

## Bauske, Shelly A.

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**From:** Fahn, Patrick J.  
**Sent:** Friday, August 09, 2013 3:44 PM  
**To:** Tom.Lehar@chsinc.com  
**Cc:** jim@northwestscale.com; Bauske, Shelly A.  
**Subject:** FW: Floating Slab Variance Request  
**Attachments:** Scan0003.pdf; Patrick Fahn.vcf

Good afternoon Mr. Lehar:

Current North Dakota Laws and Rules do not allow for a floating slab scale installation; however, the Commission is considering a change in its rules to allow this type of scale installation and to provide standards for floating slab scale foundations. In the interim, the Commission will consider issuing temporary variance permits for floating slab scale installations that meet or exceed Minnesota's floating concrete slab foundation requirements and that meet or exceed North Dakota's existing rules for footing-type scale installations. The Minnesota requirements for a floating concrete slab scale foundation are:

- The foundation must be constructed on soil that has a uniform natural or engineered soil bearing of at least 1,500 pounds per square foot. The soil bearing test must be performed and certified by a registered engineer.
- A base of uniform, compacted, permeable aggregate, at least 24 inches deep must be installed. The concrete slab foundation must be poured on top of this base.
- The scale weighing element or elements must be supported on a monolithic, reinforced 12" thick concrete slab and must conform to the scale manufacturer's installation and reinforcing requirements.
- The top surface of the foundation slab must be installed above the surrounding grade level so that water will flow away from the foundation and away from the permeable aggregate base that supports the foundation.

Staff reviewed your variance permit requests dated July 24, 2013 and found that, in addition to the information and verifications you have already provided, your request for temporary variance permits for four scales must include in writing the following information for each scale before a decision will be made on the requests.

- The reason for the request and the reason for using a floating slab foundation.
- Verification that the scale weighing element or elements are supported on a monolithic concrete slab.
- Certification by a registered engineer that the soil beneath the location of the scale has a uniform natural or engineered soil bearing of at least 1,500 pounds per square foot. Provide a copy of the soil test report and certification.
- Verification that a base of uniform, compacted, permeable aggregate, at least 24 inches deep will be installed and the concrete slab foundation will be poured on top of this base.
- Verification that the top surface of the foundation slab will be installed above the surrounding grade level so that water will flow away from the foundation and away from the permeable aggregate base that supports the foundation.
- Verification that the approach on each end of the scale will be straight (in-line) with the scale and a minimum of 39 feet long.
- Verification that the slope of the approaches will not exceed one-third inch per foot.

Also, please provide the foundation PDF reference-only drawing referenced in your July 24 letter.

If you have any questions, please contact me at 701-328-4077.

Thank you.

**3** **WM-13-809** Filed: 8/9/2013 Pages: 4  
Email Request to CHS for Additional Information

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**Patrick Fahn**

Director  
Compliance and Competitive Markets

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pfahn@nd.gov

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**From:** CO-Milton, Tom Lehar [<mailto:Tom.Lehar@chsinc.com>]

**Sent:** Monday, July 29, 2013 9:57 AM

**To:** Bauske, Shelly A.

**Cc:** Jim Jacobs

**Subject:** Floating Slab Variance Request

Thomas Lehar  
General Manager  
CHS Country Operations  
Milton, ND

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07/24/2013

ND Public Service Commission  
Testing & Safety Division  
600 East Boulevard Avenue  
Bismarck, ND 58505

Request for Variance Permit:

CHS, Inc. d.b.a. CHS – Milton Group (CHS) is requesting a variance permit for the installation of four new truck scales that will be located at the following sites (two scales at each location):

CHS Calvin Grain Terminal  
401 Railroad Street  
Calvin, ND 58323

CHS Langdon East Terminal  
10617 92<sup>nd</sup> Street NE  
Langdon, ND 58249

All four scales are manufactured by Rice Lake Weighing Systems (RLWS) out of Rice Lake, WI. The scales being installed are above ground RLWS SURVIVOR® OTR Model EZ11712-SC-100-OTR truck scales with guide rails. The deck size is 117' x 12'. The concentrated load capacity (CLC) is 100,000lbs. All trucks weighed on the scales will fall within their CLC and not pose a safety hazard. The truck scale serial numbers are 56E2 & 56DN (Langdon Site) and 56E3 & 56DP (Calvin Site).

CHS is requesting a variance permit to allow the foundation of each scale to be a floating slab design, instead of piers below frost. CHS floating slab design specs exceed the manufacturer's minimum requirements for slab on grade design. (Please see foundation PDF reference-only drawing.) CHS will submit a copy of the soil tests for the area where the scales will be placed. The slab foundation shall have the following specifications:

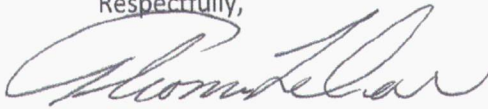
- The foundation shall be a 16" thick floating slab with the minimum soil bearing of 1500 psf.
- Installation shall incorporate a minimum 12" free draining granular material below slab to provide adequate drainage and circumvent the effects of frost heave. The granular fill material shall consist of sound, tough, durable broken stone. It should be free from soft, thin, disintegrated pieces, as well as mud, dirt, or other deleterious material. Something such as #57 crushed stone would meet this requirement.
- Two mats of rebar are required at load bearing sections. Rebar in the top face perpendicular to traffic shall be at least #5 at 4" on center (O.C.), with 5'-0", #4 bars in the direction of traffic at 12" O.C. Rebar in the bottom face and in the direction of traffic shall be spaced at 6" O.C. beneath the cells within the development length, and spaced at 12" O.C. across the mid-span of the slab. Between load bearing sections, a single mat of #4 rebar at 12" O.C. shall be incorporated in both directions.
- Scale(s) will have a minimum of 12 inches clearance, between "I" beam and the slab.
- The end piers of the foundation must have end walls to prevent fill material from interfering with the scale(s) operations.
- Past the 12' flat approach required by the state, an additional 25' sloped approaches the same width as the flat approaches will be added. The slope of these approaches shall not exceed 1"

per foot and shall end at the finished road elevation with a maximum length of 37'. The sloped approaches shall have thickened footing on the sides down to the surrounding road elevation.

Upon receiving approval for the temporary variance permit, CHS will be responsible for having the scale(s) tested quarterly by a registered service company for a period of one year. After one year, CHS desires the ND Public Service Commission review the scale(s) performance and grant a permanent variance permit.

Please let me know if you have any questions regarding this request, or if you require any further information. Thank you in advance for your consideration.

Respectfully,

A handwritten signature in cursive script, appearing to read "Tom Lehar".

Tom Lehar  
General Manager  
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