



July 20-21 | Omaha Hilton | Omaha, NE  
In Person | Trade Show | Education Sessions

# MAN-LESS GRAIN TERMINAL

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# AGENDA

Personal Introduction

GDC, What we do.

Disclaimer

Catalyst.

Project Goals

Implementation.

Challenges.

Facility Tour.

Current Status.

Industry short comings.

## PERSONAL INTRODUCTION

43 years – Married to Becky.

13 years construction company owner.

21 years in Cooperative Management.

12+ years Construction Department Manager at CHS  
Country Ops.

Retired June 10<sup>th</sup>, 2022

9+ years as Owner of Gales Design and Consulting LLC.



# GDC – WHAT WE DO?

Needs Analysis

Early Scope / Budget Alignment

Project Planning.

WBS / Procurement / Collaboration

Construction Management.

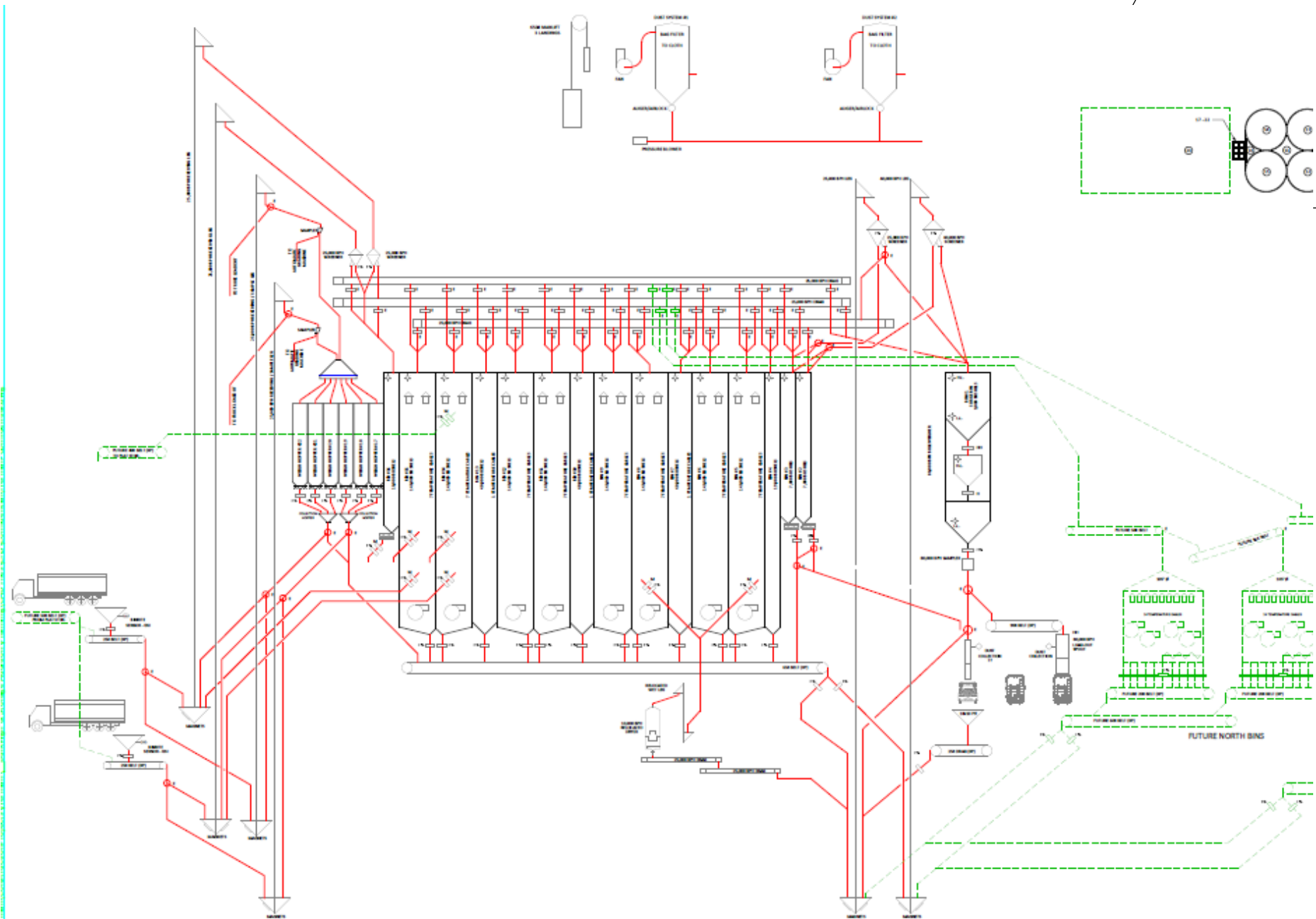
# DISCLAIMER:

- This presentation is from me as the Designer of Man-less Facility and Owner of Gales Design and Consultant, NOT CHS.
- CHS does not or is not endorsing this process.
- No intellectual property will be shared.

# Catalyst

- Labor shortage.
- Exceed grower expectations.
- Getting more out with less.

# Version 1



1 FLOW DIAGRAM  
F1.0

# Shortcomings:

What would be needed that wasn't available:

- Grain analyzer to verify commodity.

- Going from semi-automated to fully automated grading system.

- Sample retention.

Biggest concern:

- Cost of construction.

- How to retrofit existing elevators?

- Per Google "There are **over 4,708** Grain Elevator Operators in the United States "

# Requirements of V2:

- Existing facility upgrades would be minimal.
- Grading and weighing prior to dumping.
- Utilize existing scaling systems.
- Work with automated facilities.

# How to Dreams become a “Reality”?

- Clear goals.
- Team.
- Time.
- Money.

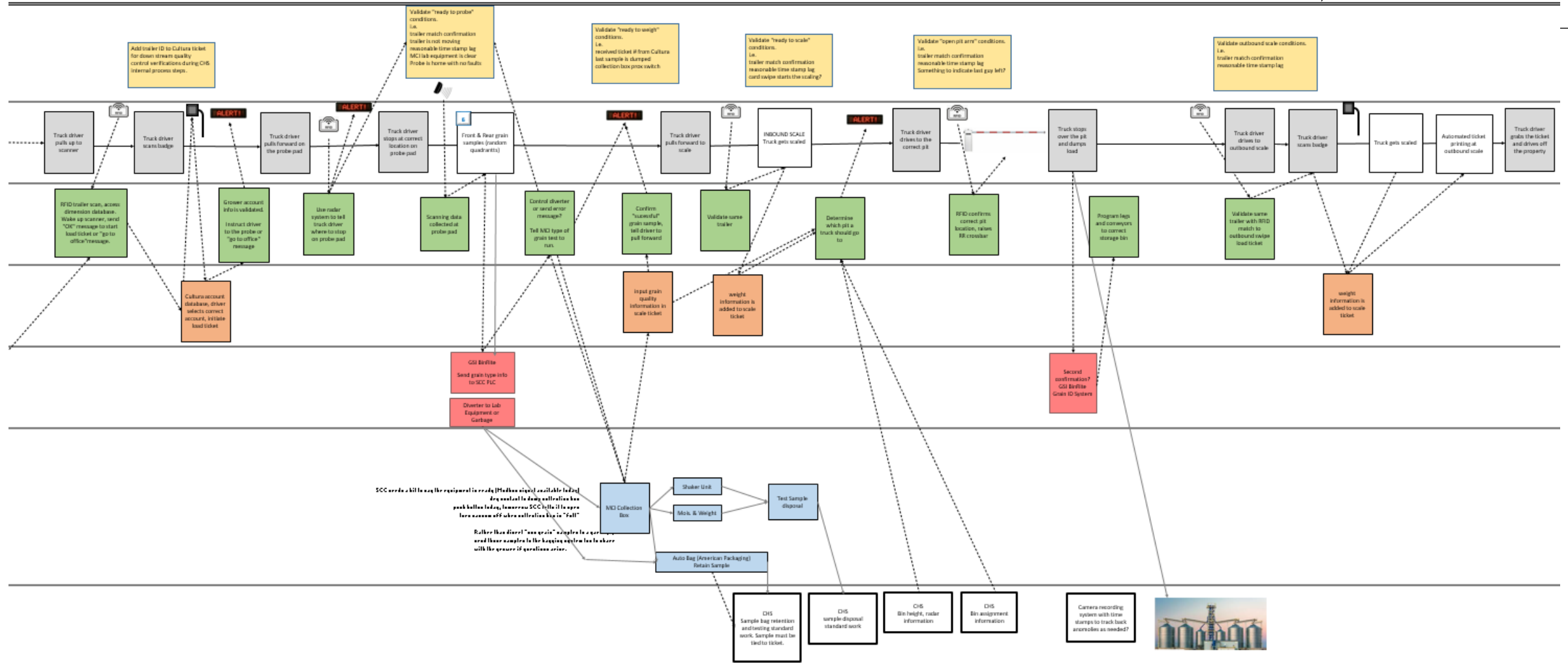
# GOALS:

- Limited Grain types.
- No- human interaction.
- Safety.
- Facility security.
- Commodity quality.
- No gaming the system.
- Could be replicated at existing terminals.

# WHAT'S IN / WHAT'S OUT?

- What functions need to be in scope?
- What vendors will be doing what?
- Where does one vendor's scope start and stop?

# PROCESS DEFINITION:



# PROBING / SECURITY / GAMING THE SYSTEM:

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- Grower Agreements.
- RFID Tags on each trailer.
- Sensors for step timing.
- Cameras.

# CURRENT STATUS:

- Ran un-manned in control environment.
- Sensor upgrade.
- Planning on being in full operations soon.

# INDUSTRY SHORTCOMING :

- Application optics and sensors
- Higher precision grain analyzer.
- Precision Probe.

A series of thin, black, intersecting lines forming various geometric shapes like triangles and polygons, creating a complex, abstract background.

# THANK YOU

Jim Gales

Gales Design and Consulting, LLC

[www.galesdesign.com](http://www.galesdesign.com)