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Tractor Test and Power Museum, The Lester F.  
Larsen

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August 1996

### Proposal for Renovation of 1920 Tractor Test Lab into Museum

Tractor Museum

University of Nebraska-Lincoln, TractorMuseumArchives@unl.edu

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MINUTES OF THE AUGUST 8, 1996 MEETING OF THE  
FRIENDS OF THE NEBRASKA TRACTOR TEST AND POWER MUSEUM

The meeting was called to order at 10:00A. Those attending were Richard Maresh, Lester Larsen, Lawrence Hermann, Norm Tooker, Franklin Walters, Dale Vanderholm, Bob Kleis, Lou Leviticus, Earl Ellington, and Bill Splinter, with John Smith and Charlie Fenster by conference call.

The bids for renovating the roof of the former tractor test building were discussed. Funding in the University of Nebraska Foundation was reported to be \$67,200 as of June 30, with deposits of \$500 from the Big Red Club and of \$3026 from Fred Chase recorded. A matching amount of \$2500 is expected from Enron, Inc. The winning bid was \$73,700, which is attached. This bid is expected to be conservative with provisions for replacing 30% of the ceiling joists where earlier estimates have reflected a need for only two to four replacements. The architects fees for \$4600 and the asbestos removal fees for \$13,977 are also included.

The Board voted unanimously to approve the bid.

The State Fair display was discussed. This year the display location will be changed to be immediately adjacent to the display of antique tractors rather than being located next to a program stage. It was decided to exhibit the Moline U, 1908 Ford, first tractor on rubber (Allis Chalmers), Regular Farmall, Ford Ferguson and Heider tractors. (Following the meeting a phone discussion with Eric Rasmussen with the State Fair indicated that they would like additional tractors).

Assistance from all Board Members is solicited to man our exhibit.

Further funding for the renovation was discussed. Another \$39,000 will be needed to replace the east half. Contact will be made with the Foundation to assist. Frank Walters will contact the Equipment Manufacturer's Institute to solicit their support to renovate the interior of the building. Other potential areas of support were discussed.

The meeting was adjourned at 11:30.



UNIVERSITY OF NEBRASKA - LINCOLN  
FACILITIES MANAGEMENT  
1901 Y STREET

August 1, 1996

Dr. William Splinter  
Biological Systems Engineering  
Co. Cent. No.: LWW/62-121-005

**SUBJECT:** Tractor Testing Lab Roof Replacement

**PROJECT NUMBER:** A060P014

Dear Dr. Splinter:

Based on bids received, we estimate the following updated project costs:

<b>CURRENT REQUISITIONS:</b> (121-9603-015)	\$4,600.00
(121-9605-012)	\$13,967.00
<b>PLUS -- ESTIMATED ADDITIONAL COSTS:</b>	<u>\$55,133.00</u>
<b>TOTAL REVISED BUDGET ESTIMATE:</b>	<b>\$73,700.00</b>

The total revised budget estimate is based on a bid given by Fettin Roofing, estimated unit price work, professional fees and other miscellaneous costs..

Attached is a copy of your original requisitions for this project. Please have the person who authorized the original requisition note on the attached copy that:

1. they approve of the *total revised budget estimate* (for the amount stated above)
2. certify by adding their signature and date to the attached copy

Please return the signed requisition copy (with the amended amount) to me as soon as possible. This will authorize us to proceed with the construction of your project.

Please call Dick O'Hearn (project manager) or myself if you have any questions.

Sincerely,

ARCHITECTURAL & ENGINEERING SERVICES



Kevin Johnson  
Assistant Manager, Systems  
472-4363

copy: Dick O'Hearn  
project file

## ESTIMATED BUDGET

<b>1 CONSTRUCTION COSTS</b>	
General: Fettin Roofing	\$44,744
Alternate No. 1: 15-year warranty	\$500
Unit Price Work: R&R joists @ \$224 each. Assume 30% replacement quantity.	\$5,600
5% Contingency:	\$2,542
<b>2 Total:</b>	<b>\$53,386</b>
<b>3 PROFESSIONAL FEES</b>	
Architect/Engineer Fee:	\$4,600
Additional Services:	\$0
UNL Services:	\$1,602
Other Services (Bidding):	\$50
<b>Total:</b>	<b>\$6,252</b>
<b>4 OTHER COSTS</b>	
Asbestos Sampling, Testing and Abatement	\$13,977
Miscellaneous	\$85
<b>Total:</b>	<b>\$14,062</b>
<b>TOTAL ESTIMATED PROJECT COST</b>	<b>\$73,700</b>

**A PROPOSAL FOR INDUSTRY SUPPORT  
FOR THE RENOVATION OF THE  
UNIVERSITY OF NEBRASKA-LINCOLN  
TRACTOR TEST AND POWER MUSEUM**

Introduction

In 1994 the Friends of the University of Nebraska Tractor Test and Power Museum were formally organized and incorporated with the intent of utilizing the collection of pioneer agricultural artifacts by Professor Chauncey W. Smith, and the collection of historic tractors by Professor Lester A. Larsen as a basis for establishing a museum in the former tractor test facility on the East Campus of the University of Nebraska-Lincoln. The purpose of the museum is to provide a historic sequence in the development of the agricultural tractor and some of the unique implements related to that development. It is a further purpose to provide a reference library for those interested in specific areas of research in the field. Finally the museum is to serve in an educational way to interpret these developments throughout the evolution of American agriculture from predominantly human power in the 1700's, when it took ten farmers to feed one urban dweller, to today's highly mechanized agriculture where one American farmer feeds on the order of 120 others, including a significant number of people throughout the world.

Present Status

Laura Casey, a graduate student in Museum Studies, has cataloged the current collection of artifacts, farm implements and tractors. Included are a number of pioneer hand implements including wooden rakes, scythes and hand tools, historic machines such as an 1864 two row horse drawn corn planter in which seeds were hill dropped by a hand lever, and around 40 tractors illustrating such key points of development as a 1917 Moline Universal (first with articulated steering, electrical starting and mounted implements), a 1919 Rock Island Heider with friction drive, a 1918 Fordson (first with enclosed clutch and final drive), a 1920 Farmall Regular (first row crop tractor), a 1929 Allis-Chalmers U (first tractor operated on rubber tires), a 1940 Ford-Ferguson (first with 3-point hitch) and a number of others. Over the years the museum has exhibited on a loan basis, a 1920 Square Turn tractor (only commercial tractor manufactured in Nebraska), a 1920 Waterloo Boy (first tractor tested at Nebraska) and a Ford tractor (manufactured in Minneapolis and distinguished as the tractor whose questionable performance lead to the development of the Nebraska Tractor Test Law).

The former tractor test laboratory building, which was built in 1919, has been designated a historic site by the American Society of Agricultural Engineers and by the Nebraska State Historical Society. Through lack of funding to maintain the building it has deteriorated

significantly since it was replaced with a new facility in 1980. The Friends are raising moneys to replace the roof of the building.

### Purpose of this Proposal

The purpose of this proposal is to raise sufficient funding to renovate the museum so that it can present exhibits and serve the interests of students and visitors, especially those interested in the history, the development of or the renovation of the agricultural tractor.

### Planned Exhibit Format

The building would be utilized in basically its present layout. This would provide an office area for a curator, adjacent to a reference library which would make available the tractor test application folders which contain specifications on engines, transmissions etc. A central area would be set up to show a Waterloo Boy tractor belted to the original tractor test dynamometer. Specific exhibits would be developed showing the following key points:

- The early replacement of human power by the horse and oxen.
- The replacement of the horse by tractors such as the Froelich and the Ford.
- The improvement in design illustrated by the Fordson.
- The development of the power-take-off.
- The development of the row-crop tractor (Farmall Regular).
- The replacement of the steel wheels by rubber tires (Allis-Chalmers U).
- The development of the 3-point lift (Ford Ferguson).
- The development of the ROPS structure (John Deere) and safety cab (Egging).
- The introduction of human factors engineering in tractor design (Henry Dreyfus).
- The introduction of comfort conditioning for the operator (John Deere)
- The evolution of the articulated tractor from the Moline to the Steiger.
- The modern development of the track drive (Caterpillar).

Future programmatic developments could include the listing of materials on the Internet, developing a genealogy of various commercial tractors and acquisition of a collection of operational manuals for nearly all American agricultural tractors.

### Funding Needs

The former Tractor Test Laboratory is 6000 ft<sup>2</sup> in area. If we estimate a cost of \$20/ft<sup>2</sup> to clean and re-paint the walls, install a handicapped available toilet, replace ceilings in the office and library areas, the total requested cost is \$120,000.

8/9/96