

USING SANBORN MAPS TO IDENTIFY RECS

Tyler Dardis
Minnesota State University, Mankato
GEOG 480 GISc and Environmental Hazards

INTRODUCTION

- Sanborn maps were detailed maps made during the 19th and 20th centuries to address and sort of fire hazard to be reported and used for insurance assessments. These maps are very large scale, usually only having 4-6 blocks per piece of paper.
- Using this information dating back decades, to a century or more, we can easily see urban change and past land usage, as well as any hazards or RECs (Recognized Environmental Conditions) they held.
 - *The sites that will be examined are **Cherry Street Parking Ramp**, and the **Verizon Center Expansion**, both in downtown Mankato.*

DISCLAIMER

To be on the cautious side, any suspected REC has been flagged. Some of the flagged locations may not be as of an issue as others. This will be addressed though the presentation, bringing the largest concerns to attention.

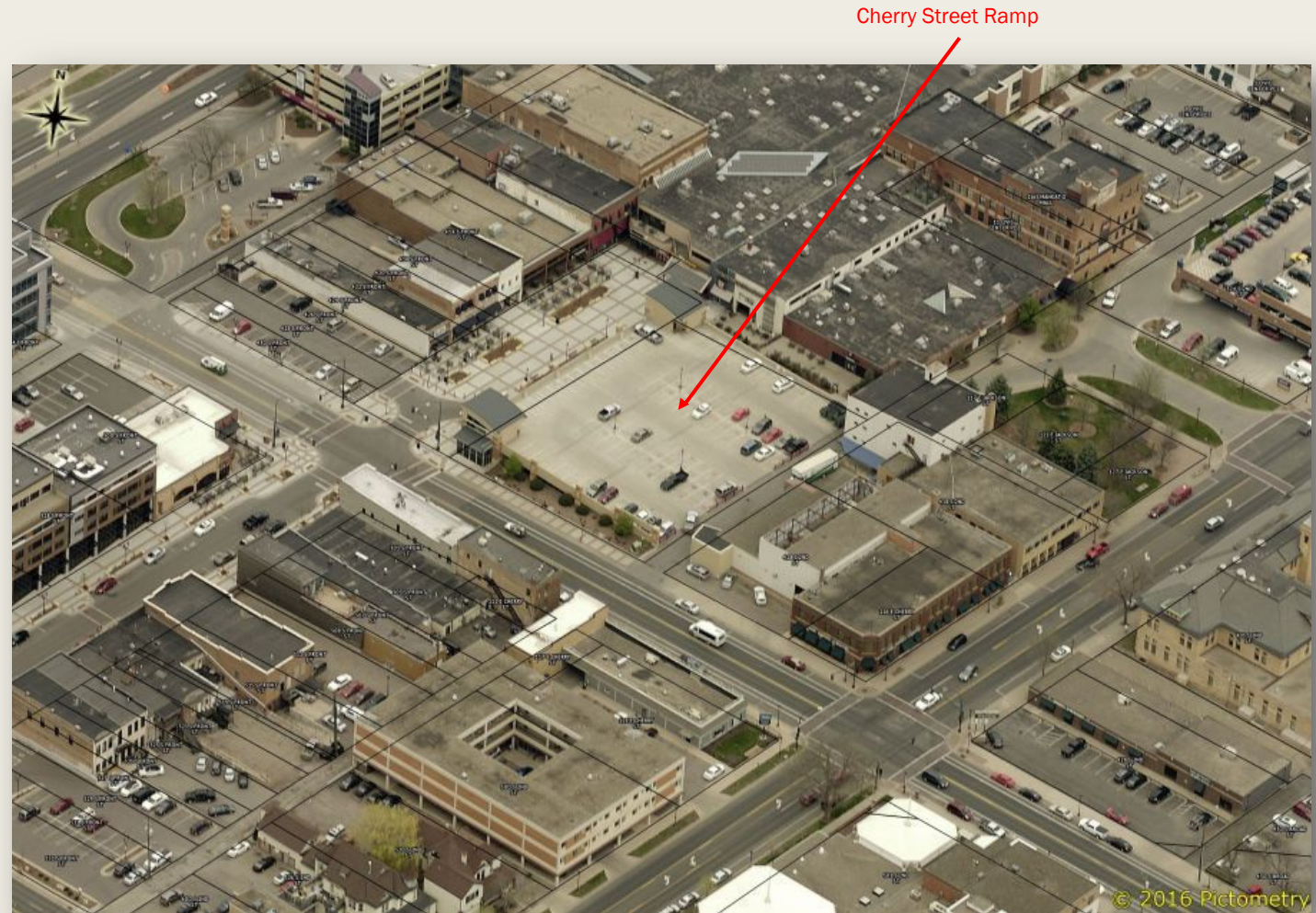
CASE #1

Cherry Street Parking Ramp



CHERRY STREET PARKING RAMP

- The Cherry Street Ramp is located in Downtown Mankato on the corner of 2nd Street, and Cherry Street.
- It is close to many local business and restaurants, and mall. This area serves as one of the central points in the downtown Mankato area for leisure and business.
- The location didn't originally get checked for RECs before construction; so looking back at Sanborn maps, we can get an idea of what caused contamination.



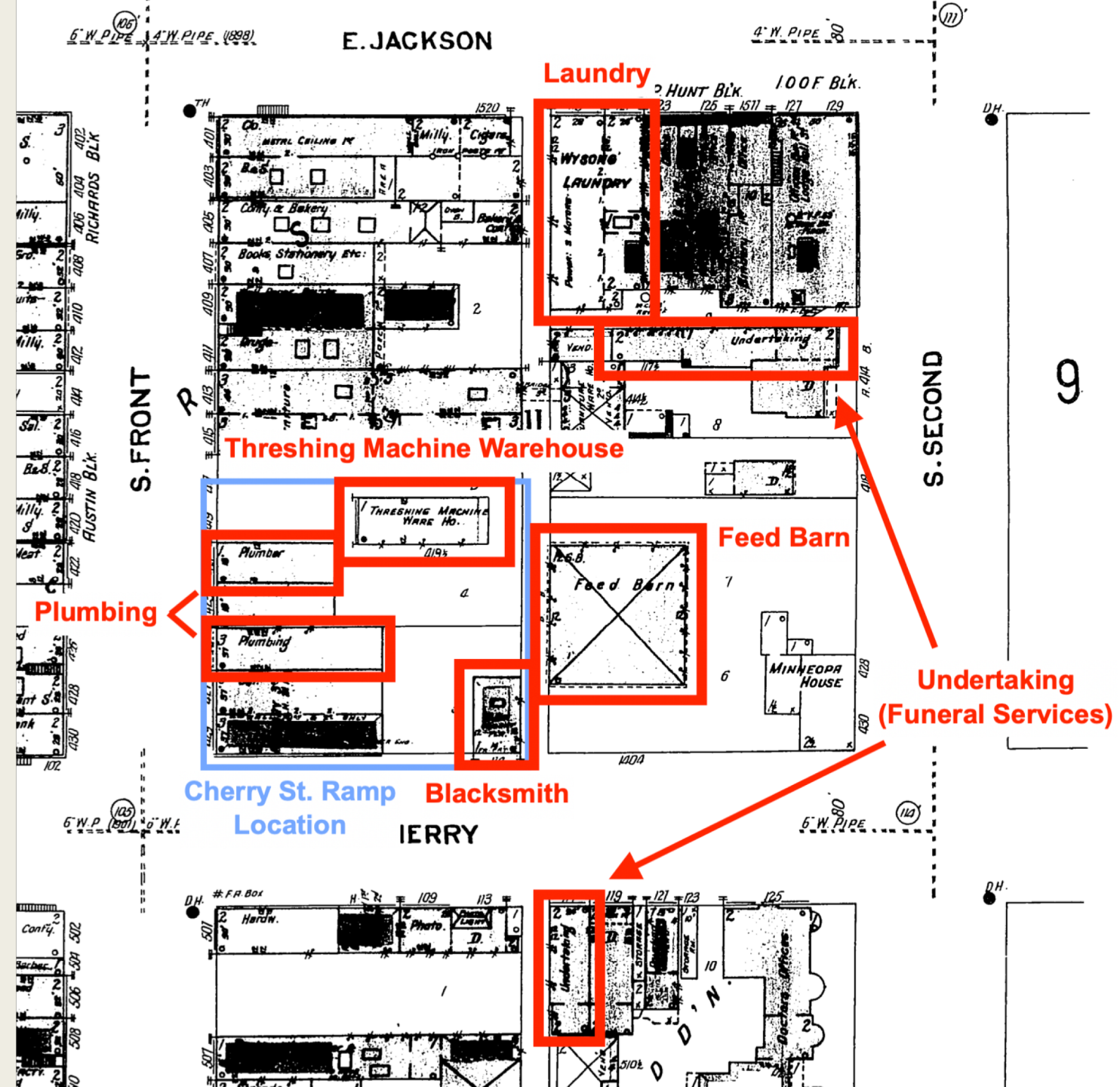
1908

On Site

- Threshing Machine Warehouse
 - Farming Machinery
- 2 Plumbing Shops
- Blacksmith
 - Gases, fuels

Bordering

- 2 Undertakers
 - Use of toxic fluids, embalming
- Laundry
 - Chemicals and Solvents
- Feed Barn
 - Animal Waste



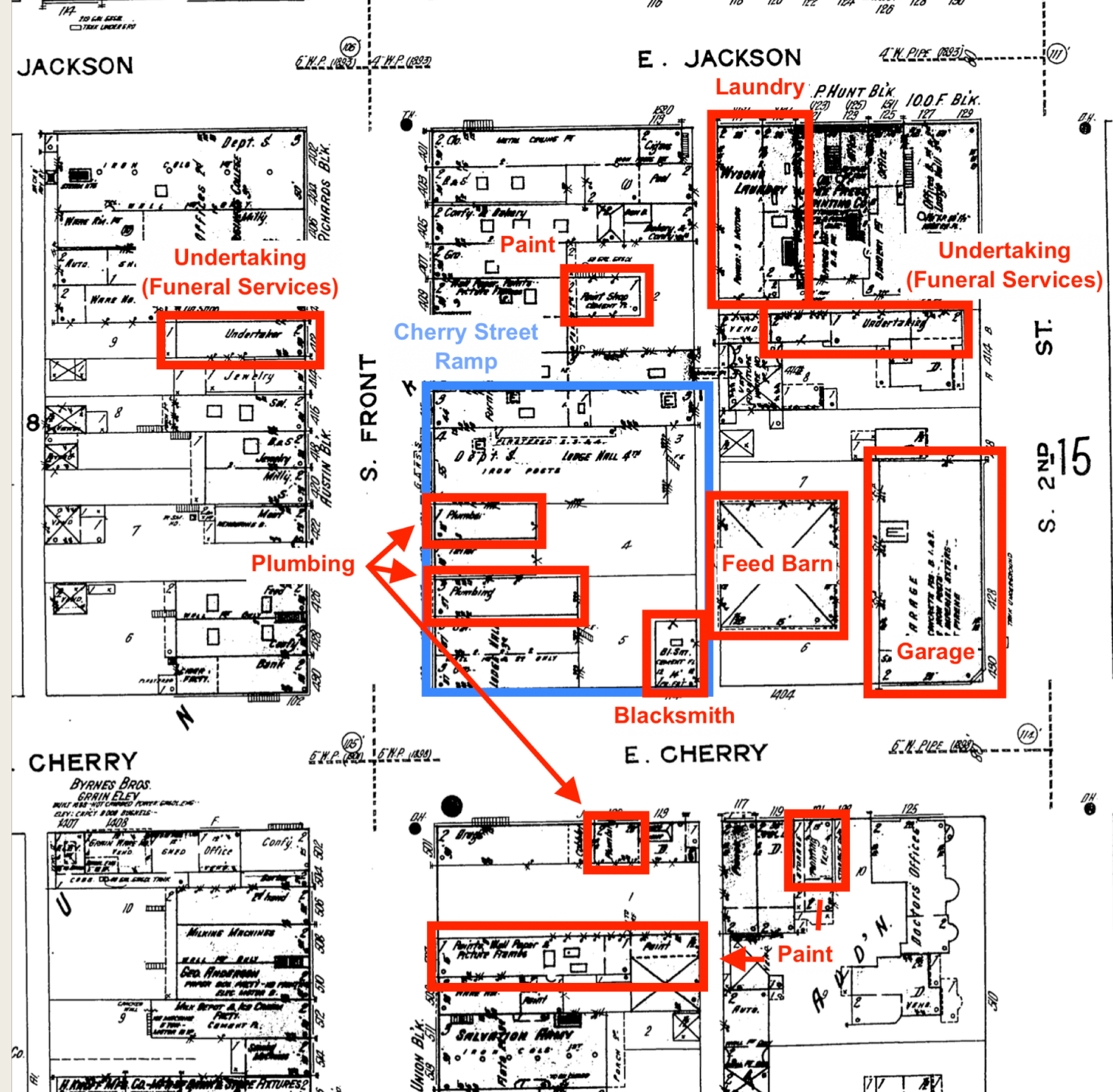
1914

On Site

- 2 Plumbing Shops
- Blacksmith
 - Gases, fuels

Bordering

- 2 Undertakers
 - Use of toxic fluids, embalming
- Laundry
 - Chemicals and Solvents
- Garage
- 3 Paint shops
- Feed Barn
 - Animal Waste



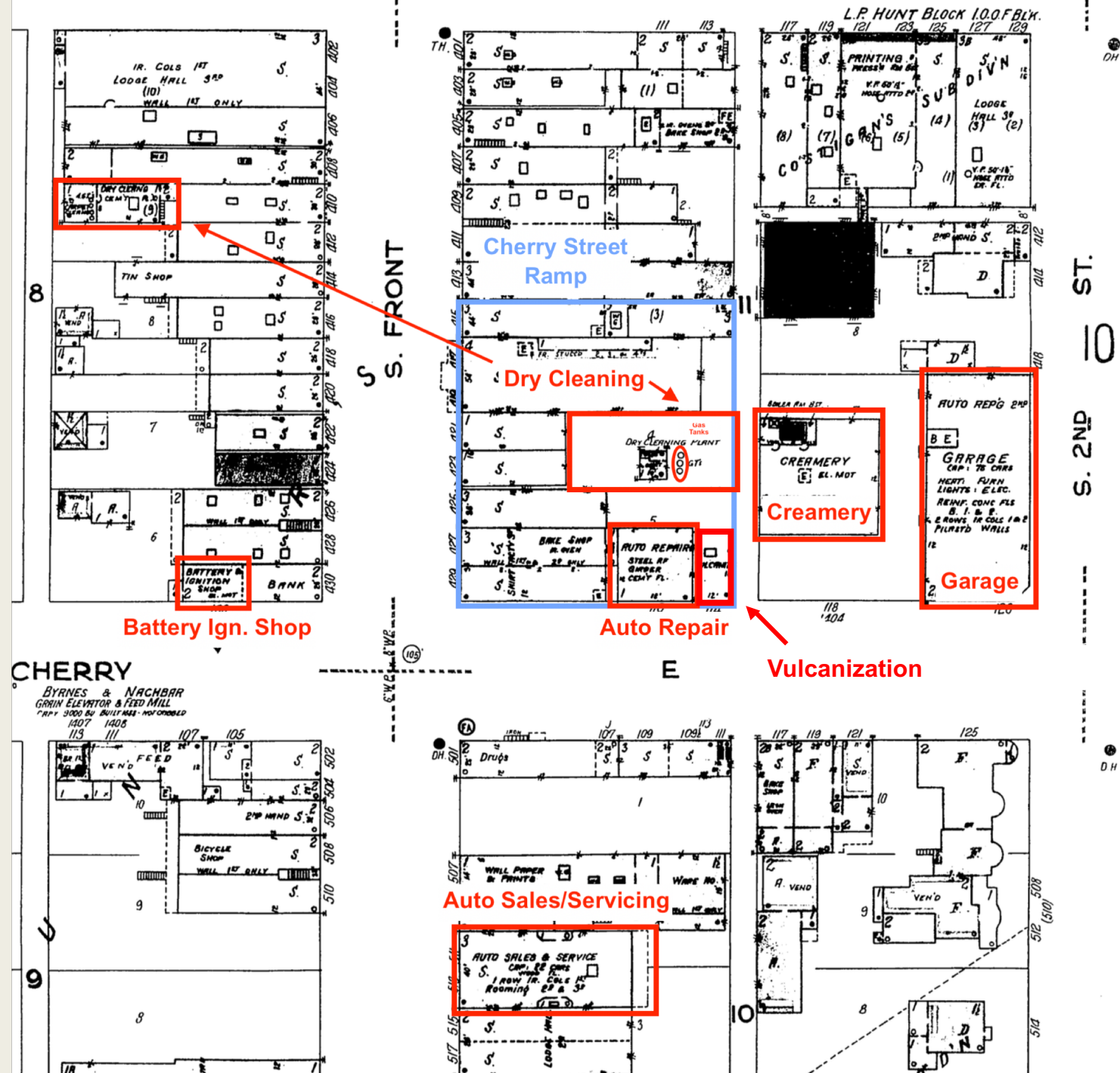
1924

On Site

- **Dry Cleaning**
 - Waste, 3 Gas Tanks on Site
- **Auto Repair**
 - Auto. Waste, fuels, oils, etc.
- **Vulcanization**

Bordering

- **Battery Ignition Shop**
 - Battery toxins and waste
- **Auto Sales/Service**
 - Auto. Waste, fuels, oils, etc.
- **Garage**
- **Creamery**
 - Electric motor in building



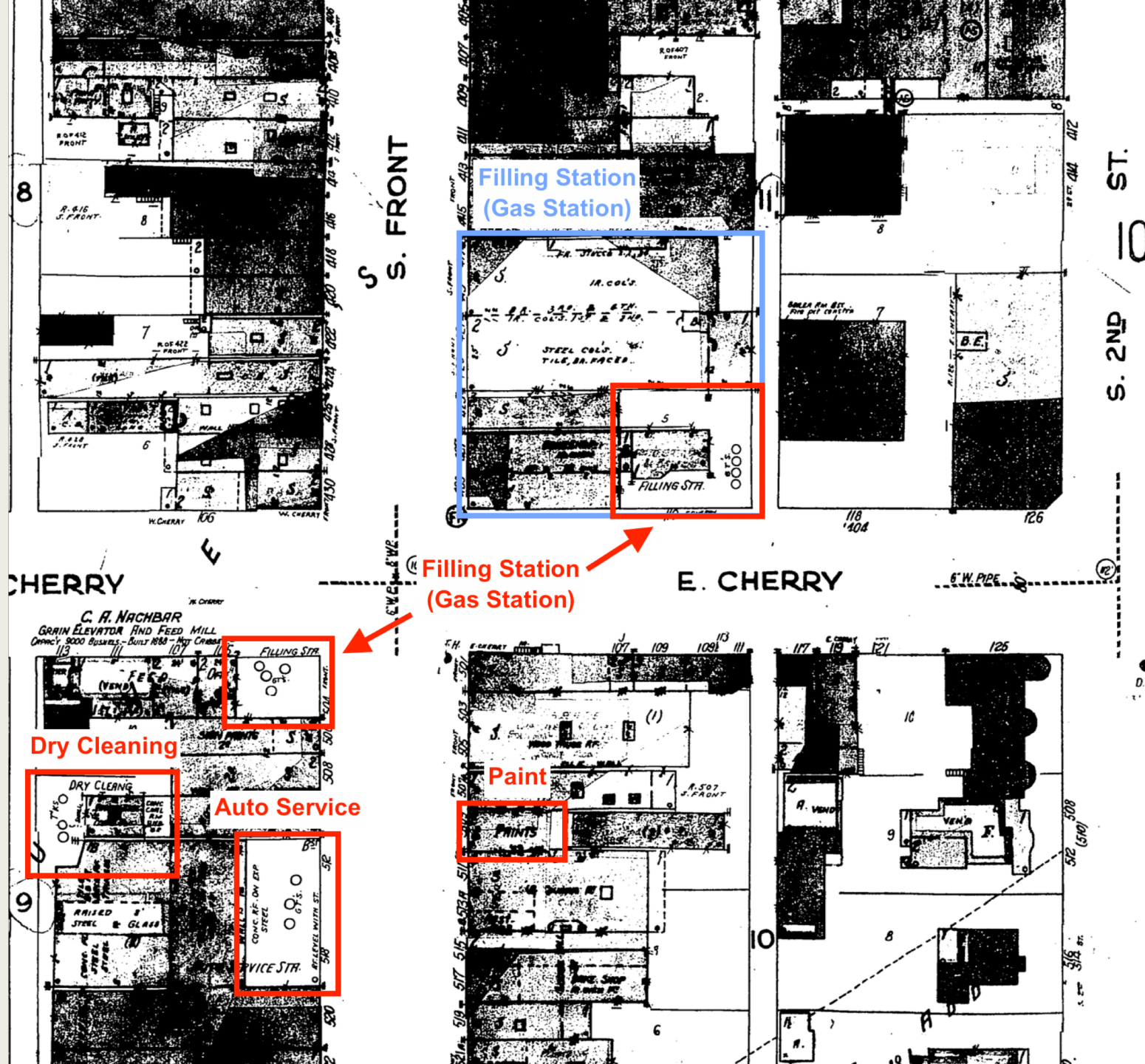
1948

On Site

- Filling Station
 - 4 Gas Tanks on Site

Bordering

- Filling Station
 - 4 Gas Tanks on Site
- Dry Cleaning
 - Waste, 3 Gas Tanks on Site
- Auto Service
 - Auto. Waste, fuels, oils, etc.
 - 3 Gas Tanks on Site
- Paint Shop



MAJOR CONCERNS

- Filling Station (1948)
 - *One on site, other bordering on SW corner, **Gasoline Tanks***
- Dry Cleaning (1924)
 - *On Site, **Gasoline Tanks***
- Threshing Machine Warehouse (1908)
 - *On Site*
 - *Other border sites should always be in consideration, but on site is very critical.*

REFERENCED TO PRESENT DAY



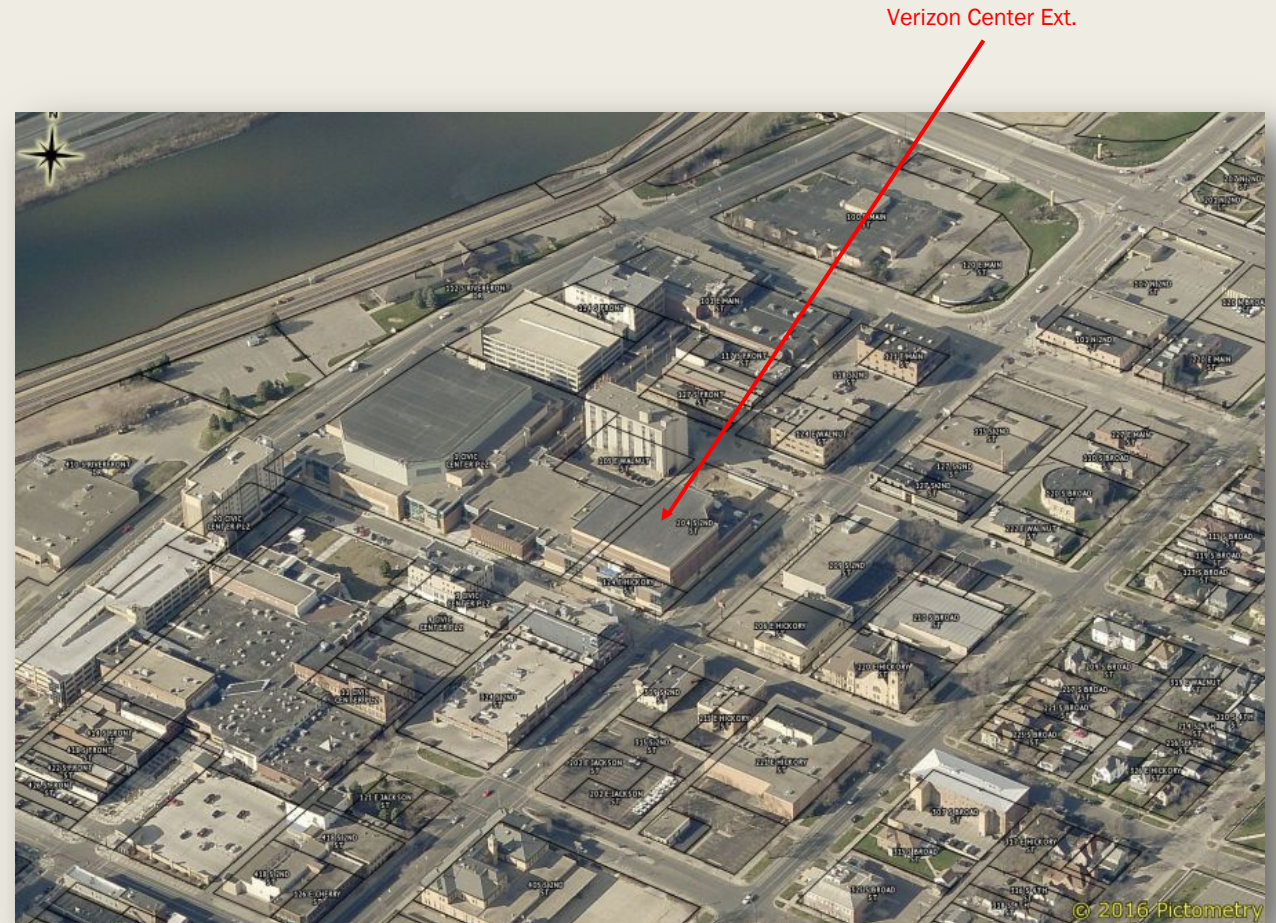
CASE #2

Verizon Center Expansion



VERIZON CENTER EXPANSION

- Verizon Center Expansion is located on the corner of 2nd Street and East Hickory.
- The extension project of the Verizon Center was in 2015.
- Home to the Mavericks Hockey, and a major venue station in Mankato; the Verizon Center is a hub of entertainment and much more.
- The location didn't originally get checked for RECs before construction; so looking back at Sanborn maps, we can get an idea of what caused contamination.



1908

On Site

- Livery
 - Animal Waste
- Laundry

Bordering

- 1 Undertaker
 - Use of toxic fluids, embalming
- Fire Ruins
- Auto Co.
 - Auto. Waste, fuels, oils, etc.
- Plumbing



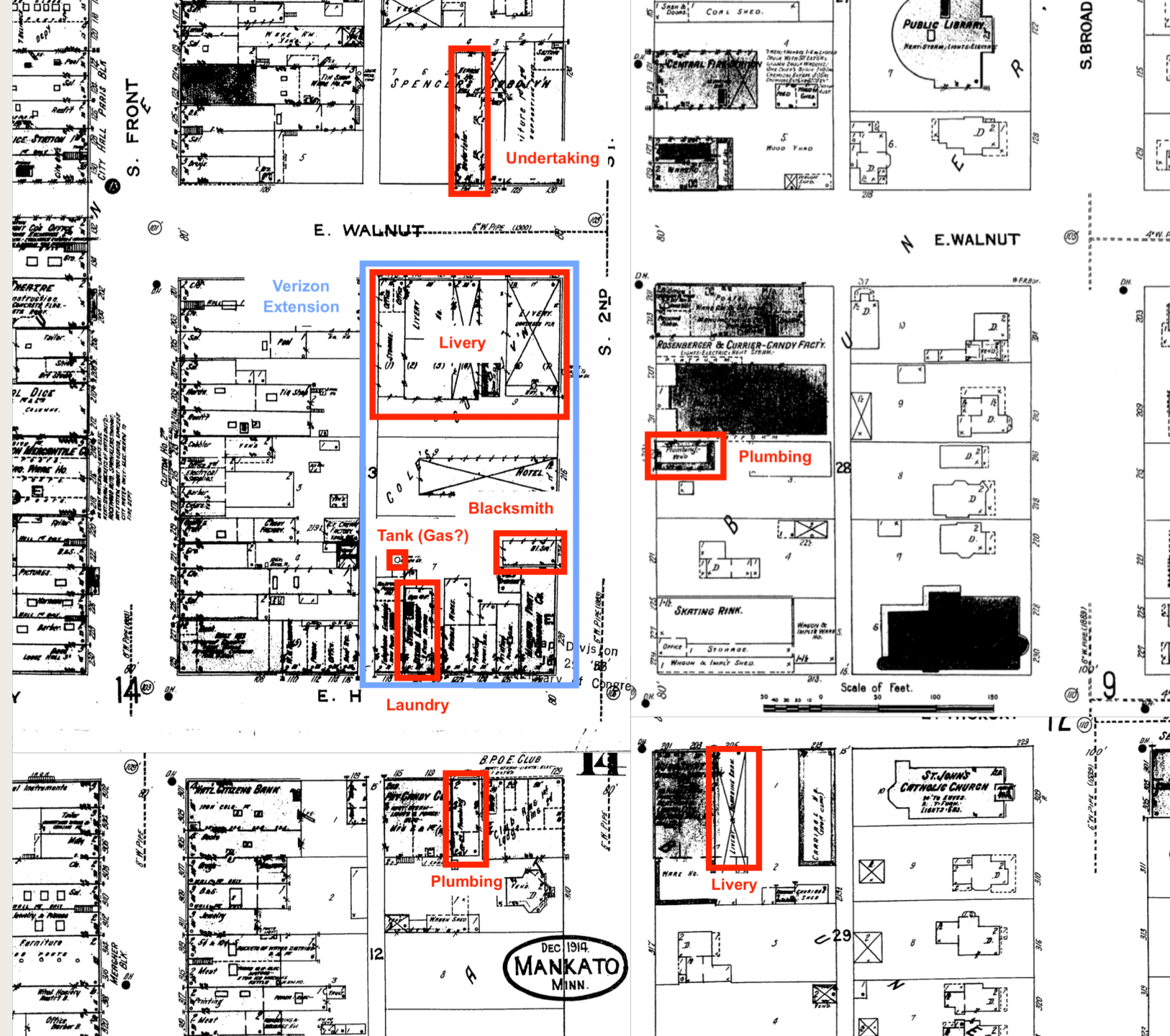
1914

On Site

- Livery
 - Animal Waste
- Blacksmith
- Laundry
 - Gas Tank Addition?

Bordering

- 1 Undertaker
 - Use of toxic fluids, embalming
- 2 Plumbing Shops
- Livery
 - Animal Waste



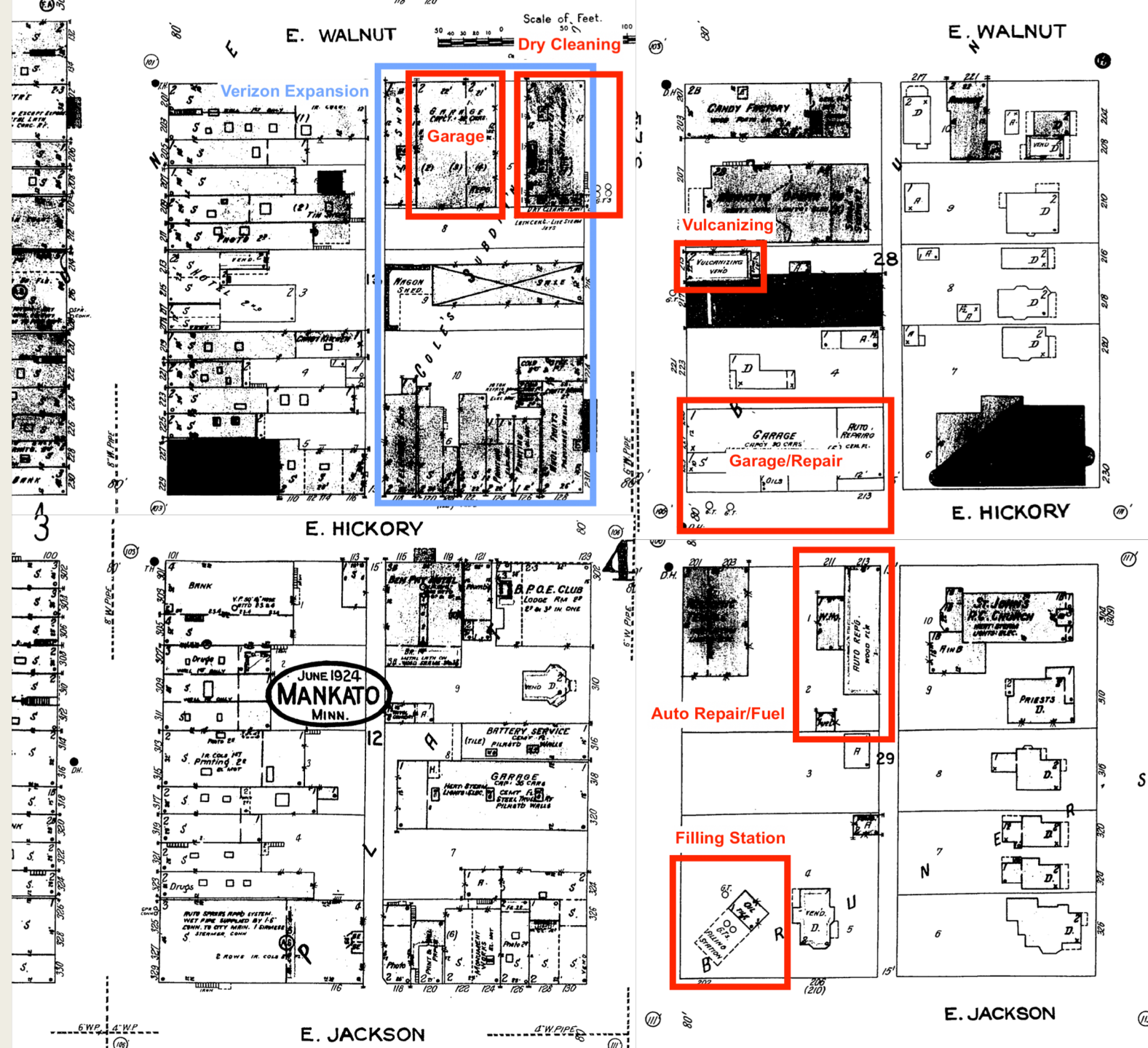
1924

On Site

- Garage
 - Animal Waste
- Dry Cleaning
 - 4 Gas Tanks on Site (on st.)

Bordering

- Vulcanizing
- Garage/Repair
 - 2 Gas Tanks on Site (on st.)
- Auto Repair/Fuel
 - Fuel Building
- Filling Station
 - 2 Gas Tanks on Site



1948

On Site

- None
 - Due to obstruction, unable to see possible RECs

Bordering

- Funeral Home
 - Use of toxic fluids, embalming
- 2 Filling Stations
 - Total of 8 Gas Tanks
- 2 Auto Sales/Service
 - Auto. Waste, fuels, oils, etc.



MAJOR CONCERNS

- Laundry (1908-1914)
 - *Gas Tank addition in 1914?*
 - Garage/Repair (1924)
 - *One on site, other bordering on SW corner, **Gasoline Tanks***
 - Dry Cleaning (1924)
 - *On Site, **4 Gasoline Tanks on Street***
 - 2 Auto Sales/Servicing and Filling Station (1948)
 - *Bordering W side, **4 Gasoline Tanks***
- *Other border sites should always be in consideration, but on site is very critical.*

REFERENCED TO PRESENT DAY

Verizon Center Expansion

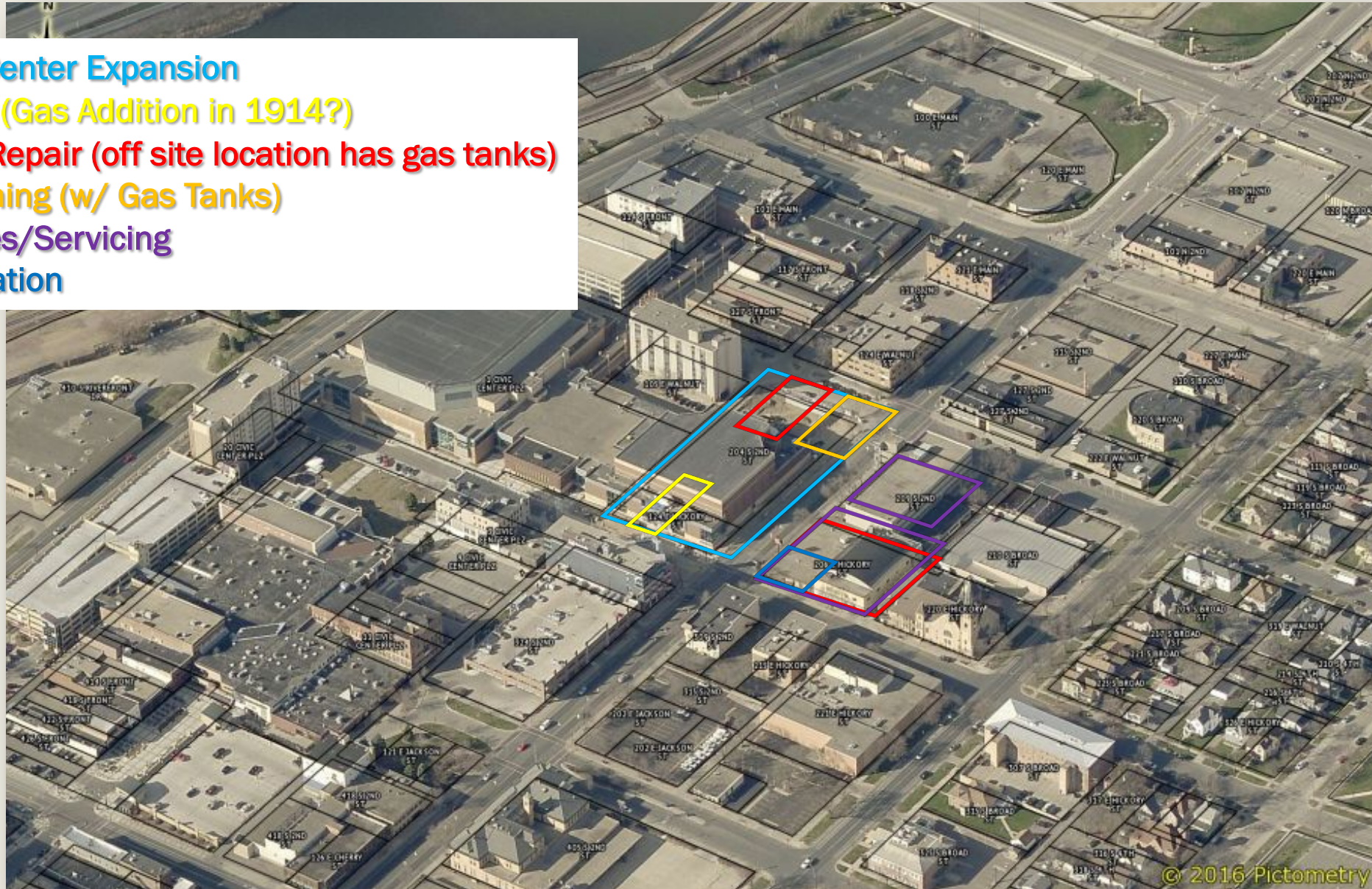
Laundry (Gas Addition in 1914?)

Garage/Repair (off site location has gas tanks)

Dry Cleaning (w/ Gas Tanks)

Auto Sales/Service

Filling Station



NOTES

- Both Dry Cleaning shops and Automobile related locations (Filling Stations, Repair Shops, Sales Shops, etc.) are the main cause of any sort of concerning contamination. These locations are always almost accompanied with **gas tanks** on site.
- Between 1914, and 1924 and beyond is when these services begin to pop up, and in large numbers.
- Due to poor regulation and knowledge of the effects of these services, contamination is still a big issue even into the 21st century.
- There are many sites on adjacent sides that should be taken into account when dealing with an construction project (ex. leeching into neighboring soils), but main concerns should be on site sources of contamination.

CONCLUSION

- Both cases of building construction seem to have had some contamination from gas tanks. Whether the source be from Dry Cleaning usage or Automobile Servicing and Filling depends on the time you are looking at.
- Due to the time period these were managed, there is a very high chance of contamination and leakages of this fuel.
 - *Since proved true with the construction of the proposed buildings.*

CITATIONS

- “Digital Sanborn Maps.” *Digital Sanborn Maps*, ProQuest, sanborn.umi.com/splash.html.
- “Sanborn Maps.” *Wikipedia*, Wikimedia Foundation, 7 Aug. 2018, en.wikipedia.org/wiki/Sanborn_Maps.
- “Beacon – Blue Earth County.” *Beacon*, Pictometry by Eagleview, <https://beacon.schneidercorp.com/>.