


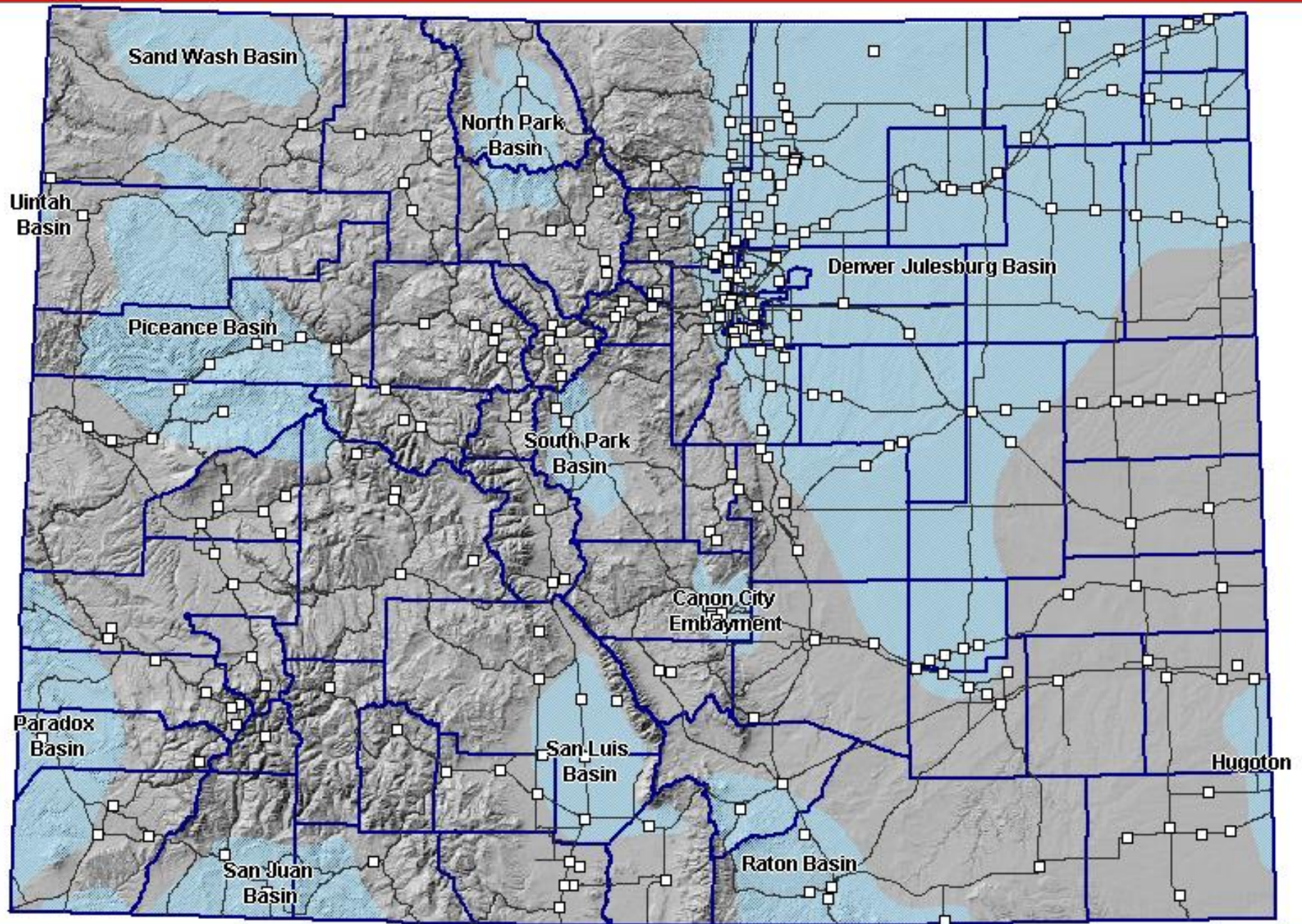
Colorado's New Oil and Gas Paradigm

*Discussion of state and local
oil and gas regulations*

Outline of presentation

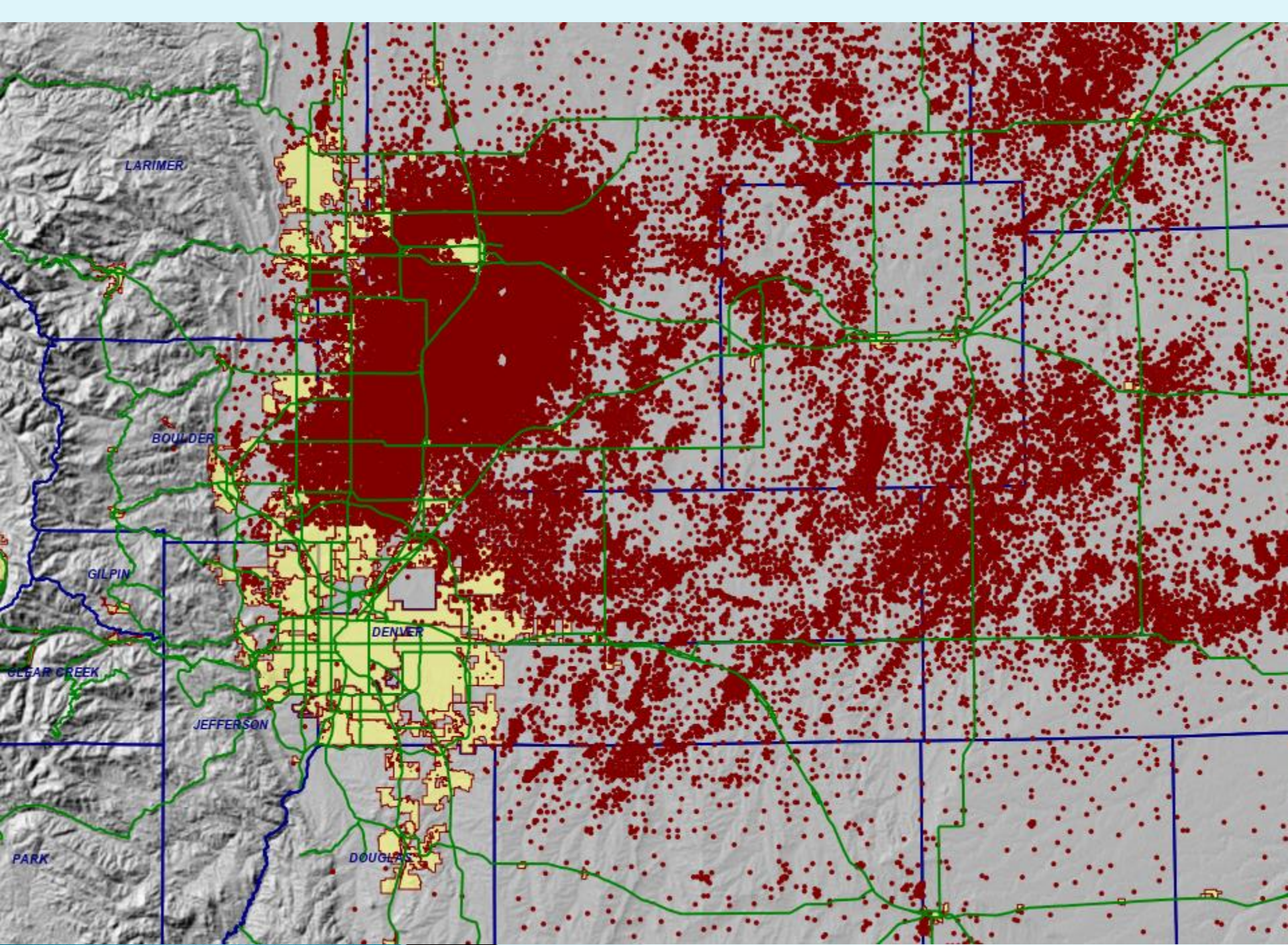
- ▶ Introductions
 - ▶ Senate Bill 19–181
 - ▶ Effect on state COGCC and AQCC
 - ▶ Effect on local government regulations
 - ▶ Considerations for local governments in designing regulations and siting facilities
- 

Colorado's Oil and Gas Basins

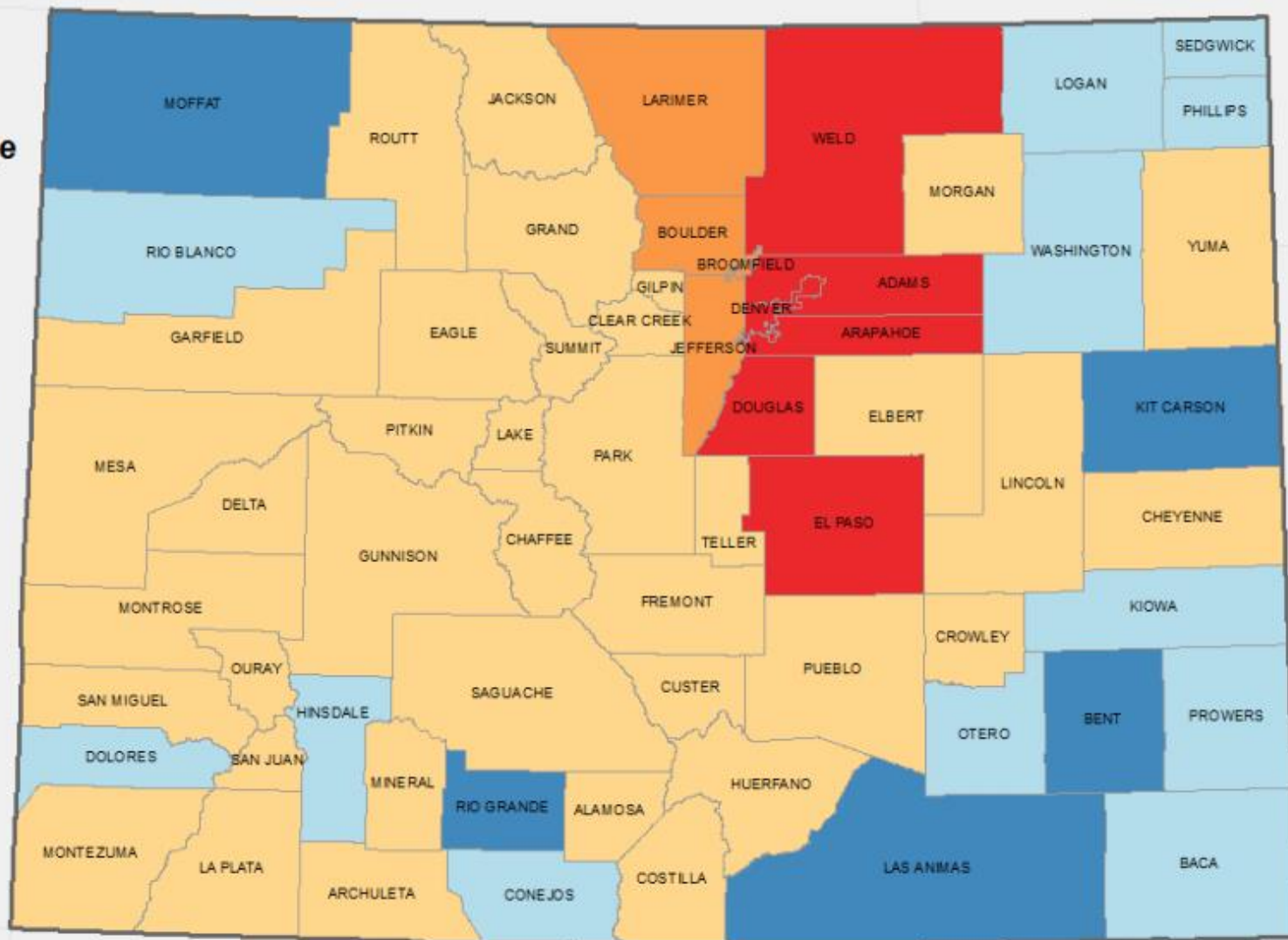


SB 181

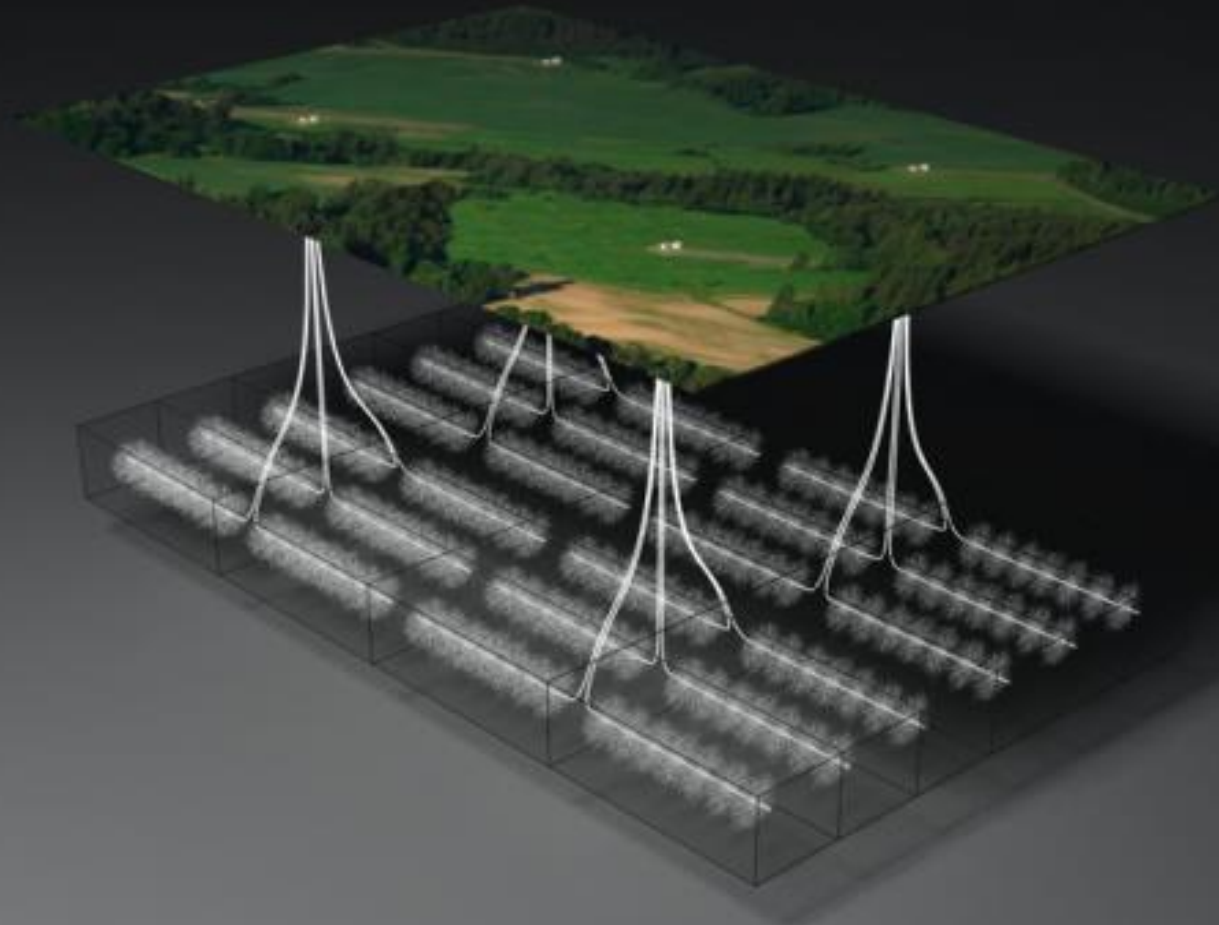
BACKGROUND



Colorado: Total Population Change 2010 - 2018



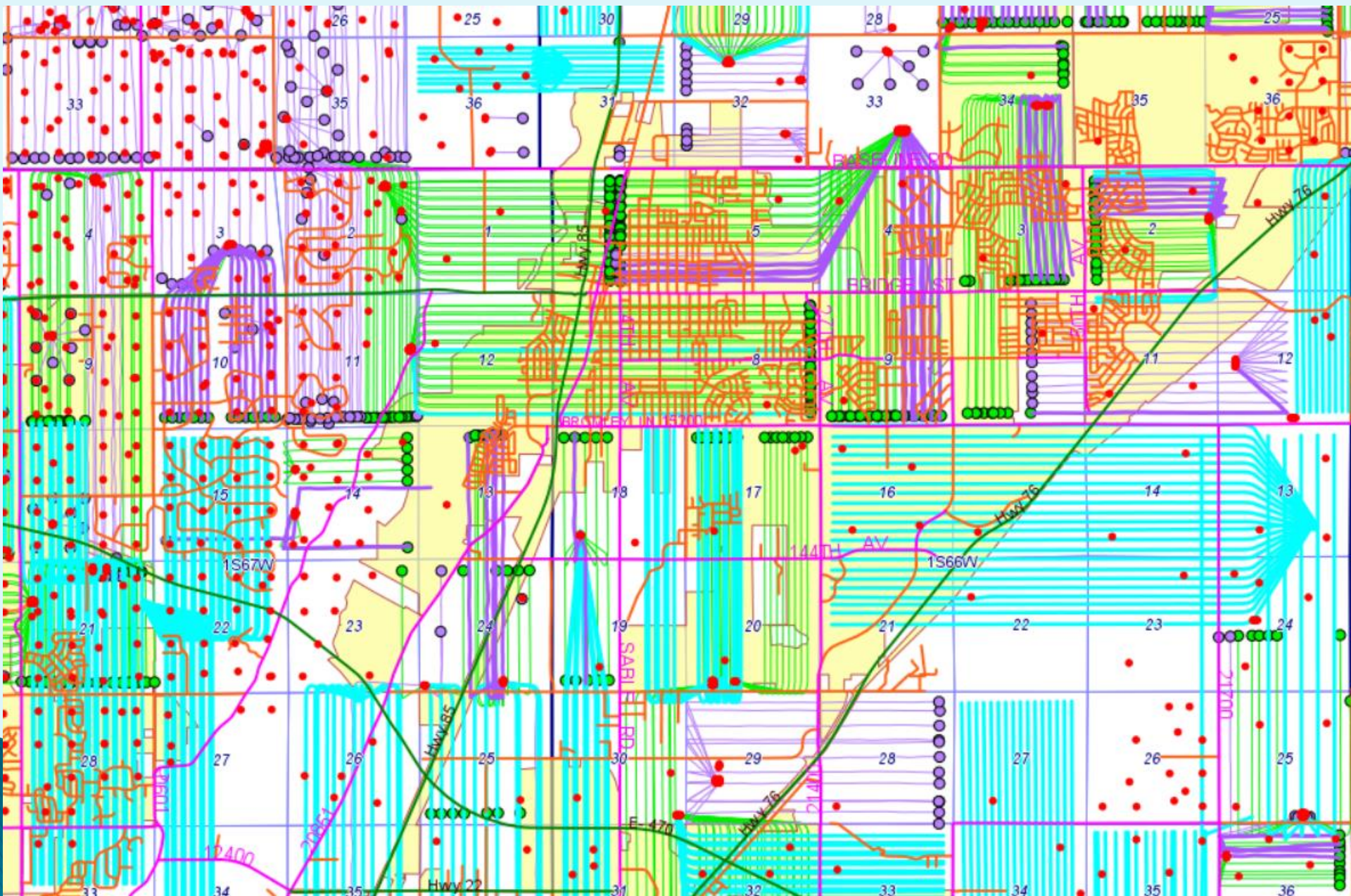
Multi-Well Pad Coverage





Brighton in August, 2014

Brighton in August, 2019



Oil and Gas Regulation

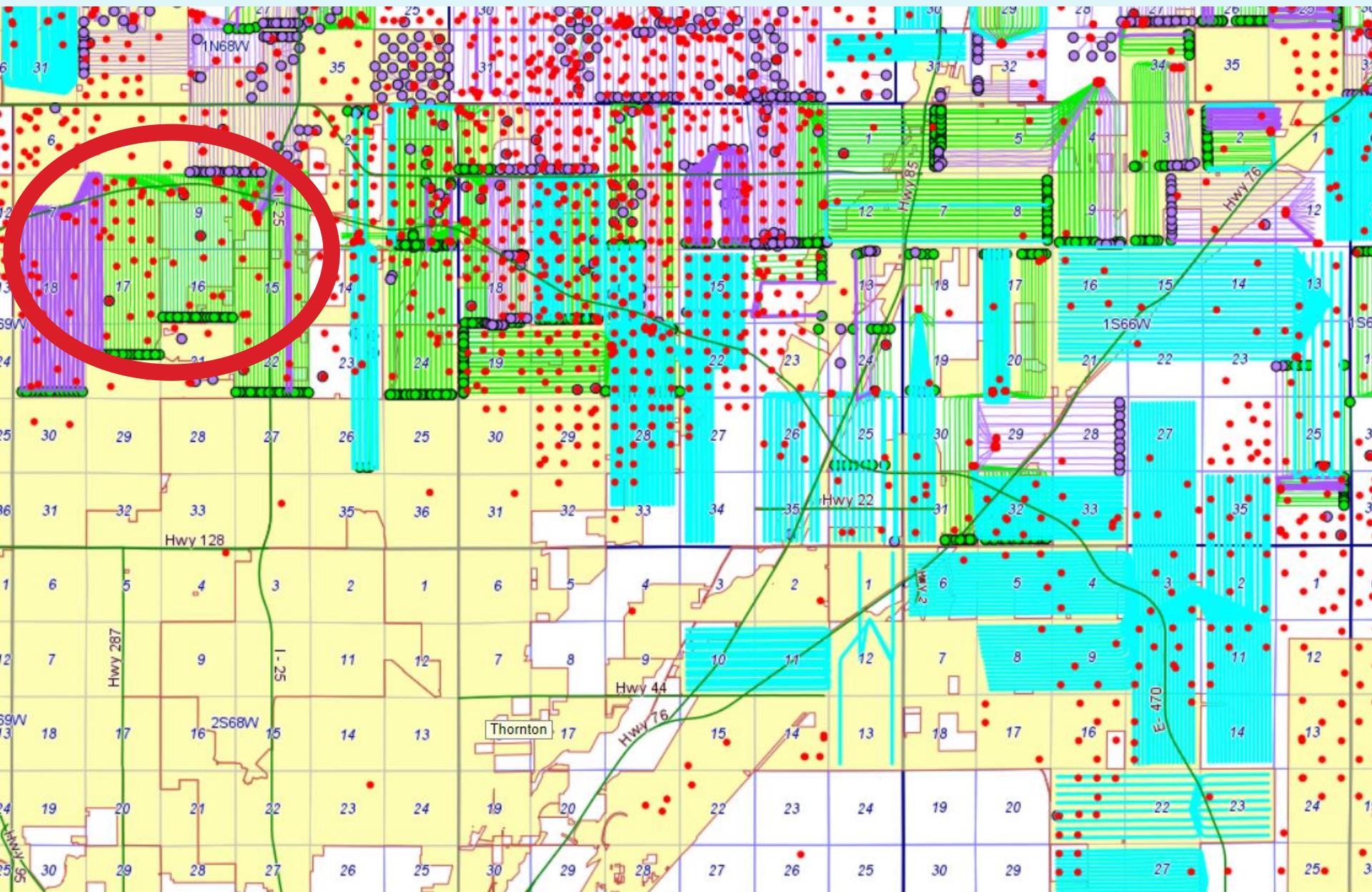
- ▶ Oil and gas development is an industrial activity that is primarily regulated by three entities:
 1. Colorado Oil and Gas Conservation Commission
 2. Colorado Department of Public Health and Environment
 3. Local Government

PREEMPTION

Municipal regulations may not be in operational conflict with the COGCC regulations.

Operational conflict means: “materially impede or destroy the state interest” in oil and gas development.

Voss v. Lundvall Bros., Inc., 830 P.2d 1061, 1066 (Colo. 1992). *Affirmed in Longmont and Fort Collins*



IMPACTS TO AIR QUALITY AND HEALTH

Local

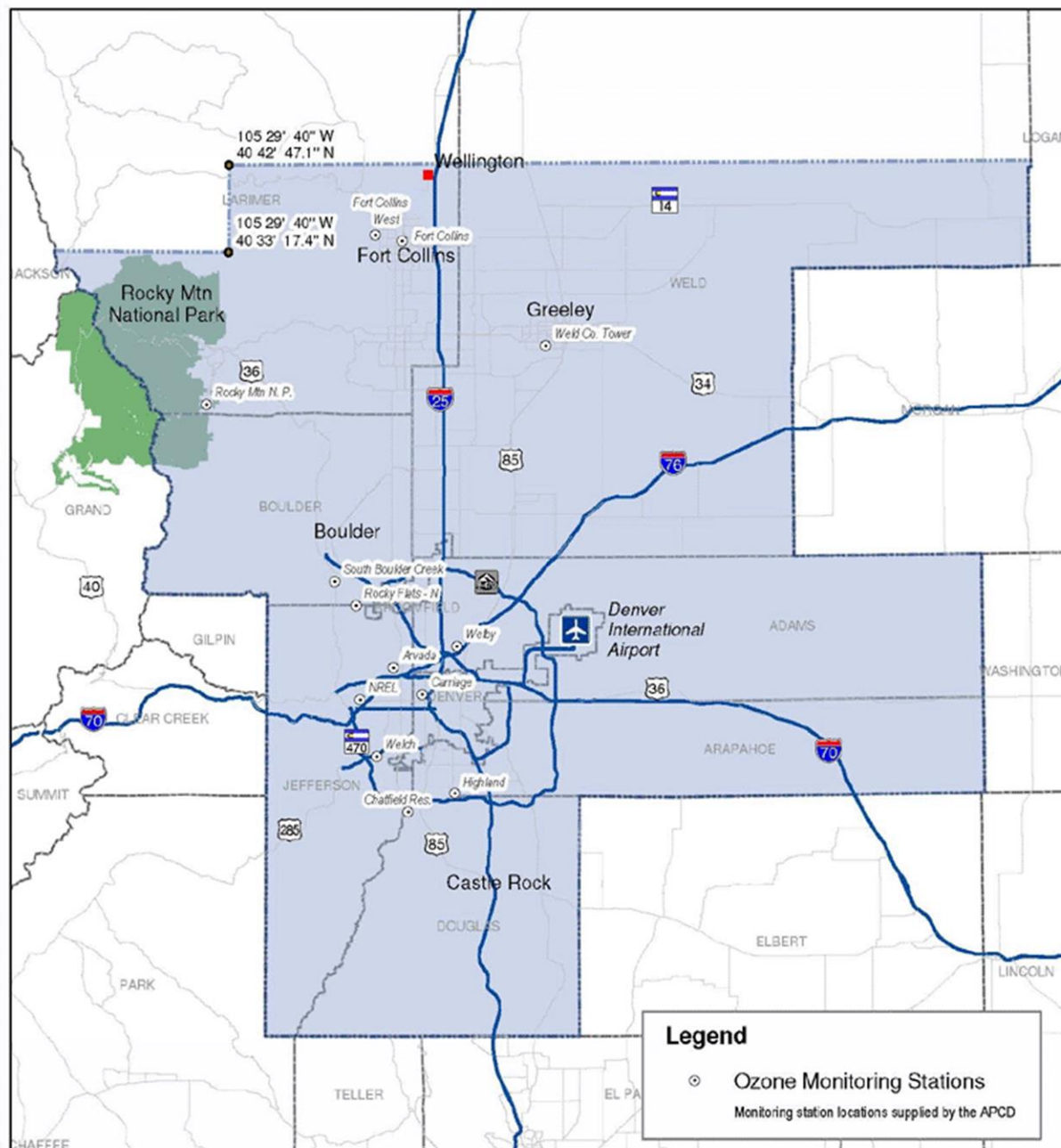
- Dust
- Toxic emissions
- Carcinogenic (Benzene)

Regional

- Front Range in Non-Attainment for Ozone
- NW Colorado in Non-Attainment for Ozone.

Global

- Methane is 80 X more potent greenhouse gas than CO₂



Denver-Boulder-Greeley-Fort Collins, Colorado
Eight-Hour Ozone Control Area

**Firestone
tragedy
April 17, 2017**



COGCC v. Martinez, found that the COGCC's mandate was to

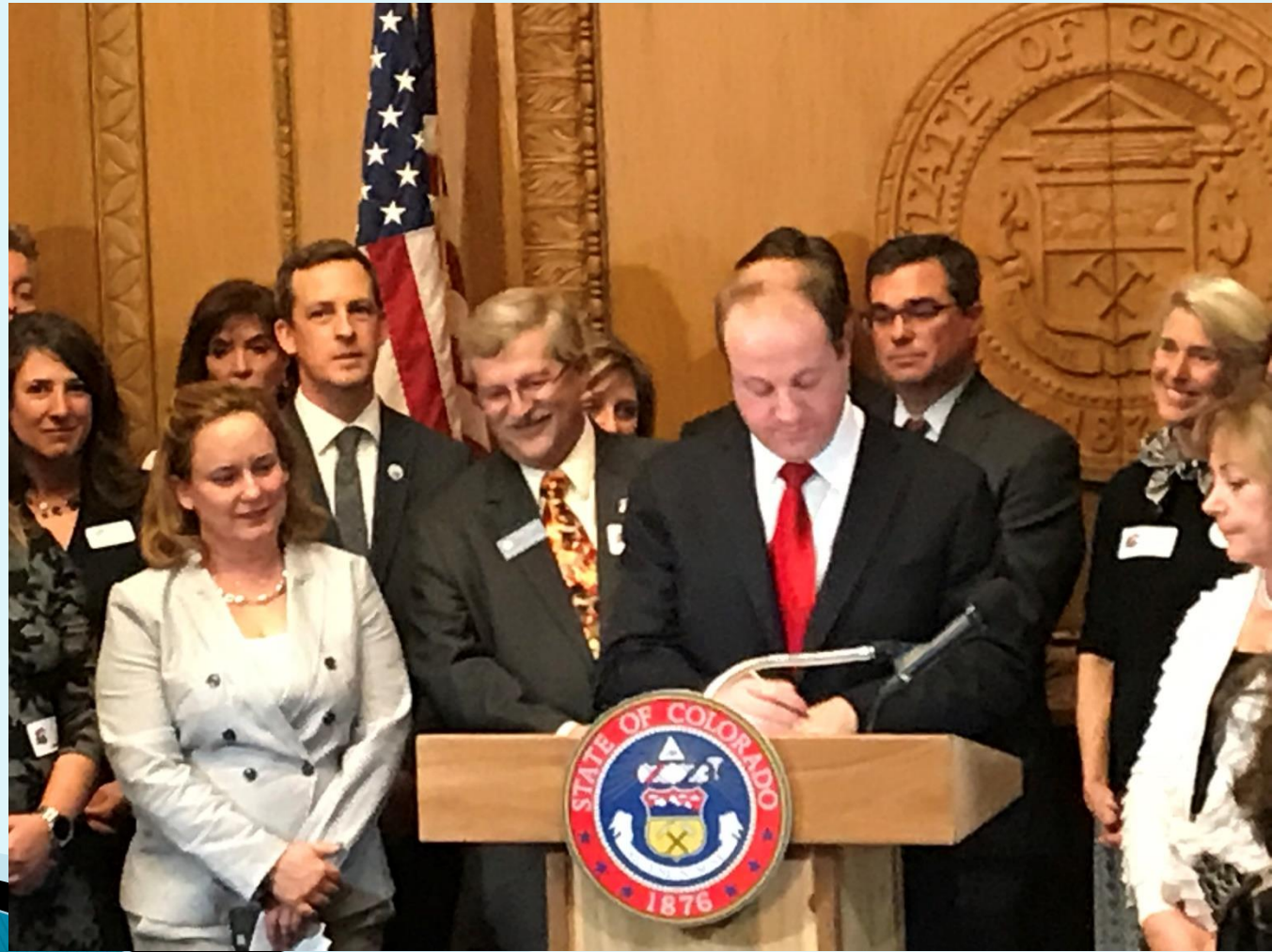
- (1) *foster* the development of oil and gas resources, and
- (2) protect public health, safety, and welfare, **but only after taking into consideration cost-effectiveness and technical feasibility.**

APRIL 2019

Senate Bill 19-181

Protecting Public Welfare in Conduct of Oil and Gas Operations

Senate Bill 181
was signed
into law on
April 16, 2019



Senate Bill 19-181

Protecting Public Welfare in Conduct of Oil and Gas Operations

1. REFORMS THE COGCC MISSION TO PROTECT PUBLIC HEALTH AND ENVIRONMENT
2. GIVE LOCAL GOVERNMENTS CLEAR REGULATORY AUTHORITY OVER OIL AND GAS AND ENDS STATE PREEMPTION.

Senate Bill 181 impacts on COGCC

- ✓ Requires the COGCC to regulate the industry to protect public health, safety, welfare and the environment
- ✓ Changes make-up of COGCC Commission
- ✓ July 1, 2020 - new professional COGCC Commission

Senate Bill 181 impacts on COGCC

- ✓ **Requires new COGCC rulemaking on:**
 - ✓ Change in COGCC mission to protect public health, safety, and welfare
 - ✓ alternative location analysis
 - ✓ cumulative impacts analysis
 - ✓ flowline locations will be publicly disclosed.
- ✓ orphaned wells –adequate finances to properly plug and abandon wells;
- ✓ wellhead integrity; and
- ✓ financial assurance.

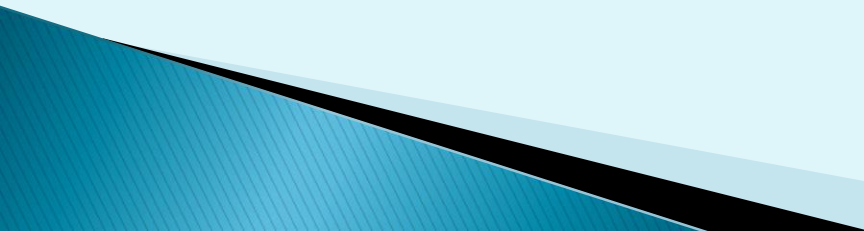
Senate Bill 181 impacts on AQCC

- ✓ **Requires new AQCC rulemaking on:**
 - ✓ “minimize emissions of methane and other hydrocarbons...and nitrogen oxides” from O&G exploration and production facilities.
 - ✓ The AQCC must review its current rules and consider more stringent provisions including
 - ✓ Semi-annual LDAR,
 - ✓ Preproduction activities
 - ✓ Pipeline and compressor station inspections
 - ✓ Continuous methane monitoring in proximity to homes

Senate Bill 181 impacts on Local Governments

- ▶ Local government regulation of oil and gas siting and surface impacts as *reasonable and necessary*:
 - Location and siting of oil and gas facilities and locations
 - Mitigation of impacts on public health, safety and welfare
 - Regulations to protect water quality and source, noise, vibration, odor, light dust, emergency preparedness, security, traffic, transportation impacts
 - Receive technical assistance from the COGCC
 - Financial issues
 - Performance securities, indemnification, and insurance
 - May impose fees for both the direct and indirect costs of monitoring and inspections programs to address impacts
 - Power to enforce
 - Inspect oil and gas facilities and locations
 - Assess penalties to enforce local regulations

The limits on local government authority

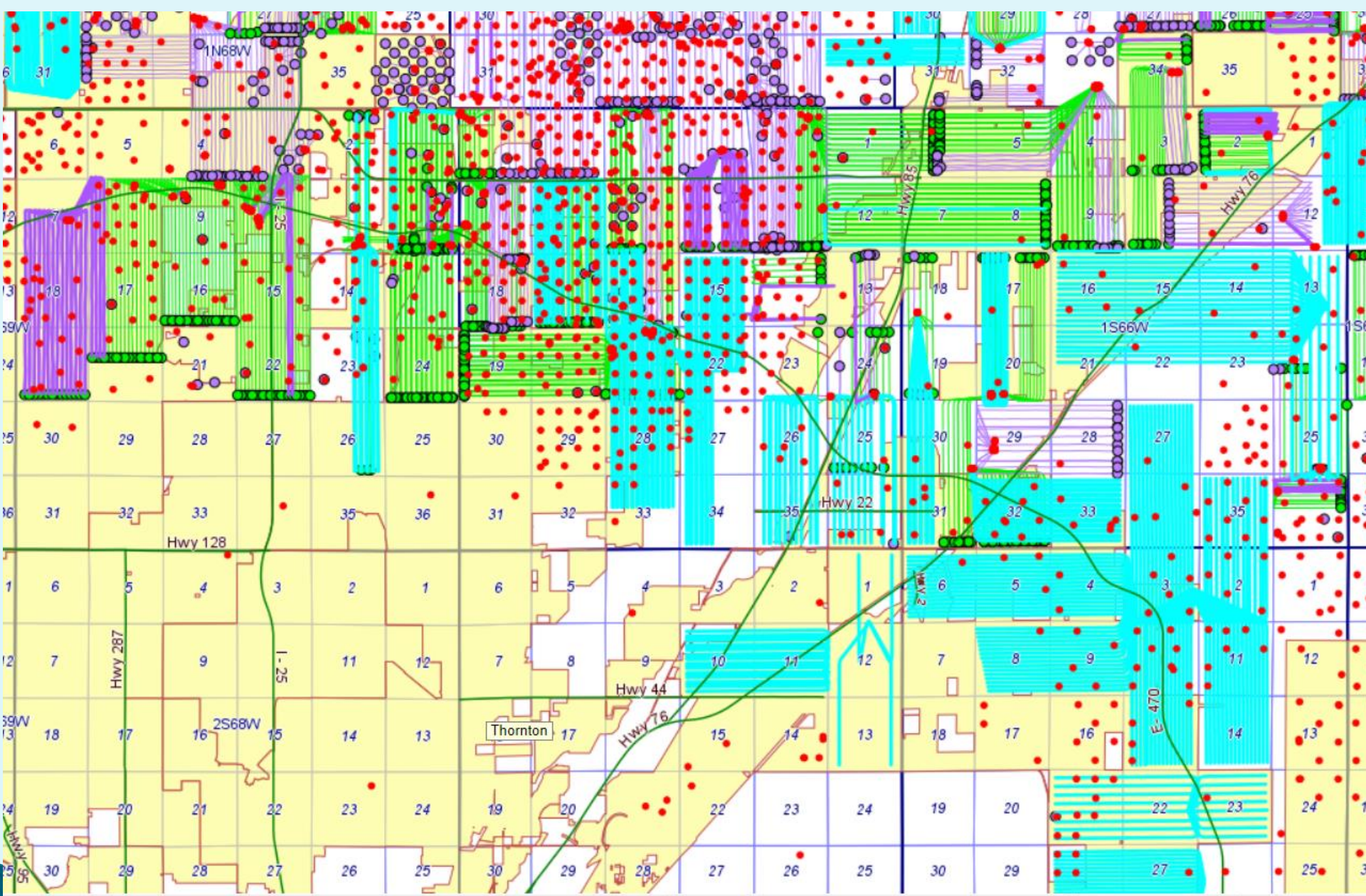
- Cannot be vague
 - Needs to have a rational relationship to local government's police power
 - Cannot be unreasonable or arbitrary and capricious
 - Cannot constitute a taking
 - Needs to give due process rights
 - Needs to be “reasonable and necessary”
- 

Local Government regulations

- ▶ Weld County has comprehensive rules that mirror current COGCC regulations
 - Approved in July of 2019
 - 1041 WOGLA Permit is required for new oil and gas facilities.
 - Oil and gas facilities are allowed in all zoning districts
 - Minimum 500-foot setback from homes unless
 - waivers are obtained from all surface owners or
 - hearing officer finds greater distances are technically infeasible or economically impractical and there are sufficient protections for public health, safety and welfare.

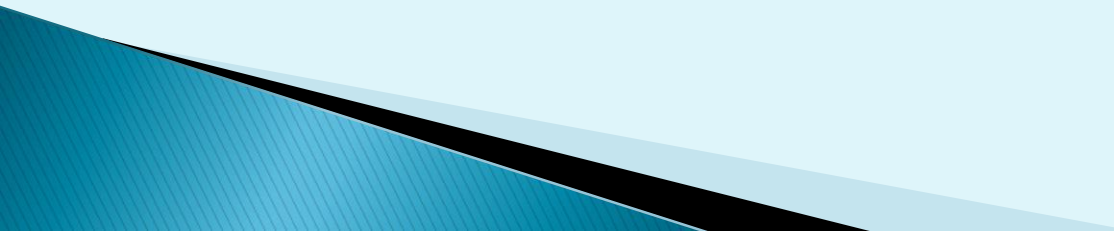
Local Government regulations

- ▶ Adams County adopted in regulations in September 2019.
 - Prohibits oil and gas development within residentially-zoned areas
 - Prohibits oil and gas development within 1,000 feet of residential lots
 - Requires alternative location analysis
 - Requires greater air quality protection



Designing Local Regulations

What is “reasonable and necessary?”


- 1. Base regulations in science**
 - 2. Require Best Management Practices**
 - 3. Utilize traditional zoning authority**
 - 4. Allow for some flexibility**
- 

1. Base regulations in science

CDPHE Study

- ▶ “Final Report: Human Health Risk Assessment for Oil & Gas Operations in Colorado” (“Health Risk Assessment”)
- ▶ CDPHE analyzed canister samples taken from around oil and gas facilities in both Weld and Garfield counties in 2014 and 2015.
- ▶ The samples were tested for 47 VOCs and found 43 that were above the levels of detection at least 80% of the time.
- ▶ The data collected from the sampling was modeled and concluded that emissions from oil and gas development is *not* likely to pose a subchronic (multi-day) or chronic (long-term) health risks.
- ▶ However, the study concluded that “At the most-exposed (downwind) locations at 500 ft from the well pads, the highest estimated 1-hour exposures *exceeded guideline levels* for a small number of chemicals, including benzene during development and production activities, and toluene and ethyltoluenes during development activities... One-hour exposures decreased rapidly with distance from the hypothetical facilities, but some remained above guideline levels out to 2,000 ft.

COGCC Reaction

- (1) immediately putting additional protections in place including additional review for those oil and gas locations within 2,000 feet of homes,
 - (2) conducting additional research to determine if there are real word implications to this modeling research, and
 - (3) using this new research to inform new rulemaking.
- 

2. Require Best Management Practices

BMP's Background

- ▶ 90+ specific practices required by the document
- ▶ The BMP's were derived from code regulations from other cities and counties in Colorado, state regulations, and previous agreements signed between operators and cities, and general common best industry practices

BMP Categories (12)



Air quality



Water quality protection



Use of pipelines



Emergency Response Plan



Inspections



Transportation & Circulation



Noise mitigation



Community Outreach



Reclamation



Risk Management



Safety



Visual mitigation

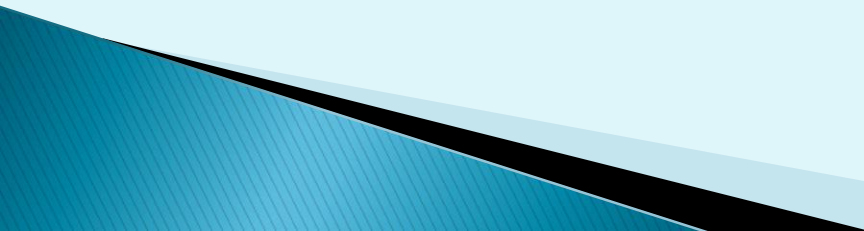
Website for list of BMPs....

<https://webdocs.northglenn.org/file/184213/packet/Cr-145.pdf>

3. Utilize traditional zoning authority

- Zoning,**
- Setbacks,**
- Health and safety regulations**

4. Allow for some flexibility

- Timing,**
 - Location,**
 - Site-specific regulations and BMPs**
- 

Objectives of Code Update

- Utilize SB-181 authority to “zone” Oil and Gas
 - Through applicable zone districts and/or setbacks
 - Reverse setbacks from existing or plugged and abandoned well sites
- Incorporate other powers granted to local governments through SB-181
 - Stricter enforcement provisions
 - Fees for ongoing air quality monitoring & inspections
- Define approval criteria for alternative site location analysis
 - Currently required in code, but specifics are not defined
- Process & approval evaluation
 - Establish effective process for permitting
 - Incentivize preferred site locations and/or high level of BMP’s through expedited process



Activity in Commerce City

- Two operators, proposing a total of 182 wells at 8 potential locations
 - Extraction Oil and Gas: 158 wells, maximum of 7 locations
 - Petro Operating, LLC: 24 wells, 1 location (Antelope)
- Roughly 25 square miles of leased mineral rights
- No permits (either state or city level) have been issued for any facilities in Commerce City



Timeline

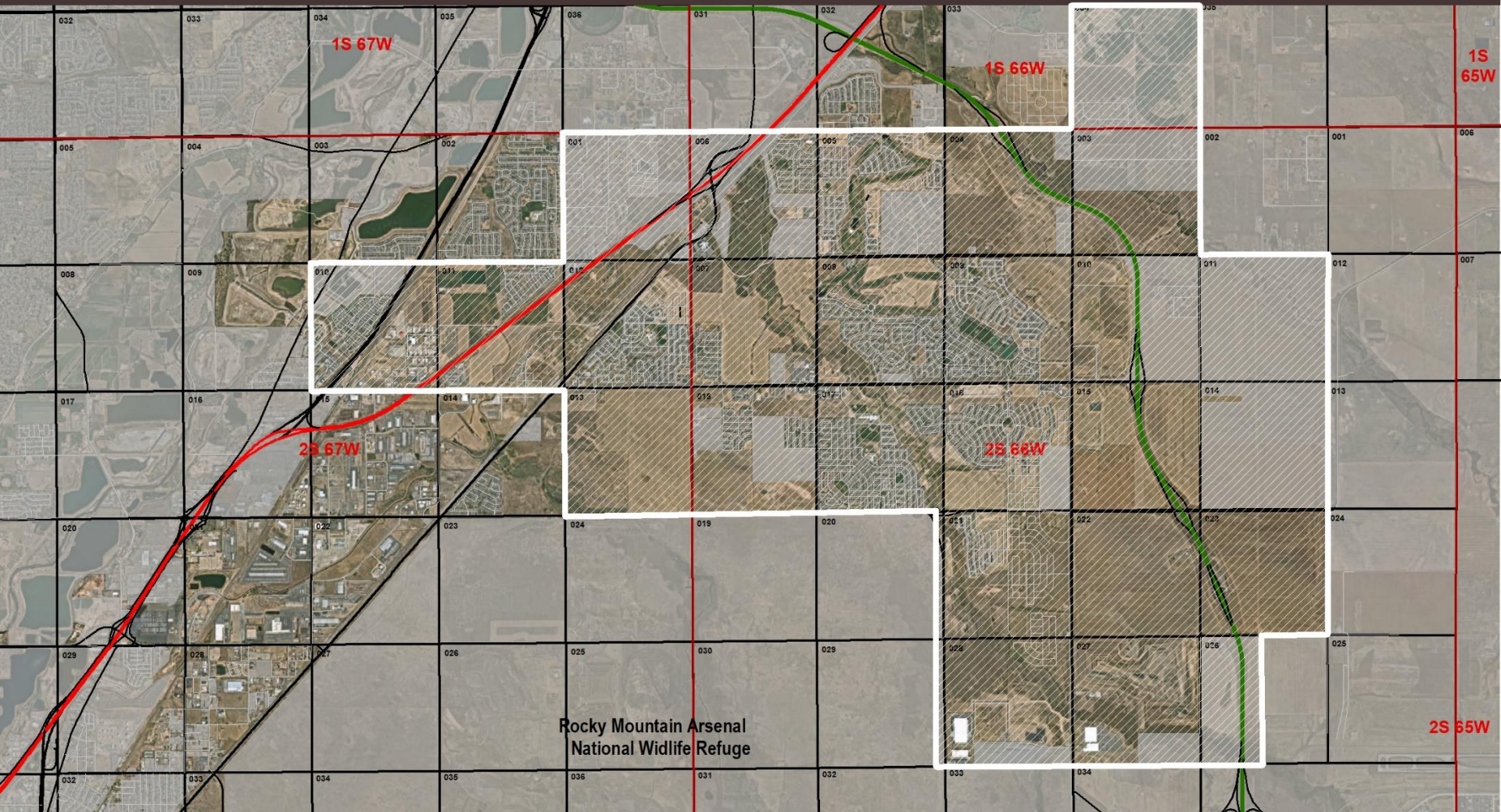
- March 2018: Discussions began with Extraction Oil & Gas regarding proposed facilities
- May 2018: Received feedback from council on the approach to take with operators
 - Direction for staff to proceed forward in negotiating maximum protections through an Regional Operating Agreement
- **June – July 2018: Site analysis & Evaluation Conducted**
- September 2018: approach re-affirmed to continue negotiating
- April 8 2019: Study Session with Council on potential code impacts of SB-181
- April 16 2019: SB19-181 signed by Governor Polis
- June 2019: Approach re-affirmed to continue negotiation process
- September 2019: 1st local government adopts new regulations since SB-181 (Adams County)
- September 18, 2019: ROA Signed
- Late September – staff begins code update process in response to SB 19-181
- October - November 2019: City receives 7 Oil and Gas Permit Applications (All Extraction)





Context Map

Commerce City



Role of the Planner

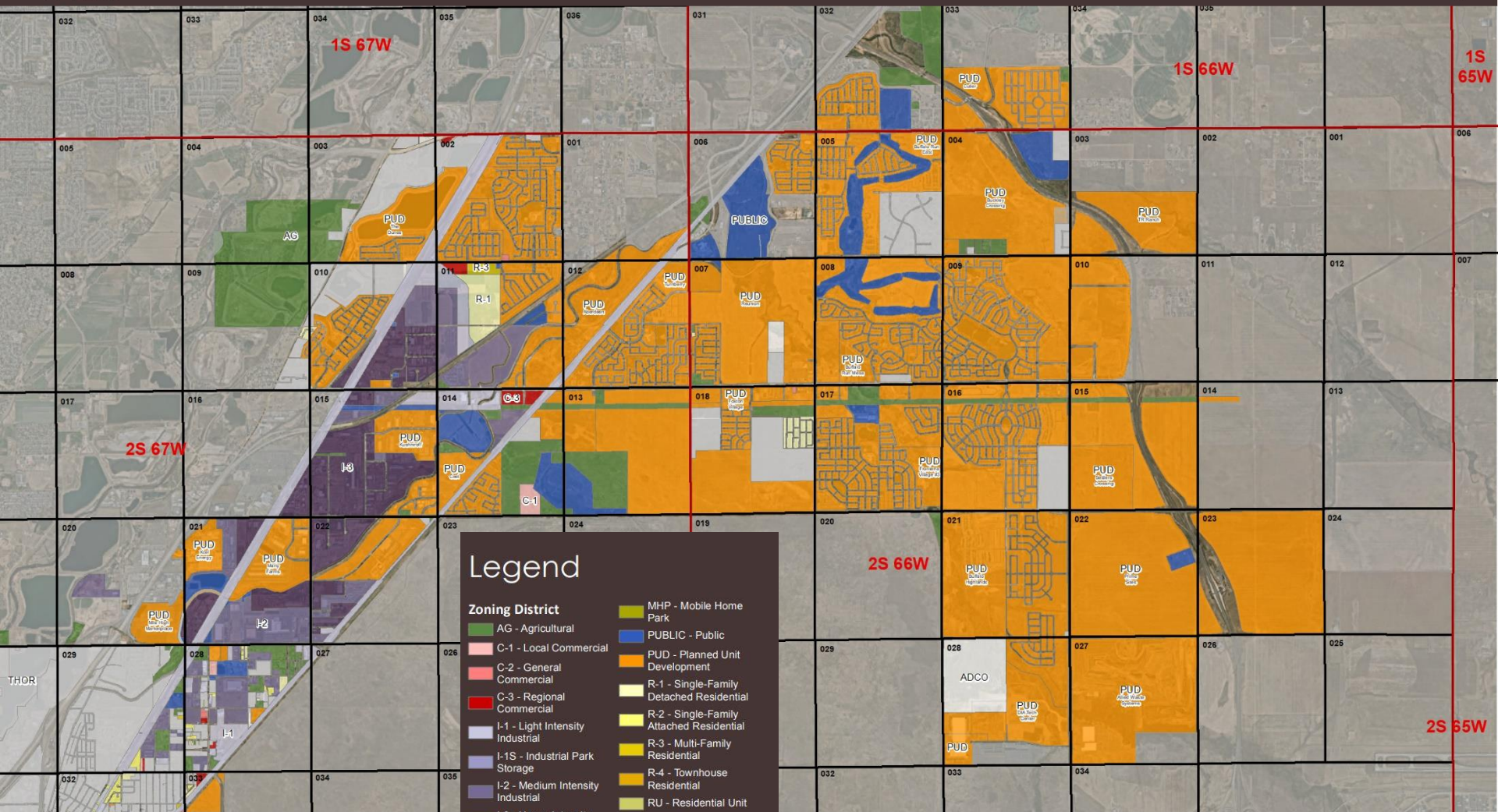
- Working with the oil and gas operator to view their development from a *comprehensive perspective* - not viewing each individual facility, but evaluating all sites from a comprehensive perspective
- Guiding the applicant through the city's adopted plans, policies and procedures, and exploring facilities that are reasonably able to access mineral resources, but are most protective of health, safety, welfare, and the environment, and do not hinder future growth and development





Zoning Map

Commerce City



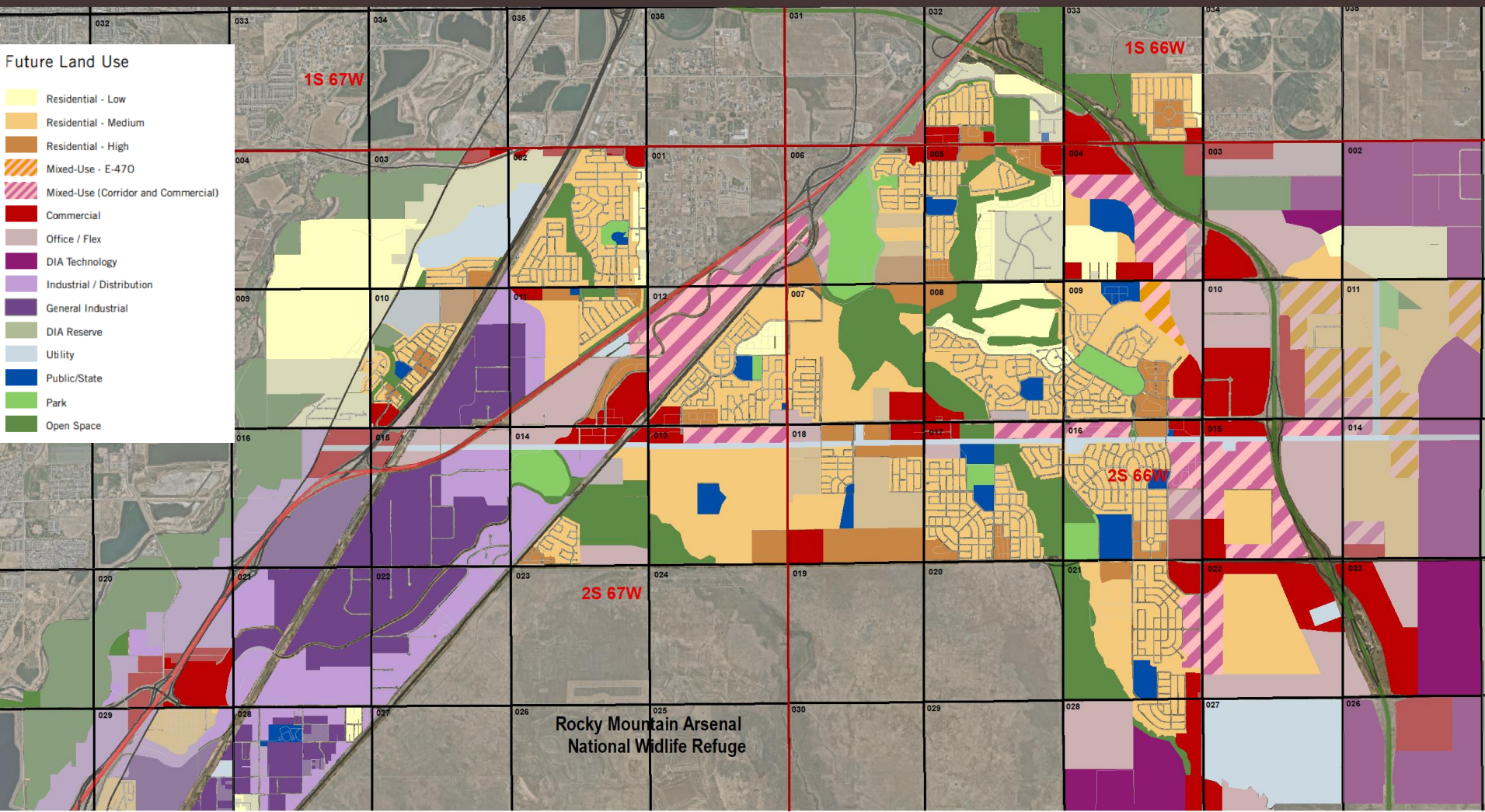


Future Land Use Map

Commerce City

Future Land Use

- Residential - Low
- Residential - Medium
- Residential - High
- Mixed-Use - E-470
- Mixed-Use (Corridor and Commercial)
- Commercial
- Office / Flex
- DIA Technology
- Industrial / Distribution
- General Industrial
- DIA Reserve
- Utility
- Public/State
- Park
- Open Space



0 1,000 2,000 4,000 6,000 8,000 Feet

Desired Site Characteristics

- A site's conformance with zoning and city's comprehensive plans
- The absence of significant impacts
- Adequate surface acreage and suitable topography for safe and efficient operations
- Ability to access targeted minerals with technology available at the time of development
- Ability to reasonably implement the protections contained in the BMP Document from the proposed location
- Ability to consolidate facilities with other planned drilling and spacing units proposed within the City's municipal boundaries;



Desired Site Characteristics

- Ability to reconfigure proposed drilling and spacing unit applications to provide more suitable surface use locations
- Greater distances from existing residential development and future residential development
- Consideration of future commercial centers and corridors
- Proximity to floodplains, water features and public water supply wells
- Proximity to Outdoor activity areas and open space
- Proximity to commercial and public facilities



State Setback Rules

- 500' minimum setback from Building Units
 - From edge of production facility to edge of building unit
- 1,000' Setback from High Occupancy Building Units
 - Places of mass public gathering
 - Hospitals, rec centers, schools etc
- 1,000' Large “UMA” facility definition
 - Additional scrutiny if facility is within 1,000' of 22 or more building units



Analysis Process

- Utilization of ArcGIS Suitability model to factor a number of proximity conditions to assess with siting
- Concrete analytical data, to assist with justifying positions with operator during negotiation process for siting
- Led to an eventual outcome of some relocated sites from what was originally submitted at the state level



Rating Criteria

- 25%: Existing Residential
 - Values less than 500' = 0, greater than 1,500' = 1
- 22.5%: Future Residential
 - Values less than 500' = 0, greater than 1,500' = 1
- 12.5%: Existing Commercial
 - Values less than 500' = 0, greater than 1,500' = 1
- 12.5%: Future Commercial
 - Values less than 500' = 0, greater than 1,500' = 1
- 7.5%: Existing High Occupancy Building Units
 - Distance from existing High Occupancy Building Units (HOBUs) as defined by the COGCC, plus parks
 - Values less than 1000' = 0, greater than 1,500' = 1
- 7.5% Future High Occupancy Building Units
 - Values less than 1000' = 0, greater than 1,500' = 1
- 5% of final score: Floodplain & Floodways
 - Distance from floodplain boundaries
 - 0' to 1000'
 - Values greater than 1,000' = 1
- 5% of final score: Industrial
 - Properties currently zoned Industrial in the city: 1
 - Properties designated for future industrial zoning: 0.5
 - Properties not zoned industrial: 0

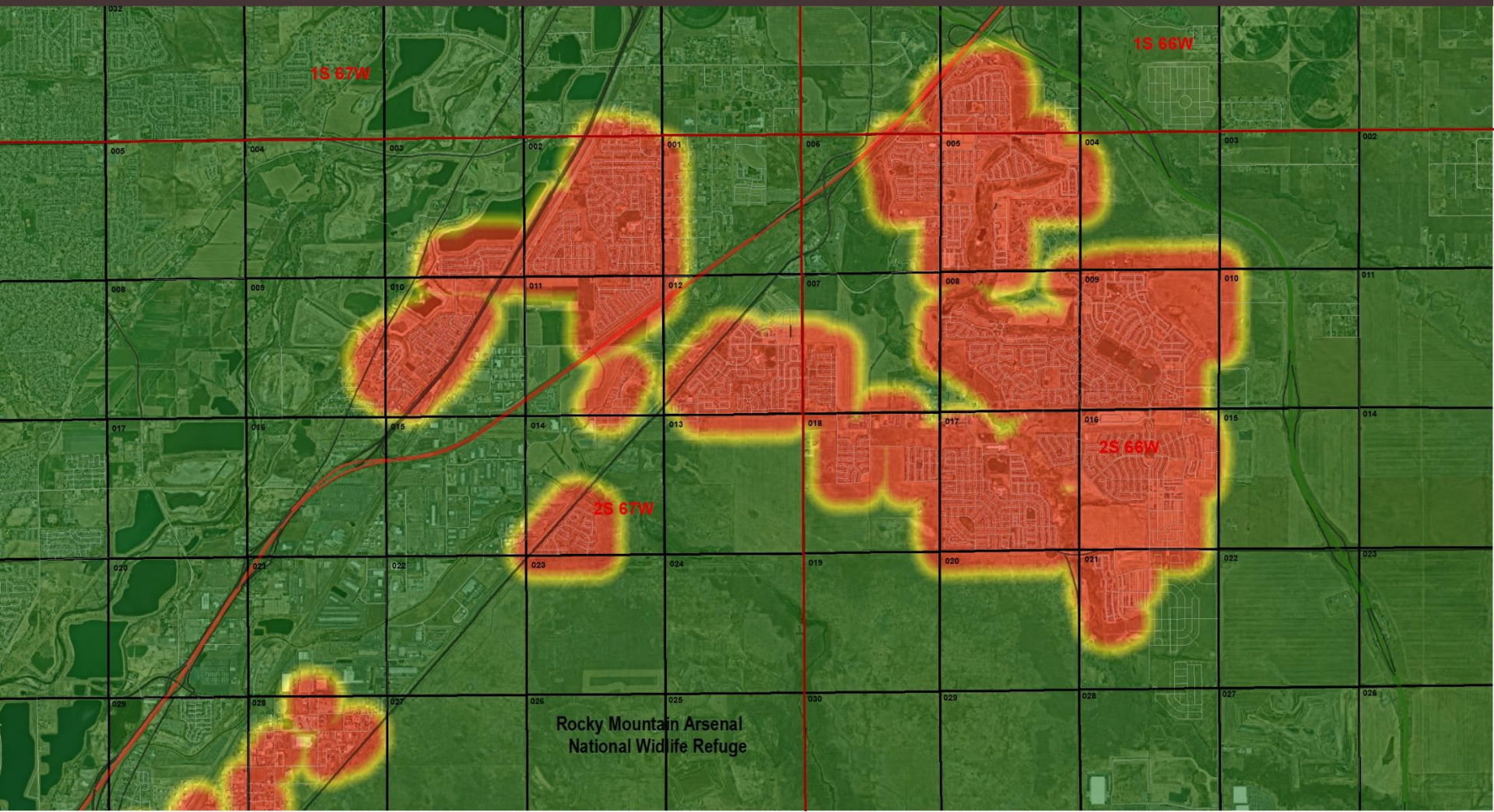


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Suitability Analysis

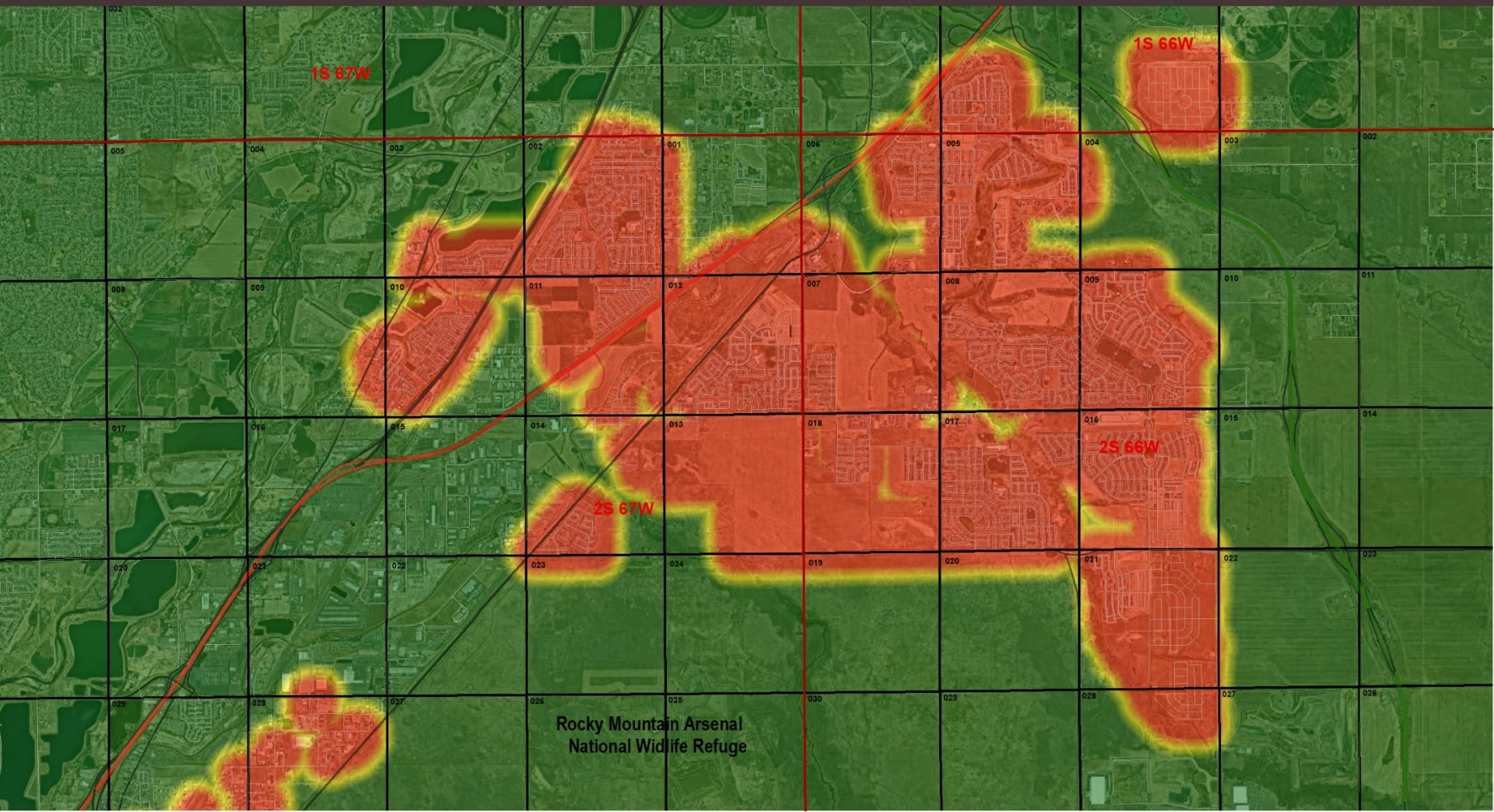
Existing Residential





Suitability Analysis

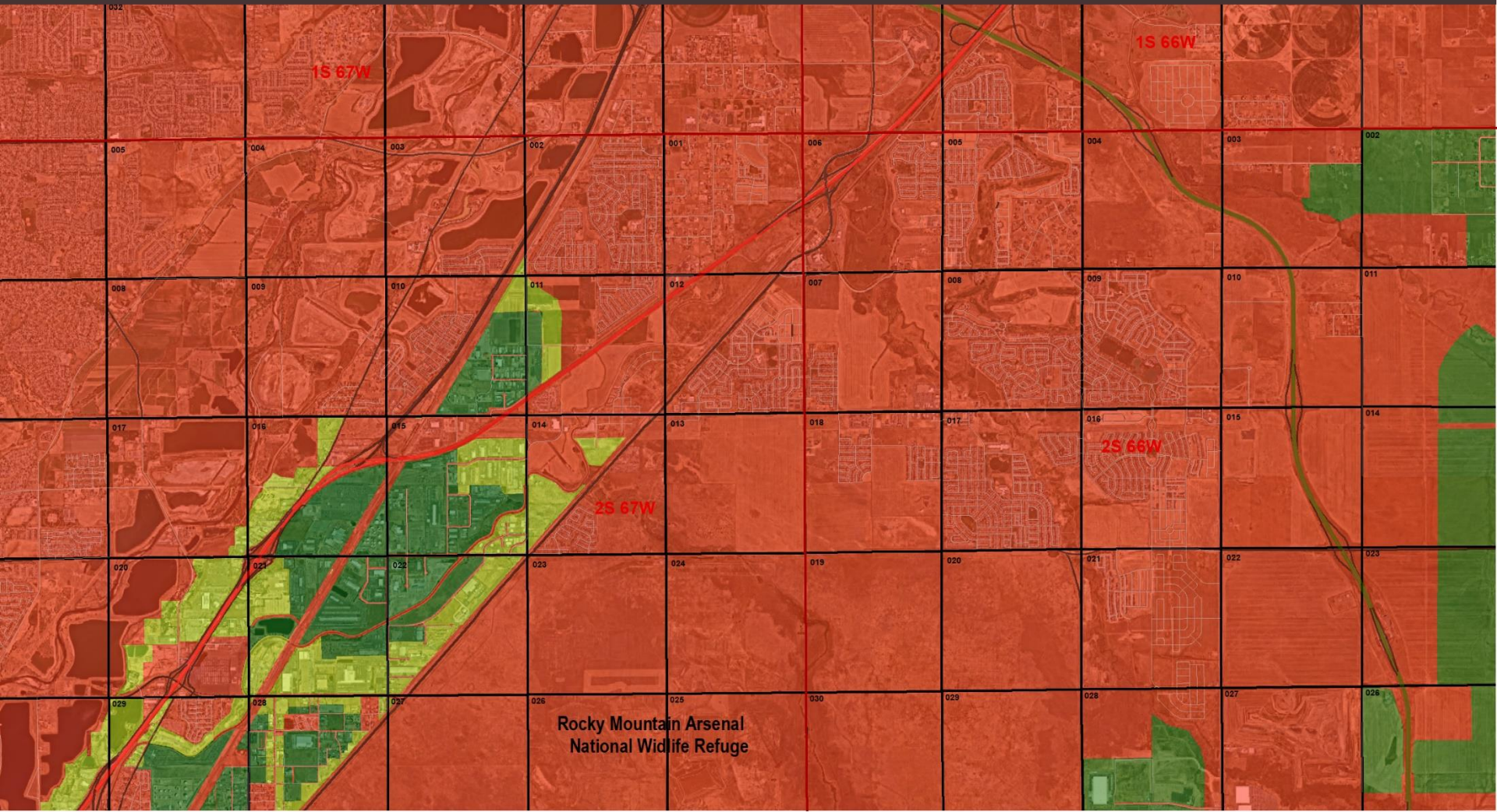
Future Residential Analysis





Suitability Analysis

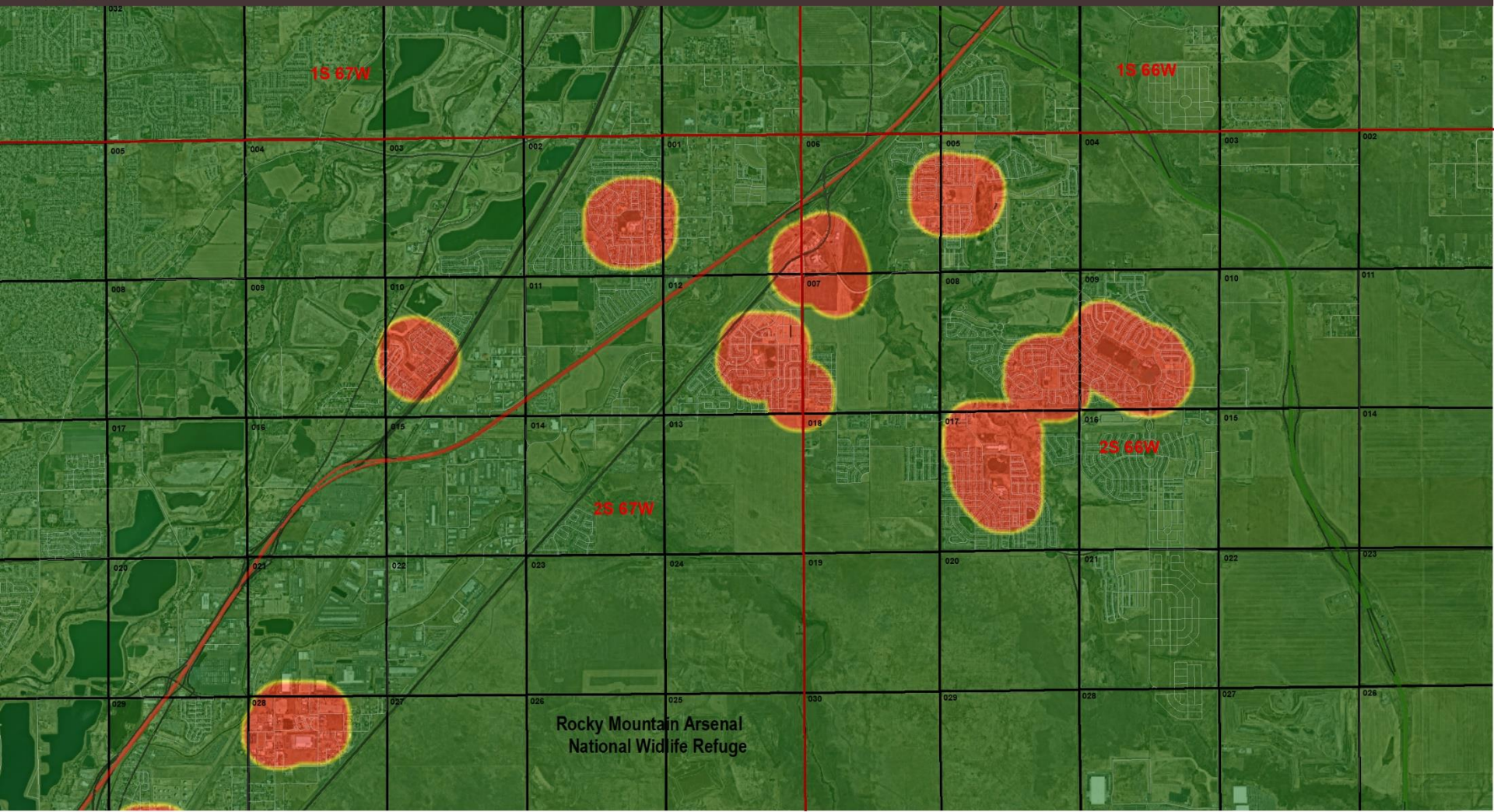
Industrial Land Uses





Suitability Analysis

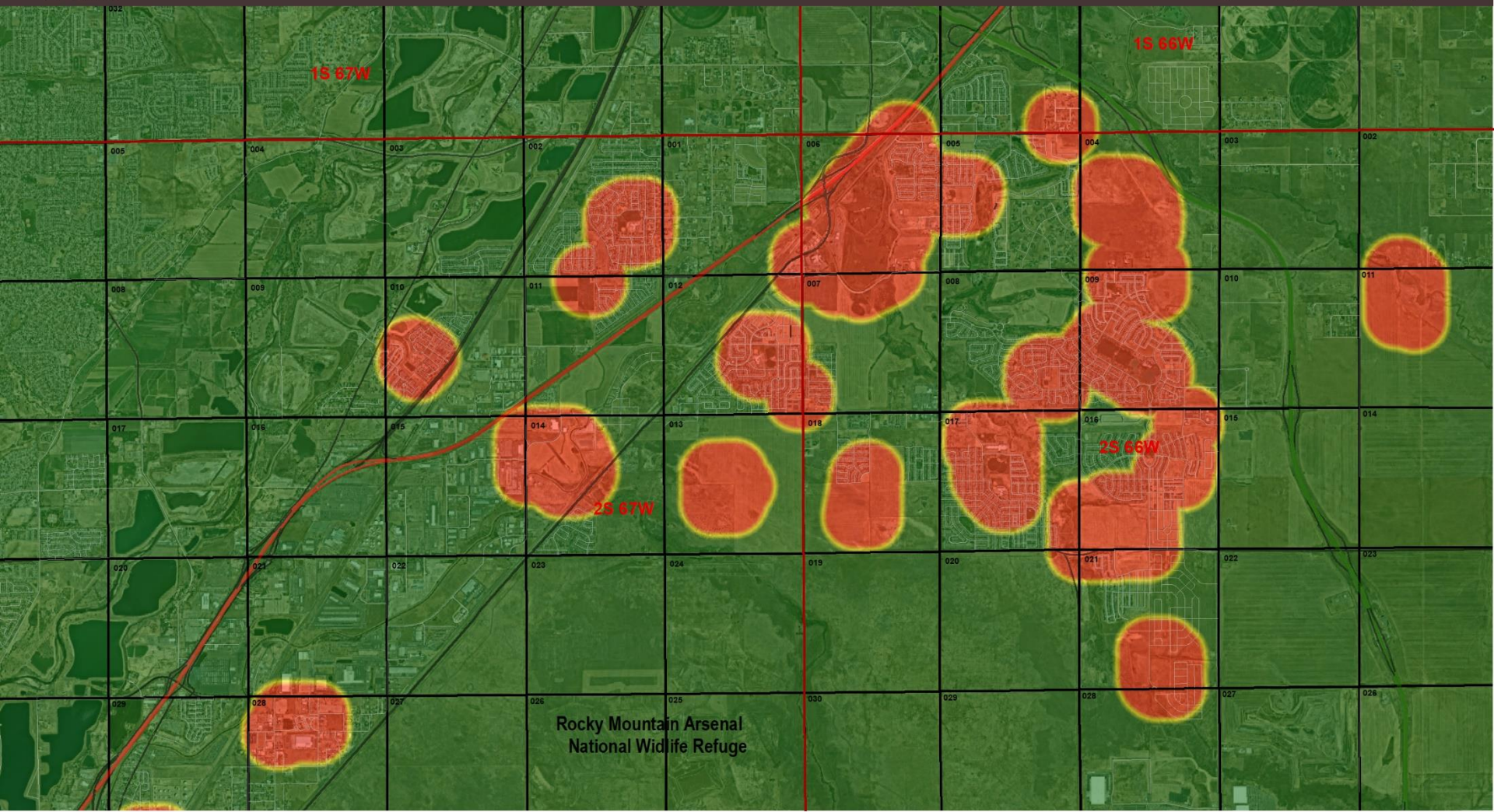
Existing High Occupancy Building Units





Suitability Analysis

Future High Occupancy Building Units

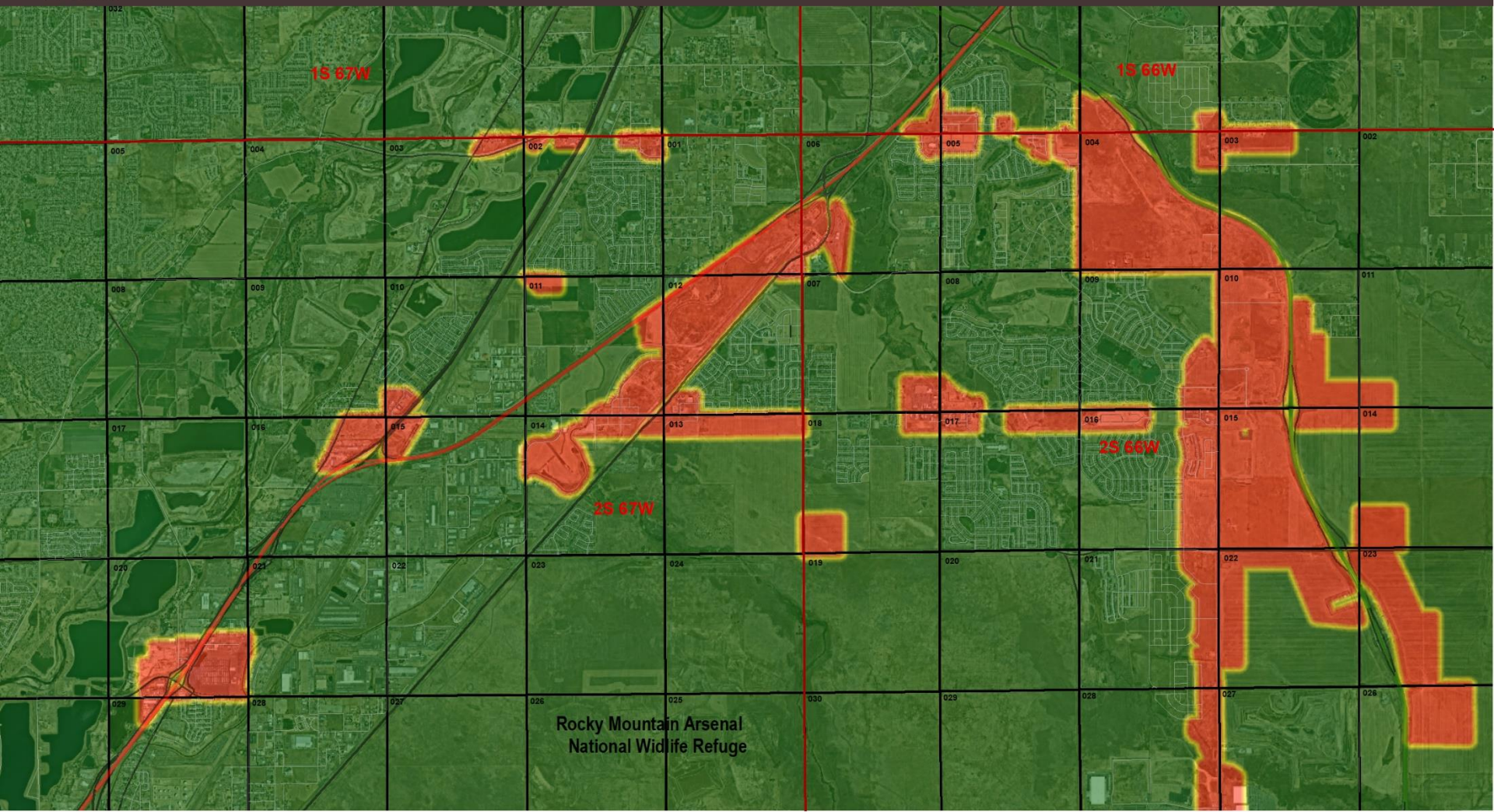


0 1,000 2,000 4,000 6,000 8,000 Feet

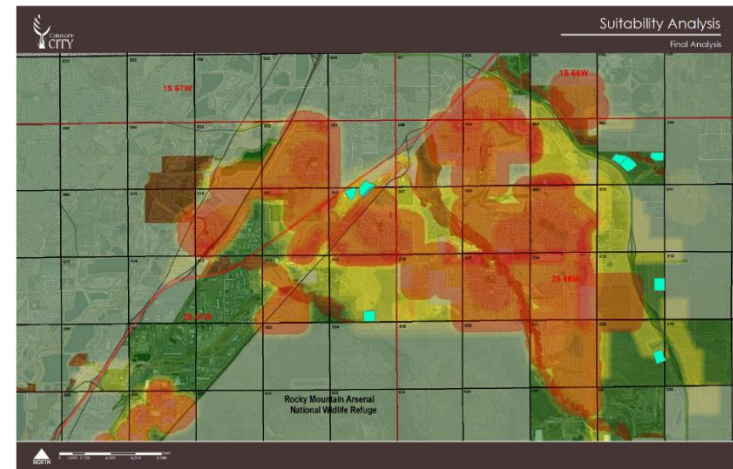
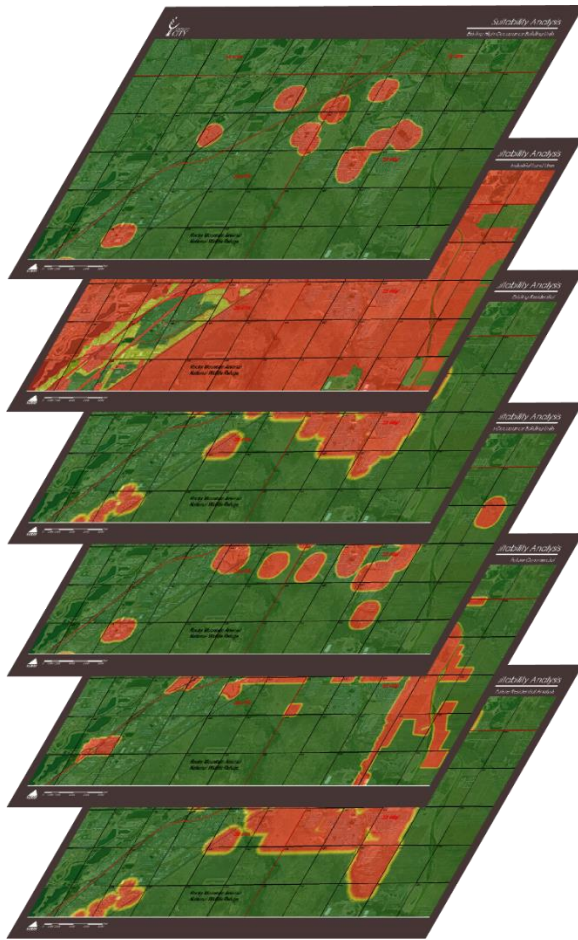


Suitability Analysis

Future Commercial



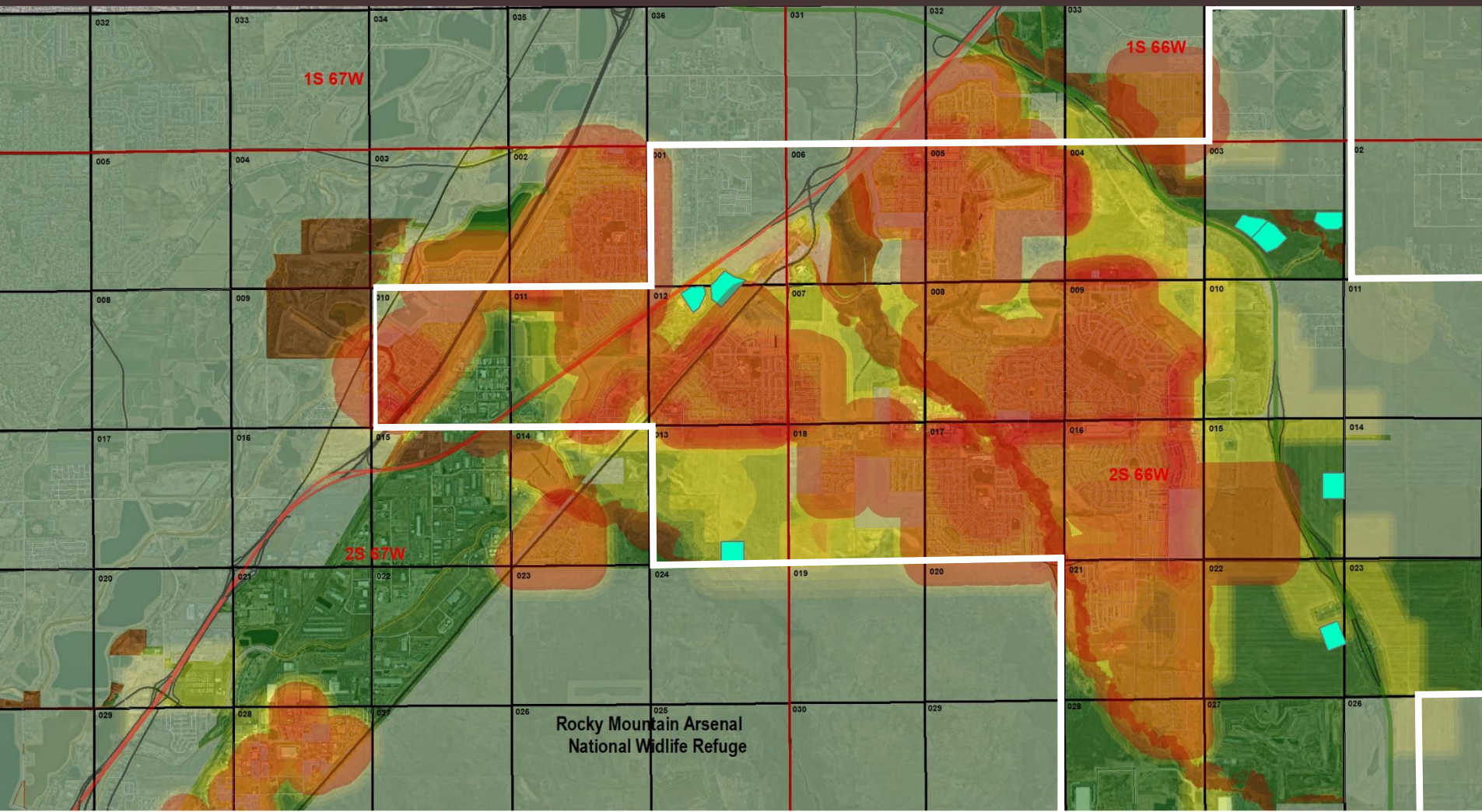
Putting It All Together





Suitability Analysis

Final Analysis

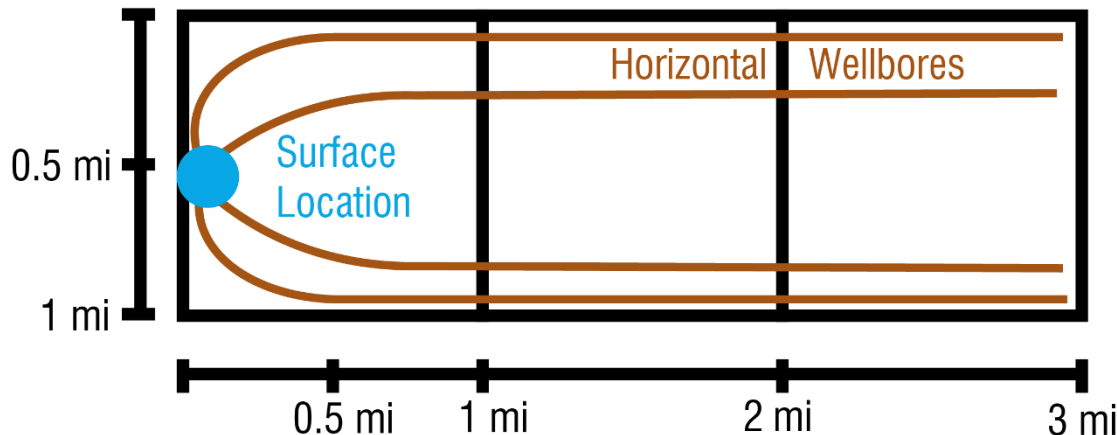
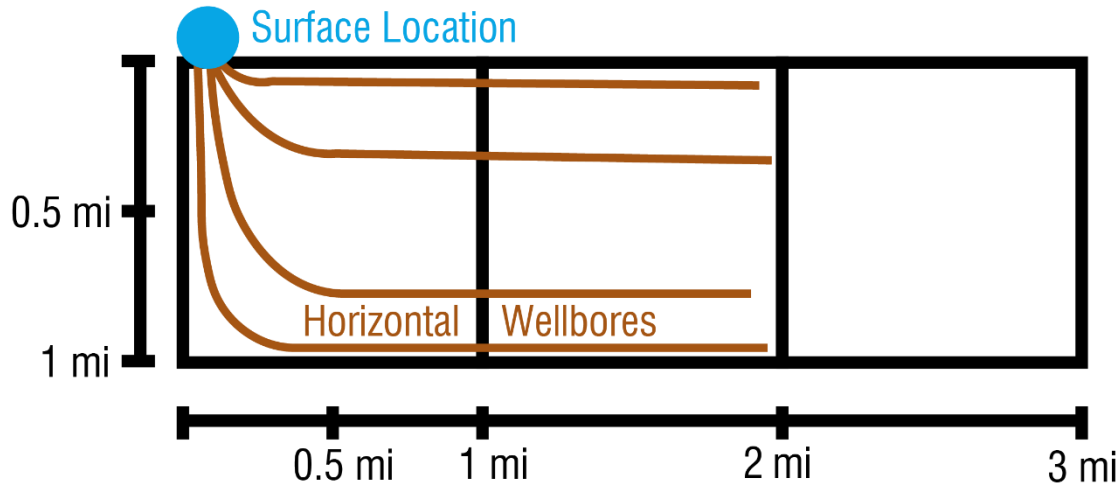


Site Evaluation



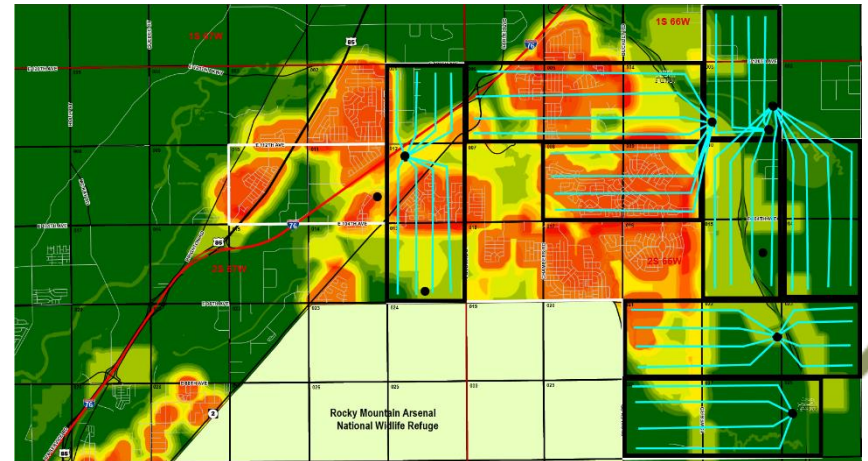
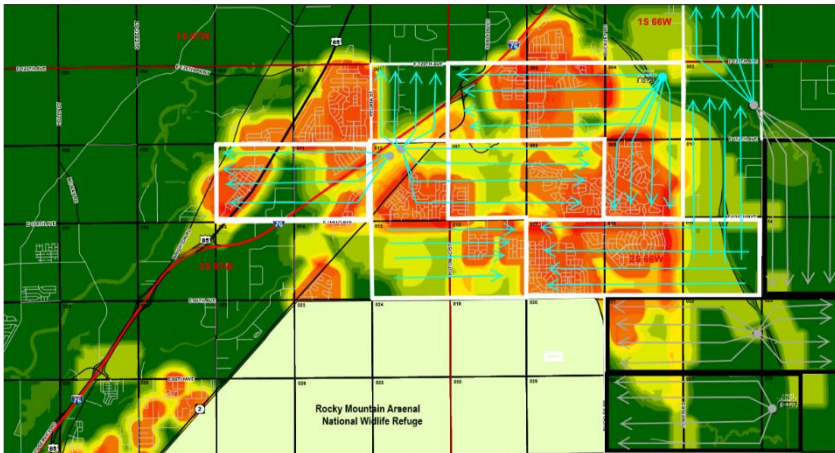
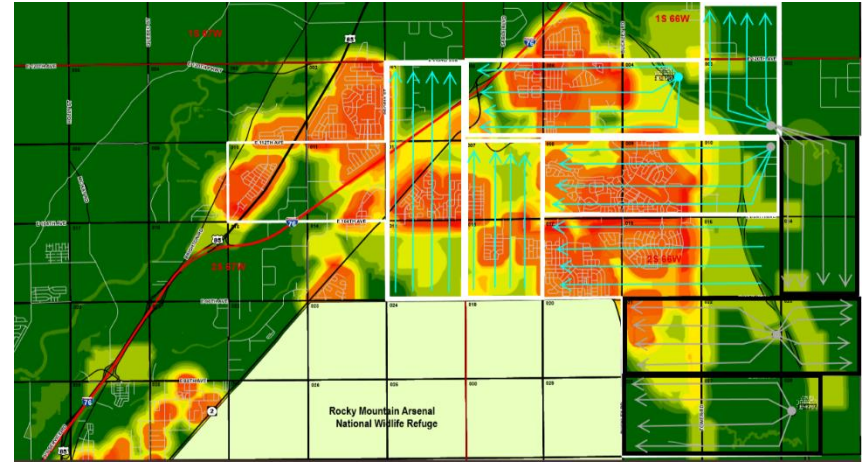
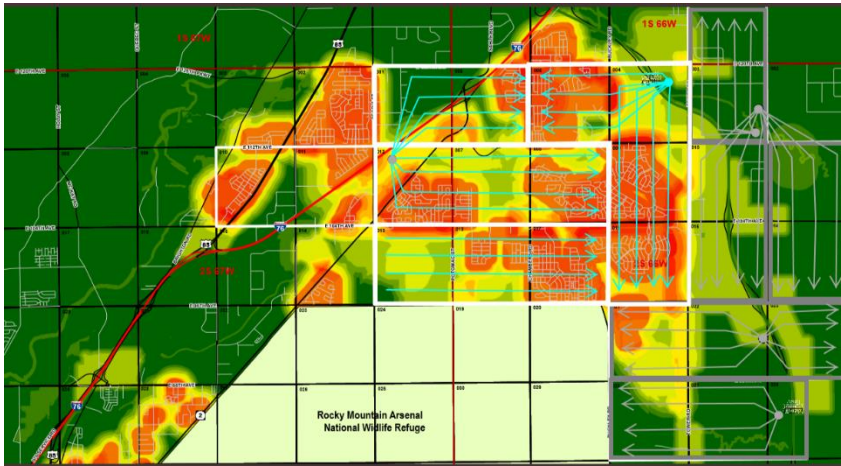
- Evaluate existing conditions (as well as planned conditions)
- Propose locations based on conditions
- Select site with least impact

Facility Constraints

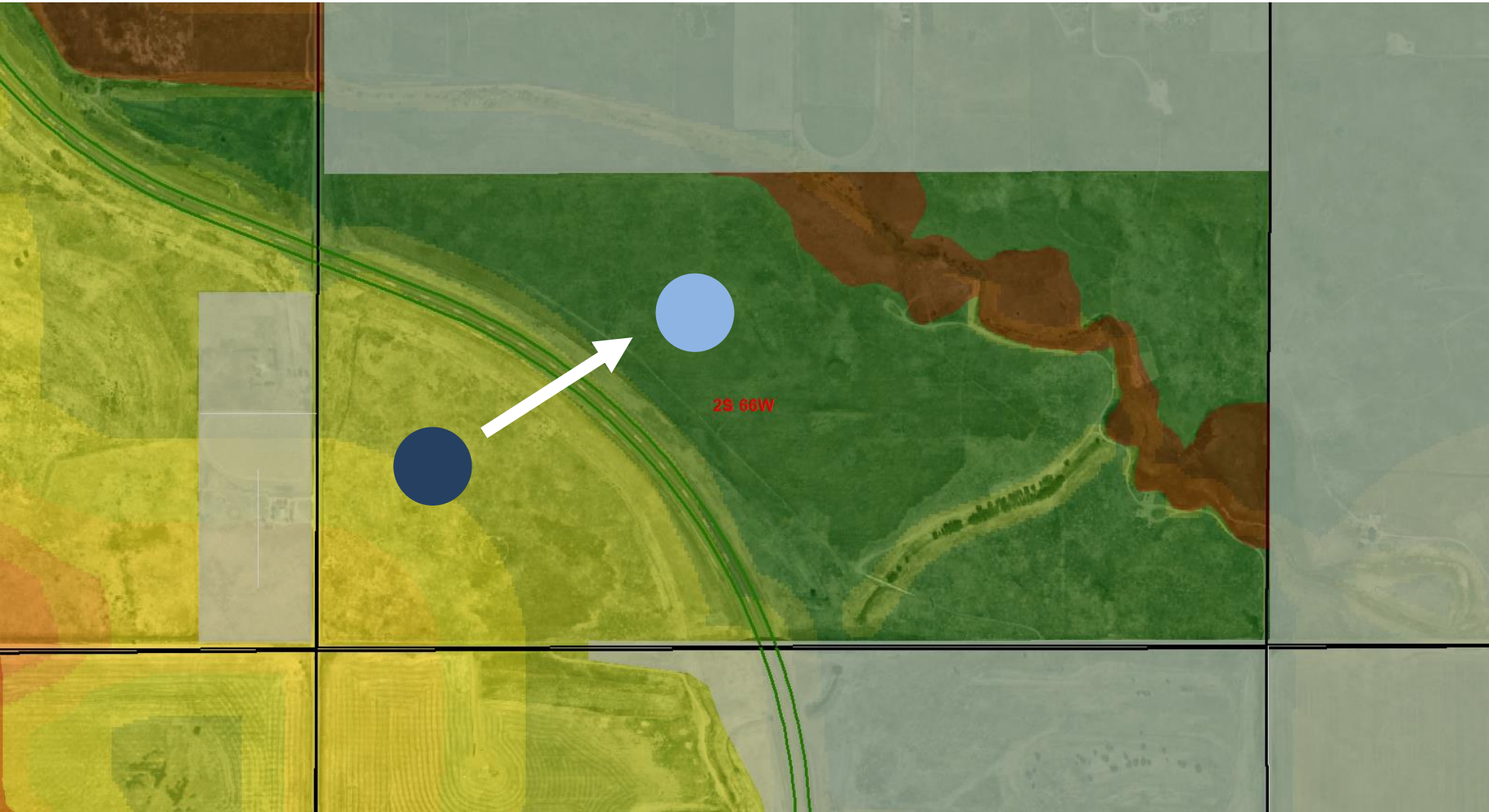


- Maximum wellbore kick-out of 1 mile
- Maximum wellbore run of 3 – 3.5 miles
- Surface location between 8-20 acres in size (depending on # of wells)
- Willing surface owner

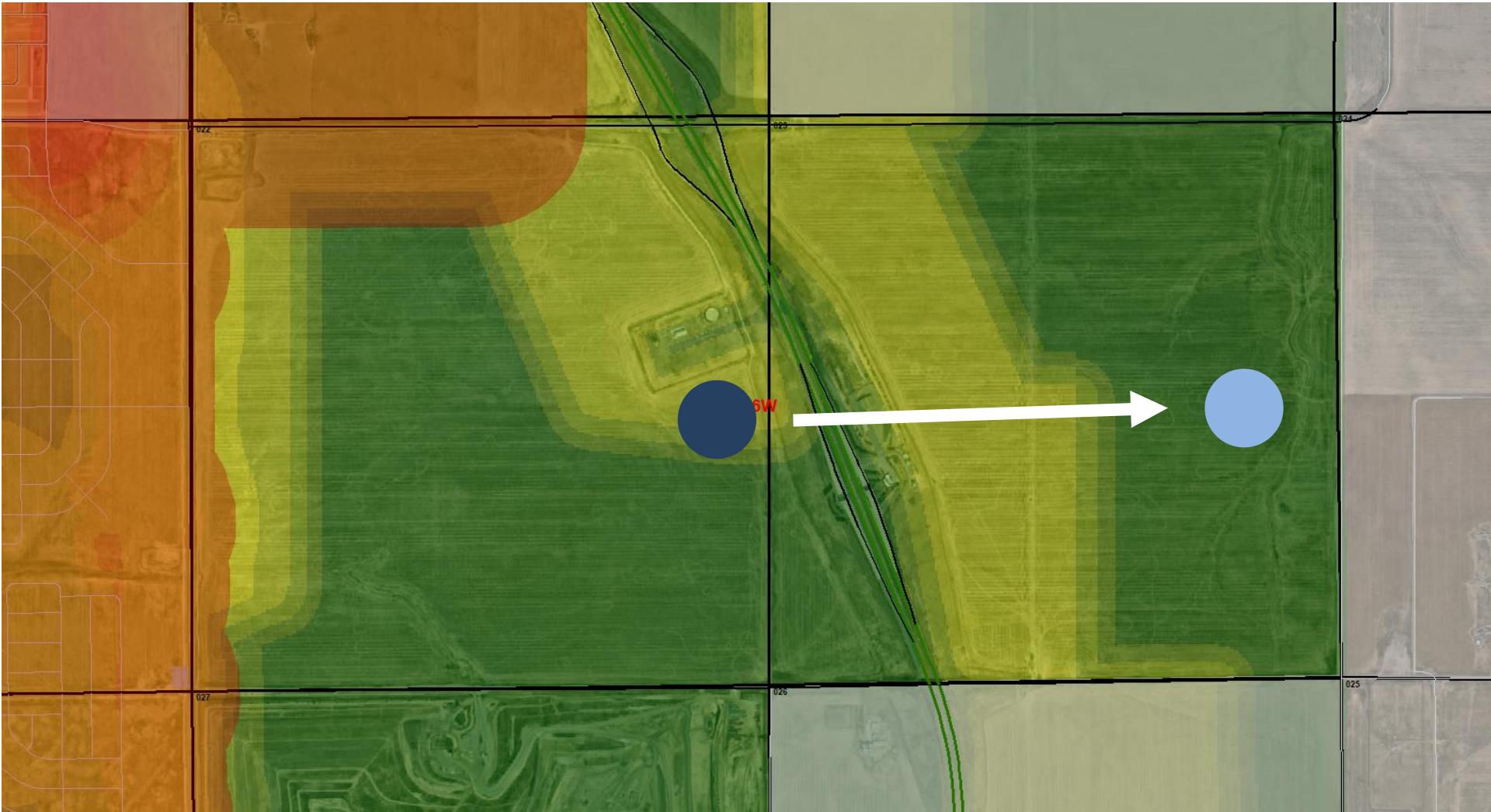
Evaluating Sites & Well Locations



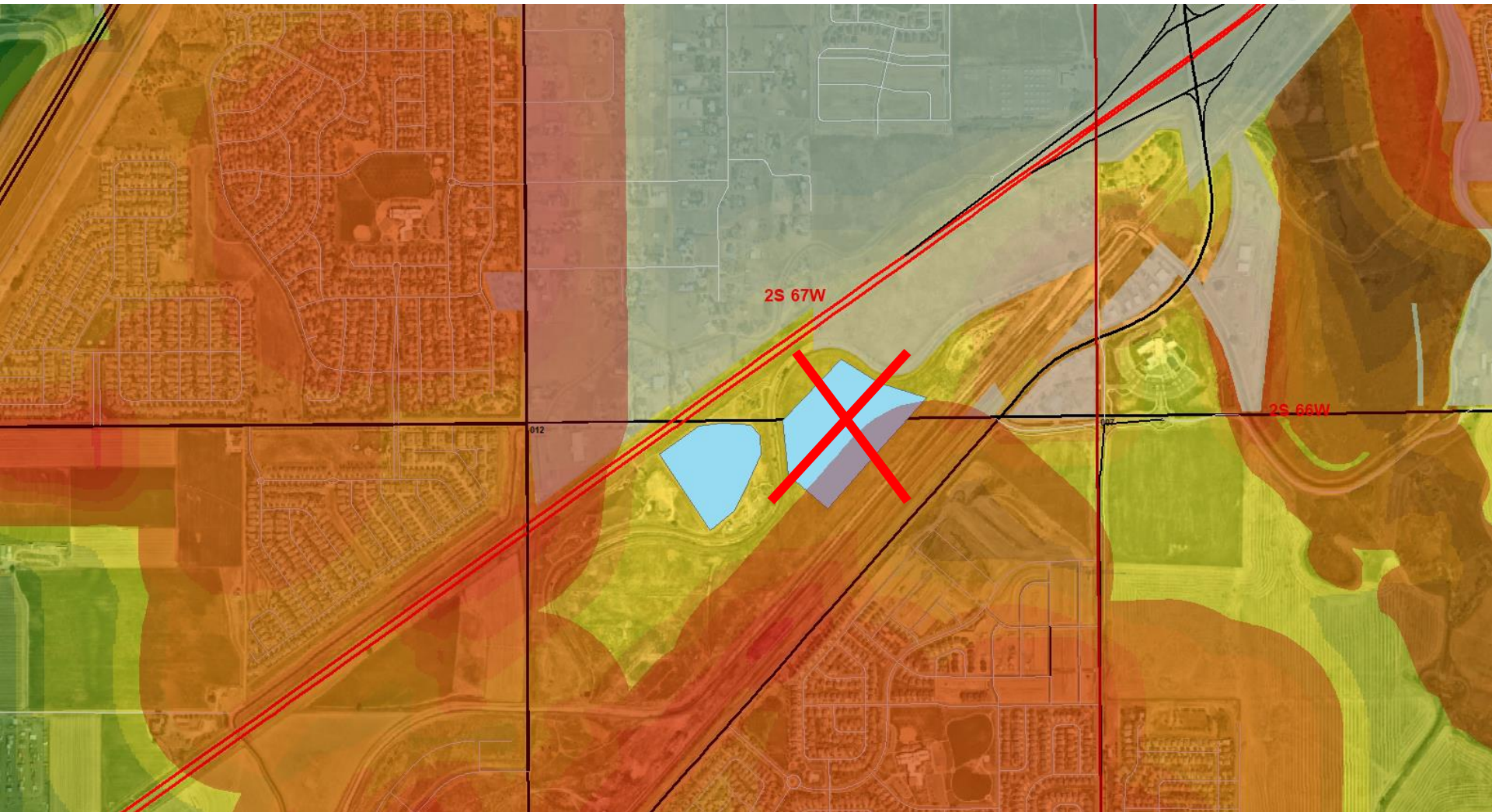
Outcomes From Analysis Process



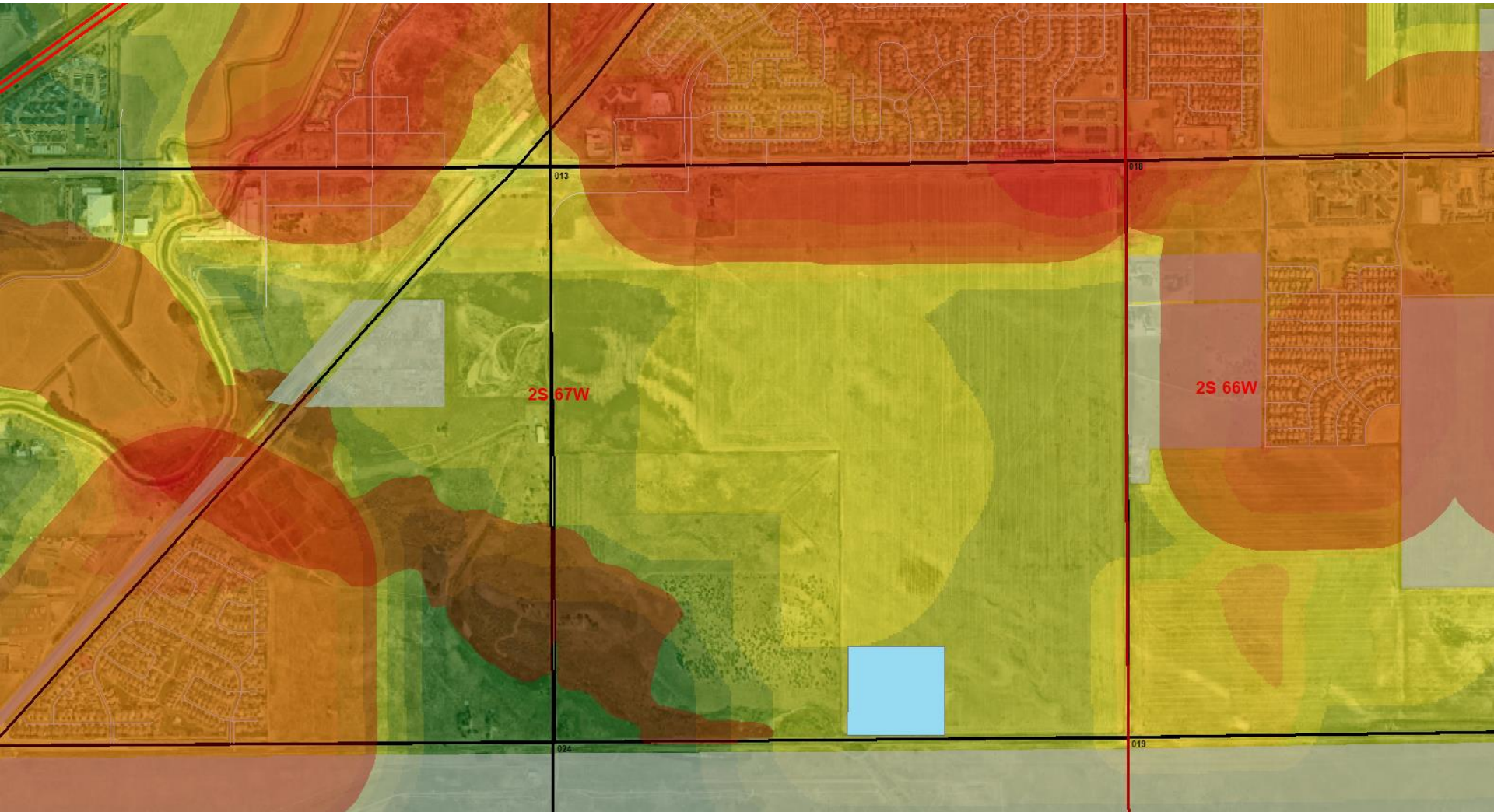
Outcomes From Analysis Process



Outcomes From Analysis Process



Outcomes From Analysis Process



Takeaways

- Led to eventual relocation, and consolidation of proposed facilities within the city
- Process informed the “initial assessment process” proposed within updates to the Land Development Code
- Site selection should be a comprehensive process rather than a site specific evaluation



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Questions and discussion