Fields of Opportunities

STATE OF IOWA

CHESTER J. CULVER, GOVERNOR
PATTY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
PATRICIA L. BODDY, INTERIM DIRECTOR

December 7, 2010

The Honorable Art Goodwin
Mayor of Hastings
501 Indian Avenue
Hastings, Iowa 51550

Subject: Variance Request from Design Standards Sections 13.5.2 and 18C.7.4.1
Hastings, Iowa WWTP and Collection
IDNR Project No. S2006-0195

Dear Mayor Goodwin:

After careful and thorough consideration, the Department has ***denied*** your October 12, 2010 request for a variance from Section 13.5.2 of the Iowa Wastewater Facilities Design Standards which prohibits the installation of check valves (other than ball checks) in a vertical orientation. The above variance is denied due to the fact that the justification presented does not substantially demonstrate that the project resulting from the proposed variance provides equivalent or improved effectiveness. The requested variance is not deemed to be necessary and appropriate pursuant to the Iowa Code Section 455B.181.

Pursuant to Iowa Code Section 455B.181, and 561 Iowa Administrative Code (IAC) 7.4(1), as adopted by reference by 567 IAC Chapter 7, a written notice of appeal to the Environmental Protection Commission may be filed within 30 days of receipt of this letter. The notice of appeal is required to be filed with the Director of the Department, and must identify the specific portion or portions of the variance denial that are being appealed and include a short and plain statement of the reasons for appeal. A contested case hearing will then be commenced pursuant to Iowa Code Chapter 17A, 561 IAC Chapter 7, and 567 IAC Chapter 7.

The Department has ***approved*** your October 12, 2010 request for a variance from Section 18C.7.4.1 of the Iowa Wastewater Facilities Design Standards which requires that pond influent lines be made of cast iron, ductile iron, or asbestos-bonded bituminous-coated corrugated metal. 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 pond influent line made of PVC. 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

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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 567 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.

If you have any questions, please call Emy Liu at 515-281-8509.

Sincerely,

Satya Chennupati

Satya P. Chennupati, P.E.
Wastewater Engineering Section Supervisor

cc: DNR Field Office #4
DNR File 6-97-78-0-01
JFSCO Engineering, P.C.
DNR Legal Services - Diana Hansen

VARIANCE REQUEST
Iowa Department of Natural Resources

1.	Date:	December 1, 2010	14. Decision: Denied	
2.	Reviewer/Engr.:	Marty Jacobs	Date: 12/6/2010	
3.	Date Received:	October 15, 2010		
4.	Facility Name:	City of Hastings		
5.	Facility Number:	6-65-27-0-01		
6.	County Number:	65 (Mills)	15. Appealed:	
7.	Program Area:	CP (Wastewater)	Date:	
8.	Facility Type:	C01 (collection/transport)		
9.	Subject Area:	314 (check valve location)		
10.	Rule Reference:	567-64.2(9)a		
11.	Design Std. Ref.:	13.5.2		
12.	Consulting Engr.:	JFSCO Engineering, P.C.		
13.	Variance Rule:	567-64.2(9)c		

16. Description of Variance Request:
The City of Hastings is requesting variance from the Iowa Wastewater Facilities Design Standards Chapter 13 – Wastewater Pump Stations and Force Mains – 13.5.2 (Valves) for the installation of a lever/spring actuated pump station check valve in a vertical orientation.

17. Applicant's/Consulting Engineer's Justification:
The proposed lift station is designed with the valve access station above grade installed in a fiberglass enclosure. The valve and discharge piping arrangement do not have sufficient pipe length in the horizontal position to allow for installing a check valve. The piping and valving are designed for the check valve to be in a vertical run. The check valve is designed as a swing check valve with a lever and spring actuated disk which will place positive control on the closing of the disk and allow the check to function satisfactorily in the vertical position. The swing check valve will provide substantially equivalent effectiveness in the operation of the pump station and the transport of wastewater from the town of Hastings.

18. Department's Justification:
Recommend variance ***denial***.

In a vertical orientation, solids may settle out once flow has stopped and deposit on top of the clapper and in the valve bonnet. This may plug the valve and eventually prevent the clapper from opening fully. The manufacturer's literature provided states than the valve may be installed in a vertical orientation but does identify this application as appropriate for wastewater.

19. Precedents Used: Urbana – 7/21/09

20. Staff Reviewer:	Marty Jacobs	Date: 12-2-10
21. Supervisor:	Satya Chennupati	Date: 12-6-2010
22. Authorized by:	Charles Cook	Date: 12/6/2010

❑ JFSCO ENGINEERING, P.C.

Professional Engineering and Land Surveying

608 2nd Street, Suite 100 - Box 449
Red Oak, Iowa 51566
Telephone: (712) 623-2579
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e-mail: jfsco@jfsco.com

October 12, 2010

Director
Iowa Department of Natural Resources
Wallace State Office Building
502 E 9th Street
Des Moines, IA 50319-0034

Attn: Wastewater Engineering System Supervisor

Re: Hastings, IA WWTP and Collection
Petition for Variance

Dear Sir or Madam:

On behalf of the City of Hastings, IA, we request a variance from the wastewater treatment pond influent line material criteria contained in Chapter 18C of the Iowa Wastewater Facilities Design Standards, paragraph 18C.7.4.1, to use PVC pipe.

10.9(1) – This variance is requested by:
City of Hastings, IA
401 Indian Avenue
Hastings, IA 51550

10.9(2) – Under Influent Lines, paragraph 18C.7.4.1 states:

> 18C.7.4.1 – Material – Pond influent lines should be of cast iron, ductile iron, or asbestos bonded, bituminous coated corrugated metal. For other materials selected, consideration must be given to the quality of the wastes, exceptionally heavy external loadings, abrasion, soft foundations and similar problems.

10.9(3) – We request a variance to use Class 160, SDR26 gasketed PVC pipe for the pond influent line in lieu of the material named in paragraph 18C.7.4.1. The operative period of the variance would extend for the life of the wastewater treatment pond.

10.9(4) – PVC pipe is widely used as a pressure pipe for water and wastewater systems throughout the State. SDR26, Class 160 PVC pipe is specified as an allowable pipe material in the Iowa Statewide Urban Design and Specifications (SUDAS) Design Manual, which have been adopted for use by many municipalities in the State and are recognized by the Department as Standard Specifications. The use of PVC pipe would result in a cost savings on this project. The use of PVC pipe is justified because it will provide substantially equivalent effectiveness in the transport and treatment of wastewater from the town of Hastings.

10.9(5) – Hastings is an unsewered community. The Department and the City of Hastings have had numerous correspondences since 2003 regarding the need for a WWTP and Collection System to replace existing septic tanks. An Administrative order was issued during this time requiring the City to install a wastewater collection and treatment system. There are no lawsuits involving the Department and the City.

10.9(6) – We are aware that the Department has granted this variance request at other locations in the State, including a lagoon project in Ryan, Iowa in 2008.

10.9(7) – There is no other public agency or political subdivision of the state or federal government which regulates wastewater treatment ponds or which might be affected by the granting of the variance.

10.9(8) - There are no persons or entities that would be adversely affected by the granting of this petition.

10.9(9) – Please contact the Project Engineer if you have any questions regarding this variance request:
C. Peter Crawford, P.E.
JFSCO Engineering, P.C.
608 2nd Street
Red Oak, IA 51566
712/623-2579
cpeter@jfsco.com

10.9(10) – No signed release is necessary to obtain additional information on this variance request.

With this letter, we attest that the facts and justification provided in this petition are accurate to the best of my knowledge. We trust the justification outlined above will allow the Iowa DNR to grant this variance request.

Sincerely,

City of Hastings, Iowa

Troy Hatcher, Mayor

JFSCO Engineering, P.C.

C. Peter Crawford, P.E.

LICENSED PROFESSIONAL ENGINEER
C. PETER CRAWFORD
8152
IOWA

CPC:jkc
Cc: Emy Wenxin Liu, P.E.
IDNR Review Engineer

❑ JFSCO ENGINEERING, P.C.

Professional Engineering and Land Surveying

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October 12, 2010

Director
Iowa Department of Natural Resources
Wallace State Office Building
502 E 9th Street
Des Moines, IA 50319-0034

Attn: Wastewater Engineering Section Supervisor

Re: Hastings, IA WWTP and Collection
Petition for Variance

Dear Sir or Madam:

On behalf of the City of Hastings, IA, we request a variance from the criteria for wastewater pumping station contained in Chapter 13 of the Iowa Wastewater Facilities Design Standards requiring check valves to be placed on the horizontal portion of discharge piping.

10.9(1) – This variance is requested by:
City of Hastings, IA
401 Indian Avenue
Hastings, IA 51550

10.9(2) – Chapter 13, para. 13.5.2 valves states:

13.5.2 Discharge Line

Suitable shutoff and check valves shall be placed on the discharge line of each pump (except on screw pumps). The check valve shall be located between the shutoff valve and the pump. Check valves shall be suitable for the material being handled and shall be placed on the horizontal portion of discharge piping except for ball checks, which may be placed in the vertical run. Valves shall be capable of withstanding normal pressure and water hammer.

All shutoff and check valves shall be operable from the floor level and accessible for maintenance. Outside levers are recommended on swing check valves.

10.9(3) – We request a variance to allow a lever/spring actuated check valve to be placed in the vertical run of the pump discharge piping. The operative period of this variance would extend for the life of the wastewater pumping station.

10.9(4) – The proposed lift station is designed with the valve access station above grade installed in a fiberglass enclosure. The valve and discharge pipe arrangement do not have sufficient pipe length in the horizontal position to allow for installing a check valve. The piping and valving are designed for the check valve to be in a vertical run. The check valve is designed as a swing check valve with a lever and spring actuated disc which will place positive control on the closing of the disc and allow the check

valve to function quite satisfactorily in the vertical position. The swing check valve will provide substantially equivalent effectiveness in the operation of the pump station and the transport of wastewater from the town of Hastings.

10.9(5) – Hastings is an unsewered community. The Department and the City of Hastings have had numerous correspondences since 2003 regarding the need for a WWTP and Collection System to replace existing septic tanks. An Administrative order was issued during this time requiring the City to install a wastewater collection and treatment system. There are no lawsuits involving the Department and the City.

10.9(6) – We are aware that the Department has granted this variance request at other locations in the State, including a lift station replacement project in Andrew, Iowa in 2008.

10.9(7) – There is no other public agency or political subdivision of the state or federal government which regulates wastewater pumping stations or which might be affected by the granting of the variance.

10.9(8) - There are no persons or entities that would be adversely affected by the granting of this petition.

10.9(9) – Please contact the Project Engineer if you have any questions regarding this variance request:
C. Peter Crawford, P.E.
JFSCO Engineering, P.C.
608 2nd Street
Red Oak, IA 51566
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10.9(10) – No signed release is necessary to obtain additional information on this variance request.

With this letter, we attest that the facts and justification provided in this petition are accurate to the best of my knowledge. We trust the justification outlined above will allow the Iowa DNR to grant this variance request.

Sincerely,

City of Hastings, IA

Troy Hatcher, Mayor

JFSCO Engineering, P.C.

C. Peter Crawford, P.E.

CPC:jkc
Cc: Ms. Emy Wenxin Liu, P.E.
IDNR Review Engineer