



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

WWCS Variance File  
13.4.2 Trash Baskets

## STATE OF IOWA

DEPARTMENT OF NATURAL RESOURCES  
RICHARD A. LEOPOLD, DIRECTOR

December 5, 2007

Mr. John Dowd  
City of Eldridge  
305 N. Third Street  
Eldridge, IA 52748

Subj: Department Response to Trash Basket Variance Request  
RE: Sheridan Meadows SS Improvements, Project S2008-0074, Permit 2007-0156-S

Dear Mr. Dowd:

The Department has received a request for variance from the Iowa Wastewater Facilities Design Standards from your Engineer in a letter dated November 27, 2007. This letter transmits the Department's comments regarding the variance request for the above referenced project.

- A. Design Standard 13.4.2 – Protection against clogging - request variance to design pump station without the use of pump clogging protection/trash basket.

The above variance is approved as providing equivalent effectiveness under a unique set of design circumstances – using chopper pumps and all other design standards are met including controls, alarms and redundant pump are provided.

If you have any questions, please call Satya Chennupati, P.E. at 515-281-8995.

Sincerely,

Wayne Farrand, P.E.  
Wastewater Engineering Section Supervisor

Cc: DNR Field Office #6  
DNR File 6-82-30-0-02  
Shive-Hattery, Moline, IL

## VARIANCE REQUEST

Iowa Department of Natural Resources

1. Date: December 5, 2007  
2. Review Engineer: Satya Chennupati  
3. Date Received: December 3, 2007  
4. County Number: 82 (Scott)  
5. Facility Name: Eldridge  
6. Program Area: CP (Wastewater)  
7. Facility Type: CO5  
8. Subject Area: 344, pump clogging protection  
9. Rule Reference: 507-64.2(9)a  
10. Design Stds Ref: 13.4.2  
11. Consulting Engr: Shive-Hattery  
12. Variance Rule: 507-64.2(9)c

13. **Decision:** *approved*  
Date: *12/6/07*

14. **Appeal:**  
Date:

**15. Description of Variance Request:**

The City of Eldridge is requesting a variance from the Iowa Wastewater Facilities Design Standards Chapter 13 – Wastewater Pumping Stations and Force Mains – 13.4.2 Protection Against Clogging – requirements for trash baskets. Iowa Wastewater Design Standards for pumping stations require pump clogging protection for all wastewater pumps.

**16. Consulting Engineer's Justifications**

The proposed lift station is a duplex lift station with Vaughn chopper pumps. The chopper pumps have a 4-inch diameter discharge and the ability to chop the raw wastewater entering the lift station. Over the past 10 years, the City has operated Vaughn chopper pumps without trash baskets at the existing South Slope wastewater treatment facility and they have not experienced any issues with plugging or pump failure due to material wrapping or plugging of the pumps. Therefore the City is requesting a variance from the requirement to have trash baskets on the lift station.

**17. Department's Justifications**

Recommend variance **approval.**

The proposed pump station will be equipped with chopper pumps that will grind and pulverize all incoming material into the lift station. The clogging protection is inherently built into the pump mechanism in lieu of an external trash basket. There will not be clogging of the choppers mechanism and a redundant pump is provided in accordance with the design standards. All other controls and alarms are provided to react within a reasonable amount of time even if the redundant second pump experiences problems.

**18. Precedents Used**

None

19. Staff Reviewer: *Satya Chennupati* Date: 12/5/07

20. Supervisor: *[Signature]* Date:

21. Authorized by: *[Signature]* Date: *12/6/07*





# SHIVE-HATTERY

S2008-0074  
CP- 2008-156-S  
date - 10/2/07

(309) 764-7650  
(800) 798-7650  
FAX: (309) 764-8616  
<http://www.shive-hattery.com>

Shive-Hattery, Inc.  
(82)

Shive-Hattery, Inc.  
1701 River Drive, Suite 200  
Moline, IL  
61265

November 27, 2007

Mr. Satya Chennupati  
Wastewater Section  
Permit Applications  
Department of Natural Resources  
502 East 9th Street  
Henry A. Wallace Building  
Des Moines, IA 50319

RE: Eldridge, IA – Sheridan Meadows Sanitary Sewer Improvements  
Permit No. 2008-156-S  
DNR File 6-82-30-0-02

Dear Mr. Chennupati:

The City of Eldridge is requesting a variance from the Iowa Wastewater Facilities Design Standards Chapter 13 – Wastewater Pumping Stations and Force Mains – 13.4.2 Protection Against Clogging – requirement for trash baskets. This variance is being requested in accordance with Iowa Administrative Code – Environmental Protection {567} - Chapter 64 Wastewater Construction and Operation Permits – 64.2(9) c.

The proposed lift station is a duplex lift station with Vaughn chopper pumps. The chopper pumps have a 4-inch diameter discharge and the ability to chop the raw wastewater entering the lift station. Over the past 10 years, the City has operated Vaughn pumps without trash baskets at the existing South Slope wastewater treatment facility and they have not experienced any issues with plugging or pump failure due to material wrapping or plugging of the pumps. Therefore the City is requesting a variance from the requirement to have trash baskets on the lift station.

We appreciate your consideration of this request and look forward to hearing from you soon.

Sincerely,

SHIVE-HATTERY, INC.

Daniel C. Solchenberger, P.E.

Cc: Randy Reimers, City of Eldridge WWTF  
Myron Scheibe, Shive-Hattery, Inc.  
Scott Ritchie, Foley Construction

DCS/vjw

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306101-9



# SHIVE-HATTERY

(309) 764-7650  
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Shive-Hattery, Inc.  
1701 River Drive, Suite 200  
Moline, IL  
61265

November 27, 2007

Mr. Satya Chennupati  
Wastewater Section  
Permit Applications  
Department of Natural Resources  
502 East 9th Street  
Henry A. Wallace Building  
Des Moines, IA 50319

RE: Eldridge, IA – Sheridan Meadows Sanitary Sewer Improvements  
Permit No. 2008-156-S  
DNR File 6-82-30-0-02

Dear Mr. Chennupati:

The City of Eldridge is requesting a variance from the Iowa Wastewater Facilities Design Standards Chapter 13 – Wastewater Pumping Stations and Force Mains – 13.4.2 Protection Against Clogging – requirement for trash baskets. This variance is being requested in accordance with Iowa Administrative Code – Environmental Protection {567} - Chapter 64 Wastewater Construction and Operation Permits – 64.2(9) c.

The proposed lift station is a duplex lift station with Vaughn chopper pumps. The chopper pumps have a 4-inch diameter discharge and the ability to chop the raw wastewater entering the lift station. Over the past 10 years, the City has operated Vaughn pumps without trash baskets at the existing South Slope wastewater treatment facility and they have not experienced any issues with plugging or pump failure due to material wrapping or plugging of the pumps. Therefore the City is requesting a variance from the requirement to have trash baskets on the lift station.

We appreciate your consideration of this request and look forward to hearing from you soon.

Sincerely,

SHIVE-HATTERY, INC.

Daniel C. Solchenberger, P.E.

Cc: Randy Reimers, City of Eldridge WWTF  
Myron Scheibe, Shive-Hattery, Inc.  
Scott Ritchie, Foley Construction

DCS/vjw

306101-9



# SHIVE-HATTERY

*Called A/E 11/5/07  
HE will check  
auto reverse feature  
availability on  
chopper pumps.*

(309) 764-7650  
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FAX: (309) 764-8616  
<http://www.shive-hattery.com>

Shive-Hattery, Inc.  
1701 River Drive, Suite 200  
Moline, IL  
61265

October 31, 2007

Mr. Satya Chennupati  
Wastewater Section  
Permit Applications  
Department of Natural Resources  
502 East 9th Street  
Henry A. Wallace Building  
Des Moines, IA 50319

*11/2/07 Called  
A/E no dept decision needed  
yet  
no variance request on  
file  
will send variance request.*

RE: Eldridge, IA – Sheridan Meadows Sanitary Sewer Improvements  
Permit No. 2008-156-S  
DNR File 6-82-30-0-02

Dear Mr. Chennupati:

The City of Eldridge is requesting the lift station for this project be allowed to be constructed without the trash baskets. The lift station is a duplex lift station with Vaughn chopper pumps. The pumps have a 4-inch diameter discharge and the ability to chop the raw wastewater entering the lift station. The city has had these same pumps for over 10 years at the existing South Slope wastewater treatment facility and they have not experienced any issues with plugging or pump failure due to wrapping or plugging of the pumps.

Please review this information and call me at your earliest convenience to discuss the proposed change to the plans. We appreciate your consideration of this request.

Sincerely,

SHIVE-HATTERY, INC.

Daniel C. Solchenberger, P.E.

Cc: Randy Reimers, City of Eldridge WWTF  
Myron Scheibe, Shive-Hattery, Inc.  
Scott Ritchie, Foley Construction

DCS/vjw

306101-9

2351 11/06/07 AM 10:11



## Chennupati, Satya [DNR]

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**From:** Daniel C. Solchenberger [dsolchenberger@shive-hattery.com]  
**Sent:** Tuesday, November 06, 2007 9:13 AM  
**To:** Chennupati, Satya [DNR]  
**Cc:** sobernolte@asidsm.com; Myron K. Scheibe; Marti N. Ahlgren  
**Subject:** FW: Eldridge

**Attachments:** SCAN9028\_000.pdf; SCAN7804\_000.pdf



SCAN9028\_000. pdf (40 KB)



SCAN7804\_000. pdf (127 KB)

Hi Satya,

Here is some information related to the Eldridge Sheridan Meadows Lift Station request to remove the trash baskets from this installation.

Please review this information. We realize it is dated, but based on the Eldridge's existing history with Chopper Pumps and there ability NOT to clog, we would request consideration on this issue.

If you would like Scott Obernolte would be willing to meet with you to discuss this application and I would be available via phone conference.

Please give me a call and we can discuss.

Thanks Dan

Daniel C. Solchenberger, P.E.  
Civil Group Leader  
Shive-Hattery, Inc.  
1701 River Drive  
Suite 200  
Moline, IL 61265  
Phone: (309) 764-7650  
Direct: (309) 277-1965  
Toll Free: (800) 798-7650  
Fax: (309) 764-8616  
www.shive-hattery.com

-----Original Message-----

From: Scott Obernolte [mailto:sobernolte@asidsm.com]  
Sent: Tuesday, November 06, 2007 8:29 AM  
To: Daniel C. Solchenberger  
Subject: Eldridge

Thanks

Let me know how I can help

Scott Obernolte  
Allied Systems, Inc.  
2200 East Douglas Ave.  
Des Moines IA 50313  
sobernol@asidsm.com

515-246-9999  
FX 515-224-4648

Cell 515-240-5099

-----Original Message-----

From: sobernol@asidsm.com [mailto:sobernol@asidsm.com]

Sent: Tuesday, November 06, 2007 8:28 AM

To: sobernol@asidsm.com

Subject:



## STATE OF IOWA

THOMAS J. VILSACK, GOVERNOR  
SALLY J. PEDERSON, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES  
JEFFREY R. VONK, DIRECTOR

July 18, 2001

Honorable Mayor  
City of Logan  
202 E. 7<sup>th</sup> Street  
Logan, Iowa 51546

*Subject: City of Logan Wastewater Treatment Facility- Lift Station.*

Dear Mayor:

The Iowa Department of Natural Resources (IDNR) has received and reviewed the variance request for the lift station for the City of Logan submitted by the city's consulting engineer. The request is to construct a new lift station without trash baskets. IDNR Design Standards Chapter 13.4.2 requires all pumping stations handling raw wastewater to have protection against clogging.

Based on the information submitted to support your request we concur that the proposed chopper pumps will provide substantially equivalent and effectiveness to trash baskets. Your request for a variance from IDNR Design Standards Chapter 13.4.2 has been approved.

If you have any questions or comments contact Suresh Kumar of the IDNR at (515) 281-4527 or e-mail him at [suresh.kumar@dnr.state.ia.us](mailto:suresh.kumar@dnr.state.ia.us).

Sincerely,



Jack Riessen, Chief  
Water Quality Bureau

cc: Veenstra & Kim Inc.  
Iowa DNR Field Office 4