



New Jersey Water Environment Association Presents

SESSION II - Collection System O&M Sweet Solutions for Your Assets, Without Sugar Coating It!

**The 2025 Fall Technology Transfer Seminar
October 20-23, 2025**

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HANDOUTS

NJ Water Environment Association

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Collection Systems Committee

The Collection System Committee (CSC) represents a cross section of professionals in our industry that dedicate and volunteer their free time to providing training for their fellow managers and operators in the NJWEA. We proudly serve those responsible for the everyday operation and maintenance of all sanitary, combined, & storm sewer systems across New Jersey as required under NJAC 7:10A. This committee seeks to educate, guide, and develop these individuals via training programs, guidance documents, technical papers, and mini workshops.

CO-CHAIRS **AFFILIATION**


-  **Louis C. Lambe** Passaic Valley Sewerage Commission (Retired)
-  **Bill Suchodolski** Ocean County Utilities Authority (Retired)

[Explore Past Collection System Workshops](#)

[Submit An Abstract for Fall 2025 Tech Transfer](#)



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Past Workshops


COLLECTION SYSTEMS COMMITTEE

Click the Session Title to View the Speakers and Presentations

- March 28, 2023 - Session III Collection System O&M – Grease Heavy is the Crown **UPDATED**
- September 12, 2023 - Session II Collection System O&M – Let's Get Organized and Clean **UPDATED**
- March 5, 2024 - Session III Collection O&M – Excavation Safety & Proper Pipe Installation **UPDATED**
- October 23, 2024 - Session II Collection System O&M – Infiltration and Inflow **Updated**
- March 11, 2025 - Session III Collection System O&M – Trenchless Technologies **Updated** [CLICK](#)
- October, 2025 - Session II Collection System O&M – Sweet Solutions for Your Assets Without Sugar Coating It! **NEW**



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March 11, 2025 - Session III Collection System O&M – Trenchless Technologies **Updated** [CLICK](#)

Moderators: Louis C. Lambe, Passaic Valley Sewerage Commission
Joseph Polomene, P.E., Sherwood Logan & Associates
Jonathan Manarino, Township of Middletown

- Introduction**
Louis C. Lambe, Passaic Valley Sewerage Commission
llambe@pvsc.com
(973) 817-5816
- Cleaning Before and After Rehabilitation (Presentation)** [CLICK](#)
Walter Jenness, Tri State Environmental Services
walterjenness@tristateenviro.com
(908) 797-8570
- Bypass Pumping for Collection Systems (Presentation)**
Ryan Booth, PSI and Process Control
ryan.booth@psiprocess.com
(732) 266-0818



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TODAY'S WORKSHOP

March 28, 2023 - Session III Collection System O&M – Grease Heavy is the Crown **UPDATED**

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TODAY'S WORKSHOP

8:30 am Program Introduction, Louis C. Lambe, PVSC, Retired

8:45 am The Yantacaw Street Flume & Why We Didn't "Sugar Coat It", Louis C. Lambe, PVSC, Retired

9:30 am Coffee Break (included)

9:45 am Structural Mortars and Polymeric materials for use in, water/wastewater infrastructure rehabilitation and as a preventative maintenance solution,
Matthew Richards and Rafael Rovito, Vortex Companies

10:30 am Infrastructure Asset Protection be Proactive not Reactive

11:15 am Live Demonstration of a Repair, Rick Stafford and Jeff Finley, Engineered Resin Solutions

11:45 am Lunch (included)

1:30 pm Concrete Restoration & Protection of PVSC Decant Tanks, Kevin S. Grega, Corrosion Technology Systems, Inc and Adam Hileman, Zack Painting Company, Inc.

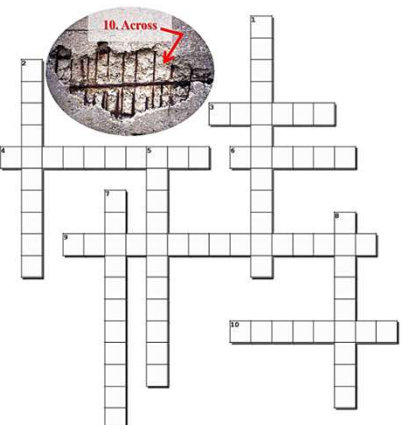
2:10 pm Geopolymer or not Geopolymer... that is the Question! Large Diameter Sewer Rehab with Geopolymer Mortar and/or CIPP Trenchless Technology Options,
Scott Naiva, P.E., MBA, GeoTree Solutions

2:50 pm Condition Assessment, Repairs, & Rehabilitation on PVSC 110+ Year Old Infrastructure & Assets, Eric Granholm, P.E., Passaic Valley Sewerage Commission

3:30 pm Session Ends

LOOK FOR PUZZLE IN THE NEXT SCAN

Surface Coatings

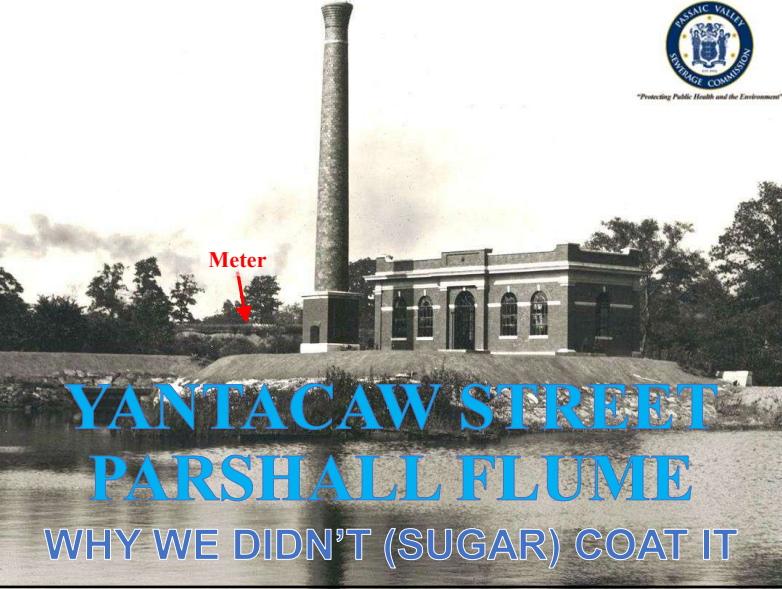


Across

3. A coating applied to a surface to protect from corrosion or seal leaks.
4. Coating that forms a single, continuous lining without voids.
6. Holds cementitious materials together, enhances structural property.
9. Gas that attacks concrete surface when it becomes acid.
10. Surface with chunks of cement and aggregate breaking off.

Down

1. Materials typically comprised of Portland cement.
2. Inorganic binder used as a sustainable alternative to Portland cement.
5. Substance which repels water, forming droplets.
7. Substance which readily dissolves in or is attracted to water.
8. Ingredients mixed in for waterproofing or durability.



**YANTACAW STREET
PARSHALL FLUME
WHY WE DIDN'T (SUGAR) COAT IT**



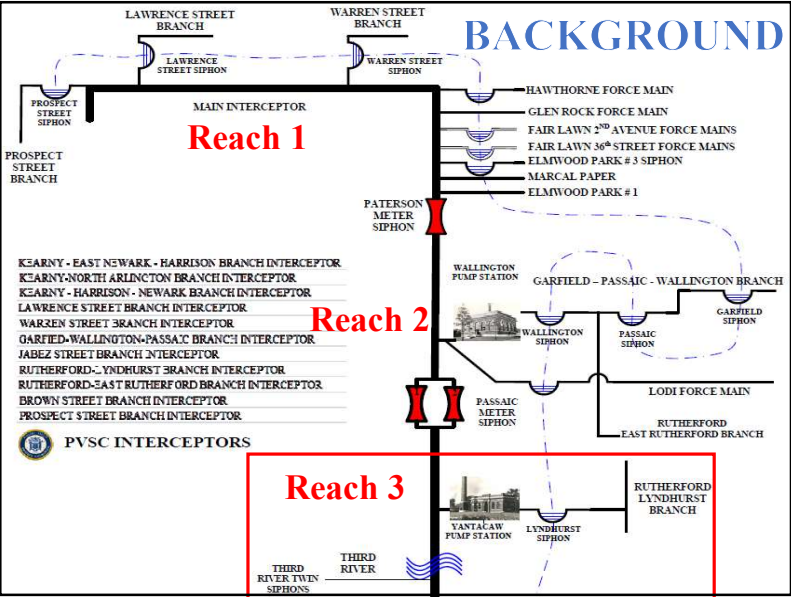
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WHAT'S A YANTACAW LOUIE?

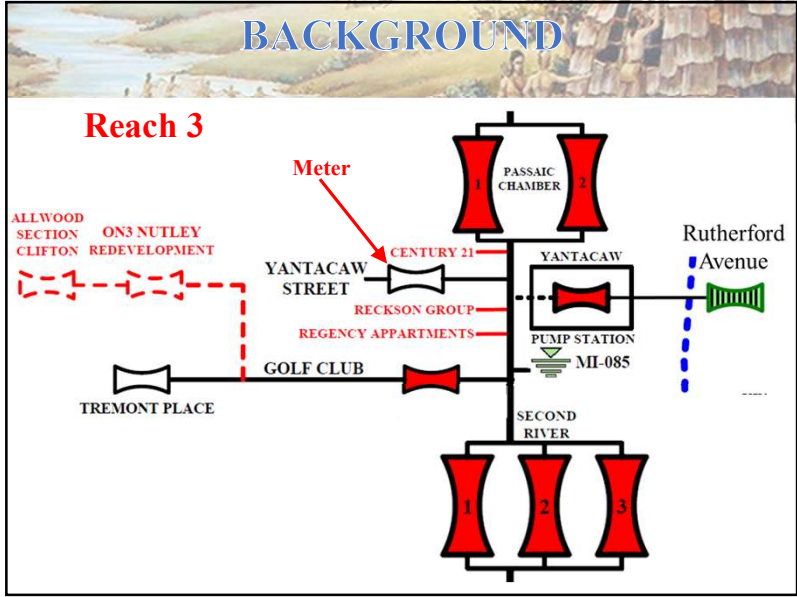
The name Yantacaw is derived from the indigenous Lenni Lenape tribe where it meant "place of the wood boundary." They also celebrated a sort of Thanksgiving like holiday which was called the "Yantacaw" ceremony.

The annual harvest related meeting of the tribe took place near the banks of the Yantacaw (Third) River bringing together the many families of the Lenni Lenape who hunted and farmed the region. Dutch spellings of the location varied and included Yanteco, Jantacach, Yantokah or Yountakuh to name a few.

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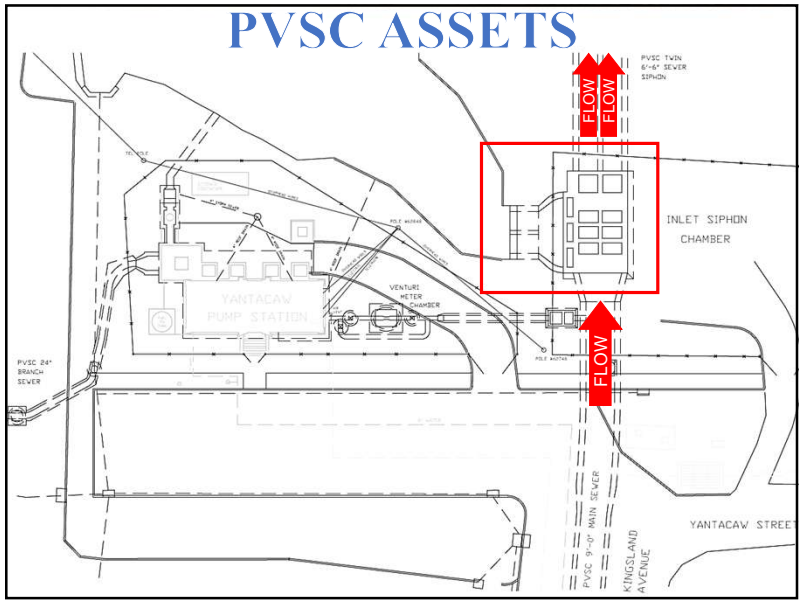
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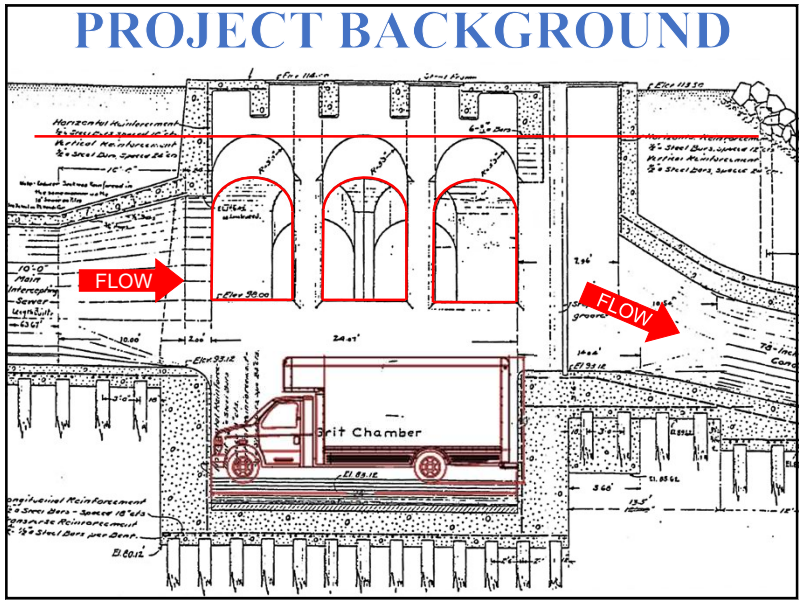
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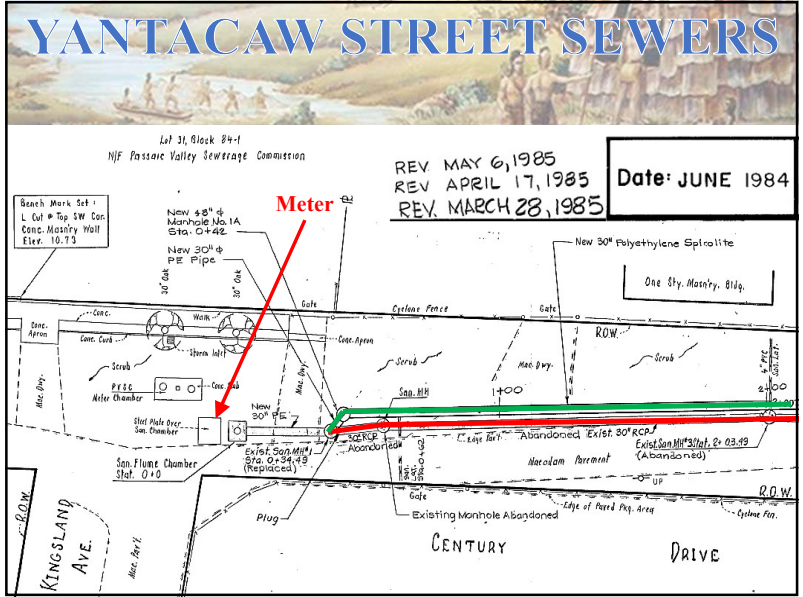


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YANTACAW STREET PERMITS

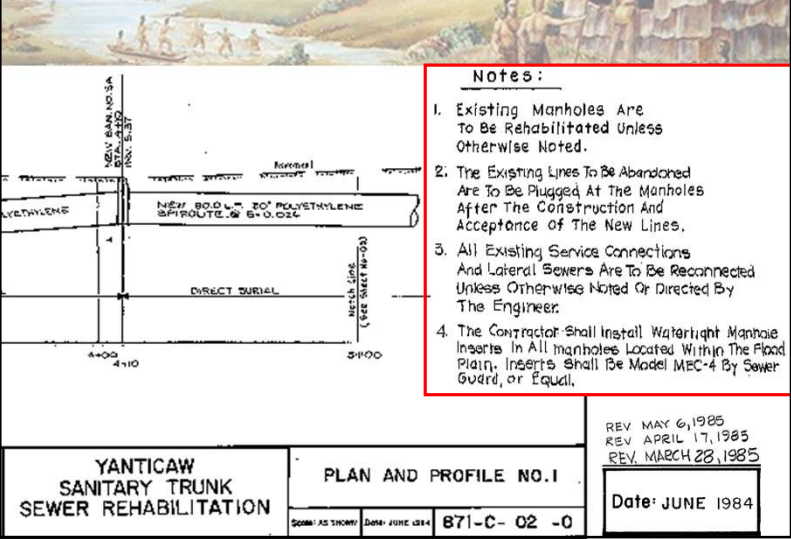
PROJECT NAME	LOCATION	DESCRIPTION	PVSC	FLOW
Yantacaw Trunk Sewer	3rd River - btwn. Birdwell & Delawana	Replace and Rehab. sewers	01/10/85	0
3rd River Siphon	3rd River off Birdwell	Replace 10" with 2-8" siphons	02/18/86	0
Gabrelian Associates	between Alwood Rd. and Rt. 3	Convert Existing Bldg. to Retail Bldg.	07/21/89	5,005
1913 Realty - Phase 2	Kingsland Ave.	Warehouse(60,000 sq. ft.)	09/20/89	1,757
Riverview Village	River Rd. and Pavan Rd.	237 Condominiums	09/25/89	50,544
256 Associates	Alwood Road - south of Passaic	10 Townhouses	11/01/90	2,283
Deltuto 140 Family Development	Cherry and Linden Streets	140 Units in 10 Bldgs.	12/19/90	49,000
Costco Wholesale Corp.	Bridewell Place	117,541 sq. ft. Retail	05/16/91	14,693
Stonehill Estates II	off Main St. near Myron	8 Single-family and 2 Two-family	04/23/96	4,917
Clifton Commons Sewer Relocations	Route 3 East south of Main Ave.	Sewer Relocations	10/10/97	0
Clifton Commons	Route 3 East south of Main Ave.	Shopping Center and Theatre	10/10/97	32,025
Clifton Commons-Flow Increase	Route 3 East south of Main Ave.	Shopping Center and Theatre	09/04/98	14,268
Riverwalk at Clifton	River Road and Myrtle Avenue	206 Condominiums	05/26/99	46,350
Allied Office Warehouse- East	174 Delawanna Ave. near Conrail	Warehouse and Office Space	05/25/00	1,400
Allied Office Warehouse- West	174 Delawanna Ave. near Conrail	Warehouse and Office Space	05/25/00	1,400
Harve' Benard Warehouse	125 Delawanna Avenue	319,920sf Ware.(50) & 41,000sf Office	10/23/00	5,350
Costco Wholesale Expansion	Main Avenue and Bridewell Place	Store Expansion(32,627 sq.ft.)	11/20/00	2,363
Forrest Manufacturing Company	457 River Road	Commercial Bldg.- 50 Employees	01/16/01	1,250
Morris Clifton Associates	253 River Road	Warehouse and Office Space	08/10/01	1,850
Shorewood Industries	800 Route 3 West	New Plant Restroom	09/25/01	450
Riverwalk at Clifton-Phase 4	Pavan Road and Myrtle Avenue	40 2-bedroom Condominiums	08/30/02	9,000
Clifton Commons Phase 2	100 Kinsland Road	137,321 sq ft Retail; 486 seats Rests.	10/28/02	30,742

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YANTACAW STREET SEWERS



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NO EVIDENCE OF SURCHARGING



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SURVEY AND INSPECTION



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THE METER SURFACE



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THE ORIGINAL ESR

- This 1foot Parshall Flume was constructed of concrete in the early 1980's. The surface has eroded to the point where aggregate is exposed in the channel and the surface is no longer smooth as required for accurate flow measurement.
- In recent years, the flow range has been scaled down to match the modern flow conditions which varies between 0.6 and 1.2 MGD. (See Chart) **We should explore resurfacing the flume to smooth and sealing with a protective coating.**
- Since the existing open grating and rubber mats contribute to the water entering the chamber from the surface, please consider replacing them with Bilco doors to mitigate rainwater's effect on the erosion and odors from the chamber.

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LET'S TALK WITH JEFF HE'LL KNOW A GUY

HEY JEFF, DO YOU KNOW ANYONE WHO WILL RECOAT AND CERTIFY A CONCRETE FLUME?

LOUIE, NO ONE THAT WILL CERTIFY A FLUME THEY DIDN'T INSTALL, RECOATED OR NOT. TELL ME ABOUT THE FLUME.

IT IS A 1 FOOT PARSHALL WITH AN AVERAGE FLOW OF ABOUT 1 MGD (+,-)

HAVE YOU CONSIDERED NESTING ONE SIZE SMALLER? I THINK A NINE INCH FLUME WOULD WORK.

LET ME LOOK AT THE NUMBERS AND I'LL CALL YOU BACK.

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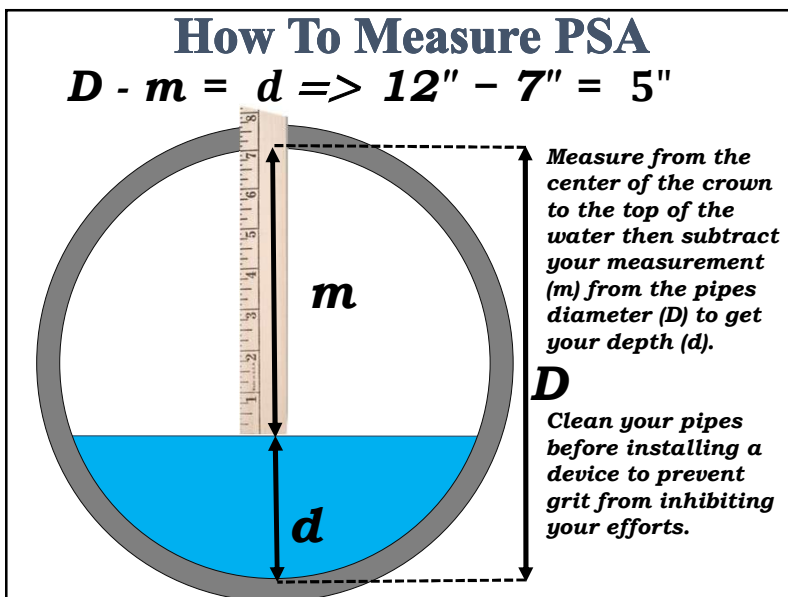


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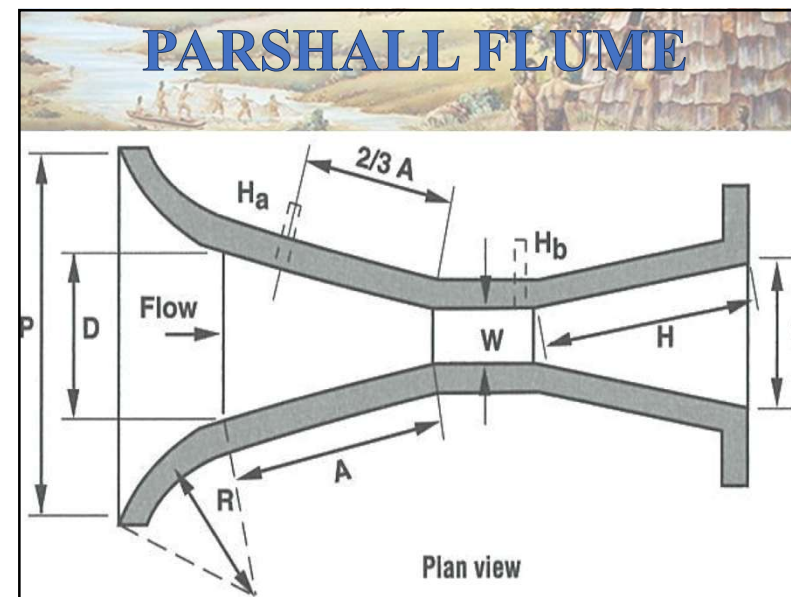
PARSHALL FLUMES

- Developed in 1922 by Ralph L. Parshall for the United States Bureau of Reclamation
- Cross section of the channel is rectangular
- Sized by the throat not the pipe
- Laminar Flow is necessary on approach
- Handles a wide range of flow (up to 50')
- Head is measured from the surface to the bottom of the channel at $2/3 \times D$
- Submergence tolerance of roughly 60-70 %

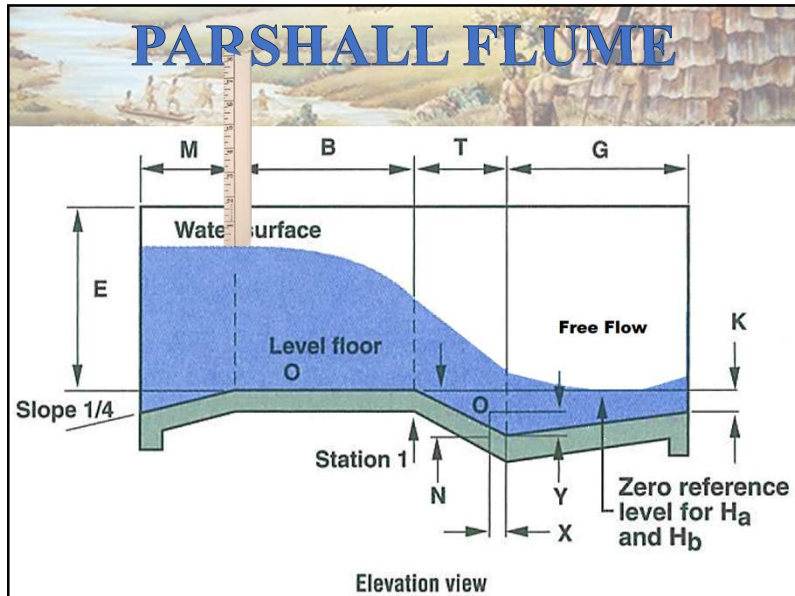
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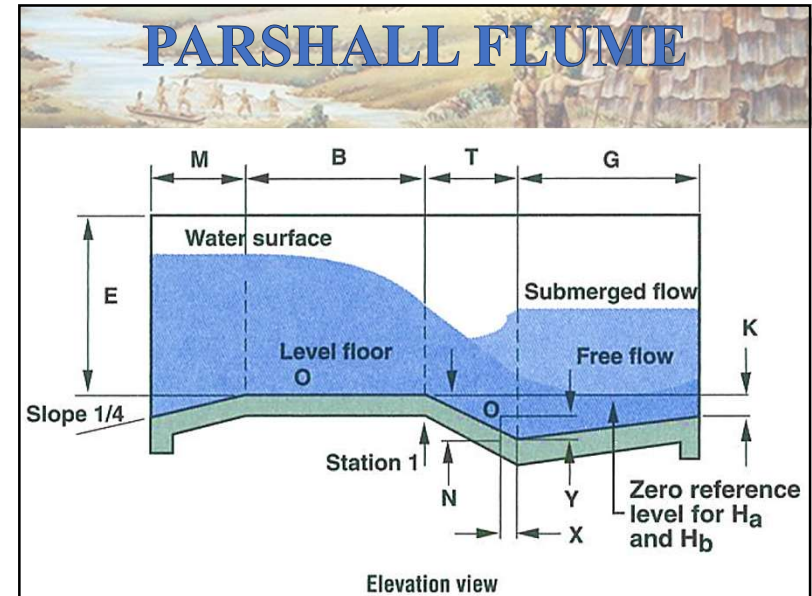
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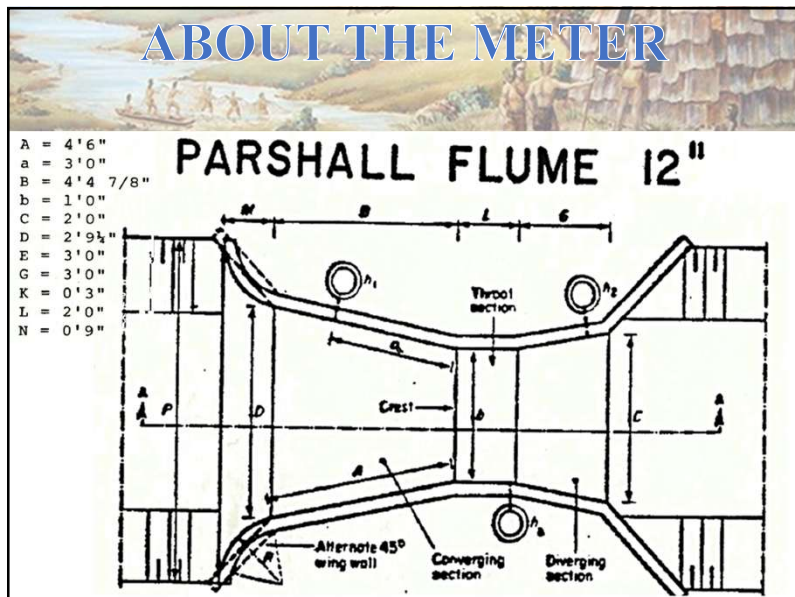
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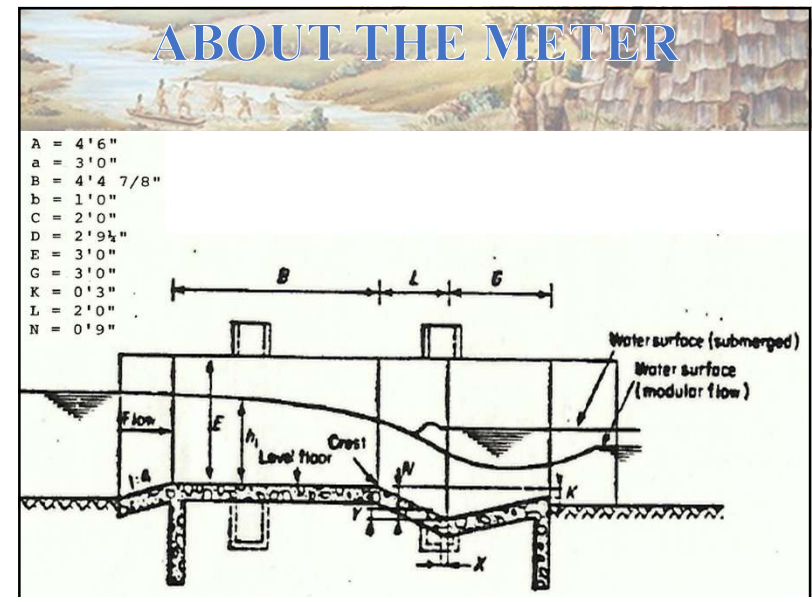
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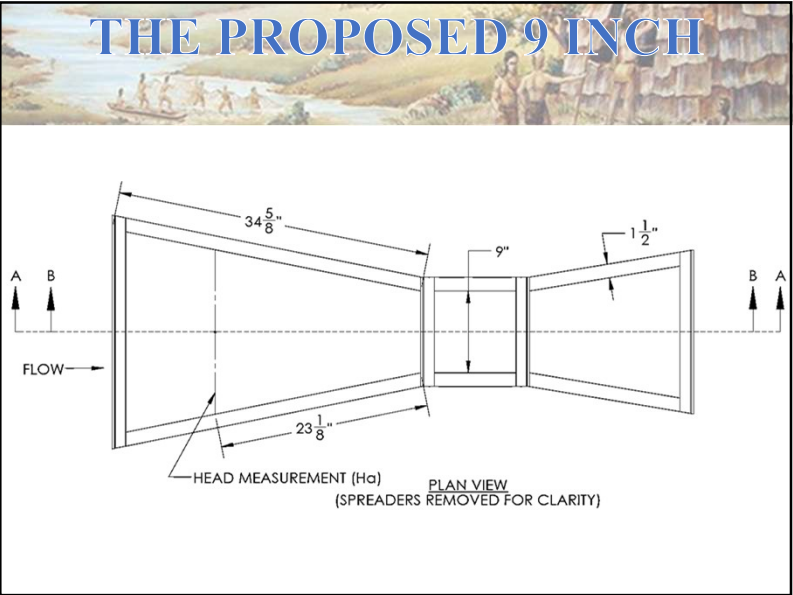
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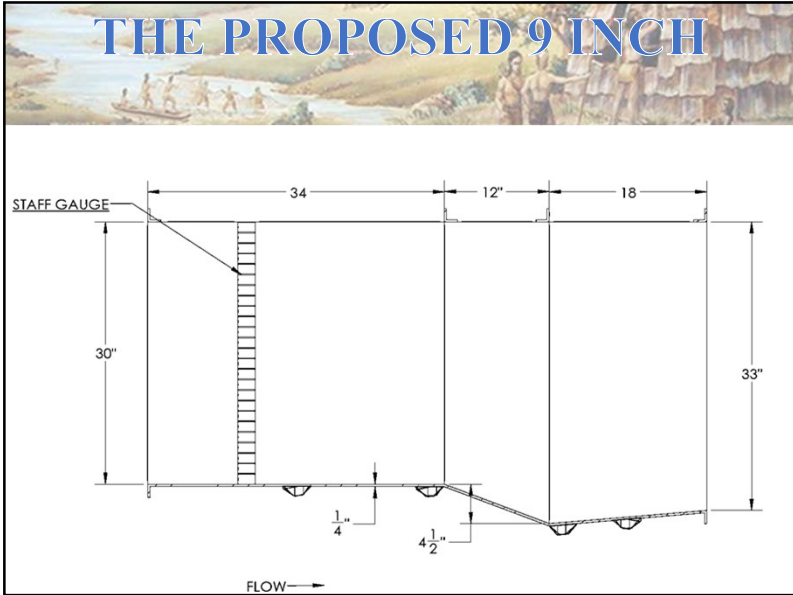
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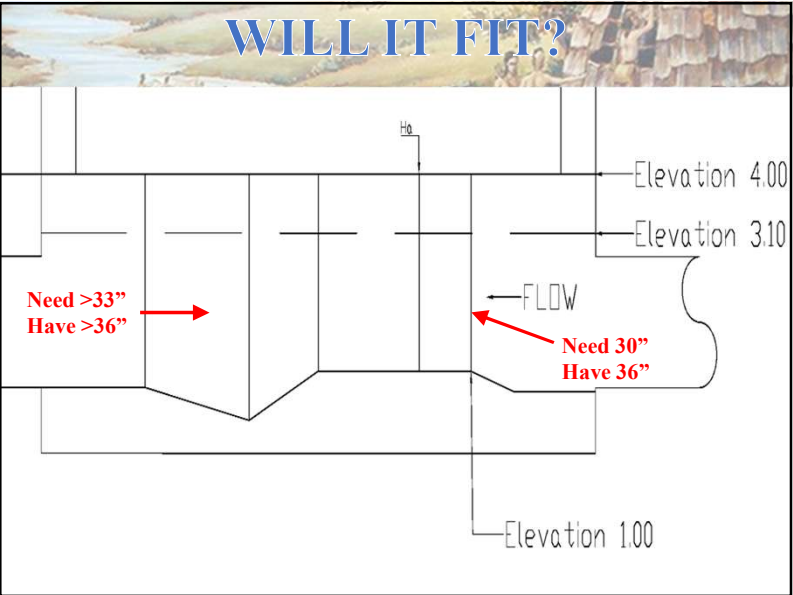
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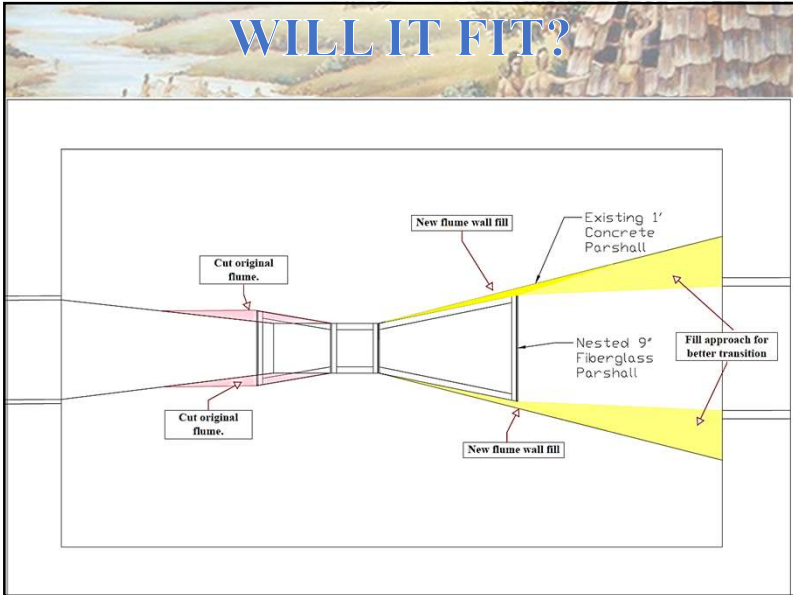
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Yantacaw Street Historical Flows

Manufacturer I.D. #	Meter	Range In MGD	WareHouse Stock #
BU-12-1.5-W	Elmwood Park #3	0-1.5	010000006
BU-12-2.5-W	Tremont Place	0-2.5	0340021
BU-12-3.2-W	Elmwood Park #1	0-3.2	0340023
BU-12-3.25-W	Elmwood Park #2	0-3.25	0340025
BU-12-3.4-W	Fairlawn 2nd. Ave.	0-3.4	0340024
BU-12-3.5-W	Glen Rock	0-3.5	0340061
BU-12-5-W	Fairlawn 36th St. (5)	0-5	0340013
BU-12-7-W	Lyndhurst & No. Arlington	0-7	None
BU-12-8-W	Fairlawn 36th St. (8), Yantacaw Street	0-8	0340014
BU-12-10-W	Garden State Paper Back Up	0 - 10	0340035
BU-12-11-W	Yantacaw Pump Station	0 - 11	0340036
BU-12-15-W	Lodi Force Main	0 - 15	0340065
BU-12-18-W	Garden State Paper Dahl Tube	0 - 18	0340037
BU-12-20-W	Passaic Lodi St., Bayonne PS, Nutley Golf Club	0 - 20	0340062

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Yantacaw Street Existing Scale

YANTACAW STREET
12" PARSHALL FLUME

HEAD	M.G.D.	HEAD	M.G.D.	HEAD	M.G.D.	HEAD	M.G.D.	HEAD	M.G.D.	HEAD	M.G.D.
0.500	0.900	0.635	1.295	0.770	1.737	0.905	2.221	1.040	2.744	1.175	3.304
0.505	0.914	0.640	1.311	0.775	1.754	0.910	2.240	1.045	2.764	1.180	3.326
0.510	0.928	0.645	1.326	0.780	1.771	0.915	2.258	1.050	2.784	1.185	3.347
0.515	0.942	0.650	1.342	0.785	1.788	0.920	2.277	1.055	2.805	1.190	3.369
0.520	0.956	0.655	1.358	0.790	1.806	0.925	2.296	1.060	2.825	1.195	3.390
0.525	0.970	0.660	1.374	0.795	1.823	0.930	2.315	1.065	2.845	1.200	3.412
0.530	0.984	0.665	1.389	0.800	1.841	0.935	2.334	1.070	2.866	1.205	3.434
0.535	0.998	0.670	1.405	0.805	1.858	0.940	2.353	1.075	2.886	1.210	3.455
0.540	1.012	0.675	1.421	0.810	1.876	0.945	2.372	1.080	2.906	1.215	3.477
0.545	1.026	0.680	1.437	0.815	1.894	0.950	2.391	1.085	2.927	1.220	3.499
0.550	1.041	0.685	1.454	0.820	1.911	0.955	2.410	1.090	2.948	1.225	3.521
0.555	1.055	0.690	1.470	0.825	1.929	0.960	2.429	1.095	2.968	1.230	3.543
0.560	1.070	0.695	1.486	0.830	1.947	0.965	2.449	1.100	2.989	1.235	3.565
0.565	1.084	0.700	1.502	0.835	1.965	0.970	2.468	1.105	3.009	1.240	3.587
0.570	1.099	0.705	1.519	0.840	1.983	0.975	2.487	1.110	3.030	1.245	3.609
0.575	1.114	0.710	1.535	0.845	2.001	0.980	2.507	1.115	3.051	1.250	3.631
0.580	1.128	0.715	1.551	0.850	2.019	0.985	2.526	1.120	3.072	1.255	3.653
0.585	1.143	0.720	1.568	0.855	2.037	0.990	2.546	1.125	3.093	1.260	3.675
0.590	1.158	0.725	1.585	0.860	2.055	0.995	2.566	1.130	3.114	1.265	3.697
0.595	1.173	0.730	1.601	0.865	2.073	1.000	2.585	1.135	3.135	1.270	3.719
0.600	1.188	0.735	1.618	0.870	2.091	1.005	2.605	1.140	3.156	1.275	3.742
0.605	1.203	0.740	1.635	0.875	2.110	1.010	2.625	1.145	3.177	1.280	3.764
0.610	1.218	0.745	1.652	0.880	2.128	1.015	2.644	1.150	3.198	1.285	3.787
0.615	1.234	0.750	1.669	0.885	2.147	1.020	2.664	1.155	3.219	1.290	3.809
0.620	1.249	0.755	1.686	0.890	2.165	1.025	2.684	1.160	3.240	1.295	3.831
0.625	1.264	0.760	1.703	0.895	2.184	1.030	2.704	1.165	3.262		
0.630	1.280	0.765	1.720	0.900	2.202	1.035	2.724	1.170	3.283		

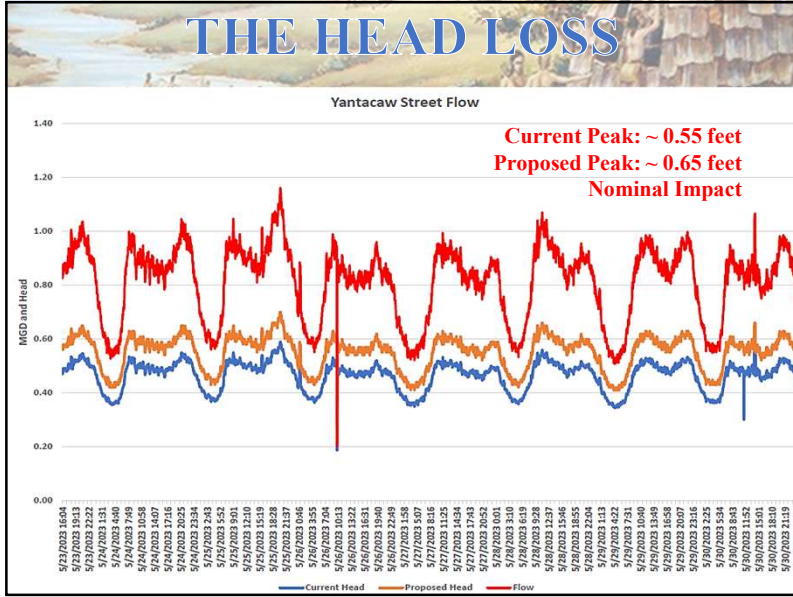
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ABOUT THE METER

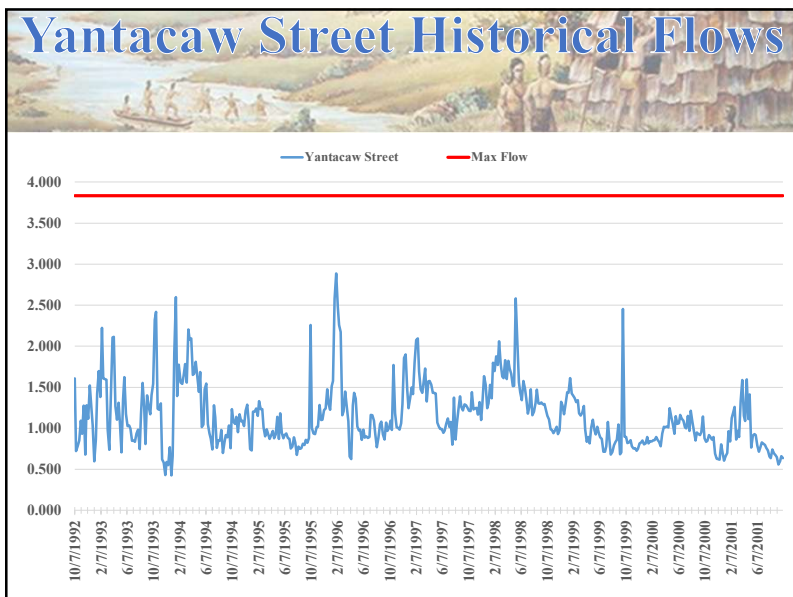
- Served a heavy industrialized area once
- Serves about 8-10,000 residents in Clifton
- Average flow is about 1 MGD
- Put in service in 1924 (Weir)
- Rehabilitated in 1944 (Weir or Venturi)
- Rehabilitated in 1985 (1' Parshall Flume)

• Formed in place concrete flume

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THE PIVOT AWAY FROM COATING

Hello all

I stopped by today and met up with your crew. They were very helpful and better yet inquisitive. I don't always get to work with people like that.

From what I could tell the flow was "falling" out of the pipe and causing turbulence in the flume. Attached are some pictures and a short video. My suggestion would be to nest a smaller Parshall flume inside the 12" Parshall. I would include a bubbler tube and possibly a bracket for an Ultrasonic sensor. The smaller flume would create more of a pool of water and help quench some of the turbulence allowing the flow to be read more accurately.

The walls of the flume are showing signs of erosion. By putting a new flume in we will avoid the recoating of the concrete and hoping you get it back within spec. Any questions please give me a call.

Best regards,

Jeff Heiner | Dave Heiner Associates, Inc. | jheiner@daveheinerassoc.com | www.daveheinerassoc.com
 3799 Route 46, Suite 102 | P.O. Box 6016 | Parsippany, NJ 07054
 Phone: 973-299-9990 | Mobile: 973-224-7044

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THE PIVOT AWAY FROM COATING

- This 1ft Parshall Flume was constructed of concrete in the early 1980's. The surface has eroded to the point where aggregate is exposed in the channel and the surface is no longer smooth as required for accurate flow measurement. In recent years, the flow range has been scaled down to match the modern flow conditions which varies between 0.6 and 1.2 MGD. (See Chart)
- **In lieu of resurfacing, it is recommended that PVSC consider nesting a 9" fiberglass flume which meets the current flow needs and will deliver a more accurate and reliable flow.**
- Since the existing open grating and rubber mats contribute to the water entering the chamber from the surface, please consider replacing them with Bilco doors to mitigate rainwater's effect on the erosion and odors from the chamber.

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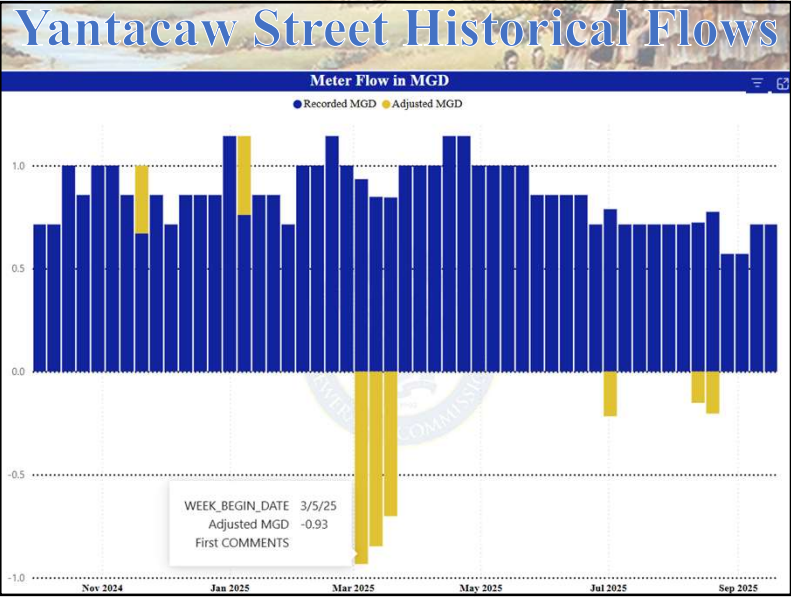
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Yantacaw Street Historical Flows

YANTACAW STREET REFERENCE
0.75 ft (9in) PARSHALL FLUME

HEAD (ft)	M.G.D.	HEAD (ft)	M.G.D.	HEAD (ft)	M.G.D.	HEAD (ft)	M.G.D.	HEAD (ft)	M.G.D.
0.100	0.059	0.390	0.470	0.680	1.100	0.970	1.894	1.260	2.826
0.110	0.068	0.400	0.488	0.690	1.125	0.980	1.924	1.270	2.860
0.120	0.077	0.410	0.507	0.700	1.150	0.990	1.954	1.280	2.894
0.130	0.087	0.420	0.526	0.710	1.175	1.000	1.984	1.290	2.929
0.140	0.098	0.430	0.545	0.720	1.200	1.010	2.014	1.300	2.964
0.150	0.109	0.440	0.565	0.730	1.226	1.020	2.045	1.310	2.999
0.160	0.120	0.450	0.585	0.740	1.252	1.030	2.076	1.320	3.034
0.170	0.132	0.460	0.605	0.750	1.278	1.040	2.107	1.330	3.069
0.180	0.144	0.470	0.625	0.760	1.304	1.050	2.138	1.340	3.105
0.190	0.156	0.480	0.645	0.770	1.330	1.060	2.169	1.350	3.140
0.200	0.169	0.490	0.666	0.780	1.357	1.070	2.200	1.360	3.176
0.210	0.182	0.500	0.687	0.790	1.383	1.080	2.232	1.370	3.212
0.220	0.196	0.510	0.708	0.800	1.410	1.090	2.264	1.380	3.248
0.230	0.209	0.520	0.730	0.810	1.437	1.100	2.295	1.390	3.284
0.240	0.223	0.530	0.751	0.820	1.464	1.110	2.327	1.400	3.320
0.250	0.238	0.540	0.773	0.830	1.492	1.120	2.360	1.410	3.356
0.260	0.253	0.550	0.795	0.840	1.519	1.130	2.392	1.420	3.393
0.270	0.268	0.560	0.817	0.850	1.547	1.140	2.424	1.430	3.429
0.280	0.283	0.570	0.840	0.860	1.575	1.150	2.457	1.440	3.466
0.290	0.299	0.580	0.862	0.870	1.603	1.160	2.490	1.450	3.503
0.300	0.314	0.590	0.885	0.880	1.632	1.170	2.523	1.460	3.540
0.310	0.331	0.600	0.908	0.890	1.660	1.180	2.556	1.470	3.577
0.320	0.347	0.610	0.931	0.900	1.689	1.190	2.589	1.480	3.614
0.330	0.364	0.620	0.955	0.910	1.717	1.200	2.622	1.490	3.652
0.340	0.381	0.630	0.978	0.920	1.746	1.210	2.656	1.500	3.689
0.350	0.398	0.640	1.002	0.930	1.775	1.220	2.690	1.510	3.727
0.360	0.416	0.650	1.026	0.940	1.805	1.230	2.723	1.520	3.765
0.370	0.433	0.660	1.051	0.950	1.834	1.240	2.757	1.530	3.803
0.380	0.451	0.670	1.075	0.960	1.864	1.250	2.791	1.540	3.841

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