From: Prysby, Mike (DEQ)
Sent: Tuesday, October 20, 2015 12:30 PM
To: Cook, Pat (DEQ)
Subject: RE: Safety data sheet for Phosphoric Acid

Thanks Pat,

Steve and I are preparing our punch list of which the product name, max dosage, and NSP approval are being asked....

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

-----Original Message-----
From: Cook, Pat (DEQ)
Sent: Tuesday, October 20, 2015 11:57 AM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Subject: FW: Safety data sheet for Phosphoric Acid

Info regarding DWSD's CC chemical. They use an Innophos "Phosphoric Acid 75% Technical" product which is an NSF Standard 60 certified. Max feed rate is 13 mg/l as product.

pat

-----Original Message-----
From: Johnson, Stephanie (DEQ)
Sent: Tuesday, October 20, 2015 11:34 AM
To: Cook, Pat (DEQ)
Cc: Donaldson, Kristina (DEQ)
Subject: FW: Safety data sheet for Phosphoric Acid

Hi Pat,

Here's information on DWSD's corrosion control program. I've verified this at the Northeast plant, Springwells and Southwest so far. Let me know if you need anything else.

-----Original Message-----
From: Annie Philip [mailto:aphilip@dwsd.org]
Sent: Tuesday, October 20, 2015 8:32 AM
To: Johnson, Stephanie (DEQ)
Cc: jacob
Subject: Safety data sheet for Phosphoric Acid

Hi Stephanie,

DWSD uses Phosphoric Acid 75% (Orthophosphoric Acid) at a dosage of 1ppm for corrossion control. The supplier is PVS Nolwood Chemicals, Inc. Please see attached safety Data Sheet for Phosphoric acid.
Thank you

Annie C Philip
Operations Team Leader

Northeast Water Treatment Plant
11000 East Eight Mile Rd.
Detroit, MI. 48205
(313)-245-1605 (office)

PPI (cell)
aphilip@dwsd.org
City of Detroit
Mike Duggan, Mayor

----- Forwarded Message -----
From: "Detroit Water & Sewerage Dept" <NE-CHMLAB-HP575@dwsd.org>
To: aphilip@dwsd.org
Sent: Tuesday, October 20, 2015 8:22:38 AM
Subject: Safety data sheet for Phosphoric Acid

Please open the attached document. This document was digitally sent to you using an HP Digital Sending device.

From: Prysby, Mike (DEQ)
Sent: Tuesday, October 20, 2015 2:32 PM
To: Busch, Stephen (DEQ)
Subject: Preliminary and Deliberative: FW: Flint Corrosion Control Plans and MDEQ Preliminary Comments.pdf
Attachments: Flint Phosphate Calculations.pdf; MDEQ Preliminary Comments with replies (2).pdf; IBC tote scale with containment.pdf

Samir's response to our comments...

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Matta, Samir [mailto:SFMatta@lan-inc.com]
Sent: Monday, October 19, 2015 3:11 PM
To: Prysby, Mike (DEQ)
Subject: Flint Corrosion Control Plans and MDEQ Preliminary Comments.pdf

Hi Mike,

Please see attached for your file and use. Let me know if the information satisfy your needs and whether you have additional information that you would like us to have answered.

Thanks.

Samir F. Matta, PE
Team Leader

Lockwood, Andrews & Newnam, Inc.
A LEO A DALY COMPANY

1311 South Linden Road, Suite B • Flint, MI 48532
2121 University Park Dr. Suite 100 • Okemos, MI 48864-6901
D 517.819.2367 **PPI**
www.lan-inc.com • smatta@lan-inc.com

Flint Phosphate Calculations

Chemical will be 75% NSF certified Phosphoric acid

75% acid has a density of 13.17 #/gal. (5,974 g/gal)

Of this 75% is Phosphoric acid (H_3PO_4) = 4,480 g H_3PO_4/gal

Molecular weight of H_3PO_4 is 97.9913 g/mole

Moles H_3PO_4 / gal = 45.72

Moles H_3PO_4 = Moles Orthophosphate (PO_4^{-3}) = Moles Phosphorus (P)

Species	Molecular Wt.	Moles / gal	g/gal
H_3PO_4	97.9913	45.72	4,480
PO_4^{-3}	94.9676	45.72	4341.92
P	30.97	45.72	1407.72

Proposed Operating Parameters

	Plant Flow	Dosage as PO_4^{-3}	Dosage as P*
Maximum	25 MGD	1.5 mg/l	0.47 mg/l
Average	16 MGD	0.8 mg/l	0.25 mg/l
Minimum	4 MGD	0.4 mg/	0.13 mg/l

*Equivalent dosage to PO_4^{-3} dosage

Feed Rate Calculations

Maximum feed rate (Max Flow × Max Dosage)

25 MGD × 3782 g/gal H_2O × 1.5 ppm / 4,341.92 g/gal = 32.66 gpd Phosphoric Acid

Average feed rate (Avg Flow × Avg Dosage)

16 MGD × 3782 g/gal H_2O × 0.8 ppm / 4,341.92 g/gal = 11.15 gpd Phosphoric Acid

Minimum feed rate (Min Flow × Min Dosage)

4 MGD × 3782 g/gal H_2O × 0.4 ppm / 4,341.92 g/gal = 1.39 gpd Phosphoric Acid

IBC TOTE SCALE

FOR CHEMICAL IBC TOTES

Safely track chemical usage and tank levels	**Warn of dangerous** over and under-feed conditions	**Prevent system** from running empty	**4-20mA remote** monitoring reduces operator exposure to chemicals

Strict federal and state reporting requirements have created a need for water and wastewater plant operators to easily and accurately track chemical feed rates and usages. The IBC Tote Scale gives you this information along with the assurance that your chemical supply will not unexpectedly run out.

The heavy duty steel platform is protected with our advanced 80 mil thick TUF-COAT™ Environmental Armor. Tuf-Coat is highly resistant to chemicals, abrasion, impact and ultraviolet light degradation making the IBC Tote Scale ideal for even the harshest environments. Options include 316 stainless steel and MaxSense™ high accuracy models.

The IBC Tote Scale utilizes weighing technology to create a highly reliable, non-contacting chemical monitoring system that avoids problems other sensor technologies face caused by irregular tank shapes, corrosive chemical fumes, fluctuating temperatures and changes in specific gravity.

IBC Tote Scale
with integral containment option

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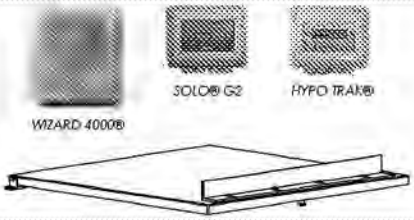
IBC TOTE SCALE

MODELS AND ORDERING INFORMATION

IBC Tote Scales do not include weight indicating instrument. Select from the following: Wizard 4000® Advanced Digital Display (Bulletin 518), the SOLO® G2 Digital Weight Display (Bulletin 516), the SOLO XT® Hydraulic Digital Display (Bulletin 514), the Century Hydraulic dial (Bulletin 519)or Hypo Track® (Bulletin 517). Please order indicator separately.

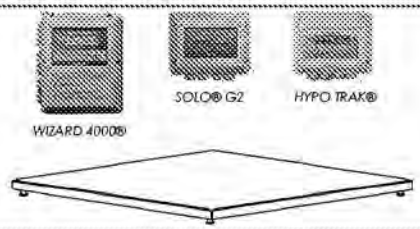
ELECTRONIC - **Single Load Cell Platform** (Includes platform with backstop and electronic load cell with 20 ft. cable. Lengths up to 100 ft. available; request when ordering.)

MODEL	MATERIAL	X	Y	Z	H	ACCURACY
54-DR××TB	TUF-COAT® STEEL	54"	54"	58"	3.25"	1/4 of 1% FS
54-DR××TBS	316 STAINLESS STEEL	54"	54"	58"	3.25"	1/4 of 1% FS
60-DR××TB	TUF-COAT® STEEL	60"	60"	64"	3.25"	1/4 of 1% FS
60-DR××TBS	316 STAINLESS STEEL	60"	60"	64"	3.25"	1/4 of 1% FS



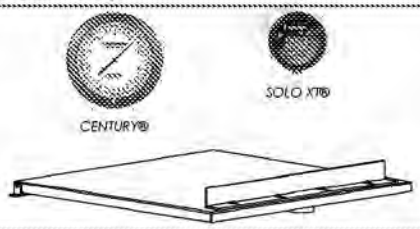
ELECTRONIC - **Hi Accuracy 4-Load Cell Platform** (Includes platform and (4) electronic load cells with 20 ft. of cable. Lengths up to 100 ft. available; request at time of purchase. Backstop not included or necessary on these models but available upon special request.)

MODEL	MATERIAL	X	Y	Z	H	ACCURACY
54-DR××TB-HA4	TUF-COAT® STEEL	54"	54"	N/A	3.25"	1/10 of 1% FS
54-DR××TBS-HA4	316 STAINLESS STEEL	54"	54"	N/A	3.25"	1/10 of 1% FS
60-DR××TB-HA4	TUF-COAT® STEEL	60"	60"	N/A	3.25"	1/10 of 1% FS
60-DR××TBS-HA4	316 STAINLESS STEEL	60"	60"	N/A	3.25"	1/10 of 1% FS

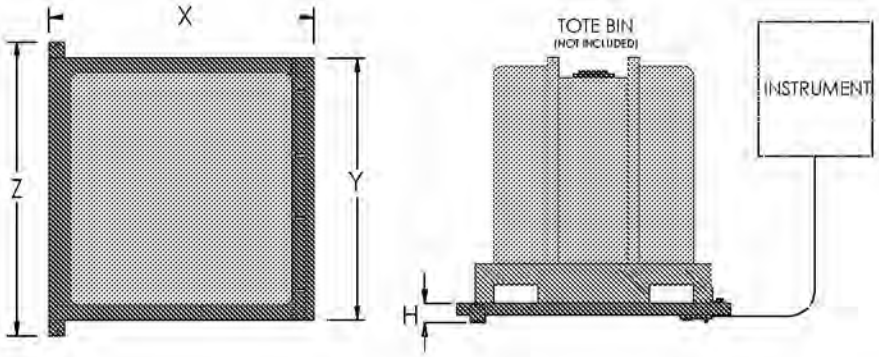


HYDRAULIC - **Single Load Cell Platform** (Includes platform with backstop, and hydraulic load cell with 12 ft. Hose and quick connect. Hose/tubing lengths up to 100 ft. available to allow remote mounting of indicator; request at time of purchase.)

MODEL	MATERIAL	X	Y	Z	H	ACCURACY
54-HY××TB	TUF-COAT® STEEL	54"	54"	58"	3.25"	1/2 of 1% FS
54-HY××TBS	316 STAINLESS STEEL	54"	54"	58"	3.25"	1/2 of 1% FS
60-HY××TB	TUF-COAT® STEEL	60"	60"	64"	3.25"	1/2 of 1% FS
60-HY××TBS	316 STAINLESS STEEL	60"	60"	64"	3.25"	1/2 of 1% FS



×× = CAPACITY: 1000 lbs = "10", 2000 lbs = "20", 3000 lbs = "30", 4000 lbs = "40", 5000 lbs = "50"



SPECIFYING GUIDELINES:

A. For maximum accuracy, size scale capacity to match the gross weight (chemical plus tote tare weight).

B. Tote size should not exceed platform size.

C. Supply connections must be flexible and preferably connected to tote over pivoted side of platform.

Please visit www.forceflow.com for drawings, engineered specifications and manuals.

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002636

MODEL NUMBERS (for Load Cell & Platform)

60-DR30TC-HA4	(3,000 Lbs.)	60" x 60" x 3.25"
60-DR40TC-HA4	(4,000 Lbs.)	60" x 60" x 3.25"
60-DR50TC-HA4	(5,000 Lbs.)	60" x 60" x 3.25"
60-DR60TC-HA4	(6,000 Lbs.)	60" x 60" x 3.25"

For Stainless Steel platform, as "S" after "TC", i.e. 60-DR30TCS-HA4.
For other capacities and platform sizes, consult factory.

MODEL NUMBER (for SOLO 1000 Indicator)

SR-1000-1	1-Channel SOLO 1000 Indicator
SR-1000-2	2-Channel SOLO 1000 Indicator

MODEL NUMBER (Containment Unit)

PAK467	400 gal. NEW PIG Poly IBC Containment Unit

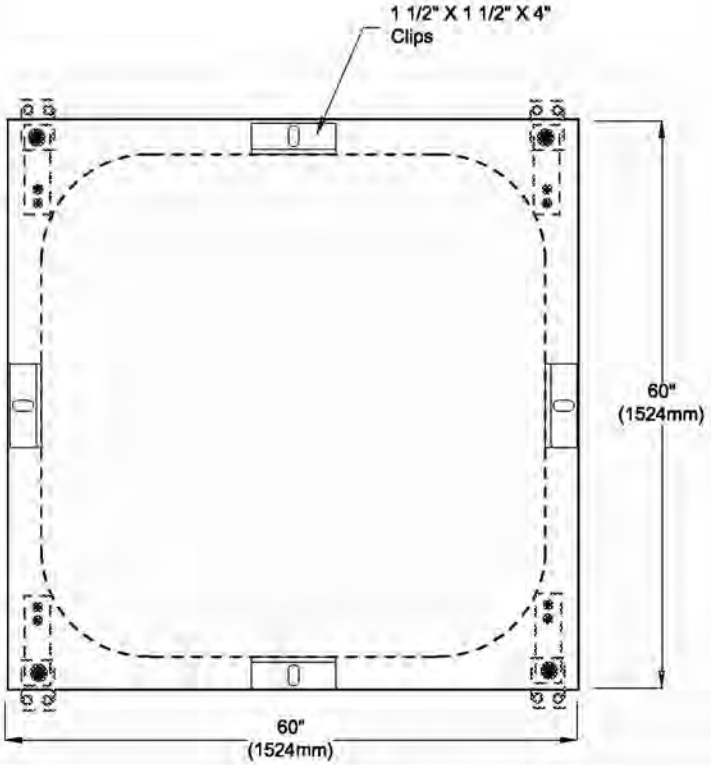
_____ Scale Model Number

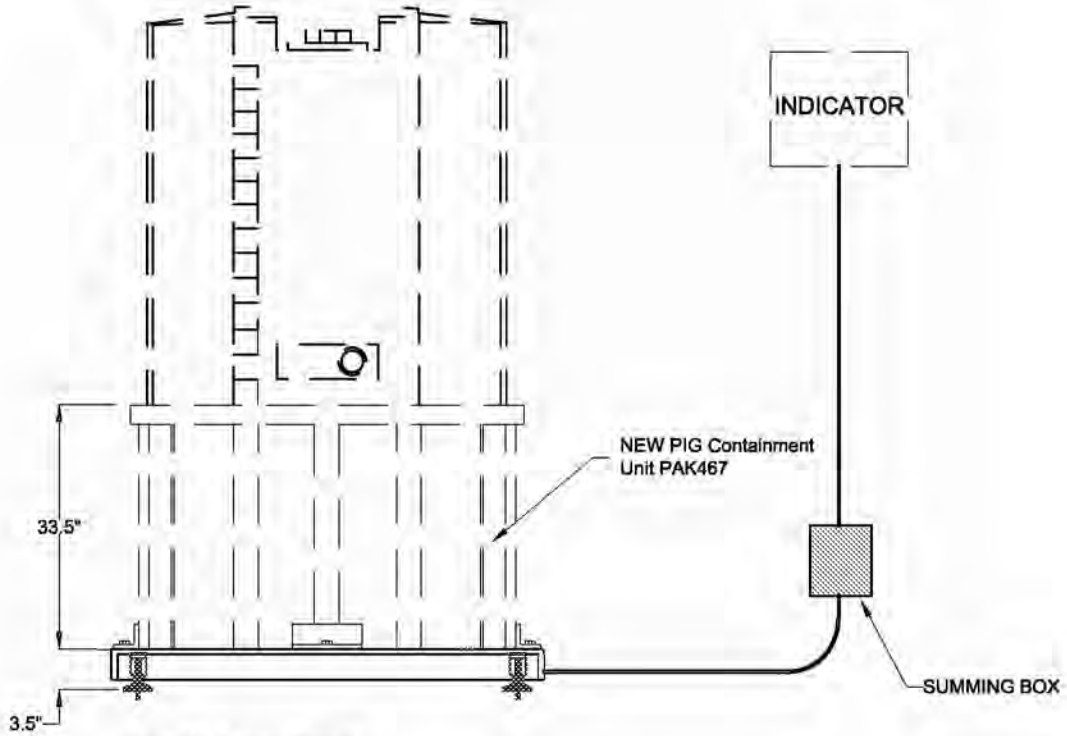
_____ Pounds or Kilogram Indication

_____ Feet of Cable (20' Standard)

_____ Tote Skid Size

400 Containment Size (Gallons)





INSTALLATION NOTE:

We recommend using a forklift to load/unload totes.
If a pallet jack is to be used, scale platform must be pit mounted so deck is flush with floor surface.
Surface mounting with use of inclined load ramps are NOT RECOMMENDED.

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F:_EMAIL_SUBMITTAL FORMS\Autocad Drawings\31431 HA Tote Bin Scale 60 Containment.dwg

HI-ACCURACY ELECTRONIC
60" TOTE BIN SCALE
CONTAINMENT

Drawn by: KBV

Date: 1/23/09

Revised: 4/13/10

Scale:

Drawing Number

31431

---NOT SUPPLIED BY FORCE FLOW----
For use with Force Flow Scale Model 60-DR100TCHA4

New Pig
Your partner for a clean and safe workplace.
1-800-HOT-HOGS® (468-4647)

Product Data Sheet

Item Number: PAK467

Item Name: PIG® Poly IBC Containment Unit

Load Capacity UDL:

- 12000 lbs./each (5443.2 kg/each)

Sump Capacity:

- 400 gal./each (1514 L/each)

Options Available:

Item #	Size	Color	Misc. Features	Amount	Length	Width	Height	Depth	Int. Dia.	Ext. Dia.	Weight	Qty/Pallet
PAK467	—	—	—	1 each	58" (147.3cm)	58" (147.3cm)	33.5" (85.1cm)	—	—	—	415lbs. (188.2kg)	1

Color: White/Black

Description:

Polyethylene containment unit used to help meet containment regulations when storing IBCs.

Application:

Used to help meet containment regulations when storing IBCs of 400 gallons or less containing materials compatible with polyethylene. IBCs can be stacked two high.

Product Features:
Super-strong Containment Unit helps you comply with regulations and store IBC tanks safely. Capture leaks, drips and spills to keep floors dry and workers safe.

- Heavy-duty construction permits double-stacking of IBCs to save space
- Solid anti-slip deck holds a variety of IBC sizes; if tank has feet or pegs, be sure to use proper support pads or plates
- Positioning pegs in pedestals keep deck from shifting
- Polyethylene construction resists UV rays, rust, corrosion and most chemicals
- Translucent white sidewalls allow easy visual inspection
- Arrives ready to use with no assembly required

Composition:

- Sump - Polyethylene
- Grates - Injection Molded Polyethylene

This product helps you comply with:

Regulatory Citation	Summary
40 CFR 264.175	Hazardous waste containment systems must be free of structural cracks or gaps, be designed to keep spilled liquids from remaining in contact with the container, prevent run-on and "have sufficient capacity to contain 10% of the volume of the containers, or the volume of the largest container, whichever is greater."

Additional Specifications:

- Dimensions (Grate): 52" L x 52" W

Disclaimers:

- **Flammables Notice:** If using this product with flammable liquids, please consider the regulations that apply to storage and handling of flammable liquids and the safety of this application, specifically flammable vapors, static discharge and heat sources. For further assistance, please call Technical Services.

PDS generated: Jul 14, 2008

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From: Prysby, Mike (DEQ)
Sent: Tuesday, October 20, 2015 4:06 PM
To: Krisztian, George (DEQ)
Cc: Sygo, Jim (DEQ);Busch, Stephen (DEQ)
Subject: Preliminary and Deliberative: Action Steps Update

George,

Below is an update of the Action Steps assigned to me for the week of October 19th, 2015.

Action Steps No. 19 and 20 – Review corrosion control treatment plan and get any EPA comments (step 19) and Review construction permit application and issue construction permit for phosphate equipment (step 20):

The corrosion control treatment plan (CCTP) and permit application was received late last Friday and were reviewed. Our review comments were provided to Flint's consultant (LAN). The CCTP was forwarded to EPA last Friday and their comments were received yesterday. A conference call was held this morning between our staff and Daren Lytle and Michael Schock of EPA to discuss the main comments (EPA's and DEQ's) to confirm that both agencies concur with the design and proposed corrosion control dosages. We are currently preparing a revised set of comments, based on our discussion with EPA. The revised comments will be sent to EPA to confirm concurrence before sending to LAN. An Act 399 permit will be issued to the city of Flint to install CCT following receipt of revised plans, specs, and – as needed – permit application that addresses the revised review comments.

Action Step No. 21 – Review Stand-by Operation of Flint WTP with the city of Flint:

No updates. Action will be taken on this step tomorrow and, as needed, through the remainder of the week.

Action Step No. 24 - Work with KWA and other agencies to address bottleneck issues:

No updates. Action may include discussing our concern with MDOT regarding the "no construction traffic" currently being imposed on N-S secondary roads and issuance of the spring weight restrictions by the Lapeer County Road Commission. We will need to see what steps MDOT may consider taking in working with the road commission to ease these restrictions that could otherwise cause delay in completing installation of the KWA pipeline. An appropriate MDOT contact will need to be provided to initiate this step.

Action Step No. 25 - Verify city of Flint distribution operations under DWSD/GLWA service:

No updates. Action will be taken to verify this step tomorrow and, as needed, through the remainder of the week.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Tuesday, October 27, 2015 4:22 PM
To: Michael Glasgow
Subject: RE: September 2013 Test Run Data

Michael,

There are gaps in the filter effluent turbidity and bacteriological information on the Sept 2013 test run report. Can you fill in these gaps?

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Tuesday, October 27, 2015 1:14 PM
To: Prysby, Mike (DEQ)
Subject: September 2013 Test Run Data

Mike,

Here is what I have found for the September 2013 Test Run Data. I had to compile some of the bacteria and ozone residual results to add. That's what took me a little while. Let me know if there is anything else you need.

--
Mike Glasgow
Utilities Administrator
City of Flint
1101 S. Saginaw St.
Flint, MI 48502
(810)766-7135 ext. 2602

Subject:	Flint WQP letter
Location:	CH-1S-SIDNEY-BARTHWELL
Start:	Wed 10/28/2015 2:30 PM
End:	Wed 10/28/2015 3:30 PM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Prysby, Mike (DEQ)
Resources:	CH-1S-SIDNEY-BARTHWELL

From: Prysby, Mike (DEQ)
Sent: Tuesday, November 10, 2015 11:29 AM
To: Busch, Stephen (DEQ)
Subject: FW: KWA/Lapeer County Impoundment

Steve,

I gave Mr. O'Brien a heads-up on this potential issue after the TAC meeting yesterday. He is firm that this is not an issue since he sees the structure being classified as an "impoundment" and not a dam since the county has control of the flow. It appears that the Dam Safety Unit is seeing this differently. On the surface, I don't see this affecting the timing of water to Flint via KWA, given the provision to by-pass the WTP's raw water pump stations & raw water impoundment. However, this will need to be confirmed.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Clampitt, Christopher (DEQ)
Sent: Tuesday, November 10, 2015 9:38 AM
To: Fish, Kim (DEQ)
Cc: Russell, Jon (DEQ); Vanderlaan, Mary (DEQ); Prysby, Mike (DEQ)
Subject: FW: KWA/Lapeer County Impoundment

Kim,

Here is Luke's assessment.

Chris

Christopher Clampitt
DEQ - WRD
Phone: 517-243-6956; FAX: 517-241-3571

From: Trumble, Luke (DEQ)
Sent: Friday, November 6, 2015 10:04 AM
To: Clampitt, Christopher (DEQ) <CLAMPITTC@michigan.gov>; Doty, Susan (DEQ) <Dotys2@michigan.gov>; Kammer, Stephanie (DEQ) <KAMMERS@michigan.gov>
Subject: RE: KWA/Lapeer County Impoundment

Hi All,

To follow up our meeting yesterday, I have confirmed from the plans and information provided by Mike Prysby that the KWA basin will be regulated under Part 315 as a dam. Once I get a task assignment in MiWaters, I will provide language for the VN for new dam permitting requirements under Part 315.

Thanks,
Luke

Lucas A. Trumble, P.E.
Hydrologic Studies and Dam Safety Unit
Water Resources Division, MDEQ
Office: 517-284-5581 ***Please note that my office number will no longer be in service after July 31, 2015***
Cell: PPI
trumblel@michigan.gov

-----Original Appointment-----
From: Vanportfleet, Jennifer (DEQ)
Sent: Thursday, October 29, 2015 4:09 PM
To: Vanportfleet, Jennifer (DEQ); Fish, Kim (DEQ); Clampitt, Christopher (DEQ); Doty, Susan (DEQ); Russell, Jon (DEQ); Vanderlaan, Mary (DEQ); Kammer, Stephanie (DEQ); Trumble, Luke (DEQ)
Subject: KWA/Lapeer County Impoundment
When: Thursday, November 5, 2015 3:00 PM-4:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: CH-3S-THOMAS-HOXIE

From: Prysby, Mike (DEQ)
Sent: Friday, November 13, 2015 11:38 AM
To: Shekter Smith, Liane (DEQ)
Subject: Re: FW:

Liane,
Just got in...I will make this a priority

Sent from my iPhone

On Nov 13, 2015, at 9:54 AM, Shekter Smith, Liane (DEQ) <SHEKTERL@michigan.gov> wrote:

> Mike – with Steve out today, I need you to review the attached and fill in the blanks where you can. I need it back by noonish.
>
> Thanks.

> **From:** Devereaux, Tracy Jo (DEQ)
> **Sent:** Friday, November 13, 2015 9:52 AM
> **To:** Shekter Smith, Liane (DEQ)
> **Subject:**
>
> <DEQ's Outline of Flint Drinking Water Issues for Flint Water Task Force - Attorney Client Privilege Work Product.docx>

From: Prysby, Mike (DEQ)
Sent: Wednesday, December 02, 2015 7:26 AM
To: Devereaux, Tracy Jo (DEQ)
Subject: Accepted: Flint Discussion

From: Prysby, Mike (DEQ)
Sent: Monday, December 07, 2015 11:09 AM
To: Shekter Smith, Liane (DEQ);Busch, Stephen (DEQ)
Subject: FW: Weekly Activity

Liane,

Oops....I forgot to cc and Steve you in the weekly update...

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Monday, December 07, 2015 10:47 AM
To: Krisztian, George (DEQ)
Subject: Weekly Activity

George,

Items to include for the Governor's report:

Activities completed the week of Thanksgiving and last week are as follows:

- Stand-by Operations letter completed and sent to the city of Flint (November 24, 2015).
- participated in conference call with the EPA Task Force (U.S. EPA Flint Task Force) regarding their preliminary corrosion control assessment for the city of Flint (November 24, 2015).
- Followed up with the city on the status of installation of corrosion control treatment. Pumps were installed on 11/30. Pump controls and final preparation of the treatment room are to be completed
(week of 11/30). Start-up of the corrosion control system is expected during the week of 12/7.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817