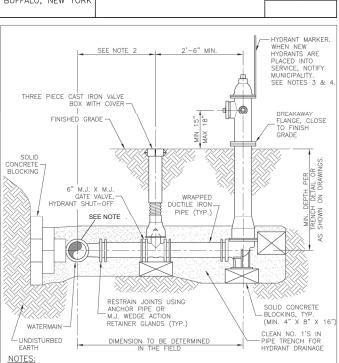
ABANDONMENT

# 5. UNIONS ON COPPER TUBING ARE NOT ALLOWED UNLESS APPROVED BY ECWA PRIOR TO INSTALLATION

- 1. EXISTING SERVICES SHALL BE CRIMPED AND ABANDONED IN PLACE.
- 2. SERVICE SADDLES SHALL BE USED UNDER THE FOLLOWING CONDITIONS:

- LENGTH, AND FOR 1-1/2" AND 2" SERVICES GREATER THAN 60 FEET IN LENGTH. ALL POLYETHYLENE SERVICES SHALL INCLUDE A TRACER WIRE FOR DETECTION BY ECWA FORCES.

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	ı	I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD16	_SERVICE_REPLACE		SWI
	Γ			DWG. NO.	
		ERIE COUNTY		SD16	
D		WATER AUTHORITY	STANDARD DETAIL	DATE	REVISED
		BUFFALO, NEW YORK	SERVICE REPLACEMENT/INSTALLATION	4/92	10/20
		BUFFALO, NEW TORK	·		
	-				



STANDARD DETAIL

FIRE HYDRANT

INSTALLATION

HYDRANT RISER SHALL BE INSTALLED PLUMB.

VALVE BOX SHALL NOT BE PLACED IN PAVEMENT.

FOR WATERLINE REPLACEMENT PROJECTS, RELOCATE EXISTING MARKERS TO NEW HYDRANTS.

MUNICIPALITY SHALL BE RESPONSIBLE TO PROVIDE ANY NEW HYDRANT MARKERS AS

NEEDED. CONTRACT TO COORDINATE WITH ALL MUNICIPALITIES AND FIRE DISTRICTS.

HYDRANT FACE TO BE A MINIMUM OF 3' FROM THE BACK FACE OF ALL CURBS OR A

MINIMUM OF 5' FROM ALL EDGES OF PAVEMENT (IF NO CURB).

ROTATE TEE AT WATERMANN TO 45-DEGREES AS NECESSARY TO TRANSITION FROM

DEPTH AT WATERMANN TO 45-DEGREES AS NECESSARY TO TRANSITION FROM

DEPTH AT WATERMANN TO 45-DEGREES AS NECESSARY TO TRANSITION FROM REVISED BY GPI 3/2022

FRIE COUNTY

BUFFALO, NEW YORK

REVISED

1/22

DATE

© OF ROAD HYDRANT TO E REMOVED AND RETURNED TO ECWA EXISTING SIDEWALK - TYPE 'K COPPER TUBING - CORPORATION STOP EXISTING WATERMAIN-NEW WATERMAIN PUSH/DRILL NEW SERVICE UNDER ROADWAY CONCRETE THRUST ROCEDURE:

REMOVE HYDRANT MARKER AND RELOCATE TO NEW HYDRANT, OR RETURN TO APPROPRIATE MUNICIPALITY/FIRE DISTRICT.

WHEN WATERLINE IS TO BE ABANDONED, DEPRESSURIZE WATERLINE AND CLOSE WATER VALVE. EXCAVATE HYDRANT ASSEMBLY AND CAREFULLY DISCONNECT HYDRANT FROM GATE VALVE. DO NOT FORCE HYDRANT FROM VALVE WITHOUT PROPERLY DISCONNECTING.

WHEN WATERLINE IS TO REMAIN IN SERVICE, PERFORM SCHEDULED SHUTDOWN OF WATERLINE, REMOVE HYDRANT TEE AND REPLACE WITH NEW PIPE AND COUPLINGS.

REMOVE HYDRANT, HYDRANT PIPING, VALVE BOX AND COVER.

RETURN HYDRANT WITH PIPING TO ERIE COUNTY WATER AUTHORITY SERVICE CENTER, 3030 UNION ROAD, CHEEKTOWAGA, NY. HYDRANT IS TO BE HANDLED CAREFULLY TO AVOID ANY DAMAGE IN REMOVAL AND/OR TRANSIT. UNLOAD HYDRANTS AT LOCATION DEFINED BY ECWA. REMOVE ANY EXISTING CONCRETE BLOCKING, AND FILL EXCAVATION WITH SUITABLE BACKFILL MATERIALS. COMPACT BACKFILL MATERIALS. COMPACT BACKFILL MATERIALS. APPROPRIATELY.

REGRADE SURFACE TO ENSURE PROPER DRAINAGE. RESTORE SURFACE APPROPRIATELY USING ASPHALT, CONCRETE, AND/OR TOPSOIL/SEED. A. WHEN SERVICES AND PLACED ON 4" OR SMALLER PIPES.

3. WHEN SERVICES LARGER THAN 1" ARE PLACED ON A 6" PIPE.

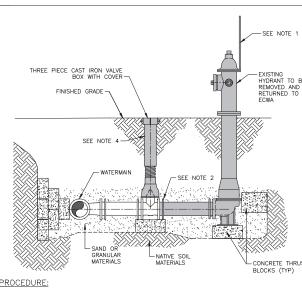
C. WHEN SERVICES LARGER THAN 1 1/2" ARE PLACED ON AN 8" PIPE.

D. WHEN SERVICES LARGER THAN 1 1/2" ARE PLACED ON DUCTILE IRON PIPE.

WATER AUTHORITY

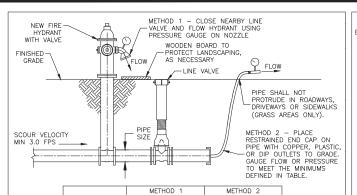
BUFFALO, NEW YORK

3. CURB BOXES SHALL NOT BE PLACED IN SIDEWALKS, DRIVEWAYS, OR CURB RAMPS 4. USE POLYETHYLENE FOR 3/4" AND 1" SERVICES GREATER THAN 100 FEET IN



WHEN TAPPING ALL PLASTIC (PVC) PIPE.
WHEN TAPPING ALL ASBESTOS—CEMENT PIPE.

WATER AUTHORITY BUFFALO, NEW YORK



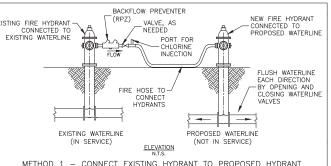
			IOD 1 IT FLOW	METHOD 2 END CAP FLOW		
PIPE SIZE (IN)	REQUIRED FLOW (GPM)	2 1/2" NOZZLE PRESSURE (PSI)	4" NOZZLE PRESSURE (PSI)	2" I.D. PRESSURE (PSI)	3" I.D. PRESSURE (PSI)	
6	275	7	1	7	2	
8	500	9	2	22	5	
10	750	20	4	50	10	
12	1100	44	7	-	22	
16	1900	-	20	-	62	
20	3000	-	50	-	-	

FOR 24 INCH - SEE SPECIAL NOTES ON SHEET 03

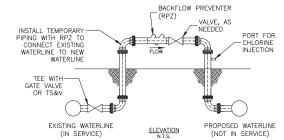
- 1. TO OBTAIN SCOUR VELOCITY (3.0 FPS) IN THE WATERLINE, CONTRACTOR SHALL ACHIEVE FLOWRATE AT NOZZLE DEFINED IN TABLE. PRESSURE GAUGE USED SHALL SHOW A HIGHER PRESSURE THAN THE MINIMUMS DEFINED IN THE TABLE.
- 2. OUTLET PRESSURE MEASURED BY PITOT GAUGE.
- 3. ENGINEER SHALL PROVIDE CALCULATIONS IF CONNECTIONS ARE OTHER THAN THOSE SHOWN, IF MULTIPLE CONNECTIONS ARE USED, OR AS REQUESTED BY ECWA.
- . TO FLUSH THREE PIPE VOLUMES, MINIMUM FLUSHING TIME (IN SECONDS) EQUALS THE LENGTH OF PIPE BEING FLUSHED, IN FEET.

REVISED BY GPI 3/2022 FRIE COLINTY STANDARD DETAIL WATER AUTHORITY WATERLINE FLUSHING 6/16 8/18 BUFFALO, NEW YORK

**SECTION** 



METHOD 1 - CONNECT EXISTING HYDRANT TO PROPOSED HYDRANT



#### METHOD 2 - SERVICE TAP, TAPPING SLEEVE AND VALVE (TS&V), OR INTERCONNECTION

#### NOTES:

FRIE COLINTY

WATER AUTHORITY

BUFFALO, NEW YORK

- 1. THE PURPOSE OF THIS DETAIL IS TO DEPICT ACCEPTABLE METHODS OF CONNECTING EXISTING WATERLINES TO PROPOSED WATERLINES FOR FILLING, FLUSHING, AND TESTING PROCEDURES IF 2-INCH COPPER OR POLYETHYLENE TUBING IS NOT USED TO BYPASS A VALVE. OTHER METHODS REQUIRE SUBMITTAL AND APPROVAL BY THE AUTHORITY PRIOR TO
- 2. FIRE HOSES, TEMPORARY PIPING, AND BACKFLOW PREVENTERS SHALL NOT ENCROACH INTO ROADWAYS, DRIVEWAYS, OR SIDEWALK AREAS WITHOUT PROVIDING PROPER MAINTENANCE AND PROTECTION OF TRAFFIC MEASURES.

SD44 DATE STANDARD DETAIL SOURCE WATER CONNECTIONS 10/20

FRIE COLINTY WATER AUTHORITY BUFFALO, NEW YORK

-PRUNE TREE TO COMPENSATE FOR ROOT LOSS

HARDWOOD SPECIES

MAXIMUM LENGTH OF

BE 16' PLUS TREE DIAMETER.

-12" OR LARGER

OR LESS

CAP OR PLUG WITH THREADED TAP OR APPROPRIATE TAP INTO MAIN. PROVIDE NECESSARY RESTRAINT AND BLOCKING.

BACKFLOW PREVENTER (SEE NOTE 6)

**EXISTING** 

ROUND -

CURB STOP

OR VALVE WITH BOX AND COVER

PRESSURE

VALVE

TEE -

DETAIL

N.T.S.

GAUGE (0 PSI TO 200 PSI)-

FLARED

SEE NOTE 3

BACTERIOLOGICAL WATER SAMPLES
 SHALL BE TAKEN AT BEGINNING AND END
 OF NEW WATERMAIN SECTION AND
 AT MAXIMUM 1,000 FT. SPACINGS.

PRESSURE TESTING. PROVIDE CHLORINATED WATER SUPPLY FOR DISINFECTION.

2. PROVIDE CLEAN WATER SUPPLY FOR

EXISTING WATERMAIN

– (OR EXTENSION FROM

EXISTING WATERMAIN)

ADAPTERS

(AS NEEDED)

STANDARD DETAIL PRESSURE TESTING AND DISINFECTION APPARATUS SCHEMATIC

6/00 11/20

-BORE ZONE

JACK AND BORF WITH STEEL CASING

PIPE. STEEL CASING PIPE SHALL BE OF THE SIZE AND THICKNESS

PRESSURE TEST & CHIORINATION POINT

PORTABLE

FLOW

- CAP OR PLUG WITH THREADED

RESTRAINT AND BLOCKING. (TYP.)

TAP. PROVIDE NECESSARY

4. DIAMETER OF RESERVOIR SHALL BE 15" OR LESS. IF DIAMETER IS GREATER

THAN 15", LEAKAGE TEST SHALL BE RUN A MINIMUM OF 4 HOURS.

. PRESSURE TEST CANNOT EXCEED 2,000 LINEAR FEET PER TEST SECTION.

. BACKFLOW PREVENTER TO BE SIZED TO ACHIEVE MIN 3 FPS SCOUR VELOCITY DURING FLUSHING OF NEW WATERLINE.

12" DIA. OR LARGER TREE OR AS ORDERED

SUCTION SIDE

WATER SUPPLY -

(SEE NOTE 4)

RESERVOIR -

(SEE NOTE 2)

MIN. 3/4" BRASS NIPPLE

MIN. 3/4" CURB STOP

MIN. 3/4" FLARED ADAPTOR

MIN. 3/4" 'K' COPPER

NEW WATERMAIN

CURB STOP OR VALVE WITH BOX AND COVER

DUCTILE IRON PIPE CONSTRUCT BULKHEAD AT BOTH ENDS OF CASING FILL VOID W/PEA GRAVEL - CASING SPACER - RUNNER NEW STEEL CASING PIPE-7 LB. PREPACKAGED SIZE AS REQUIRED SACRIFICIAL MAGNESIUM ANODE - CASING SPACER (TYP) (TYP, EACH END) DUCTILE IRON PIPE (MUST EXTEND 5' BEYOND CASING, BOTH ENDS)

ERIE COUNTY

WATER AUTHORITY

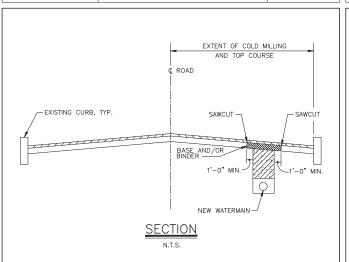
BUFFALO, NEW YORK

- 1. ALL PIPE JOINTS WITHIN THE CASING PIPE SHALL BE RESTRAINED JOINTS.
- 2. THE PROPOSED NUMBER OF CASING SPACERS SHALL BE INSTALLED TO PROVIDE SUFFICIENT SUPPORT AS PER MANUFACTURER'S RECOMMENDATION.
- 3. SACRIFICIAL ANODE BAG SHALL BE WETTED BEFORE BACKFILLING.
- 4. WIRE TO BE PLACED LOOSELY ON PIPE SURFACE AND SECURED IN PLACE WITH POLYWRAP TAPE. WIRE SHALL BE PLACED WITHOUT TENSION ONTO BOTTOM OF EXCAVATION AND CAREFULLY BACKFILLED WITH STONE TO PREVENT DAMAGE.

## **ELEVATION**

N.T.S.

FRIE COLINTY STANDARD DETAIL WATER AUTHORITY CASING PIPE WITH 8/16 BUFFALO, NEW YORK CASING SPACERS



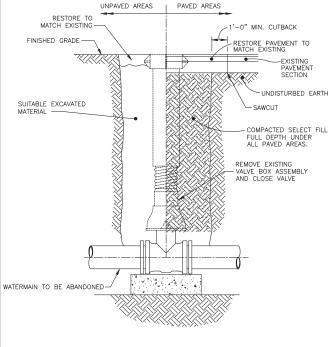
#### NOTES:

- APPLICABLE WHEN NEW WATERMAIN IS INSTALLED LONGITUDINALLY BENEATH A PAVED ROADWAY.
- 2. SEE DRAWINGS FOR LIMITS OF COLD MILLING.

LOCATION	COLD MILLING THICKNESS	ASPHALT TOP THICKNESS
WILLET RD.	1-1/2"	1-1/2"
NORTH DR.	1-1/2"	1-1/2"

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL COLD MILLING



#### **ELEVATION** N.T.S.

ERIE COUNTY STANDARD DETAIL WATER AUTHORITY EXISTING VALVE BOX ABANDONMENT BUFFALO, NEW YORK

AS SHOWN ON CONTRACT DRAWINGS NOTE: 1. TREE BORES SHALL BE LOCATIONS SHOWN ON CONTRACT. 2. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A QUALIFIED LANDSCAPER TO TRIM AND REPAIR TREES AS NECESSARY. ELEVATION N.T.S. ERIE COUNTY STANDARD DETAIL WATER AUTHORITY TREE BORE BUFFALO, NEW YORK

PIPE DIAMETER (in)	PIPE MA	PRESSURE PRESS		TEST PRESSURE (psi)
	Type (DIP, PVC, etc.)	Rating (Class/DR)		
6	D.I.P.	CLASS 52	150	170
8	D.I.P.	CLASS 52	150	170
12	D.I.P.	CLASS 52	150	170
16	D.I.P.	CLASS 52	150	170
24	D.I.P.	CLASS 52	150	170

PRESSURE TESTING

SCHEDULE



1950 Genesee Street, Suite 100

FRIF COUNTY WATER AUTHORITY

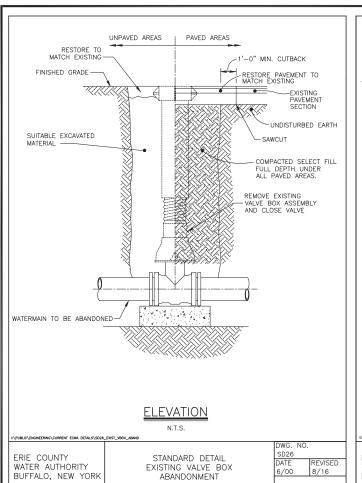
PN 202100035

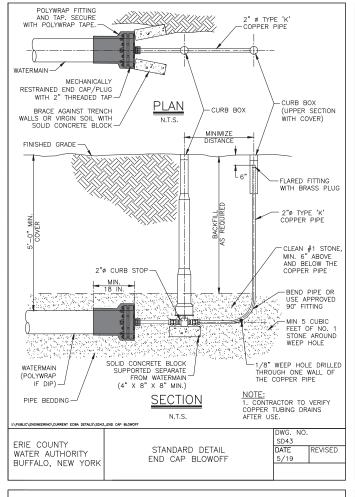
Buffalo, NY, 14225

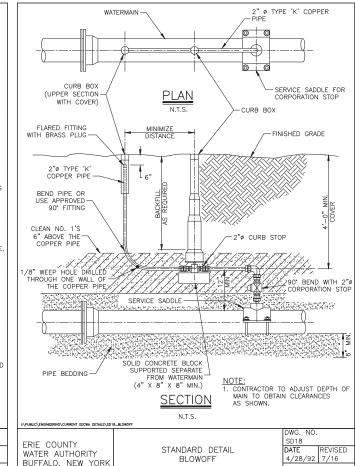
REPARED FOR

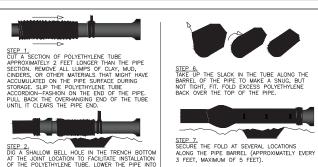
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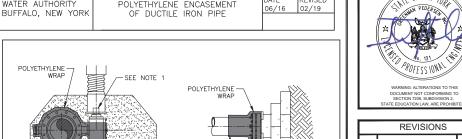




ERIE COUNTY WATER AUTHORITY

STANDARD DETAIL POLYETHYLENE ENCASEMENT OF DUCTILE IRON PIPE

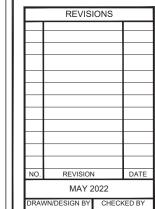
OF NEW YORK



STEP 9.

CAREFULLY BACKFILL THE TRENCH ACCORDING TO THE PROCEDURES IN AWWA C600 STANDARD. TO PREVENT DAMAGE DURING BACKFILLING ALLOW ADEQUATE SLACK IN THE TUBE AT THE JOINT BACKFILL SHOULD BE FREE OF CINDERS, ROCKS, BOULDERS, NAILS, STICKS, OR OTHER MATERIALS THAT MIGHT DAMAGE THE POLYETHYLENE. AVOID DAMAGING THE POLYETHYLENE. AVOID DAMAGING THE POLYETHYLENE WHEN USING TAMPING DEVICES.

IES:
- POLYETHYLENE WRAP (POLYWRAP) SHALL BE
OF PROPER DIAMETER TO FIT OVER BELLS AND
EXTERNAL WEGGE-ACTION RETAINER (GLANDS,
- CAST AND DUCTILE IRON FITTINGS (BENDS,
- TEES, VALYES, STC.) ARE TO BE WRAPPED IN
POLYWRAP AND SECURED IN PLACE
- DO NOT USE CHAINS, METAL WIRE, OR OTHER
SUPPORTING SYSTEMS WHICH MAY DAMAGE THE
POLYETHYLENE ENCASEMENT, REPLACE
DAMAGED POLYWRAP ACCORDINGLY.



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FRIF COUNTY

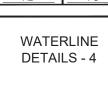
WATER AUTHORITY

PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY

Suffalo, NY, 14225

PREPARED FOR



N.T.S. WNY-2021024 00

OF 52 41

SCREW TYPE POLYETHYLENE -WHITE TEST WIRES (TO PIPE)-POLYETHYLENE TEST WIRES SHALL BE LONG ENOUGH TO EXTEND APPROXIMATELY 3'-O" ABOVE TEST STATION. TEST WIRES SHALL BE COILED INSIDE TEST STATION BY FIRST WRAPPING TEST WIRES AROUND A BROOM HANDLE, PIPE, ETC. - TEST BOARD SEE NOTE -- FINISHED TEST STATION TO (TO ANODE) GRADE HAVE AN ECWA APPROVED LABEL TEE - PLAN N.T.S. IDENTIFYING IT IS FOR WATERLINE PIPE SURFACE COATING ON EXISTING PIPE TO BE - SOLID CONCRETE REMOVED WITH HAND FILE O MECHANICAL GRINDER. FUS WELD ANODE CONNECTOR T BLOCKS (MIN. 4"x8"x16"), TYP POLYFTHYLENE -ANCHOR EXPOSED CAST OR DUCTILE
IRON TO ESTABLISH A PROPER
ELECTRICAL CONNECTION. POLYETHYLENE -SOLID COPPER, TY STEEL, CAST OR -DUCTILE IRON PIPE MM. ANODE(S) HORIZONTAL BEND - PLAN

TEST STATION SHALL ONLY BE INSTALLED IN GRASS AREAS, MINIMUM OF 3 FT. FROM SIDEWALK, DRIVEWAY AND PAVEMENT AREAS.

- 2. TEST STATION SHALL BE MADE OF POLYETHYLENE OR POLYCARBONATE AND BLUE IN COLOR.
- 3. SACRIFICIAL ANODE BAGS SHALL BE WETTED BEFORE BACKFILLING.
- 4. ANY EXISTING POLYWRAP AROUND WATERLINE SHALL BE RESECURED AROUND TEST WIRES WITH POLYWRAP TAPE TO PROTECT PIPE AND WIRING ACCORDINGLY.
- 5. CONTRACTOR SHALL DEMONSTRATE THAT TEST STATION IS FUNCTIONING PROPERLY AFTER INSTALLATION IS COMPLETE.

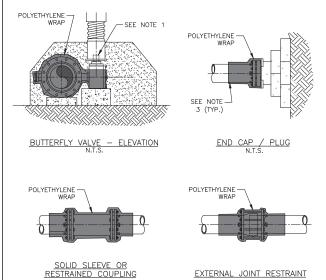
DETAIL

N.T.S. ERIE COUNTY MAGNESIUM ANODE WATER AUTHORITY TESTING STATION FOR 7/16 10/19 BUFFALO, NEW YORK STEEL CASING PIPE AND CIP/DIP

POLYETHYLENE WRAP IS TO BE PLACED AROUND THE ENTIRE FITTING, AND SECURED IN PLACE WITH POLYETHYLENE TAPE. PROVIDE SUFFICIENT SLACK SO THAT POLYETHYLENE WRAP IS NOT PUNCTURED DURING BACKFILL AND DOES NOT ENTRAP AIR. POLYETHYLENE WRAP IS NOT TO BE INSTALLED WITHIN 6 INCHES OF VALVE OPERATING NUT ON VALVES.

FRIF COUNTY WATER AUTHORITY

BUFFALO, NEW YORK

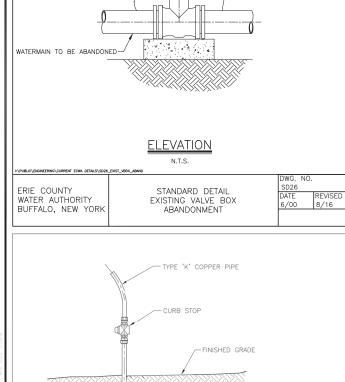


- . POLYETHYLENE WRAP IS TO BE PLACED AROUND THE ENTIRE FITTING, AND SECURED IN PLACE WITH POLYETHYLENE TAPE. PROVIDE SUFFICIENT SLACK SO THAT POLYETHYLENE WRAP IS NOT PUNCTURED DURING BACKFILL AND DOES NOT ENTRAP AIR. POLYETHYLENE WRAP IS NOT TO BE INSTALLED WITHIN 6 INCHES OF VALVE OPERATING NUT ON VALVES.
- 2. ALL FITTINGS TO BE POLYETHYLENE WRAPPED PRIOR TO BEDDING AND CONCRETE BLOCK
- 3. POLYETHYLENE WRAP IS TO BE EXTENDED A MINIMUM OF 12" PAST THE FITTING ON EACH LEG AND SECURED TO THE PIPE (OR POLYWRAP IF DIP) WITH AT LEAST TWO CIRCUMFERENTIAL WRAPS OF POLYETHYLENE TAPE.

FRIF COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL POLYWRAPPING CAST/DUCTILE IRON FITTINGS

SCALE: 12/18



2" TYPE 'K' COPPER PIPE FOR BLOWOFF 3/4" OR 2" TYPE 'K' COPPER PIPE FOR

SAMPLE POINT (AS SHOWN ON PROFILE)

AFTER COMPLETION OF TEST, REPLACE CORPORATION STOP IN PIPE OR SERVICE SADDLE WITH A THREADED BRASS PLUG.

REVISED

4/28/92 7/16

CORPORATION STOP, TAPPED INTO WATERMAIN

NOTES:

SERVICE SADDLE

FI FVATION

STANDARD DETAIL

**TEMPORARY** 

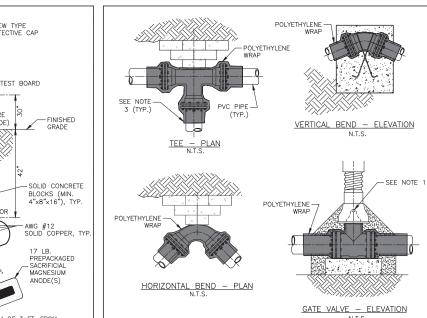
BLOW-OFF/SAMPLING POINT

WATERMAIN

FRIE COUNTY

WATER AUTHORITY

BUFFALO, NEW YORK



2. ALL FITTINGS TO BE POLYETHYLENE WRAPPED PRIOR TO BEDDING AND CONCRETE BLOCK

POLYETHYLENE WRAP IS TO BE EXTENDED A MINIMUM OF 12" PAST THE FITTING ON EACH LEG AND SECURED TO THE PIPE (OR POLYWRAP IF DIP) WITH AT LEAST TWO CIRCUMFERENTIAL WRAPS OF POLYETHYLENE TAPE.

STANDARD DETAIL POLYWRAPPING CAST/DUCTILE 3/18 12/18 IRON FITTINGS

## SURFACE-**NOTES** PRIOR TO ANY EXCAVATION WORK, DAMAGE PREVENTION LAWS REQUIRE PERSONS TO MAKE CONTACT WITH THE APPROPRIATE ONE-CALL SYSTEM BY CALLING 811 OR IN NEW YORK 1-800-962-7962/ IN PENNSYLVANIA 1-800-242-1776. IF A NATURAL GAS FACILITY IS DAMAGED, RESULTING IN A RELEASE OF NATURAL GAS, IMMEDIATELY CALL 911 AND THE NATIONAL FUEL EMERGENCY NUMBER 1-800-444-3130. 3. IF A NATURAL GAS LINE IS SCRATCHED, GOUGED, DENTED, PULLED, OR BOWED DURING EXCAVATION WORK OR THE PROTECTIVE COATING IS DAMAGED, IMMEDIATELY CALL THE NATIONAL FUEL EMERGENCY NUMBER 1-800-444-3130 SO THAT WE CAN INVESTIGATE AND REPARE ANY DAMAGE THAT COULD AFFECT PUBLIC SAFETY. SEMINGLY INCONSEQUENTIAL DAMAGE CAN HAVE A MAJOR IMPACT AND CAN POTENTIALLY RESULT IN A FUTURE PIPELINE FAILURE. A. NATIONAL FUEL REQUIRES THAT EXCANATORS SUPPORT OUR FACILITIES IF EXPOSED DURING CONSTRUCTION. THE EXCANATOR SHALL PROVIDE SUCH SUPPORT IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES. SUPPORT MUST BE MANTANED THROUGHOUT CONSTRUCTION AND BACKFILL OFERSTIONS. THE SUPPORT STSTEM SHALL SUPPORT RECOMMENDATIONS AND INSPECTION WIFERE ON THE SUPPORT FOR PROVIDED CONTRACT NATIONAL FUEL FOR SUPPORT RECOMMENDATIONS. AND INSPECTION WIFERE OAS PIPMS WILL BE EXPOSED FOR A LENGTH OF 15" OR GREATER, OR WIFENEYER A COUPLING OR FITTING IS EXPOSED. -SEE NOTE #7 5. UNDERGROUND UTILITIES AND OTHER STRUCTURES PLACED NEAR NATIONAL FUEL FACILITIES MUST MAINTAIN A MINIMUM CLEARANCE OF 12° FOR TRANSMISSION PIPELINES AND 6° FOR DISTREPUTION MAINS AND SERVICES. ANY METALLIC STRUCTURE PLACED NEAR STEEL PIPELINES REQUIRES THE INSTALLATION OF AN ELECTRIC TEST STATION. 6. BACKFILL MATERIAL AROUND NATIONAL FUEL GAS FACILITIES SHALL BE CLEAN DIRT, FREE OF SHALE OR SHARP STONES. ROUND STONES SHALL BE NO LARGER THAN 1" IN DIAMETER. ACCEPTABLE BACKFILL MATERIALS ARE: A. SAND (SAND IS THE PREFERRED MATERIAL WHERE WASHOUT IS NOT LIKELY). B. STONE "SCREENINGS" (LIMESTONE) ALL PASSING: 100% PASSING THE NO.40 SIEVE 70% PASSING THE NO.200 SIEVE GAS MAIN/SERVICE C. GRAVEL (A MODIFIED SIDEWALK MIX) OF A 50/50 BLEND OF NO.1A ROUND GRAVEL AND SAND. FILL MATERIAL BEYOND THE SELECT BACKFILL SHALL BE FREE OF LOGS, CINDERS, STUMPS, SKIDS, BRUSH OR ROCKS LARGER THAN 12 INCHES. 8. BACKFILL MATERIAL BENEATH AND AROUND ANY UNDERGROUND GAS FACILITY SHALL BE PROPERLY COMPACTED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES. 9. HEAVY LOADS AND EXCESSIVE FORCES SHALL NOT BE IMPOSED ON GAS FACILITIES AT ANY TIME DURING CONSTRUCTION OR BACKFILLING OPERATIONS. 10. #10 OR #12 LOCATING WIRE IS BURIED ALONG SIDE MOST PLASTIC GAS MAINS AND SERVICES. HEAVIER CABLES (PART OF CATHODIC PROTECTION SYSTEMS) MAY ALSO BE FOUND NEAR SOME STEEL PIPE FACILITIES. IF ANY WIRE OR CABLE IS DAMAGED INDISTURBED SOIL National Fuel TYPICAL GAS LINE CROSSING TYPICAL GAS LINE CROSSING OPEN TRENCH DETAIL

#### NATIONAL FUEL NOTES

#### Summary of Responsibilities of Contractor/Excavator

See One Call Regulations for details

- Notify the One Call center (Call 811) in accordance with regulations, typically 3 to 10 days prior to starting any work that might be considered excavation or demolition. Postponing the job will likely require re-notification to the One Call Center. Furthermore, if the job site becomes inactive, call to have the specific work area remarked prior to restrain the work. arked prior to restarting the work
- Designating the dig site in white will aid in the timely marking of underground facilities. Pre-marking proposed facilities in white is required in some cases.
- 3. If work is to be performed at multiple sites or over a large area, take reasonable steps to work with facility owners so that they may locate their facilities. Limit the size of each ticket. Using reasonable start dates for individual tickets facilitates getting the proper areas marked when needed.
- ncement of excavation or demolition work, the excavator is responsible for protecting and preserving the saking, or marking until excavation or demolition work in the area is complete. If necessary, call the One Call center to have the lines remarked.
- Where an underground facility has been staked, marked or otherwise designated, verify the precise location, type, size, direction actinn has been stated, marked of outerwise usesignated, verify the precise location, type, size, direction of run and depth of the underground facility. Use prudent techniques such as vacuum excavation or hand-dug test holes, to verify the precise location of facilities. It is best to verify prior to excavating in the general area, but verification must be done prior to excavating in the tolerance zone. Call the facility owner if a marked facility cannot be found.
- Inform each equipment operator of the information obtained from facility owners. Plan the excavation or demolition to avoid damage to or minimize interference with a facility owner's facilities in the construction
- 7. Consult the facility owner if:

HOT MIX ASPHALT OHMA) OVERLAY SPLICES SHALL BE USED AT: ENDS OF HMA OVERLAY HIGHWAY SECTIONS, MAJOR INTERSECTIONS, AND OTHER LOCATIONS INDICATED IN THE PLANS.

4. SAW CUTS SHALL BE MADE SO THAT SURFACE RUNOFF IS DIRECTED TO THE EDGE OF PAYEMENT.

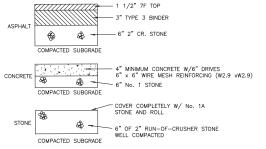
K VALUE TABLE FT/IN

XSTED SPEED 30 35 40 45 50 55 60 65

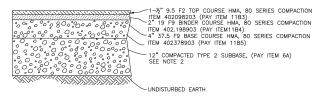
K 16.67 19.17 21.67 24.17 27.50 30.00 32.50 35.00

- Excavation or demolition work requires temporary or permanent interruption of a facility owner's service Such interruption must be coordinated with the affected facility owner in all cases.
- A facility is exposed or undermined. The excavator must provide support and mechanical protection for facility owner's lines at the construction site during excavation or demolition work, including during packfilling operations.
- Report immediately to the facility owner any break, leak, dent, gouge, or other damage to the facility owner's
  lines made or discovered during the course of excavation or demolition work. Including, damage to pipeline
  coatings, locating wire and cables for cathodic protection.
- In the event of a emergency involving danger to life, health or property as a result of damage to an
  underground facility containing gas or liquid petroleum products or as a result of an electrical short or escape of
  gas or hazardous liquids, the exervator shall:
  - a. Proceed to evacuate his or her employees and all other endangered persons from the immediate vicinity to the best of his or her ability.

Immediately contact 911 and the Facility Owner, reporting the exact location, nature of the emergency and type of



MINIMUM STANDARD FOR DRIVEWAY AND SIDEWALK REPLACEMENT



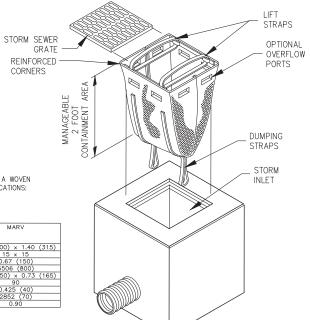
#### NOTES:

- IULES:

  1. WHERE CONCRETE BASE OR PAVEMENT IS ENCOUNTERED IT SHALL BE RESTORED IN-KIND. PAYMENT WILL BE MADE UNDER ITEM 11A3. REPAIRS MADE TO CONCRETE BASE/PAVEMENT SHALL BE DOWELLED TO THE EXIST. BASE/PAVEMENT WITH 1 "MIN. LONG NO. 5 EPOXY COATED BARS DRILLED AND GROUTED 6" INTO THE EXISTING BASE/PAVEMENT AT 1/2 OF ITS DEPTH. DOWELS SHALL BE SPACED AT A MAX. OF 3"-4" C-C. NO SEPARATE PAYMENT WILL BE MADE FOR DOWELS.
- DOWELS.

  IF UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED USE FABRIC FILTER OR UNDERCUT AS NECESSARY AS DIRECTED BY PROJECT ENGINEER

#### TYPICAL PAVEMENT SECTION



DANDY SACK INLET PROTECTION

SPECIFICATIONS NOTE: THE DANDY SACKIM WILL BE MANUFACTURED IN THE U.S.A. FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

#### REGULAR FLOW DANDY SACK™ (BLACK)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.78 (400) x 1.40 (315)
Grab Tensile Elongation	ASTM D 4632	%	15 x 15
Puncture Strength	ASTM D 4833	kN (lbs)	0.67 (150)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	5506 (800)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.67 (150) x 0.73 (165)
UV Resistence	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	2852 (70)
Permittivity	ASTM D 4491	Sec -1	0.90

#### HI-FLOW DANDY SACK™ (SAFETY ORANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.62 (365) X 0.89 (200
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.51 (115) X 0.33 (75
UV Resistence	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	5907 (145)
Permittivity	ASTM D 4491	Sec -1	2.1

# TRANSITION LENGTH (SEE NOTE 2) EFFECTIVE OVERLAY THICKNESS EXISTING HMA OR CONCRETE PAVEMENT

TRANSITION LENGTH (SEE NOTE 2)

PLAN

EDGE OF PAVEMENT

CENTERLINE OR CROWNLINE

HOT MIX ASPHALT OVERLAY SPLICE (PAVEMENT TERMINATION DETAIL)

SECTION A-A

-45° OR A.O.B.E.

- ALTERNATE TERMINATIONS

EXISTING PAVEMENT

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY

1950 Genesee Street, Suite 100

FRIF COUNTY

WATER AUTHORITY

PN 202100035

Buffalo, NY, 14225

PREPARED FOR

REVISIONS REVISION MAY 2022

**MISCELLANEOUS DETAILS 1** 

CHECKED BY

PC

SCALE:

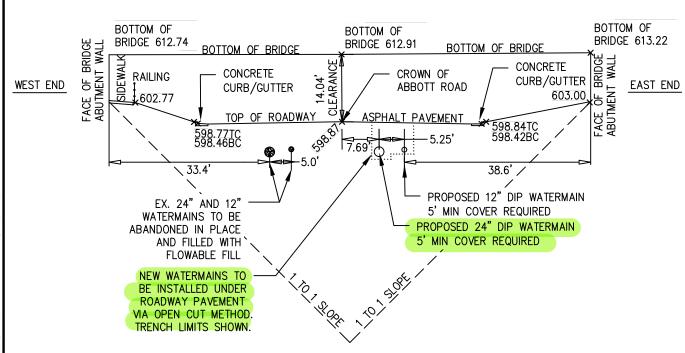
RAWN/DESIGN BY

N.T.S. WNY-2021024 00



PHOTO OF NORFOLK SOUTHERN RAILROAD BRIDGE CROSSING OVER ABBOTT ROAD LOOKING NORTHERLY AT SOUTH FACE OF BRIDGE

NOT-TO-SCALE



DIMENSIONS MEASURED ALONG ALIGNMENT WITH SOUTH FACE OF BRIDGE

NOTE: SEE SHEET 17 FOR ADDITIONAL INFORMATION

CROSS-SECTION OF NORFOLK SOUTHERN RAILROAD BRIDGE CROSSING (U.S. D.O.T. CROSSING INVENTORY #519509X) OVER ABBOTT ROAD WITH WATERMAIN LOCATIONS NOTED

SCALE: 1" = 10'

#### STANDARD AND SPECIFICATIONS FOR COMPOST FILTER SOCK



A temporary sediment control practice composed of a de-gradable geotextile mesh tube filled with compost filter media to filter sediment and other pollutants associated with astruction activity to prevent their migration offsite

#### Condition Where Practice Applies

Compost filter socks can be used in many construction site applications where erosion will occur in the form of sheet erosion and there is no concentration of water flowing to the sock. In areas with steep slopes and/or rocky terrain, soil conditions must be such that good continuous contact between the sock and the soil is maintained throughout its length. For use on impervious surfaces such as road pavement or parking areas, proper anchorage must be provided to prevent shifting of the sock or separation of the contact between the sock and the pavement. Compost filter socks are utilized both at the site perimeter as well as within the construction areas. These socks may be filled after placement by blowing compost into the tube pneumatically, or filled at a staging location and moved into its designed loca-

#### Design Criteria

- Compost filter socks will be placed on the contour with both terminal ends of the sock extended 8 feet upslope at a 45 degree angle to prevent bypass flow.
- eters designed for use shall be 12" 32" except

- that 8" diameter socks may be used for residential lots to control areas less than 0.25 acres.
- The flat dimension of the sock shall be at least 1.5
- The Maximum Slope Length (in feet) above a compost filter sock shall not exceed the following limits:

D: ('.)	Slope %						
Dia. (in.)	2	5	10	20	25	33	50
8	225*	200	100	50	20	_	_
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50



- The compost infill shall be well decomposed (matured at least 3 months), weed-free, organic matter. It shall be aerobically composted, possess no objectionable odors, and contain less than 1%, by dry weight, of manmade foreign matter. The physical parar compost shall meet the standards listed in Table 5.2 -Compost Standards Table. Note: All biosolids comp Compost Standards 1able. Note: All Blosonids compo-produced in New York State (or approved for im-portation) must meet NYS DEC's 6 NYCRR Part 360 (Solid Waste Management Facilities) require-ments. The Part 360 requirements are equal to or nore stringent than 40 ĈFR Part 503 which ensur
- 6. The compost filter sock fabric material shall meet the

- Compost filter socks shall be anchored in earth with  $2^{\prime\prime}$  x  $2^{\prime\prime}$  wooden stakes driven  $12^{\prime\prime}$  into the soil on 10 foot centers on the centerline of the sock. On uneven terrain, effective ground contact can be enhanced by the placement of a fillet of filter media on the disturbed
- All specific construction details and material specifications shall appear on the crosion and sediment control constructions drawings when compost filter socks are included in the plan.

- Traffic shall not be permitted to cross filter socks.
- Accumulated sediment shall be removed when it reaches half the above ground height of the sock and dis-posed of in accordance with the plan.
- Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired in the manne required by the manufacturer or replaced within 24 hours of inspection notification.
- Biodegradable filter socks shall be replaced after 6 months; photodegradable filter socks after 1 year. Poly propylene socks shall be replaced according to the
- Upon stabilization of the area contributory to the sock. takes shall be removed. The sock may be left in place stakes shall be removed in accordance with the stabi-lization plan. For removal the mesh can be cut and the compost spread as an additional mulch to act as a soil

Table 5.1 - Compost Sock Fabric Minimum Specifications Table

Table 5.1 - Compost Sock Pablic Minimum Specifications Table						
Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi- Filament Polypropylene (HDMFPP)	
Material Character- istics	Photodegrada- ble	Photodegrada- ble	Biodegradable	Photodegrada- ble	Photodegradable	
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"	
Tensile Strength		26 psi	26 psi	44 psi	202 psi	
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.	
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years	

Table 5.2 - Compost Standards Table

Organic matter content	25% - 100% (dry weight)
Organic portion	Fibrous and elongated
рН	6.0 – 8.0
Moisture content	30% - 60%
Particle size	100% passing a 1" screen and 10 - 50% passing a 3/8" screen
Soluble salt concentration	5.0 dS/m (mmhos/cm) maximum

950 Genesee Street, Suite 100 uffalo, NY, 14225

> FRIF COUNTY WATER AUTHORITY PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY



INLVISIONS						
A. N.S. RR COMMENTS 7/14/22						
NO.	REVISION		DATE			
MAY 2022						
DRAWN/DESIGN BY CHECKED BY  AB PC						

**MISCELLANEOUS DETAILS 2** 

N.T.S. WNY-2021024 00