VILLAGE OF TARRYTOWN
BOARD OF TRUSTEES
WORK SESSION 7:00 P.M.
WEDNESDAY, *JANUARY 30, 2013*
Tarrytown Village Hall
One Depot Plaza, Tarrytown, New York

Board of Trustees Concerns

Open Session

1. Set Date for Grievance Day
2. Fence Replacement – Neperan Road Pump Station
3. Traffic Light Project – Route 9
4. Shaft 10 Fuel Storage Tank

Executive Session

1A. Village of Briarcliff Manor Pump Station
2A. Personnel
3A. 75 Neperan Road
4A. Litigation

(1)

VILLAGE OF TARRYTOWN INTEROFFICE MEMORANDUM

for BOT Agenda 2/4/13

TO: Michael Blau, Village Administrator

FROM: Carol A. Booth, Village Clerk CAB

SUJBECT: Setting the Date for Property Tax Grievance Day

DATE: January 8, 2013

RESOLUTION SETTING THE DATE FOR PROPERTY TAX GRIEVANCE DAY

BE IT RESOLVED that the Board of Trustees of the Village of Tarrytown hereby schedules Property Tax Grievance Day for Tuesday, February 18, 2013, between the hours of 4:00 p.m. and 8:00 p.m. at Tarrytown Village Hall.

(2)

FENCE AND GATE REPLACEMENT - NEPERAN ROAD PUMP STATION	
Vendor	Cost Proposal
Precision Built Fences	$17,240.00
Wilkens Construction	$19,816.00
Yaboo Fence Company	$24,404.00
Tri State Gate	$25,180.00

Electrification of Motor to Open Gate	
AY Electric of Westchester, Inc.	$1,452.00
DeCecchis Electric Corp.	$1,585.00
Morabito Electric, Inc.	Proposal requested but no proposal submitted

(2)

PRECISION BUILT FENCES

PBF Contractors

1617 Main Street
Peekskill, New York 10566
(914) 736-2664 • Fax (914) 736-1223
Licenses: PC1769-A / WC 6084-H94
Conn. HIC 0678399

JOB COST ESTIMATE

RE VILLAGE OF TARRYTOWN PUMP STATION
NEPERAN RD. AND TOWER HILL RD.
ATTN: HOWARD WESSELS
914-906-3829
DATE: JANUARY 18, 2013

1-RIP OUT ALL CHAIN LINK FENCE AND POSTS AND GATES AND REMOVE FROM SITE.

2-INSTALL 126' OF NEW INDUSTRIAL STRENGTH 6' HIGH BLACK ALUMINUM FENCE WITH ADDITIONAL 24' MATCHING SLIDE GATE. GATE POSTS 6'' SQUARE. FENCE POSTS 2 ½, GATE FRAME 2'' BLACK ALUMINUM WELDED FRAME. PICKETTS ON FENCE 1'' SQUARE WITH PRESSED POINTS TOP. ALSO INCLUDE (1) 6X4 MAN GATE ON RIGHT SIDE OF SLIDE GATE WITH 12' OF FENCE.

3-SUPPLY (1) BFT ARIES 1500 SLIDE GATE OPERATOR AS FOLLOWS.

- 110V INPUT / 24V
- INCORPORATED SELF CONTAINED CONTROL BOARD AND RECEIVER, LARGE FIBERGLASS ENCLOSURE
- MANUAL OVERRIDE LOCK
- LIMIT SWITCHES MOUNTING HARDWARE
- (2) SETS OF REFLECTIVE PHOTO EYE WITH HOOD INSIDE AND OUTSIDE

SCS1 SERIAL CONNECTION
BATTERY BACK UP SYSTEM
MITTO 2 CHANNEL ROLLING CODE TRANSMITTERS (2)

INCLUDE (1) BFT T BOX WIRELESS CODE BOX ON GOOSNECK 100 CODE CAPABILITY, SLIDE GATE OPERATOR WORKS WITH SOLID STEEL SLIDE APPARATUS NOT CHAIN DRAG LIKE MOST OPERATORS, WHICH IN TIME WILL ALWAYS NEED ADJUSTMENT.
4-OPERATOR TO SIT ON CONCRETE PAD POURED BY P.B.F.
ALL ELECTRIC TO AREA DONE BY OTHERS,, P.B.F. INC. TO DO ALL HOOK UPS AND TERMINATION OF OUR EQUIPMENT .

PRICE COMPLETE $ 27,705.00

3

VILLAGE OF TARRYTOWN

INTERNAL MEMORANDUM

To: Mayor Fixell and the Board of Trustees

From: Michael Blau, Village Administrator

Date: January 8, 2013

Subject: TRAFFIC LIGHT PROJECT – ROUTE 9

In August 2008 the Village submitted an Initial Project Proposal (IPP) to the NYS DOT to improve traffic signals and to make other improvements on Route 9. This IPP was based upon a study done to improve traffic movements on Route 9 specifically near the intersection with the entrance ramp to I-287. I have included herewith a copy of the page from the IPP explaining the project. I have also included diagrams that provide further information in regard to the said project. In January 2009 (copy of minutes included) the Board authorized the execution of the first component of the project which was the design phase. Thereafter, the Village issued an RFP and obtained proposals in relation to the engineering and design work associated with this project. Since the funding for this project is Federal Highway Administration funding administered by the NYS DOT, there is an extremely elaborate process that must be following in regard to design and engineering. This process, due to the number of times a design proposal must go back and forth between the State and local government, is extremely expensive. The RFP generated cost proposals of approximately $128,000; however, the original grant only provided funding for engineering totaling $40,000. Based upon this differential, the Village requested additional funding for the engineering. In June 2010 (letter included) I conveyed to the DOT the intention of the Board of Trustees not to move the project forward due to the fact that the grant underfunded the engineering by $88,000. A letter confirming receipt by the DOT is included herewith which also noted that at that time (August 20, 2010) there were no additional funds for the project and that the Village intended to pursue additional funds. In February 2011 I discussed the matter with Marty Schneider, grant writer, who provided me a memorandum outlining funding aspects of the project. That memorandum is included herewith. Last week I received contract documents from the NYS DOT providing additional funding for engineering for this project. I created a spreadsheet regarding funds for the project and forwarded that to the representative at the NYS DOT working on this project. She reviewed my spreadsheet, added the local share to my spreadsheet, and her response is also included herewith. The foregoing is provided to you for history purposes regarding the project. At this point with the additional grant funds, there are sufficient funds to move the project forward. Please note that the Village's cost to complete the work associated with this project is $83,600. The total project per the grant is $508,000. Thus, the question for the Board is whether you want to proceed with the project at this point and if so, a resolution will be necessary to authorize the execution of Supplemental Agreement No. 1.

From DOT Initial Project Proposal

(3)

PIN: 8759.76

⇒ **DESCRIBE PROJECT OBJECTIVE:** To provide traffic signal upgrades and physical roadway improvements. These upgrades and improvements would reduce peak-hour congestions and further improve traffic operating and safety conditions reduce emissions and improve air quality. The following measurable improvements will be made at the intersections: (1) **US Route 9 at I-87/ I-287 Ramps/ Double Tree Driveway**— The intersection's operation will be improved from a LOS D to an LOS C during the critical PM hour; (2) **US Route 9 at Kraft Foods Driveway**— Total calculated delay would be reduced from 4 hours to 2 hours during AM peak hour and from 12 hours to 7 hours during PM peak hour; (3) **US Route 9 at Sunnyside Lane**— The intersection will operate at overall LOS C and LOS B during AM and PM peak hours. Total calculated delay would be reduced from 26 hours to 15 hours during AM peak hour and from 18 hours to 7 hours during PM peak hour. These improvements are projected to reduce emissions by five percent, which translates to a reduction of more than 2,700 kilograms (three tons) per year.

⇒ **DESCRIBE THE PROJECT:** **The following improvements will be made at the following intersections:**
US Route 9 at I-87/ I-287 Ramps/ Double Tree Driveway—At this intersection, the proposed improvement includes re-striping southbound approach to provide two left-turn lanes and single thru-right lane. This will also require reconstructing and widening the on-ramp to provide two receiving lanes. To accommodate the two south-bound left-turns it will be necessary to add one signal face and one sign to the existing signal. Improvements will include modifying curb return, relocating guiderail and time-based coordination.
US Route 9 at Kraft Foods Driveway—In addition to traffic signals installed by the developer of Jardim Estates, Broadway will be widened by four feet to allow two northbound through lanes from south of this intersection up through the I-87/ I 287 intersection. Improvements will include new pavement markings, relocating curb and replacing two fire hydrants and a catch basin.
US Route 9 at Sunnyside Lane—At this intersection, the proposed improvement includes widening US Route 9, north of the intersection by up to four feet to accommodate two 10-foot wide lanes per direction and to reconfigure the existing signal to provide a simple two-phase operation. Improvements will include new pavement markings, removal of two existing signal heads and relocation of four utility poles.

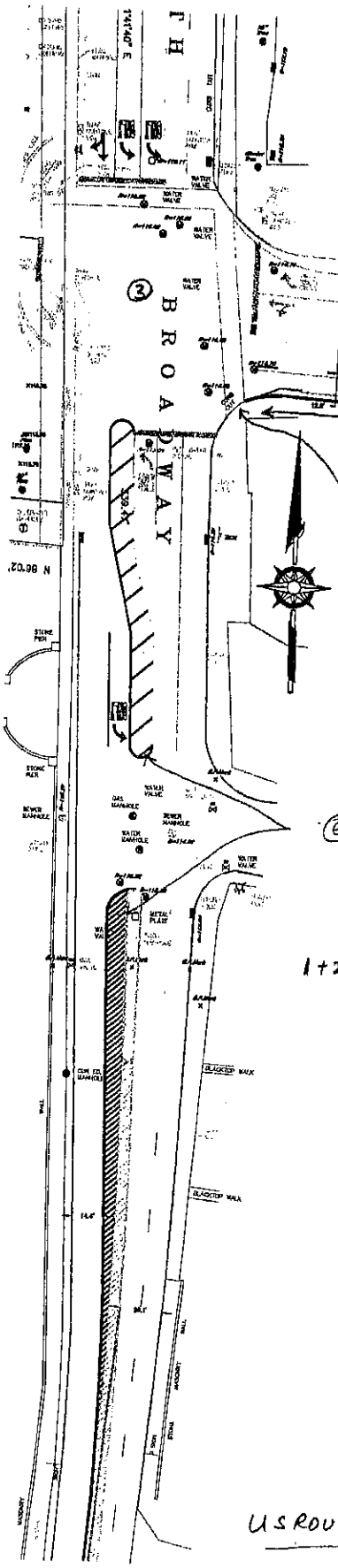
PROJECT ELEMENTS TO BE INVESTIGATED:

[ ] Deck or Minor Bridge Rehab.
[ ] Major Bridge Rehab.
[ ] Highway Resurfacing
[X] Highway Reconstruction
[ ] Other:
[ ] Bridge Replacement - New Location
[ ] Bridge Replacement - Existing Location
[ ] Appurtenance
[X] Traffic Control
[X] Safety Considerations:

PROJECT TYPE: New Construction/Reconstruction: Highway Reconstruction
Safety: Traffic Signal Devices

ACCOMPLISHMENTS:

Accomplishment	On Local Roads or Off Road		On Local NHS Roads		On State Highways	
Length of Pavement Lanes Improved	mi	km	mi	km	960 ft	292.6 m
No. of Intersections Improved					3	
No. of Signals Installed or Upgraded					2	
Length of Guide Rail Improved	ft	m	ft	m	400 ft	121.9 m
Length of Pavement Markings Installed	ft	m	ft	m	1,780 ft	542.5 m
Length of Sidewalk Improved or Installed	mi	km	mi	km	mi	km
Length of Bike Facilities Improved or Built	mi	km	mi	km	mi	km
No. of Buildings						
No. of Parking Spaces Added						
No. of Bridges Improved						
Priority Deficient						
Deficient						
Non-Deficient						
Total Bridge Deck Area	sf	sm	sf	sm	sf	sm
Credit for Bridge Painting	sf	sm	sf	sm	sf	sm



(3) New Signal head
$5,000

(7) Coordinate Signal
$10,000

(1) guardrail (200'+200')
400' @ $50/ft = $20,000

200' taper

(2) Widen pavement by 8 feet (200'+200')
300' x 8' x $35/sf = $84,000

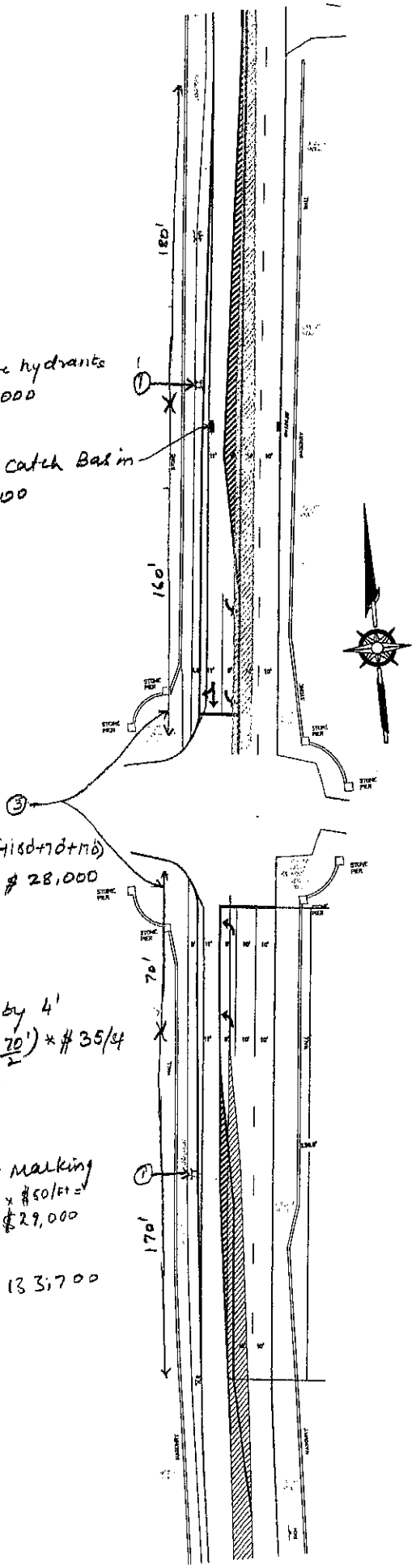
(4) Curb (20')
20' x $50/ft = $1,000

(5) Paint (symbols) = $1000

(6) New pavement marking (500')
500' x $20/4 = $10,000

1+2+3+4+5+6+7 = $130,000

US ROUTE 9 at DOUBLE TREE / I 287



(1) Replace two fire hydrants
— $10,000

(2) Replace one catch Basin
— $10,000

(3) Relocate Curb (160+180+70+170)
660' x $50/ft = $28,000

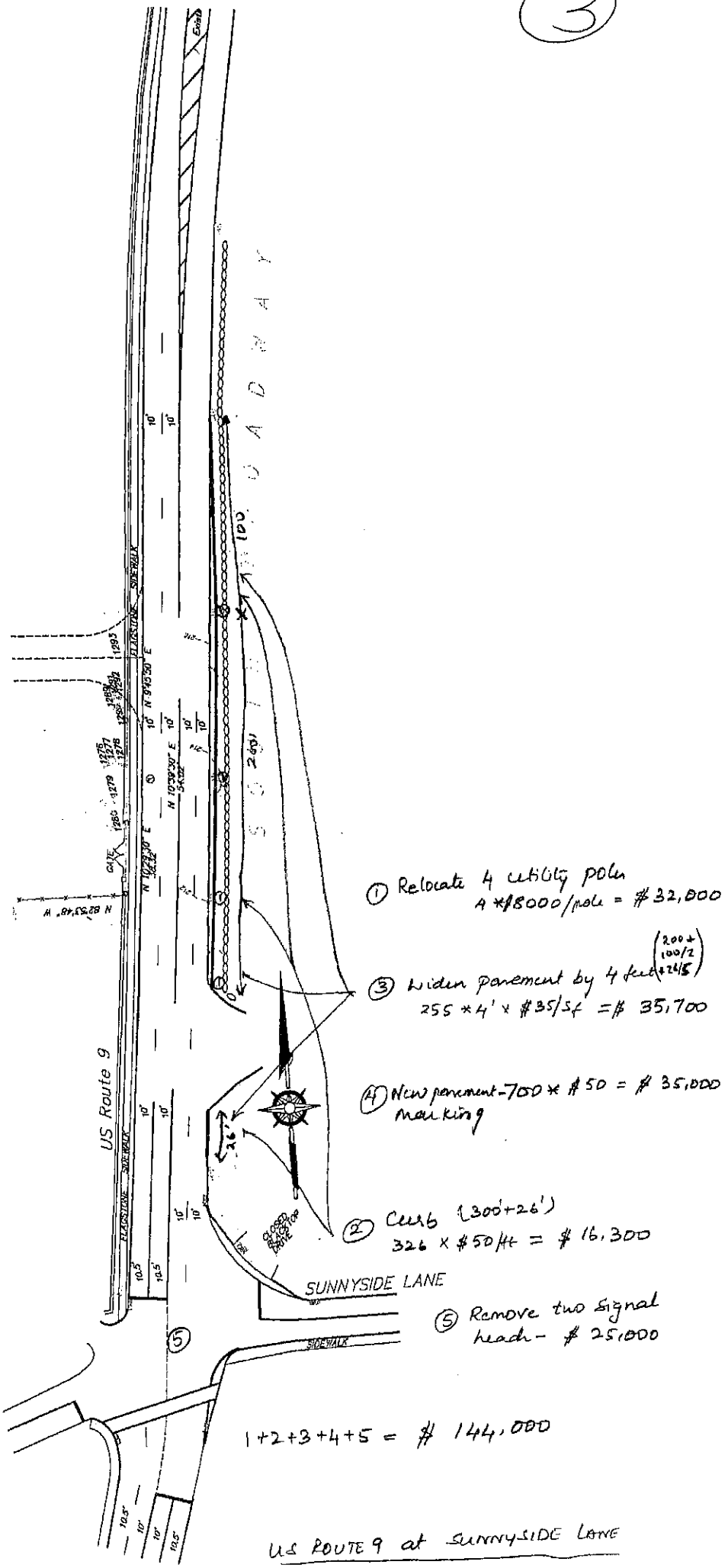
(4) Widen pavement by 4'
4 * (160/2 + 180' + 70 + 170'/2) * $35/4
= $56,700

(5) New pavement marking
(180' + 160' + 70' + 170') x $50/ft =
$29,000

1+2+3+4+5 = $133,700

US ROUTE 9 at KRAFT DRIVE

(3)



① Relocate 4 utility poles
4 * $8000/pole = $ 32,000

③ Widen pavement by 4 feet (200 + 100/2 + 24/5)
255 * 4' * $35/sf = $ 35,700

④ New pavement-700 * $ 50 = $ 35,000
marking

② Curb (300'+26')
326 * $50/ft = $ 16,300

⑤ Remove two signal heads - $ 25,000

1+2+3+4+5 = $ 144,000

US ROUTE 9 at SUNNYSIDE LANE

AMENDED RESOLUTION – ROUTE 9 TRAFFIC SIGNALS

Trustee McGovern moved, seconded by Trustee Zollo, and unanimously carried that the following be approved: Approved: 6-0

WHEREAS, a Project for Route 9 Traffic Signals, Village of Tarrytown, Westchester County, PIN 8759.76 (the "Project") is eligible for funding under Title 23 U.S. Code, as amended, that calls for the apportionment of the costs such program to be borne at the ratio of 80% Federal funds and 20% non-federal funds; and

WHEREAS, the Village of Tarrytown desires to advance the Project by making a commitment of 100% of the non-federal share of the costs of preliminary engineering and right-of-way incidentals; and

NOW, THEREFORE, the Board of Trustees of the Village of Tarrytown, duly convened does hereby

RESOLVE, that the Board of Trustees of the Village of Tarrytown hereby approves the above-subject project; and it is hereby further

RESOLVED, that the Board of Trustees of the Village of Tarrytown hereby authorizes the Village of Tarrytown to pay in the first instance 100% of the federal and non-federal share of the cost of preliminary engineering and right-of-way incidental work for the Project or portions thereof; and it is further

RESOLVED, that the sum of $45,000.00 is hereby appropriated from the General Fund and made available to cover the cost of participation in the above phase of the Project; and it is further

RESOLVED, that in the event the full federal and non-federal share costs of the project exceeds the amount appropriated above, the Board of Trustees for the Village of Tarrytown shall convene as soon as possible to appropriate said excess amount immediately upon the notification by the Village Administrator thereof, and it is further

RESOLVED, that the Village Administrator of the Village of Tarrytown be and is hereby authorized to execute all necessary Agreements, certifications or reimbursement requests for Federal Aid and/or applicable Marchiseli Aid on behalf of the Village of Tarrytown with the New York State Department of Transportation in connection with the advancement or approval of the Project and providing for the administration of the Project and the municipality's first instance funding of project costs and permanent funding of the local share of federal-aid and state-aid eligible Project costs and all Project costs within appropriations therefore that are not so eligible, and it is further

RESOLVED, that a certified copy of this resolution be filed with the New York State Commissioner of Transportation by attaching it to any necessary Agreement in connection with the Project, and it is further

RESOLVED, this Resolution shall take effect immediately.

(3)

TARRYTOWN-ON-HUDSON

One Depot Plaza, Tarrytown, New York 10591-3605

VILLAGE ADMINISTRATOR
914-631-1885
VILLAGE TREASURER
914-631-7873
VILLAGE CLERK
914-631-1652
VILLAGE ENGINEER
914-631-3668

DEPT. OF PUBLIC WORKS
914-631-0356

FAX NO. 914-909-1208

June 18, 2010

Ms. Doreen Holsopple
New York State Department of Transportation
Four Burnett Boulevard
Poughkeepsie, New York 12603

Re: PIN 8754.76, Route 9 Traffic Signals

Dear Doreen:

Reference is made to your letter of May 14, 2010, to Michael McGarvey, Village Engineer, regarding additional funds that have been requested by the Village for engineering services relating to the above-captioned matter. As you note in the letter, the Village has received $40,000 for engineering and $5,000 for right-of-way incidentals and based upon compliance with Federal Highway Administration guidelines for engineering services, the said services will cost $128,000. You note there are no additional funds available for this purpose.

I have shared your letter and the overall budget for the project with the Board of Trustees. Based upon the additional costs associated with the engineering and questions posed regarding costs associated with the actual construction, the Board of Trustees has made the decision not to move forward with the grant project. The Board of Trustees believes the improvements on Route 9 are extremely important and is desirous of pursuing this in the future. The Board will be seeking grant funds with more exacting figures associated with both engineering and construction.

I apologize for any inconvenience this action may cause the Department of Transportation; however, in these difficult financial times where the Village has cut back on staffing and other expenses, the Board felt that it could not incur the additional costs associated with this grant program. Should you require any additional documentation from me beyond this letter, please feel free to contact me.

Very truly yours,

Michael S. Blau
Village Administrator

Cc: Mr. Michael J. McGarvey, Village Engineer

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
REGION EIGHT
4 BURNETT BOULEVARD
POUGHKEEPSIE, NEW YORK 12603
www.nysdot.gov

WILLIAM J. GORTON, P.E.
ACTING REGIONAL DIRECTOR

STANLEY GEE
ACTING COMMISSIONER

3

August 17, 2010

Mr. Michael S. Blau, Village Administrator
Village of Tarrytown
One Depot Plaza
Tarrytown, NY 10591

RE: PIN 8759.76, ROUTE 9 TRAFFIC SIGNALS
VILLAGE OF TARRYTOWN, WESTCHESTER COUNTY

Dear Mr. Blau:

We acknowledge receipt of the June 8, 2010 letter from Jaimie Ninan and also your letter dated June 18, 2010 regarding the status of the above-referenced project.

This letter is to confirm the Village's decision to not move forward with the project at this time based on the fact that no additional funds are available to cover the overall cost of the project. The Board of Trustees intends to seek additional funding as this project remains extremely important to the Village and their hope is to pursue it in the future.

Be advised that the available funding will therefore be moved out to Federal Fiscal Year 2014 on the State Transportation Improvement Program (STIP). It is suggested that you maintain contact with the Mid-Hudson South MPO to ascertain when additional funding may be available. The contact is Jean Shanahan and she can be reached at (845) 431-5768.

Sincerely,

Doreen Holsopple
Administrative & Financial Advisor
Region 8 Local Projects Unit

Copy: Drew Fixell, Mayor
Mr. Michael McGarvey, Project Manager
J. Shanahan, MPO

3

MEMO

TO: MIKE BLAU
FROM: MARTY SCHNEIDER
DATE: 02/02/11
RE: ROUTE 9 TRAFFIC SIGNALS PROJECT

I reviewed the files on the Route 9 traffic signals project in order to review the costs of the overall project. I did not find the original Adler proposal to DOT, but I found the following:

- The original approved project budget was $408,000, which included federal funds of $326,400 and local share of $81,600
- Jean Shanahan had explained to me in September 2007 that the feds will pay 80% of project cost, that the state will pick up 15% of project costs (priority for construction costs) and the Village will have to pick up 5% of project costs.
- An updated budget was sent to the State on August 8, 2008—per their request—as outlined below, in which we estimated that construction costs have risen by 15%, design costs increased by 5% and inspection costs increased by 5%.
- We requested additional funds of $87,000 for design in November 2009 based on the bid from Berger, Lehman Associates, for a total design cost of $128,000.
- Berger Lehman gave an estimate of $225,000 for construction costs based upon reuse of existing mast arm/ span poles and upgrade of signal heads/ not total replacement (per October 2009 email). I could not find a detailed construction budget.
- Adler emailed a detailed cost estimate for each of the three intersections, which add up to $407,700, on February 2008. These costs included $130,000 for the Doubletree phase; $133,700 for the Kraft phase; and $144,000 for the Sunnyside phase. I don't think these estimates were inclusive of non-construction costs.

Below is a summary of costs:

Project Phase	Original Budget	Update 2008	Additional Request 2009	Berger Estimate	Adler Cost Estimate
Preliminary Design	20,000	21,000	$128,000	128,000	
Detailed Design	20,000	21,000			
ROW Incidentals	5,000	5,000			
ROW Acquisition	5,000	5,000			
Construction	338,000	388,700		225,000	407,700
Construction Inspection	20,000	21,000			
TOTAL	408,000	461,700			

ROUTE 9 TRAFFIC SIGNALS PIN 8759.76				
Project Phase	Original Grant Amount	Additional Grant Amount - Federal	Additional Grant Amount - State	Total
Preliminary Design	$16,000.00	$112,000.00	$18,000.00	$146,000.00
Detailed Design	$16,000.00			
ROW Incidentals	$4,000.00			
ROW Acquisition	$4,000.00			
Construction	$270,400.00			
Construction Inspection	$16,000.00			
RR Force Account	$0.00			
Utilities	$0.00			
Betterments	$0.00			
	$326,400.00	$112,000.00	$18,000.00	$456,400.00

Original grant amount did not include any state funds
Items highlighted in yellow are considered as a functional group

(3)

Route 9 Traffic Signals
PIN 8759.76

Based on the IPP

Phase	Amount	Federal	Local	Marchiselli	Total	
P	$20,000.00	$16,000.00	$4,000.00		$20,000.00	Obligated
D	$20,000.00	$16,000.00	$4,000.00		$20,000.00	Obligated
N	$5,000.00	$4,000.00	$1,000.00		$5,000.00	Obligated
R	$5,000.00	$4,000.00	$1,000.00		$5,000.00	Programmed
C	$338,000.00	$270,400.00	$67,600.00		$338,000.00	Programmed
CI	$20,000.00	$16,000.00	$4,000.00		$20,000.00	Programmed
Total	$408,000.00	$326,400.00	$81,600.00		$408,000.00	

Route 9 Traffic Signals
PIN 8759.76 - Supplemental #1 to State Aid Local Agreement

Additional Federal Aid and Approved Marchiselli funds

Phase	Amount	Federal	Local	Marchiselli	Total	
P	$70,000.00	$56,000.00	$3,500.00	$10,500.00	$70,000.00	
D	$70,000.00	$56,000.00	$6,500.00	$7,500.00	$70,000.00	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Obligated
R	$5,000.00	$4,000.00	$1,000.00	$0.00	$5,000.00	Programmed
C	$338,000.00	$270,400.00	$67,600.00	$0.00	$338,000.00	Programmed
CI	$20,000.00	$16,000.00	$4,000.00	$0.00	$20,000.00	Programmed
Total	$508,000.00	$406,400.00	$83,600.00	$18,000.00	$508,000.00	

(4)

Jim Hart

From: Howard Wessells <hwessells@tarrytowngov.com>
Sent: Thursday, January 24, 2013 9:42 AM
To: Jim Hart
Subject: FW: Proposal

-----Original Message-----
From: Jay Troccoli [mailto:jay.dutchessenviro@comcast.net]
Sent: Thursday, January 24, 2013 9:24 AM
To: 'Howard Wessells'
Subject: RE: Proposal

After working up the numbers using 1/2" copper sleeved in 4" APT Corrugated Ducting and installing a fill port instead of stairs my price inflates by $4,710. We cannot absorb this additional coat and I assume putting this on paper is a waste of time. Also, my materials if not ordered by 1/31/13 will increase by 4%. If you want this on paper let me know but I already assume the bid will be awarded to the other company. Please keep us in mind for future tank work for the Village of Tarrytown. Thanks Regards, Jay

Jason Troccoli
936 Route 6
Mahopac, NY 10541
(845) 628-3610

-----Original Message-----
From: Howard Wessells [mailto:hwessells@tarrytowngov.com]
Sent: Friday, January 18, 2013 2:31 PM
To: Jay Troccoli
Subject: Re: Proposal

My office 4 division st

Sent from my iPhone

On Jan 18, 2013, at 2:25 PM, "Jay Troccoli" <jay.dutchessenviro@comcast.net> wrote:

> 9 is good. Same place?
>
>
> Jason Troccoli
> 936 Route 6
> Mahopac, NY 10541
> (845) 628-3610
>
>
> -----Original Message-----
> From: Howard Wessells [mailto:hwessells@tarrytowngov.com]
> Sent: Friday, January 18, 2013 2:15 PM
> To: Jay Troccoli

(4)

Carol Booth

From: Howard Wessells
Sent: Thursday, January 24, 2013 10:47 AM
To: Carol Booth
Subject: Fwd: Fuel Tank Proposal
Attachments: Cut sheets for Tarrytown H2O tank replacement.pdf; ATT00001.htm

Sent from my iPhone

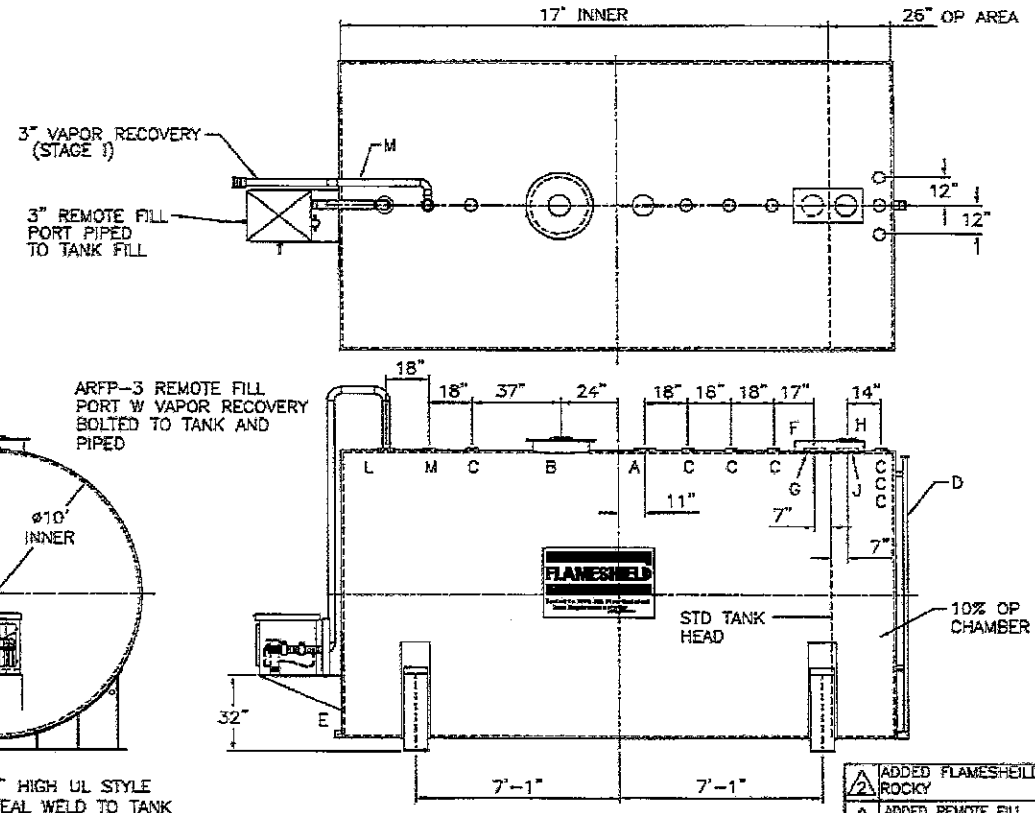
Begin forwarded message:

> **From:** "Dwayne Monaco" <dm@northeastenvironmental.com>
> **To:** "Howard Wessells" <hwessells@tarrytowngov.com>
> **Subject: RE: Fuel Tank Proposal**
>
> Good morning,
>
> Attached please find the cut sheets you requested along with additional cut sheets for other equipment quoted. The remote fill will be piped with an in line ball valve and check valve, in that order, leading from the fill port to the tank.
>
> Please, as always let me know if you have any further questions.
>
> Thank you
>
> Regards,
>
> Dwayne J. Monaco
>
> Northeast Environmental Inc.
>
> 225 Valley Place
>
> Mamaroneck, NY 10543
>
> 1-877-574-TANK (8265)
>
> http://www.northeastenvironmental.com<http://www.northeastenvironmental.com/>
>
> ---
> From: Howard Wessells [hwessells@tarrytowngov.com]
> Sent: Thursday, January 24, 2013 8:31 AM
> To: Dwayne Monaco
> Subject: Fuel Tank Proposal

Typical set up for a factory installed remote fill and 15-gallon catch basin. This was for a gasoline AST Northeast installed at a local marina.

TOUCH UP OF FINISHED PAINT IS REQUIRED BY INSTALLATION CONTRACTOR. TOUCH UP PAINT SHIPPED WITH TANK.

NOTE:
FILL DROP PIPE IS NOT REQUIRED.



DESIGN DATA
CAPACITY – 10,000 GALLONS
TYPE – DOUBLE WALL – TYPE I
NO. REQ. – –
OPERATING PRESSURE – ATMOSPHERIC
TANK MATERIAL – MILD CARBON STEEL
THICKNESS – INNER– HEADS: 5/16" SHELL: 1/4" THICKNESS – OUTER– HEADS: 1/4" SHELL:7 GA
CONSTRUCTION – INNER – LAP WELD OUTSIDE ONLY OUTER – LAP WELD OUTSIDE ONLY
TANK TEST – INNER – 5 PSIG OUTER – 2 PSIG AND FULL VACUUM
INT. FINISH – NONE
EXT. FINISH – SPS BLAST WHITE URETHANE TOPCOAT
LABEL – UL 142 TYPE I 360° DOUBLE WALL; FLAMESHIELD PER sti AND swRI 97-04

LEGEND			
A	8" FITTING THROUGH OUTER SHELL ONLY – MARK WITH LABEL – INTERSTITIAL EMERGENCY VENT USE	G	8" FITTING – OVERFLOW FROM TANK
B	24" X 1/4" PLATE TIGHT BOLT MANWAY WITH 1/8" THICK NEO–CORK GASKET W "K" MOUNTED IN LID	H	8" FITTING MOUNTED IN "G" TOP PRIMARY EMERGENCY VENT USE
C	4" FITTING	J	8" FITTING – OVERFLOW TO CHAMBER
D	2" INTERSTITIAL MONITOR PIPE	K	8" FITTING MOUNTED IN MANWAY LID PRIMARY EMERGENCY VENT USE
E	3" FLAT BAR GROUNDING LUG WITH 5/8" HOLE ON CL	L	6" FITTING w/ 6" x 3" BUSHING
F	29" LONG X 14" WIDE X 4" HIGH STEEL CLOSED TOP ENCLOSURE WELDED TO OUTER TANK	M	3" FNPT FITTING w/ MORRISON 232 STAGE I VAPOR RECOVERY ADAPTOR & CAP & PIPING

2	ADDED FLAMESHIELD PER ROCKY	6/7/07	003
1	ADDED REMOTE FILL, 24" MANWAY, FINISH PAINT, SEAL WELD SADDLES	6/01/07	006
3	CHANGED LOCATION OF THE REMOTE FILL	6/7/07	003

Highland Tank®

10,000 GAL 10'ø AH DW TANK

CUSTOMER: FRED BURACK COMPANY

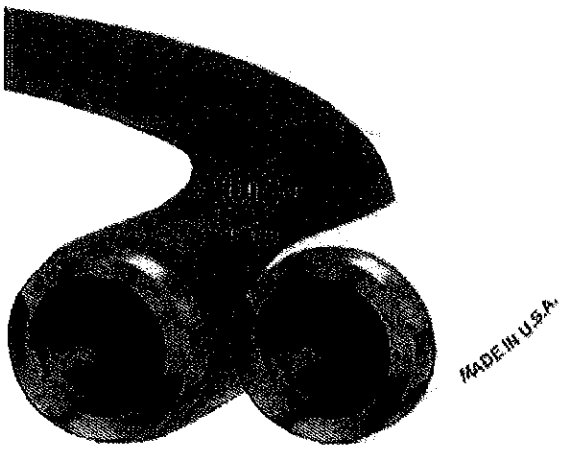
PROJECT: EASTERN OIL

QUOTE NO:

CHK'D BY:

SCALE	DATE	DWG. BY	DWG. NO.
1/4" = 1'	5/22/07	006	53862

(4)



The Future Flows Through EnviroTube™

EnviroTube™ is flexible PVC-jacketed coated copper tubing that is used for fuel oil transfer lines, gas and propane. EnviroTube™ is the only coated copper tubing having two patents from the United States Patent Office specifically for the use in underground fuel oil lines. EnviroTube™ is approved by numerous states, D.E.C., D.E.P., Department of Health, Fire Marshals, and is UL listed for petroleum products not for vapor gas. EnviroTube™ is resistant to almost all chemicals found in the soil. It is also flame retardant, abrasion resistant, and resistant to Earth movement. The coating compound has been improved by the addition of UV inhibitor and anti-fungicide. The flexible PVC coating has a life span of over one-hundred years without loss of strength. The PVC coating is non-toxic and recyclable.

US Patent # 5,868,171 US Patent #6,135,159 UL Listed for Petroleum Products not for vapor gas UL #MH26508

Mor-Wire & Cable, Inc.

Foot of Crosby St., Bldg. 20

PO Box 1782

Lowell, MA 01853

Phone: 978.453.1782

morwireandcable@aol.com

4

Conduit for fuel oil lines

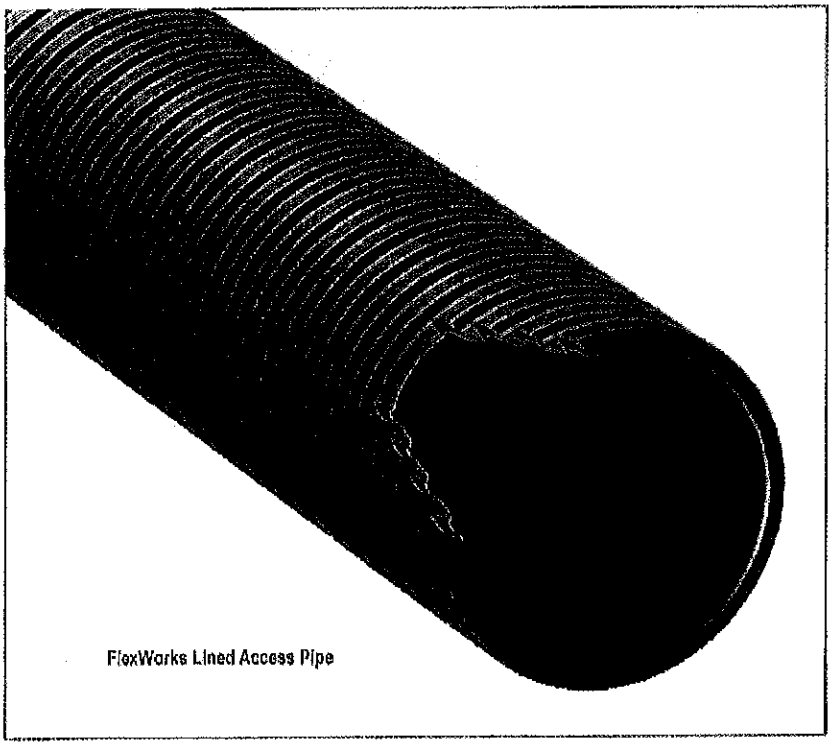
FlexWORKS
BY OPW FUELING CONTAINMENT SYSTEMS

Lined Access Pipe

A 4" diameter corrugated flexible conduit is used to provide access to and permit the future replacement of the Flex piping if desired. This corrugated pipe is strong enough to withstand H-20 loading requirements when properly buried and thick enough to minimize damage from shipping and jobsite handling. Access pipe can accommodate the 3/4", 1", 1-1/2", 2" and 3" FlexWorks supply pipe.

Features & Benefits:

- Crush and puncture-resistant
- Semi-smooth liner facilitates ease of installation
- Saves you time and money
- No buried joints



FlexWorks Lined Access Pipe

Ordering Specifications - FlexWorks Double Layer Access Pipe

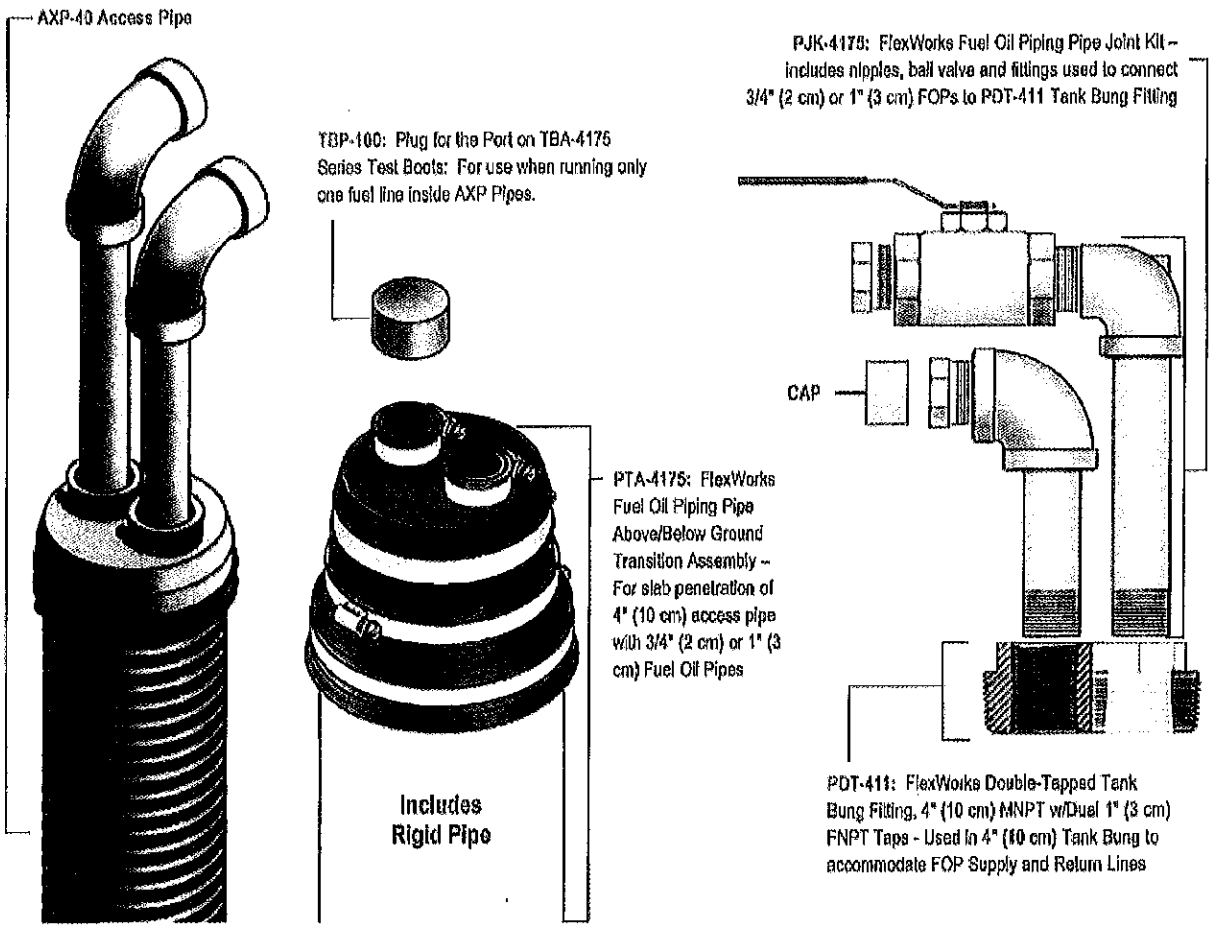
		Minimum Bend Radius		Packaging		Dimensions I.D.		Dimensions O.D.	
Part #	Application	In.	mm			In.	mm	In.	mm
AXP40-100	4" Double Layer Access Pipe	18"	457	Box	100 ft.	4	102	4.760	121.0
AXP40-250	4" Double Layer Access Pipe	18"	457	Box	250 ft.	4	102	4.760	121.0

Access Pipe Installation Instructions Sheet Order Number: **API-0001**

To be used to transition from above ground to below ground pipe.

FlexWORKS
BY OPW FUELING CONTAINMENT SYSTEMS

Specialty Fittings - 3/4" and 1"



Ordering Specifications - Specialty Fitting

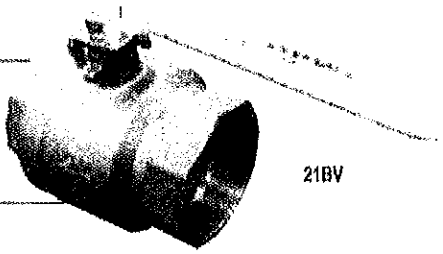
Model #	Application
PDT-411	4" x 1" x 1" Double Tap Bushing
PJK-4175	4" x 1" x ¼" Pipe Joining Kit
PTA-4175	Transition Assembly
TBA-4175	4" Fuel Oil Boot Transition Assembly

(4)

Ball valve to be used on fill pipe after fill and before check valve

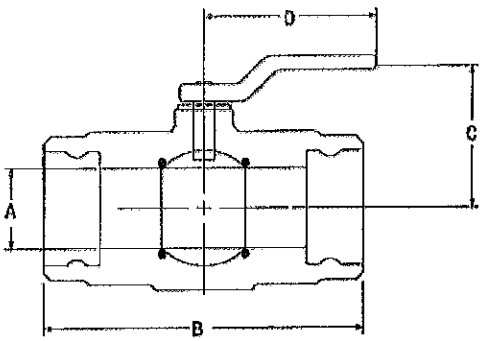
Materials

Body: Brass
Ball: Hard chrome plated
Seal: Teflon®



Features

- Pressure rated to 600 psig (41 bar) WOG
- Blowout-proof stem
- Chrome-plated brass ball
- Secondary O-ring stem seal
- PTFE seats, thrust bearing and stem packing



Ordering Specifications and Dimensions

Model #	Size (in.)	Dimensions (in.) A	B	C	D
21BV-0050	¾	0.59	2.08	1.81	3.39
21BV-0075	1	0.98	2.87	2.50	4.29
21BV-0100	1	0.98	2.87	2.50	4.29
21BV-0150	1½	1.57	3.87	2.72	5.63
21BV-0200	2	1.96	4.29	3.03	5.63
21BV-0200SS*	2	1.96	4.80	3.66	7.09
21BV-0300	3	3.15	6.10	5.12	8.35

*SS denotes Stainless Steel.

202233	Lockable Handle Kit for 1/2" Model
202234	Lockable Handle Kit for 3/4" and 1" Models
202235	Lockable Handle Kit for 1-1/2" and 2" Models

OPW 21BV Full Port Two-Way Ball Valve

OPW Ball Valves are used throughout fueling systems where a shut-off point is desirable to isolate a section of the piping system. These full-port, forged brass valves feature a manual open-close arm and a quick quarter-turn handle, allowing easy shut down of your AST or UST system. Compatible with gasoline, alcohol fuels, diesel and MTBE. Available with Lockable Handle (LH).

Listings and Certifications

(4)

Check valve to be installed after ball valve

Materials

Body: Bronze
Seat Ring: Brass
Disc: Viton®
Cap: Bronze

Swing Check Valve

Features

- **Viton Main Disc** - compatible with gasoline, diesel, kerosene, ethanol, methanol, MTBE, fuel oil, mogas, motor oil and various other blends of fuel.
- **Full-Bore Inside Diameter for Superior Flow Rates** – maximizes flow rates in the fuel supply lines.
- **Easy Service Entry** – threaded cap assembly allows removal, replacement or servicing of the carrier, disc or disc holder.
- **Rated Normal Pressure Limit: 125 psi (8.6 bar)**
- **Cold Non-Shock Pressure Limit: 200 psi. (13.8 bar)**
- **Temperature Limit: 225° F**

Ordering Specifications

Product #	In.	mm	lbs.	kg
175-0044	2	51	4.7	2.14
175B-1544	2	51	4.6	2.10
1175-0050	3	76	16.8	7.60

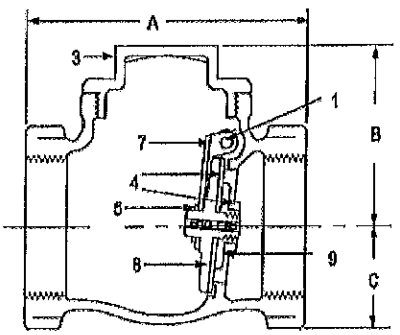
Replacement Parts

OPW 175, 175B, 1175

Key	Part #	Description
1 (175,175B)	H00409RB	Pin
1 (1175)	H06797RB	Stem
2 (175,175B)	H00404RB	Plug
2 (1175)	H06798RB	Plug
3 (175,175B)	H00842B	Cap
3 (1175)	H06800B	Cap
4 (175,175B)	H12071R	Disc
4 (1175)	H06799	Disc Sub-Assy.
5 (175, 175B)	H04035M	Disc Nut
6 (175)	H07488A	Disc Holder
6 (175B)	H07495A	Disc Holder
7 (175, 175B)	H07610RB	Carrier
7 (1175)	H06796B	Carrier
8 (175, 175B)	H05792M	Retaining Ring
9 (175, 175B)	H03295M	Washer
10 (1175)	H04250M	Lock Nut

OPW Swing Check Valve

The OPW Swing Check Valves are designed to allow one-way product flow in fuel supply lines. OPW Swing Check Valves are installed in-line on fuel supply or transfer piping. A free-swinging poppet in the valve opens with flow of product and closes to prevent back-flow. The swing check valves can be located in either horizontal or vertical piping. The 175 is available in 2" female NPT connections. The 175B is similar to the 175 except it has an internal pressure relief valve to help absorb thermal expansion in the fuel supply or transfer line, pressure relief set at approx. 25 psi (1.7 bar). The 1175 is available in 3" female NPT connections.



Dimensions

	In.	mm
A	7½	191
B	7¼	183
C	2⅝	66

OPW
A DOVER COMPANY

4

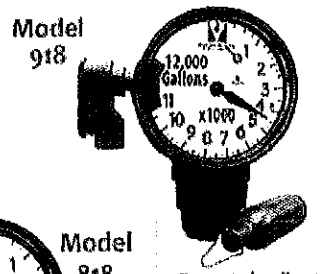
MORRISON BROS. CO.

SPECIFICATION SHEET

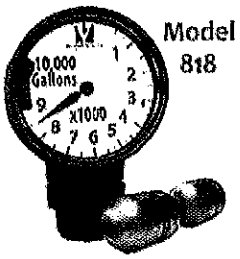
IT'S TIME FOR GALLONS!

Morrison is pleased to introduce our new 818 and 918 gallon gauges!

The Morrison Model 818C & 918C Gallon Gauges are used to measure the liquid level in an aboveground storage tank. The Gallon Gauge provides an approximate read out clearly displayed in gallons, and can easily be read from 20 feet away! The Morrison Gallon Gauge eliminates the need to convert feet and inch gauge readings to gallons. The 918C includes a high level audible alarm.



Drop tube float



Standard float

- Easy to install on a 2 inch male or female threaded tank opening
- Vapor tight up to 6 psi
- Swivel base rotates 360 degrees after mounting, allowing for optimum viewing angle
- Measures liquid levels in tanks up to 12 feet
- Proven anti-fog design for a clear view of the liquid level reading
- High level indicated by red zone indicator
- Stainless steel float and cable
- Drop tube float and drop tube available for tanks with higher-than-normal turbulence
- Compatible with Ethanol blends up to 85%
- Compatible with Biodiesel blends up to 100%
- 918C includes field adjustable 90 decibel high level audible alarm
- Intrinsically safe alarm is battery powered by two 9-volt batteries

STEP 1: Select gauge.

	818 Models			
	818C	0100 AG	2"	Clock gauge, male threads, standard float, no-face
EVR	818C	0100AGEVR	2"	Clock gauge, male threads, standard float, no-face, EVR
	818C	0400 AG	2"	Clock gauge, male threads, drop tube float, no-face
EVR	818C	0400AGEVR	2"	Clock gauge, male threads, drop tube float, no-face, EVR
	818CF	0100 AG	2"	Clock gauge, female threads, standard float, no-face
EVR	818CF	0100AGEVR	2"	Clock gauge, female threads, standard float, no-face, EVR
	818CF	0400 AG	2"	Clock gauge, female thds, drop tube float, no-face
EVR	818CF	0400AGEVR	2"	Clock gauge, female thds, drop tube float, no-face, EVR

	918 Models			
	918C	0000 AG	2"	Clock gauge less alarm, male threads, standard float, no-face
EVR	918C	0000AGEVR	2"	Clock gauge less alarm, male threads, standard float, no-face, EVR
	918C	2000 AG	2"	Clock gauge less alarm, male threads, drop tube float, no-face
EVR	918C	2000AGEVR	2"	Clock gauge less alarm, male threads, drop tube float, no-face, EVR
	918C	0100 AG	2"	Clock gauge w/alarm, male threads, standard float, no-face
	918C	0400 AG	2"	Clock gauge w/alarm, male threads, drop tube float, no-face
	918CF	0000 AG	2"	Clock gauge less alarm, female threads, standard float, no-face
EVR	918CF	0000AGEVR	2"	Clock gauge less alarm, female threads, standard float, no-face, EVR
	918CF	0100 AG	2"	Clock gauge w/alarm, female threads, standard float, no-face
	918CF	0400 AG	2"	Clock gauge w/alarm, female threads, drop tube float, no-face
	918CF	2000 AG	2"	Clock gauge less alarm, female threads, drop tube float, no-face
EVR	918CF	2000AGEVR	2"	Clock gauge less alarm, female threads, drop tube float, no-face, EVR

Emergency blow off vent

Materials

Lid: Cast Iron with powder-coated finish
Body: Aluminum
Shaft: Zinc-plated steel
O-Ring: Buna-N

301	SCFH @ 2½ PSI (0.17 bar)
4"-	101,000
6"-	250,000
8"-	471,000

CARB EVR CERTIFIED

Features

- **Automatically Resets** – weighted cast iron cover reseats once the pressure in the tank is relieved.
- **Aluminum Body and Cast Iron Lid**
- **Epoxy Powder-Coated Cover** – prevents rusting of the cover to protect expensive finishes on ASTs.
- **UL Listed** – to satisfy third party accreditation requirements of many jurisdictions.
- **CARB Certified** – AST Phase 1 Enhanced Vapor Recovery (EVR) System

301 Series Instruction Sheet Order Number: 203568

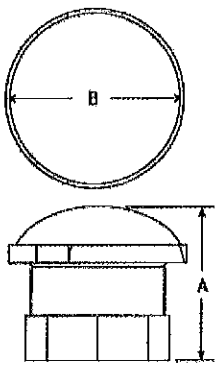
Ordering Specifications

CARB APPROVED AST EQUIPMENT

Model #	in.	mm	Pressure Setting	Mounting Connection	A in.	A mm	B in.	B mm	Weight lbs.	Weight kg
301-3080	3	76	8 oz.	Female NPT	4.7	119.4	5.1	130.5	6.7	3
301M-3081	3	76	8 oz.	Male NPT	4.7	119.4	5.1	130.5	6.7	3
301-3160	3	76	16 oz.	Female NPT	5.7	144.8	5.1	129.5	11.1	5.2
301M-3161	3	76	16 oz.	Male NPT	4.7	119.4	5.1	130.5	11.1	5.2
301-4080	4	101.5	8 oz.	Female NPT	4.9	124.5	6.1	154.9	10.6	4.9
301M-4081	4	101.5	8 oz.	Male NPT	4.9	124.5	6.1	154.9	10.6	4.9
301-4160	4	101.5	16 oz.	Female NPT	6.1	154.9	6	152.4	18.1	8.2
301M-4161	4	101.5	16 oz.	Male NPT	6.1	154.9	6	152.4	18.1	8.2
301-6080	6	152	8 oz.	Female NPT	5.9	149.9	8.1	205.7	20.9	9.5
301M-6081	6	152	8 oz.	Male NPT	5.9	149.9	8.1	205.7	20.9	9.5
301-6160	6	152	16 oz.	Female NPT	7.4	188	8.1	205.7	37.5	17
301M-6161	6	152	16 oz.	Male NPT	7.4	188	8.1	205.7	37.5	17
301-8080	8	203	8 oz.	Female NPT	6.2	157.5	10.1	256.6	33.9	15.4
301M-8081	8	203	8 oz.	Male NPT	6.2	157.5	10.1	256.6	33.9	15.4
301-8160	8	203	16 oz.	Female NPT	7.8	198.1	10.1	256.5	61.9	28
301M-8161	8	203	16 oz.	Male NPT	7.8	198.1	10.1	256.5	61.9	28
301F-8085	8	203	8 oz.	Flange	6.2	157.5	10.1	256.5	41.8	19
301F-8165	8	203	16 oz.	Flange	7.8	198.1	10.1	256.5	75	34.0
301F-1085	10	254	8 oz.	Flange	6.5	165.1	12	304.8	65.2	29.6

OPW 301 Emergency Vents

The OPW 301 Emergency Vent is designed to prevent an above ground storage tank from becoming over-pressurized by providing high-capacity venting in the event of a fire or blockage. The 301 is a weighted, mushroom-style emergency vent. When the AST builds pressure, the weighted cast iron lid is forced up off its seat to relieve the pressure. When pressure is relieved, the lid lowers and is automatically reset. The appropriate 301 Series vent is determined by the emergency venting capacity requirements of the AST and the type of connection at the tank's emergency vent opening. The OPW 301 Emergency Vent is available in 4", 6", 8" and 10" openings with female NPT, male NPT or flanged connections (8"-10") to allow for easy installation in new or existing above ground tanks. Various lid pressure settings determine the initial venting of the valve.



Replacement Parts

Part #	Description
201877	4" Seal
202721	6" Seal
203325	8" Seal

Approvals and Listings

CARB Certified
AST Phase 1 Enhanced Vapor Recovery (EVR) System