

# Collaborative Efforts in Groundwater Protection in Marion County, Indiana

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# Outline

## Introduction

- **Marion County/Indianapolis**
- **Public Water Supply**
- **Our Wellfields**

## Groundwater Protection Efforts in the Last 20 Years

- **Wellfield Protection Over Time**
- **Regulatory versus Voluntary Approach**
- **Technically Qualified Person Program**
- **MCWEC Voluntary Education Program**

## Current Groundwater Protection Efforts

- **Wellfield Protection**
- **Marion County Public Health Department Wellfield Health Code**

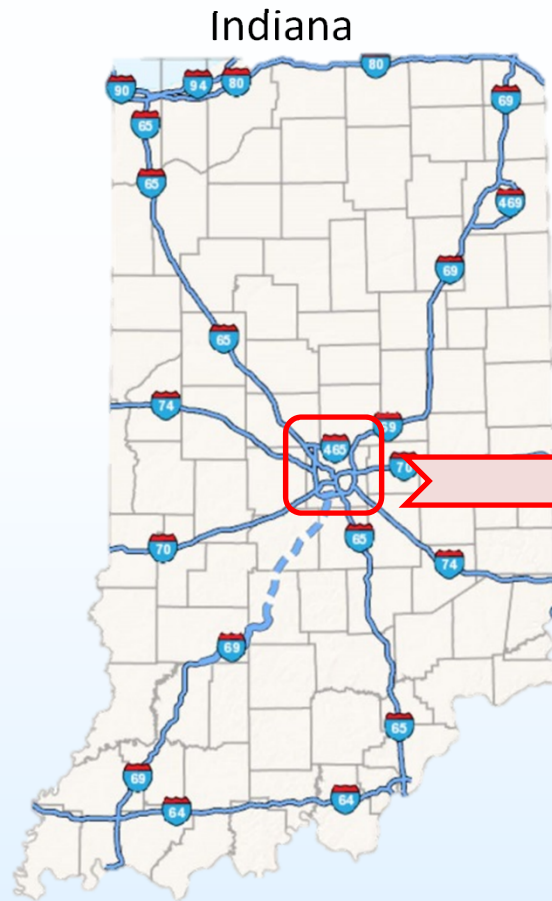
## Conclusion

- **Lessons Learned**
- **Contact Us!**

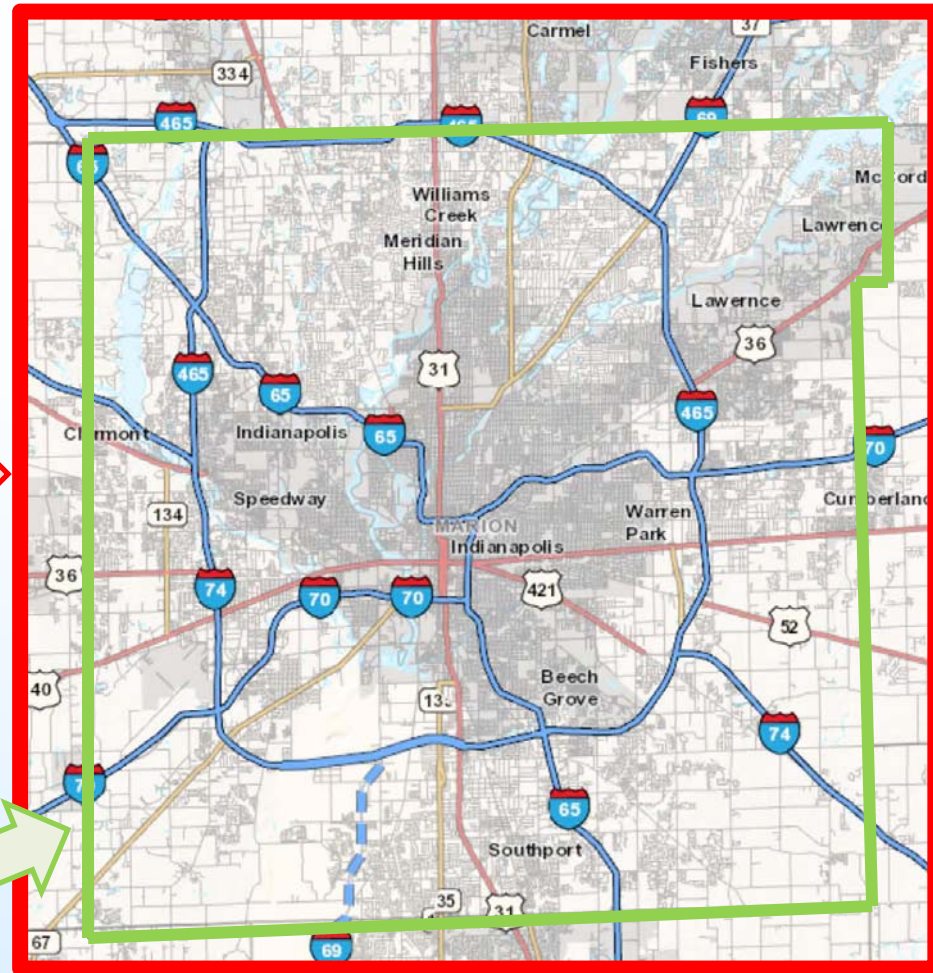


# Marion County/Indianapolis

Indianapolis  
Metro Area



Indianapolis has a Unigov governmental style, with city and county government combined.



Borders of  
Marion County



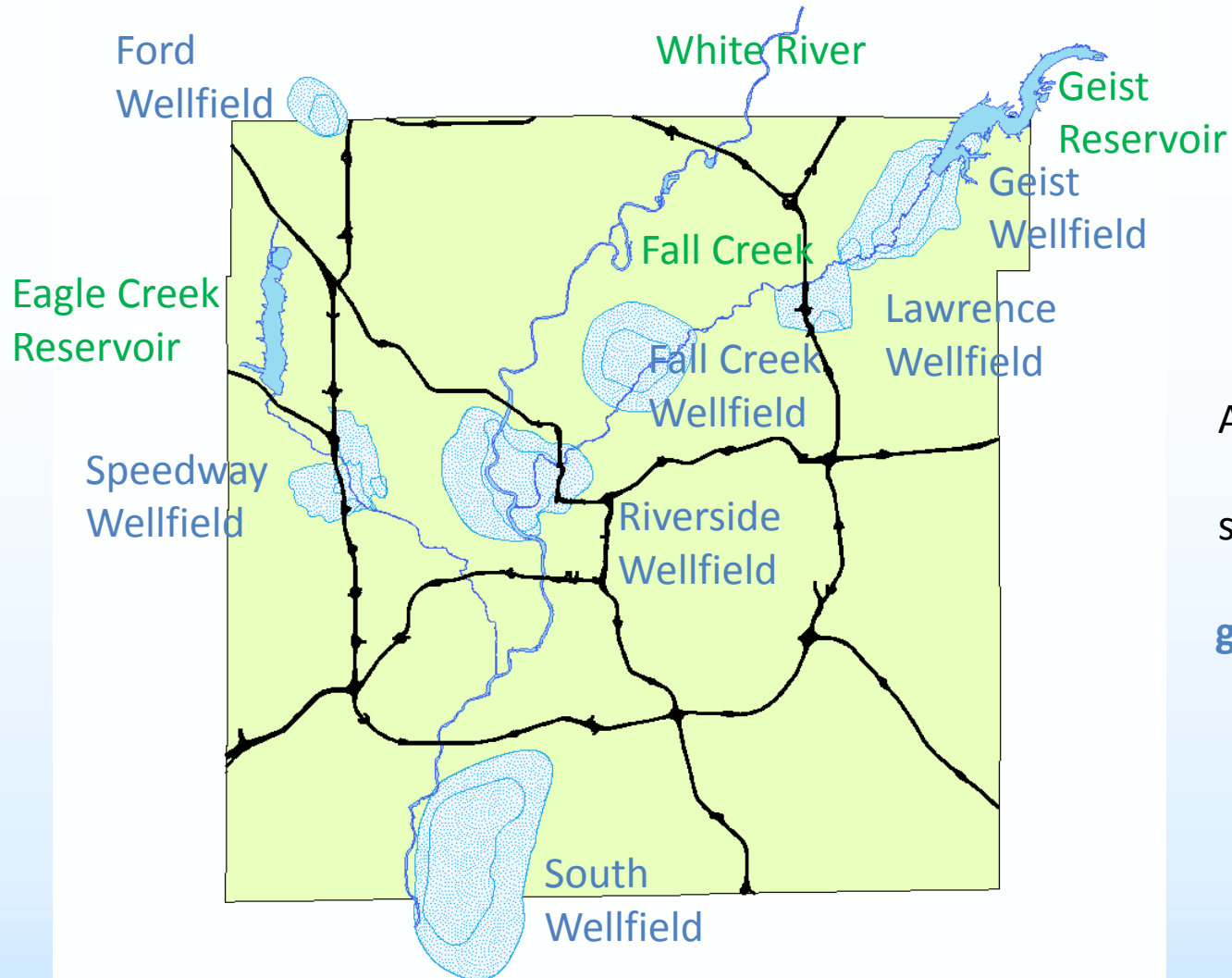
# Marion County/Indianapolis

## By the Numbers

- Indianapolis/Marion County Population: estimated 939,000 (metro area over 2 million)
- 25<sup>th</sup> largest economic region in the US
- Area: 396 square miles



# Public Water Supply Sources



About 25% of the public supply comes from **groundwater**.

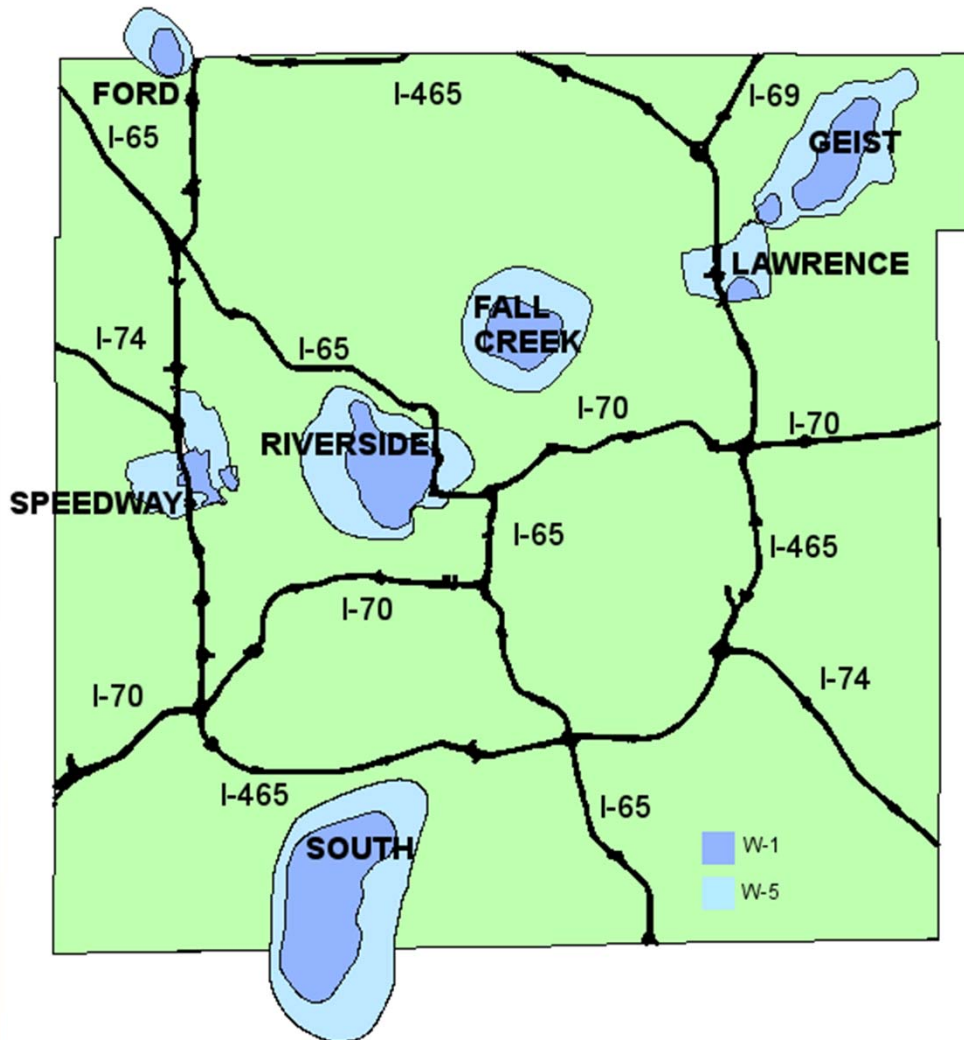


# Public Water Supply

- Three water distributors
  - Citizens Water (95%)
  - Speedway Water Works (1%)
  - Lawrence Utilities (4%)
- Almost 11 billion gallons of water are pumped from the 85 wells in the seven wellfields each year, **comprising about 25% of water supply**
- Demand for water is growing with the population and growth of industry
- Citizens Water has plans for increasing surface water and groundwater withdrawal
  - New routing of water from Geist Reservoir
  - Expansion of Geist Reservoir
  - **Installation of additional wells in Riverside Wellfield**



# Our Wellfields



Ford Wellfield – Agricultural and residential

Geist – Residential and light retail

Lawrence – Residential and retail

Fall Creek – Retail, auto service, light industry

Riverside – Retail, auto service, major industry

Speedway – Retail, auto service, residential

South – Retail, auto service, major industry



# What's in Our Wellfields?

- Large portions of our wellfields are in industrial areas, many with active contaminant threats.

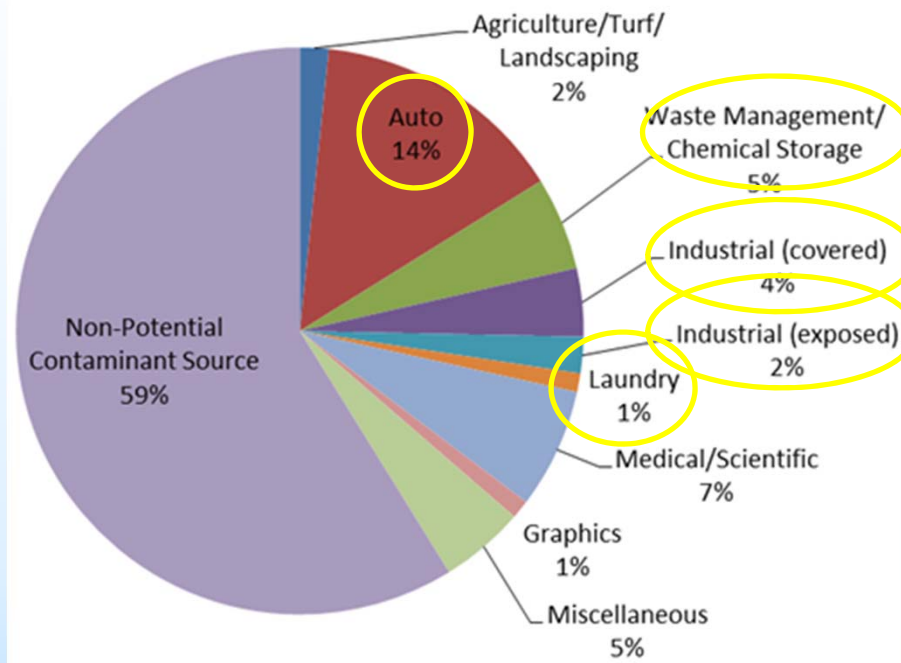




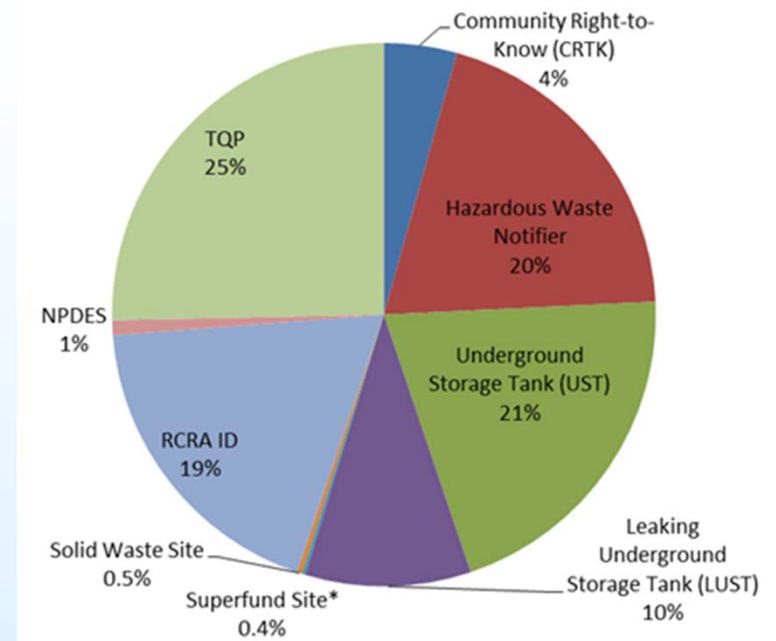
# What's in Our Wellfields

- 2,300 active sites
- 950 have been identified as potential contaminant sources (PCS)

Of the 950 PCS, about 700 appear in a regulatory database (73%).



**Business Types in All Wellfields**



**Regulated Business Types in All Wellfields**



Groundwater is an incredibly important resource for Indianapolis!

What are we doing to protect it?



# Groundwater Protection Through Time in Marion County

1995

- Wellfield Protection Officer

1995

- Wellfield Protection Zoning Ordinance

1996 & 1997

- MCWEC Established

1997

- Wellfield Protection Zoning Ordinance Updated

2001

- MCWEC Begins Active Education

2003

- Wellfield Protection Zoning Ordinance Updated

2005

- Wellfield Protection Zoning Ordinance Updated

2007

- Wellfield Business Inventory

2015

- IndyRezone updates Wellfield Zoning Ordinance

2017

- Marion County Public Health Department enacts a Wellfield Protection Health Code

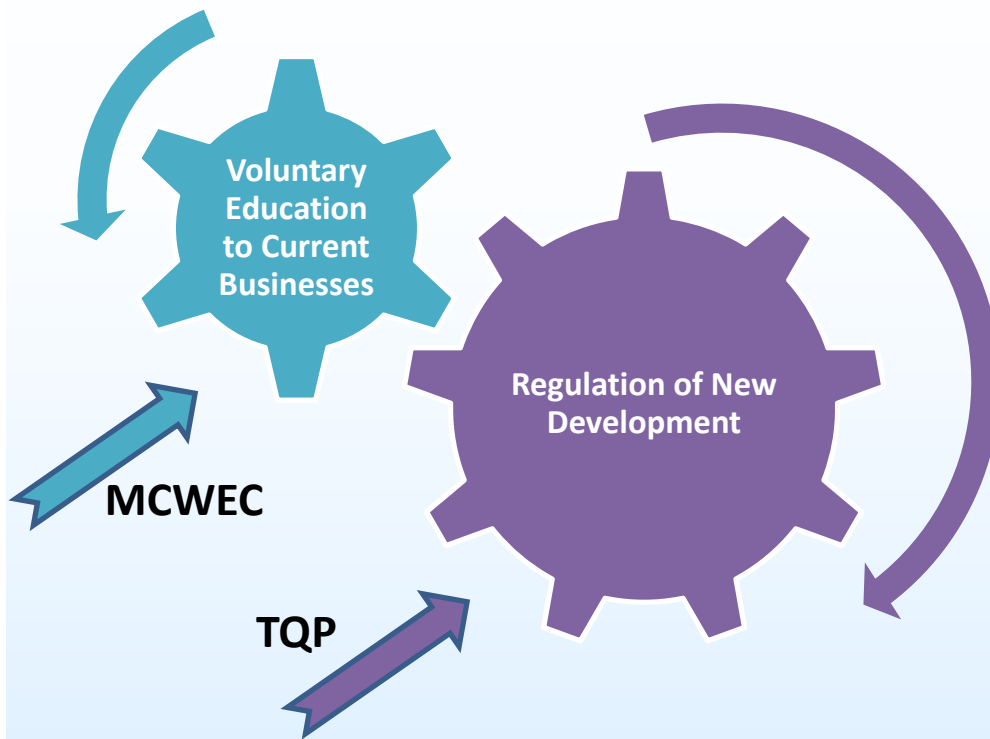
# Marion County Wellfield Education Corporation (MCWEC)

- Not-for-profit corporation established in 1996 by the Marion County Wellfield Protection Zoning Ordinance
- **Mission:** To prevent contamination to the valuable groundwater resources of Marion County through public awareness and education.



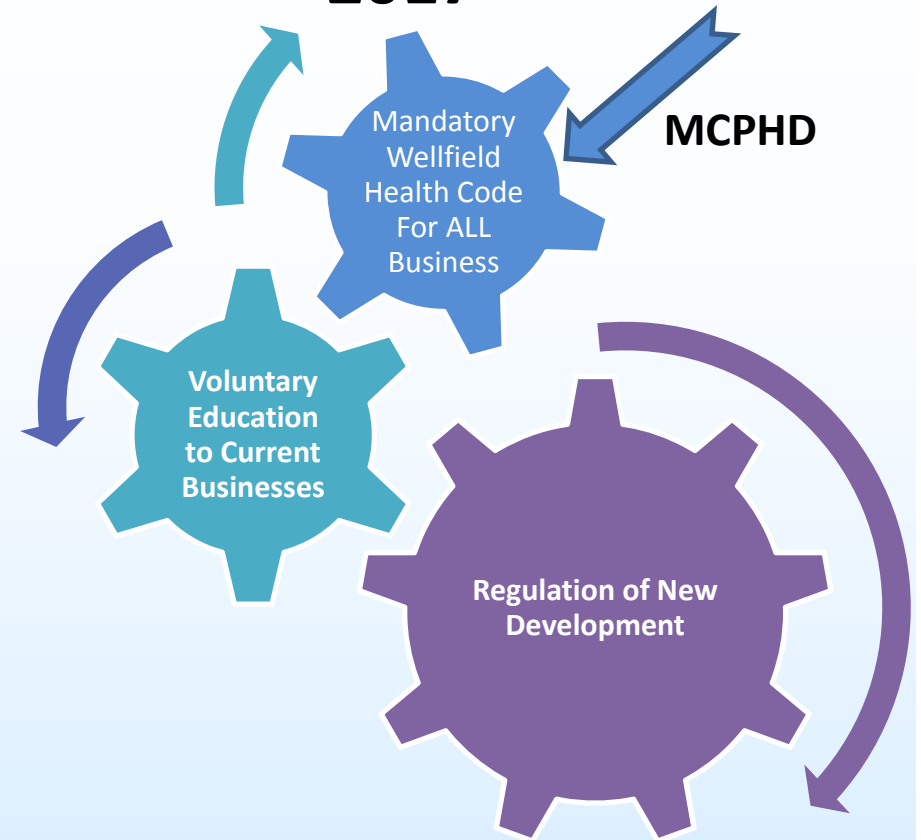
# Wellfield Regulation in Marion County

## Prior to 2017



Big changes to our program in 2017 to address deficiencies and better protect our groundwater.

## 2017



# Regulation of New Development

## – Technically Qualified Person



- When companies want to build a new facility or improve an existing facility, they must file for a permit with the City
- If they are located within a wellfield their permit is flagged for review by the TQP
- Their plans are reviewed to determine their protectiveness of groundwater and if not safe, additional conditions are imposed on the business to insure safety.
  - Examples: Requiring secondary containment for chemical storage areas, creation of specific refueling areas with berms

# Regulation of New Development – Technically Qualified Person



**WARNING:**  
NO CHEMICALS SHALL BE DISCHARGED

THIS FACILITY IS LOCATED IN A DESIGNATED WELLFIELD PROTECTION ZONE OF MARION COUNTY, INDIANA

**GENERAC INDUSTRIAL**  
S6060 | 6.8L | 60 KW  
NEUTRAL, SPARK-IGNITED GENERATOR SET  
USA Central Stationary Emergency

**STANDBY POWER RATING:**  
60 KW, 75 KVA, 60/10

**PRIME POWER RATING:**  
54 KW, 66 KVA, 60/10

**POWERING AHEAD**  
For over 50 years, Generac has led the industry with innovative engines and generator manufacturing.

**NEW FILTER BUILDING**

**NEW CHEMICAL STORAGE TANK (BY OTHERS)**

**FUTURE CHEMICAL STORAGE TANK**

**continuous concrete Pad with low curb on North and South ends**

Approximately 200 sites have been reviewed through this process

**CFD BUILDING  
5630 SOUTH HARDING STREET  
UTILITY PLAN**

**FLOOR PLAN  
A-101**



# Regulation of New Development – Technically Qualified Person



- Pros
  - Fairly business friendly
  - Allows decisions to be made based on risks
- Cons
  - Focused on development stage, not intended to regulate operations
  - Little “teeth” to the program
  - Re-inspections years later found major problems and non-compliance issues





# Marion County

## Wellfield Education Corporation



- Voluntary & confidential business outreach and education
- Public awareness
- Database of potential contaminant sources
- Website (<http://indyH2O.org>)



# MCWEC – Business Outreach

- We visit potential contaminant sources in the wellfield and offer free consulting on how to improve waste/chemical storage and handling.

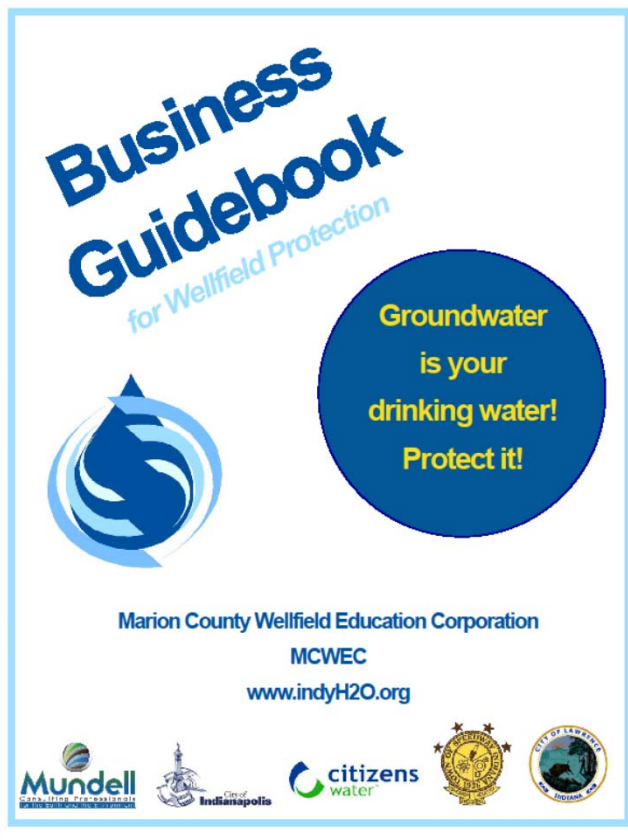
Some of the things we've seen:



# MCWEC – Business Outreach



- We pass out educational materials and free equipment (when possible).



# MCWEC Business Outreach



Approximately 150 sites have been reviewed through this process



# MCWEC – Business Outreach

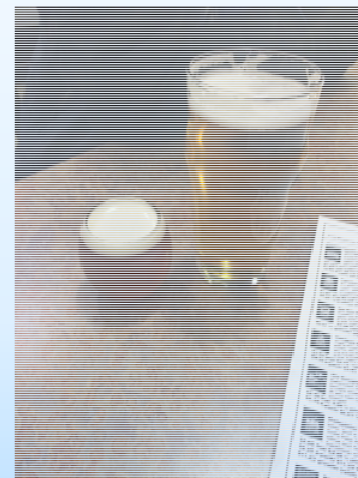
- Pros
  - Very business friendly
  - Lets us see what's really in the wellfield and what chemical storage practices people are using
  - Created positive relationships with businesses
- Cons
  - Businesses most needing of help were the least likely to opt-in to receiving it
  - Because the program was anonymous and voluntary, no way to report significant dangers to the wellfield



# MCWEC – Public Outreach



- While MCWEC generally focuses on targeted education, we have recently created a pilot public outreach program focused on local breweries using public water to produce beer.

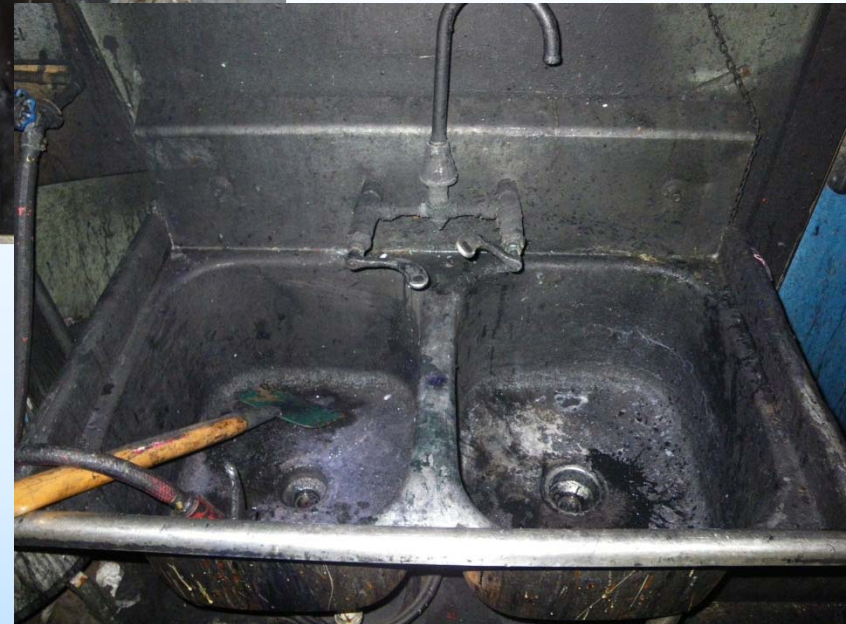


# Wellfield Protection

- Out of the almost **1,000** wellfield potential contaminant sources, **we've only been able to improve about 350 sites in the past 20 years.**
- Our wellfields have one superfund site and another major State run superfund-type site, along with a total of **155** Leaking Underground Storage Tank (LUST) sites (past and present).
- **More was needed to protect groundwater**



# Improper Disposal





# Evidence of Spills

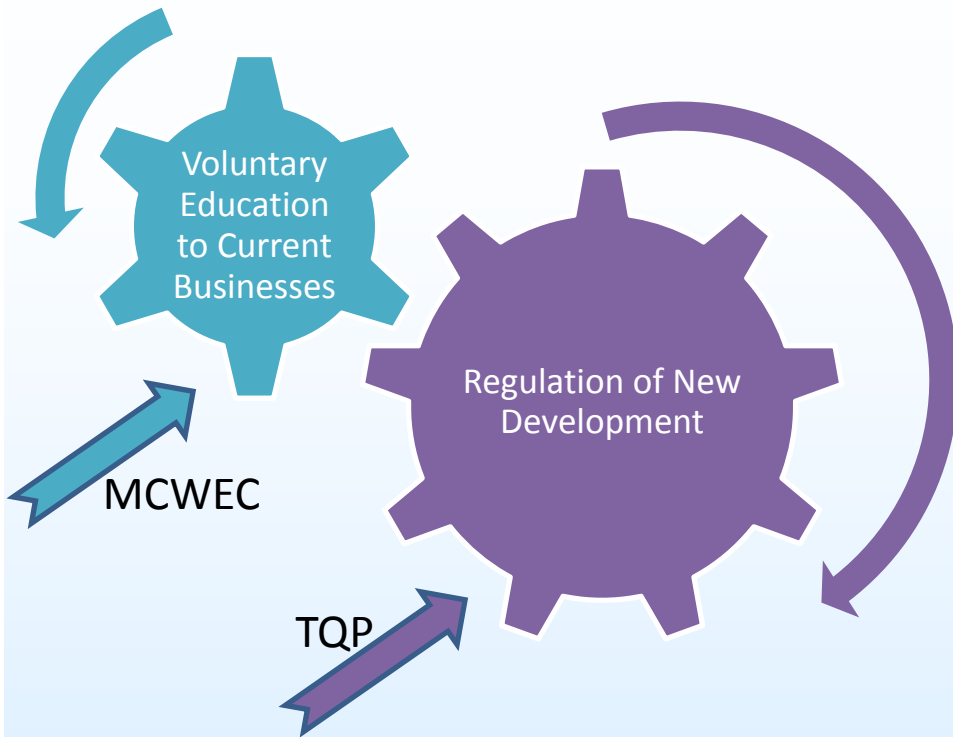


# Improper Secondary Containment

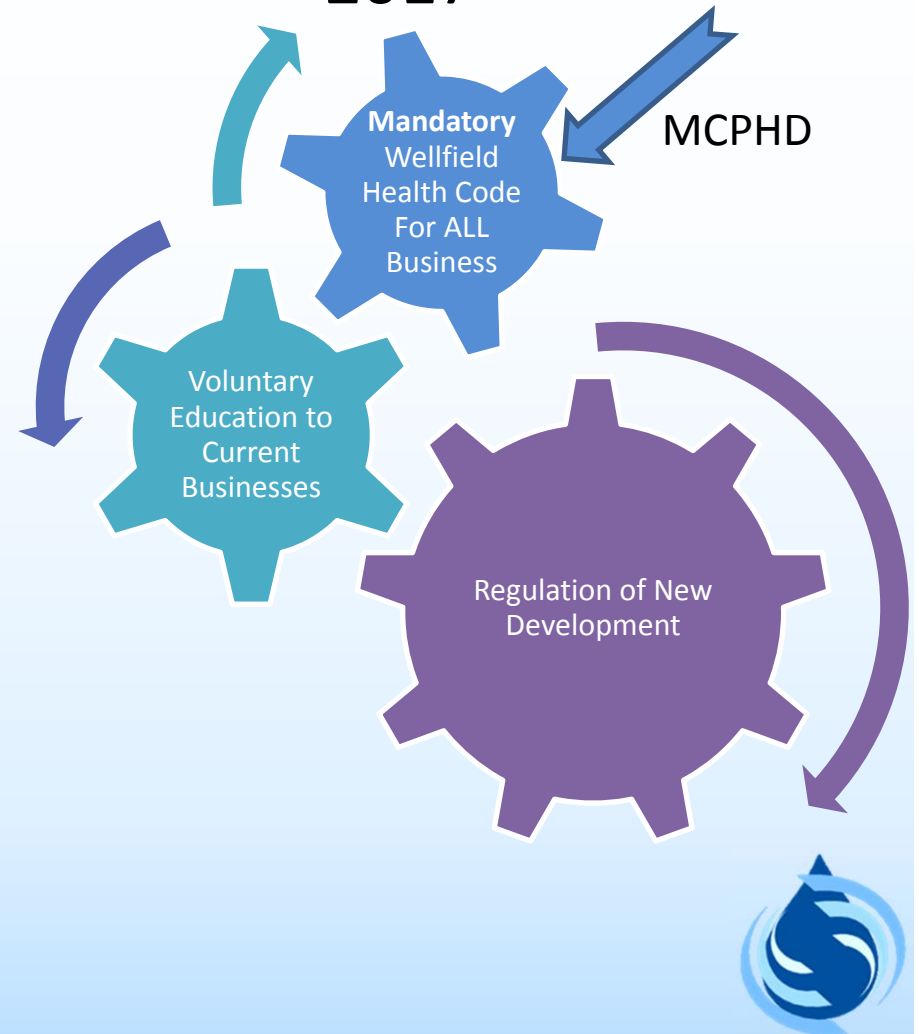


# Wellfield Regulation in Marion County

Prior to 2017



2017







# Zoning & Health Codes Complement Each Other



## Zoning

- Details land use and construction permits

## Health Code

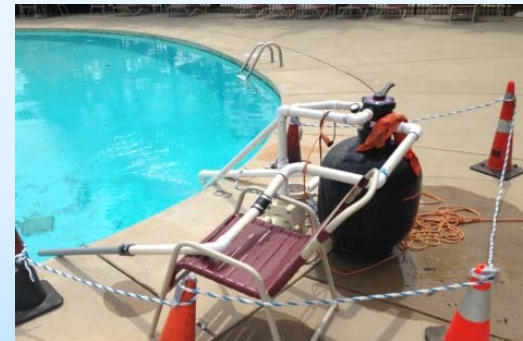
- Ensures operations are following best management practices



Restaurants



Pools

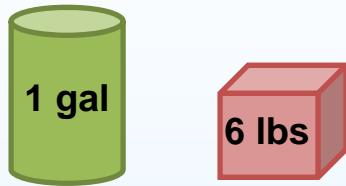


# Wellfield Health Code – Chemical Thresholds

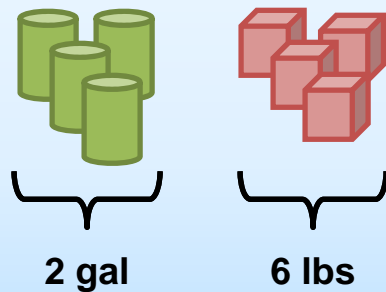


W-1

Single  
Container

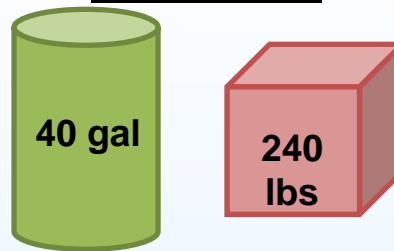


Aggregate  
(on site)

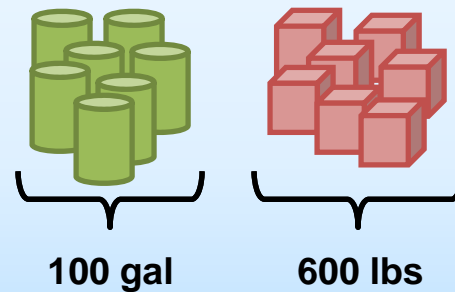


W-5

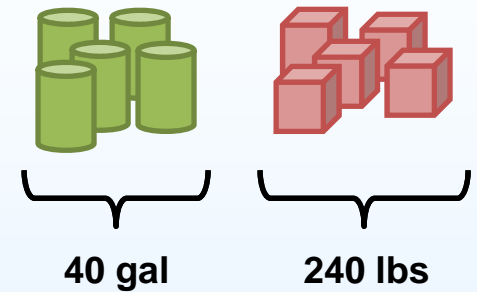
Single  
Container



Aggregate  
(on site)



Co-located



# Wellfield Health Code - Requirements



Employee Training on Spill Response and Prevention



Proper Spill Kits



Talk to Suppliers



Floors in good condition



Containers Properly Used, Labeled & Stored



Overfill Alarms Work



Dumpster is for Trash



**Common Sense Practices Can Protect Drinking Water**

# Wellfield Health Code - Other Best Business Practices



Transfer Product Safely



Proper Waste Disposal



Inventory Chemicals



Change in Tenant

**NOTIFICATION OF CHANGE  
IN TENANT OR PROCESS**

*Business Name  
Address  
City, State Zip*

Marion County Wellfield Protection Information

Remove Abandoned ASTs





# Wellfield Health Code

## - Advantages of Health Code



- Drinking water protection
- Public health protection
- All businesses have the same expectations
  - New/Expansion/Existing
- Chapter 13 passed effective 2017
  - Outreach until 2018

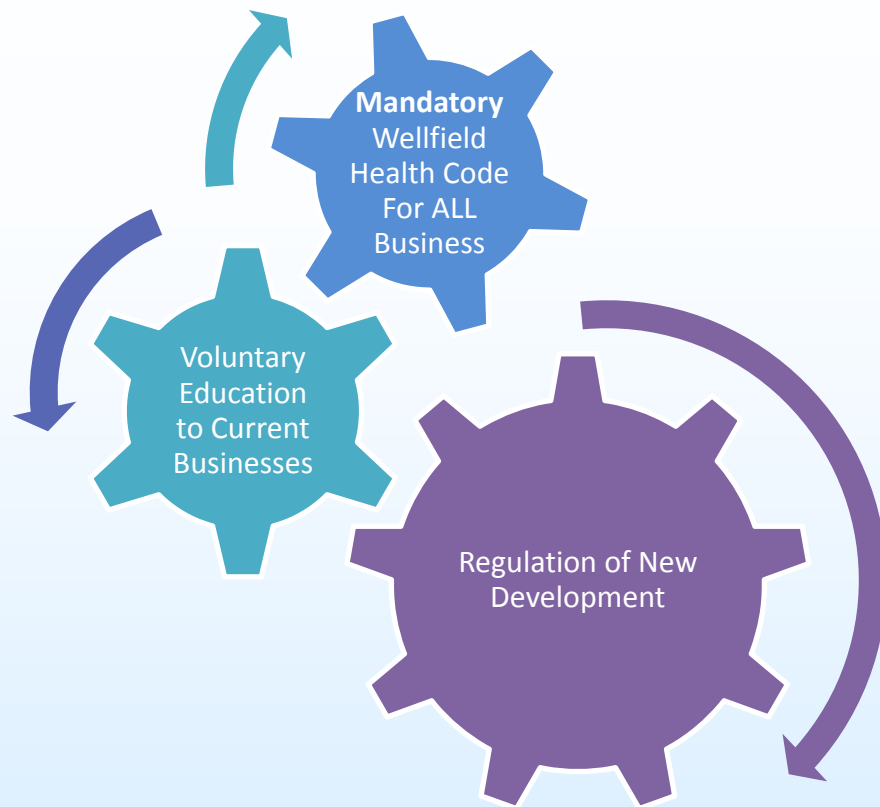
# Wellfield Health Code – Process



- Knowledgeable MCPHD inspectors will visit each business, at an interval appropriate to the business, and enforce the health code
- Violators will receive notices of violation, fines, and/or legal action when appropriate
- [http://www.hhcorp.org/hhc/images/HHCcode/chapter\\_13.pdf](http://www.hhcorp.org/hhc/images/HHCcode/chapter_13.pdf)



# Conclusions



- We needed more than the **TQP/Program zoning ordinance** and **MCWEC/voluntary education program** because we weren't reaching all of the business in the wellfield. The MCPHD created a **Wellfield Health Code** that would be mandatory, enforceable, and apply to ALL business.



# Lessons Learned During 20 Years of Wellfield Protection

- Our **TQP/zoning program** wasn't effective in the long term, because once businesses received their permits, they often didn't continue compliance.
- Our **MCWEC/voluntary program** was most effective when we were able provide “free stuff” to the people we visited. They remembered the program better and often still used the equipment.
- We will keep you updated on what we learn by implementing a **Wellfield Health Code!**



## Contact Us!

- We would love to talk more to you about our wellfield protection program and yours!
- Check out our website at <http://indyH2O.org>
- E-mail: [hwald@mundellassociates.com](mailto:hwald@mundellassociates.com)

# Questions?

