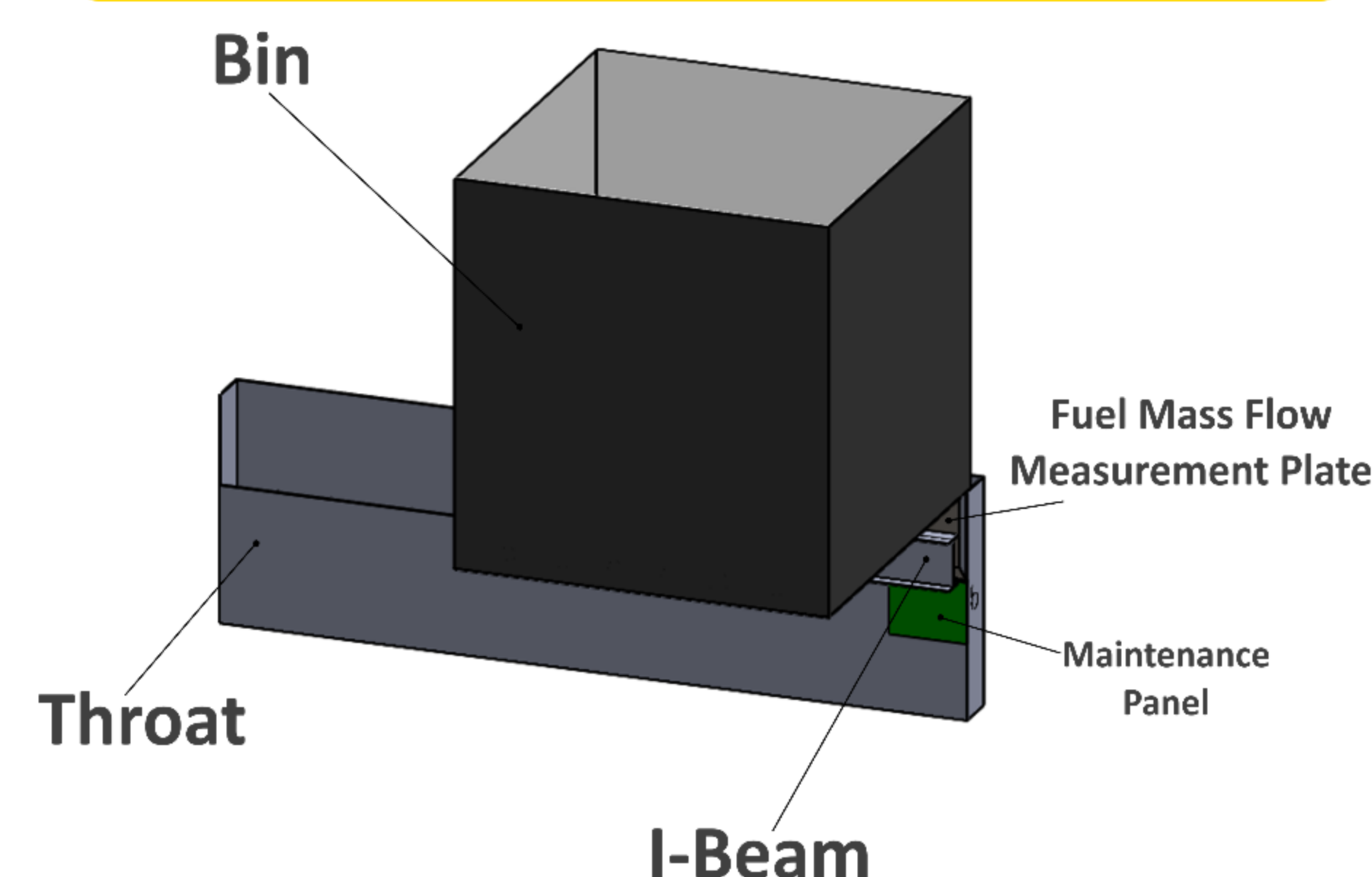


As of 2018, the woodchip boiler consumes approximately \$1,000,000 per year in fuel. This is a significant savings over alternative fuels but could be further improved by implementing measurement systems to more efficiently supply fuel.

Steam Plant Layout



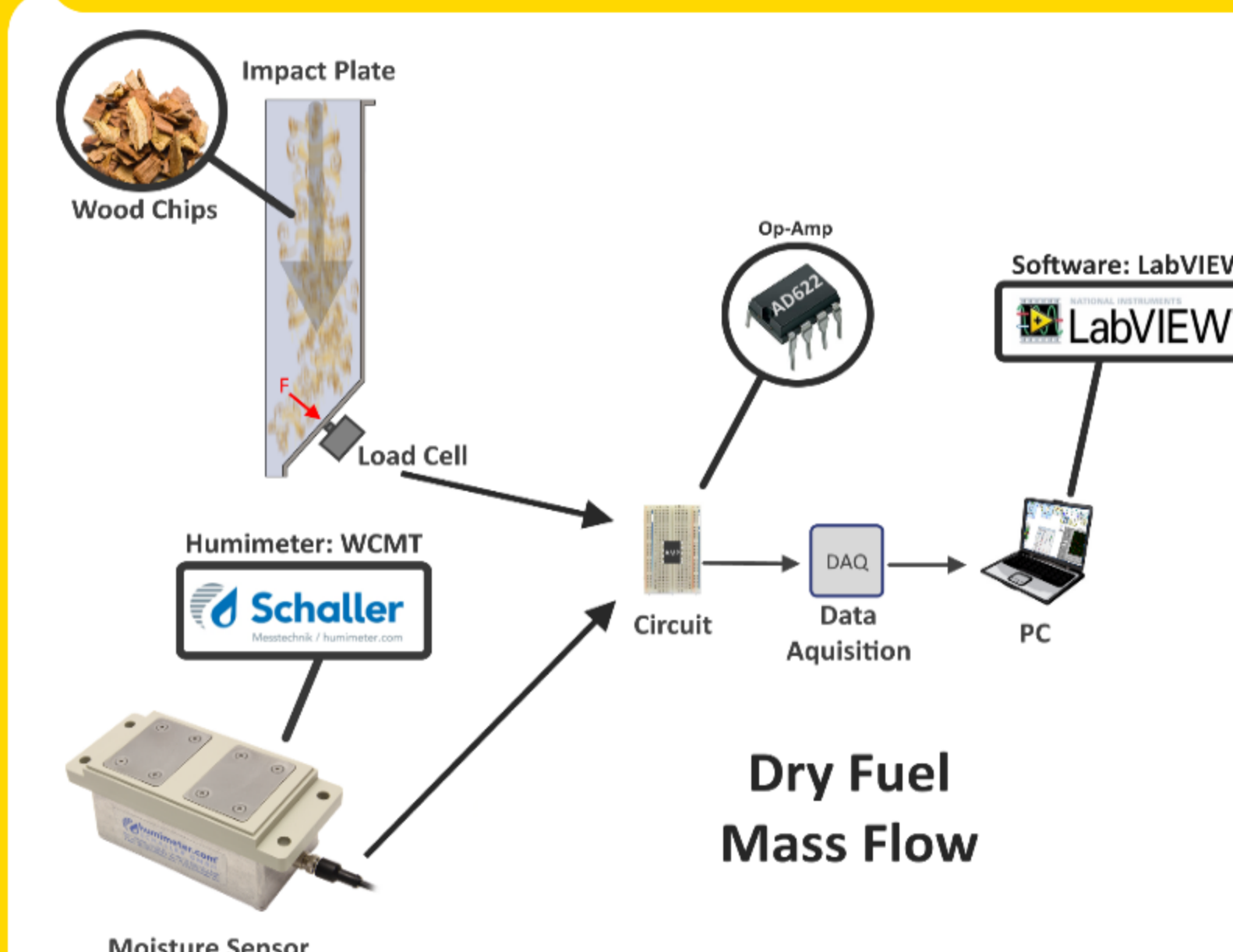
Zakaria Alghamdi, Waleed Alsheikh, Michael Silk, Miyako Nakayama

Fuel Mass Flow Prototype

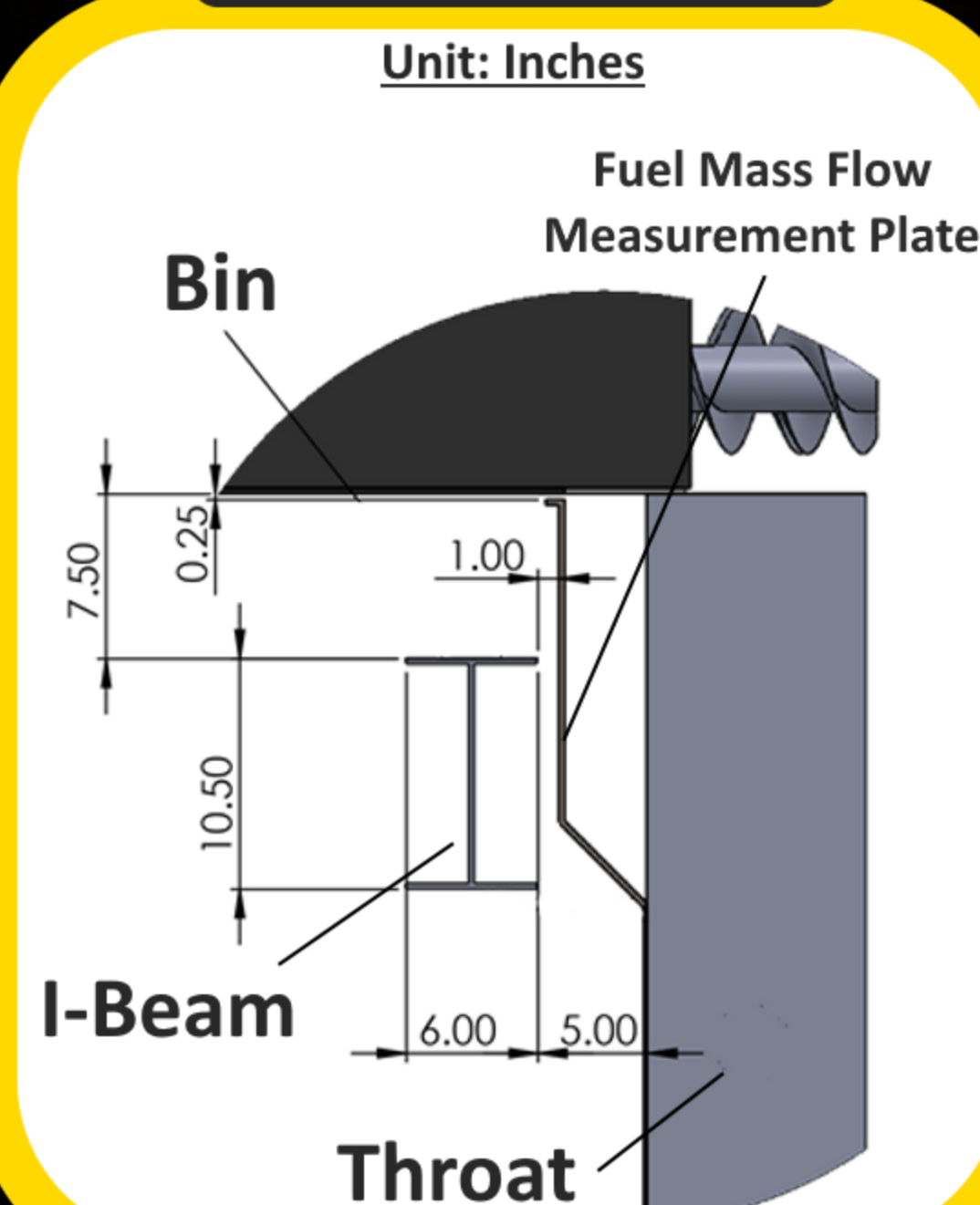


Implementing a fuel mass flow system could result in a 5-15% reduction in fuel usage. This reduction could decrease operating costs and improve Moscow air quality.

System Diagram



Proposed Measurement Plate



Design Restrictions

Limited space

Risk of bin fires

Abrasive environment

Using a moisture sensor we are able to separate the mass of water from the mass of dry fuel.

Lab Test: Wood Chip Impacts

