



STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
CHUCK GIPP, DIRECTOR

May 5, 2015

City of Henderson
Attn: Mayor Michael Baumfalk
310 Maple St.
Henderson IA 51541

RE: Henderson Lift Station Upgrades Project
DNR Project No. S2013-0147

Subject: Variance Request from 567 IAC 64.2(9) and Design Standards Section 13.4.2

Dear Mayor Baumfalk:

After careful and thorough consideration, the Department has approved your May 4, 2015 request for a variance from Iowa Administrative Code Subrule 64.2(9) and Chapter 13.4.2 of the Iowa Wastewater Facilities Design Standards, which requires lift stations to have provisions for screening to protect pumps from clogging.

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 eliminating the requirement for screening in this lift station upgrade. The requested variance is deemed to be reasonable and necessary pursuant to the Iowa Code section 455B.181.

The variance is approved based on the following condition:

- installation of trash baskets in upstream Manholes #1 and #29.

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 Laura Knispel at 515-725-8423 or email her at laura.knispel@dnr.iowa.gov if you have any further questions.

Sincerely,



Jon Tack
Water Quality Bureau Chief

Cc: Snyder & Associates – Atlantic (Patrick Hall)
DNR FO #4
DNR Sewage File 6-65-29-0-01
SRF File CS192067401

VARIANCE REQUEST
Iowa Department of Natural Resources

1. Date: 5 May 2015 2. Reviewer/Engr.: Laura Knispel 3. Date Received: 4 May 2015 4. Facility Name: Henderson STP 5. Facility Number: 6-65-29-0-01 6. County Number: 65 (Mills) 7. Program Area: CP (Wastewater) 8. Facility Type: C02 (Pumping) 9. Subject Area: 344 (Pump Clogging Protection) 10. Rule Reference: 567-64.2(9) a 11. Design Std. Ref.: 13.4.2 12. Consulting Engr.: Snyder 13. Variance Rule: 567-64.2(9) c	14a. Decision: <i>Approved</i> Date: <i>5/6/15</i> Expiration Date 14b. (if any): Permanent 15. Appealed: Date:
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16. Description of Variance Request:

The City of Henderson is upgrading an existing lift station and is requesting a variance from section 13.4.2 of the Iowa Wastewater Design Standards, which requires provisions for screening to protect pumps from clogging or damage.

17. Applicant's/Consulting Engineer's Justification:

The existing lift station was built in 1975 and did not include trash baskets. The scope of this project was simply to upgrade pumps that have operated past their useful life and reuse the existing wet well. The lift station has two inlets, and the installation of trash baskets would conflict with the pump guide rails, lifting cables, float controls, and require the removal and reinstallation of existing metal steps. If trash baskets were required, a new wet well would need to be constructed. The City would need to purchase land, relocate utilities, and complete an environmental reaffirmation of the project.

The City has reported that they have not had problems with the original pumps clogging since the lift station has been in service. The City will install wire baskets in upstream manholes (#1 - at the intersection of West & McKinley Streets & #29 - 100 feet east of the intersection of North & West Streets) to prevent large objects from making it to the wet well. Bi-weekly inspection of the manholes with the baskets and monthly inspection of the pumps will be made. As part of this project, an autodialer will be installed at the lift station to ensure the operator is notified quickly should any problems with the pumps occur.

18. Department's Justification:

Recommend Variance Approval:

The lift station project is a retrofit of an existing lift station that has operated successfully without trash baskets since its construction in 1975. Approval is recommended based on the equivalent effectiveness of pump protection provided by the installation of wire baskets in upstream manholes. Regular inspection of the wire baskets and pump station will reduce the likelihood of debris causing a problem with the pumps. The installation of an autodialer will ensure that the operator will be notified quickly if any problems occur.

19. Precedents Used:

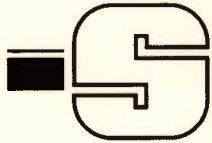
Diamond Head Sanitary District (Dexter) 2008

20. Staff Reviewer: *L Knispel, Eng. Wanda L.* Date: *5/5/15* , *5/5/2015*

21. Supervisor: *Jatya Chennupati* Date: *5/6/15*

22. Authorized by: *J. C. H.* Date: *5/6/15*

52013-0147



ENGINEERS & PLANNERS
SNYDER & ASSOCIATES, INC.
IOWA | MISSOURI | NEBRASKA | SOUTH DAKOTA | WISCONSIN

March 31, 2015

Mr. Satya Chennupati
Wastewater Engineering Section Supervisor
Iowa Department of Natural Resources
502 East 9th Street
Des Moines, Iowa 50319-0034

Dear Mr. Chennupati;

SUBJECT: Wastewater Construction Permit Variance Request
2015 Lift Station Replacement, City of Henderson, Iowa
CWSRF #CS1920674 01; DNR Project # S2013-0147

Per 561 Iowa Administrative Code (IAC) Chapter 10, the City of Henderson is requesting a variance to the Iowa Department of Natural Resources (IDNR) Wastewater Facilities Design Standards for the above referenced project and issuance of the related Construction permit. The applicable Construction permit application, fee form and fee were submitted to the Department on March 11, 2015.

The following information has been provided per the IDNR's Variance Request guidance document:

1. Name, address and telephone number of entity requesting the variance:
City of Henderson
310 Maple Street
Henderson, Iowa 51541
(712) 825-5151
2. Description and citation of specific rule from which a variance is requested:
A variance is requested for the methods and details of construction as cited in Chapter 13, Section 4.2 of the IDNR Wastewater Facilities Design Standards.
3. Specific variance requested, scope, and operative period which the variance will extend:
 - a. The variance requested is to waive the requirement of providing screening to protect the pumps from clogging or damage.
 - b. The scope of the variance is for small lift stations - refitting the existing wet well with trash baskets made of corrosion resistant material and easily removable for cleaning at ground level. The existing structure was never constructed with trash baskets, rails, or means of removing the screenings to above ground level.

1800 W. 22nd Street | Suite 200 | Atlantic, IA 50022
p: 712.243.6505 | f: 712.243.6507 | www.snyder-associates.com

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- c. The variance will extend from construction through the design life of the proposed lift station replacement project.

4. Relevant facts justifying the variance:

- a. 8" influent lines currently enter the wet well from the east (FL1019.77') and from the north (FL1019.56'). The floor elevation of the wet well is 1015.64. These influent lines will not be moved. Interference between two (2) newly constructed trash baskets and associated guide rails, guide rail for float cable, floats, lifting cables, and the pumps is likely.
- b. Metal steps and associated railing are bolted to the north interior face of the structure and extend from the lid to basin of the structure. These steps are to remain in the wet well to avoid damage to the side walls as well as to provide access to the basin if necessary. The steps are built over the northern influent line and make installation of a trash basket and associated railing on the north wall impossible. Additionally, the steps will interfere with the function of a trash basket on the east wall.
- c. There have never been trash baskets in the wet well/pump station. The original structure was built in 1975. The City states they have had few, if any, problems associated with clogging or damage to the wet well due to the lack of trash baskets since 1975.
- d. The City proposes the use of non-clog wastewater pumps suitable for pumping wastewater. The pump volute shall be a single piece of gray cast iron, non-concentric design with smooth passages of sufficient size to pass any solids that may enter the impeller. The impeller leading edges shall be capable of handling solids, fibrous materials, heavy sludge and other matter normally found in wastewater.
- e. The well will be fitted with an alarm light that is activated by high water level, or low water level and shall flash until the condition has been corrected. The alarm shall provide a signal than 90db at 10 feet. An alarm switch will deactivate the horn but not the light.
- f. The well will be fitted with a 500 lb. capacity, stainless steel , adjustable, portable hoist with 25' reach of stainless steel cable, safety hook, hand winch and surface mounted socket. No personnel should have to enter the structure in the future for pump maintenance, or replacement.

- g. It is believed a requirement to install trash baskets would force the City to install a new wet well structure in lieu of using the existing structure. Site utilities would have to be relocated. The City would have to acquire additional land and would have to complete an environmental reaffirmation of the project. The action would extend the project several months.
 - h. The economic impact of installation of trash baskets would force the City to spend additional funds to replace the wet well structure. Since the project budget was created based on a project using the existing wet well, as shown, the additional costs would force a hardship on the community. To get to this point, the City has raised its rates twice within the last three years. Additional costs would force the City to immediately raise rates again. As a low-moderate income community increasing rates negatively impacts the citizens of the community.
 - i. The societal impacts of this project are basic to human health, safety and welfare. Without a lift station, wastewater cannot get to the treatment facility. The current station and pumps are 40 years old. The City is concerned with their continued operation.
 - j. Operational adjustments will be made by the City to accommodate the lack of trash baskets in the wet well. Wire baskets are to be installed in upstream manholes channels that would prevent large objects from passing through to the wet well. Monthly investigation of the pumps will be made. Bi-weekly investigation of the manholes containing the baskets will be made.
5. **Contact history with the Department.**
The community has had numerous contacts with the field, engineering and legal staff of the Department over the last five (5) years primarily due to a failure to follow through with NPDES application and update. The City has since cleared up its difficulties with the Department and is trying to improve its system in compliance with its amended NPDES permit dated December 1, 2013.
6. **Known Department's treatment of similar cases.**
A similar variance request was approved for the Diamond Head Sanitary District, Dexter, Iowa circa 2008.
7. **Name, address, and telephone number of any public agency or political subdivision(s) that might be affected by granting the variance:** None
8. **Name, address, and telephone number of any person or entity that might be affected by granting the variance:** None

9. Identify those having knowledge of relevant facts concerning the variance:

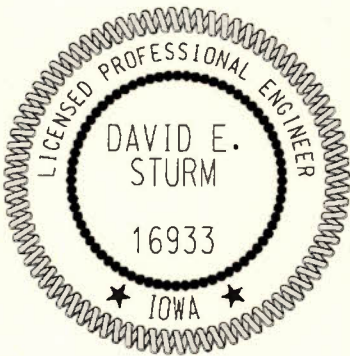
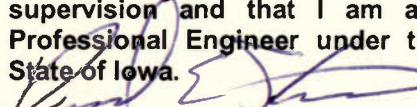
- a. David E. Sturm, P. E., Snyder & Associates, Inc.
- b. Patrick Hall, Project Manager, Snyder & Associates, Inc.
- c. Chad Gordon, City Superintendent

10. Signed release:

I attest to the accuracy of the facts provided in the petition and the reasons as listed to justify issuance of the variance request.

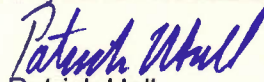

Michael Baumfalk, Mayor

I attest to the accuracy of the facts provided in the petition and the reasons as listed to justify issuance of the variance request.

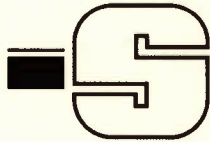
	<p>I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p>
	<p> 4-1-15 DAVID E. STURM DATE</p>
	<p>License Number 16933</p>
	<p>My license renewal date is December 31, 2015</p>
	<p>Pages or sheets covered by this seal: 1-4</p>

Contact me with any questions concerning this variance request at 712-243-6505.

Sincerely,
Snyder & Associates, Inc.


Patrick Hall
Project Manager

cc. Laura Knispel, DNR
City of Henderson



April 29, 2015

Ms. Laura Knispel
Iowa Department of Natural Resources
Clean Water Division
502 East 9th Street
Des Moines, Iowa 50319-0034

Dear Laura;

SUBJECT: Construction Permit Application, Variance Request
2015 Lift Station Replacement, City of Henderson, Iowa
CWSRF #CS1920674 01; DNR Project # S2013-0147

Please find enclosed revised electrical plans and specifications denoting inclusion of an autodialer.

As previously stated baskets will be installed in the channels of manholes #29 at the intersection of West and McKinley Streets and #1, 100 feet east of the intersection of West and North Street at approximately the centerline of North Street.

Should you have any questions, please call me at 712-243-6505.

Sincerely,
SNYDER & ASSOCIATES, INC.

David E. Sturm, P. E.
Project Engineer
License Number 16933

encls.

cc. City of Henderson