



February 21, 2019

Doug Faas
Mayor
123 N. Evans Road
Evansdale, IA 50707

Re: Arbutus Pump Station
Evansdale, Iowa
DNR Project No. S2019-0219A

Subject: Variance Request from 567 IAC 64.2(9a) and Design Standards Section 13.4.3

Mayor Faas:

After careful and thorough consideration, the Department has approved your February 5, 2019 request for a variance from Iowa Administrative Code Sub Rule 567 IAC 64.2(9a) and Chapter 13.4.3 (Pump Clogging Protection) of the Iowa Wastewater Facilities Design Standards, which requires pumps have the capability of passing a 3-inch spherical solid.

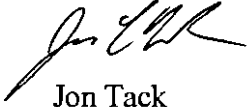
Based on the documentation presented by your Engineer, it is the determination of this Department that satisfactory justification has been presented to warrant the granting of a variance for the installation of a pump that has the capacity to pass a 1.80-inch spherical solid installed with a trash basket with 1.77-inch opening. The requested variance is deemed to be reasonable and necessary pursuant to the Iowa Code section 455B.181.

The facts presented for the project present unique circumstances and the variance is therefore justified to provide the narrowest exception possible to the provisions of the rule in accordance with Rule 561 IAC 10.5. Since the project planning and construction may last more than one year, the variance is considered to be of a permanent nature. The validity of this variance approval shall last for a period of one year from the date of the construction permit in accordance with Rule 561 IAC 10.5.

This decision is based on our review of justification presented to support the request. Our concurrence with the request is based on the Department's finding that the resulting project will provide substantially equivalent effectiveness as would be provided by technical compliance with the design standard on this issue.

Please feel free to call James Oppelt at 515-725-8428 or email me at james.oppelt@dnr.iowa.gov if you have any further questions.


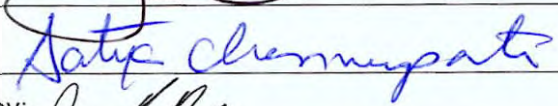
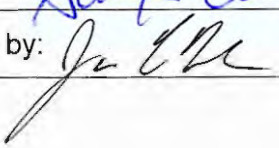
Sincerely,

A handwritten signature in black ink, appearing to read "Jon Tack", with a stylized, cursive script.

Jon Tack
Water Quality Bureau Chief

C: Tyler Eldridge, P.E. / McClure Engineering Company
DNR Field Office 1
DNR Sewage File 6-07-23-0-01

VARIANCE REQUEST
Iowa Department of Natural Resources

1.	Date:	2/5/2019	14a.	Decision:	Approval
2.	Reviewer/Engr.:	James C. Oppelt		Date:	February 21, 2019
				Expiration Date	
3.	Date Received:	2/11/2019	14b.	(if any):	
4.	Facility Name:	Evansdale Arbutus Lift Station			
5.	Facility Number:	6-07-23-0-01			
6.	County Number:	7 (Blackhawk)	15.	Appealed:	
7.	Program Area:	CP (Wastewater)		Date:	
8.	Facility Type:	C01 (Collection/Transport)			
9.	Subject Area:	344 (Pump Clogging Protection)			
10.	Rule Reference:	567-64.2(9)a			
11.	Design Std. Ref.:	13.4.3			
12.	Consulting Engr.:	McClure Engineering Co.			
13.	Variance Rule:	567-64.2(9)c			
16. <u>Description of Variance Request:</u> The City of Evansdale is requesting a variance from Iowa Wastewater Facilities Design Standards 13.4.3 (Pump Openings) for installation of submersible pumps at Arbutus Pump Station that do not have the handling capability of a 3-inch sphere.					
17. <u>Applicant's/Consulting Engineer's Justification:</u> Arbutus Pump Station is equipped with a trash basket having 1.77-inch nominal openings so that solids greater than 1.77-inch will be retained. The pump has a solids handling capability of 1.8-inch, therefore will pass any solids not retained by the trash basket.					
18. <u>Department's Justification:</u> Recommend Variance Approval The proposed pump is able to pass a 1.8-inch solid (confirmed with product data from Flygt). As discussed among DNR staff, a trash basket with an opening of 1.77 inches is expected to provide an approvable level of protection for the proposed pump. This is expected to provide equivalent effectiveness to an installation meeting the requirements of 13.4.3.					
19. <u>Precedents Used:</u> Granger - 8/2/16; Waukee - 4/8/16; Slater - 2/6/17; Sanborn - 4/18/18					
20.	Staff Reviewer:		Date:	2/21/19	
21.	Supervisor:		Date:	2/21/19	
22.	Authorized by:		Date:	2/21/19	

Explanation of item numbers:

- #1 – Date starting process
- #3 – Date stamped received by Iowa DNR
- #4 – Must always be filled in, even in variance for Iowa DNR
- #11 – If doesn't apply, note "n/a"
- #13 – Rule allowing for an exception
- #14a – "Approved" or "Denied "
- #14b – If variance is permanent, note "permanent" per legal.
- #15 – Date of Decision (#14)
- #16 – Summarize (4-5 short sentences) with attached documentation
- #17 – Summarize (4-5 short sentences) with attached documentation
- #18 – Summarize (4-5 short sentences) with attached documentation
- #19 – Summarize (4-5 short sentences) with attached documentation
- #21 – Supervisor
- #22 – Bureau Chief (sometimes same as supervisor)

Note:

#16, #17, #18, & #19: the Reviewer/Engineer summary is important as the technical and knowledgeable entity for the subject matter. Including the attachments is helpful but the Customer Service Team is uncomfortable attempting to summarize the attachments on your behalf.

2019-0219A

BEFORE THE IOWA DEPARTMENT OF NATURAL RESOURCES
DES MOINES, IOWA

CITY OF EVANSDALE, IOWA 123 N. EVANS ROAD EVANSDALE, IA 50707 (319) 232-6683	PETITION FOR VARIANCE
---	-----------------------

The Petitioner, pursuant to Iowa Code Section 17A.9A and 561 Iowa Administrative Code 561-10, and requests a Variance from Iowa Wastewater Facilities Design Standard 13.4.3. The Petitioner provides the following information pursuant to Iowa Administrative Code 561-10.9(1) through 561-10.9(10):

10.9 (1) *The name, address and telephone number of the entity or person for whom a waiver or variance is requested.*

City of Evansdale, Iowa
123 N. Evans Road
Evansdale, IA 50707
Telephone: (319) 232-6683

10.9 (2) *A description and citation of the specific rule from which a waiver or variance is requested.*

Iowa Wastewater Facilities Design Standard 13.4.3 (Pump Openings) as follows:

"Unless grinder pumps are used, pumps shall be capable of passing spheres at least 3 inches in diameter. Pump suction and discharge openings shall be at least 4 inches in diameter."

10.9 (3) *The specific waiver or variance requested, including precise scope and operative period that the waiver or variance will extend.*

The petitioner requests a variance from the requirement that "pumps shall be capable of passing spheres at least 3 inches in diameter. Pump suction and discharge openings shall be at least 4 inches in diameter" as required by Iowa Wastewater Facilities Design Standard 13.4.3 (Pump Openings). The unit of operation in question is the lift station pumps used to convey raw wastewater to the Wastewater Treatment Plant.

The proposed improvements include three (3) pumps to be installed in Arbutus Lift Station. A variance is requested to waive the requirement of the proposed pump selection (Flygt NT 3171 HT) to meet the 3 inch sphere solids passing due to equivalent effectiveness of the existing upstream trash basket and solids handling capability of the proposed pump. The trash basket has an effective opening of 1.77 inches meaning solids greater than 1.77 inches will be retained. The pump has a solids handling capability of 1.8 inches, therefore will pass any solids not retained by the trash basket. The variance will extend from construction through the design life of the lift station.

RECEIVED

FEB 11 2019

RECEIVED FEB 13 2019

- 10.9 (4) *The relevant facts that the petitioner believes would justify a waiver or variance. The factual statement is to include a signed statement from the petitioner attesting to the accuracy of the facts provided in the petition and a statement of reasons that the petitioner believes will justify a waiver or variance.*

A trash basket is installed on the influent line with nominal openings of 1.77 inches. All solid objects larger than 1.77 inches will be collected in the trash basket, preventing clogging from such objects.

- 10.9 (5) *A history and any prior contacts between the department and the petitioner for the past five years, including a description of each affected permit held by the petitioner, and any notices of violation, Administrative Orders, contested case proceedings, and lawsuits involving the Department and the petitioner.*

There are no known prior contacts between the department and the petitioner within the last five years regarding the variance request, including notices of violations, administrative orders, contested case proceedings, and/or lawsuits.

- 10.9 (6) *Any information known to the petitioner regarding the department's treatment of similar cases.*

It is believed that similar variance requests involving the Flygt "N-Impeller" have been granted in the state of Iowa.

- 10.9 (7) *The name, address, and telephone number of any public agency or political subdivision of the state or federal government which also regulates the activity in question, or which might be affected by the granting of a waiver or variance.*

The petitioner states that no public agency or political subdivision of the state or federal government would be affected by granting a waiver or variance.

- 10.9 (8) *The name, address, and telephone number of any person or entity that would be adversely affected by the granting of a petition.*

The petitioner states that no person or entity would be adversely affected by the granting of the petition.

- 10.9 (9) *The name, address, and telephone number of any person with knowledge of relevant facts relating to the proposed waiver or variance.*

Mr. Tyler Eldridge, P.E.
McClure Engineering Company
617 Pierce Street, Suite 201
Sioux City, Iowa 51101
(712) 224-4613

Mr. James Oppelt
IDNR Wastewater Engineering Section
502 E. 9th Street
Des Moines, IA 50319
(515) 725-8201

10.9 (10)

Signed releases authorizing persons with factual knowledge concerning the request to furnish the Department with information relevant to the waiver or variance. (Variances must be signed by the petitioner or authorized representative and a professional engineer licensed in Iowa preparing the engineering and technical justification of the petition.)

See verification below,

WHEREFORE, the Petitioner respectfully requests the department grant it a variance of "Unless grinder pumps are used, pumps shall be capable of passing spheres at least 3 inches in diameter. Pump suction and discharge openings shall be at least 4 inches in diameter" required by Iowa Wastewater Facilities Design Standards section 13.4.3 (Pump Openings) so that the department may issue the construction permit, the application for which was submitted on January 8, 2019.

Dated this 5 day of February, 2019.

Tyler Eldridge

Tyler Eldridge, P.E.
(P.E. No. 24142)
McClure Engineering Company
teldridge@mecresults.com

Doug Faas

Doug Faas
Mayor
City of Evansdale, Iowa
mayordougfaas@cityofevansdale.org



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Tyler Eldridge 2/5/2019
Tyler J. Eldridge, P.E. No. 24142 (Date)

My license renewal date is December 31, 2020

Pages covered by this Seal: Document titled, "Petition for Variance, Evansdale, Iowa."

N-Impeller Throughlets (60-Hz)					
Jun-12					
Pump Model	Ø mm	Dia In.	Nominal	w / Adaptive N	
N 3085SH	31	1.22	1.2	+ 0.60	1.82
N 3085MT	39	1.54	1.5	+ 0.60	2.1
N 3102 MT	39	1.54	1.5	+ 0.60	2.1
N 3102 LT	45	1.77	1.8	+ 0.60	2.4
N 3127 HT	38	1.50	1.5	+ 0.60	2.1
N 3102 SH	31	1.22	1.2	+ 0.60	1.82
N 3127 LT	45	1.77	1.8	+ 0.60	2.4
N 3127 MT	45	1.77	1.8	+ 0.60	2.4
N 3127 HT	38	1.50	1.5	+ 0.60	2.1
N 3140 MT	50	1.97	2.0		
N 3152 MT	50	1.97	2.0		
N 3170 MT	63	2.48	2.5		
N 3201 MT	63	2.48	2.5		
N 3300 LT	90	3.55	3.6		
N 3300 MT	90	3.55	3.6		
N-3153SH	31	1.22	1.2		
N 3153HT	41	1.62	1.6		
N 3153MT	50	1.97	2.0		
N 3153LT 4-p	57	2.25	2.3		
N 3153LT 6-p	54	2.13	2.1		
N-3171SH	31	1.22	1.2		
N 3171HT	45	1.77	1.8		
N 3171MT	54	2.13	2.1		
N 3171LT	83	3.27	3.3		
N-3202SH	34	1.34	1.3		
N-3202HT	43	1.69	1.7		
N-3202MT (60hz)	71	2.80	2.8		
N-3202LT	92	3.62	3.6		
N-3301HT	48	1.89	1.9		
N-3301MT	81	3.19	3.2		
N-3301LT 6-p	101	3.98	4.0		
N-3301LT 8-p	118	4.65	4.7		
N-3315HT	44	1.73	1.7		
N-3315MT	64	2.52	2.5		
N-3315LT (6-p)	77	3.00	3.0		
N-3315LT 8-p	91	3.59	3.6		
N-3231	51	2.01	2.0		
N-3306	77	3.03	3.0		
N-3312	84	3.31	3.3		
N-3356	84	3.31	3.3		
N-3400	96	3.78	3.8		
N-3531	118	4.64	4.6		

3" throughlet or larger

VARIANCE REQUEST NOTIFICATION
Iowa Department of Natural Resources

All Fields are Required

1.	Reviewer/Engr.: <u>Jim Oppelt</u>	7.	Decision: <u>Approved</u>
2.	Date Received: <u>2-11-19</u>		
3.	Facility Name: <u>Evansdale</u>		
4.	Program Area: <u>CP Wastewater</u>		
5.	Subject Area: <u>344 Pump Clogging Protection</u>		
6.	Rule Reference: <u>67-64.2(9)a</u>		

8. Description of Variance Request: **Summarize (250 characters)**

The City of Evansdale is requesting variance from chapter 13 - Wastewater Pumping Stations and Force Mains - 13.4.3 (Pump Openings) for installing a submersible pump that does not have the capability to pass a 3-inch spherical solid.

9. Department's Justification: **Summarize (250 characters)**

The pump is capable of passing a 1.77-inch solid. The trash basket spacing is 1.77". This is expected to provide an approvable level of protection for the proposed pump. That is equivalent effectiveness to the requirements of 13.4.3.

10. Type name:

Jon Tack

2-21-19

Supervisor/Bureau Chief/DA

Date

*The original, approvals, letters, code and other supporting documentation is to be maintained by the program in accordance with the [Records Retention Schedule](#).

To Submit: Attach this form to an email and send it to Webmaster@dnr.iowa.gov with the subject line: Variance Submittal (542-0541)