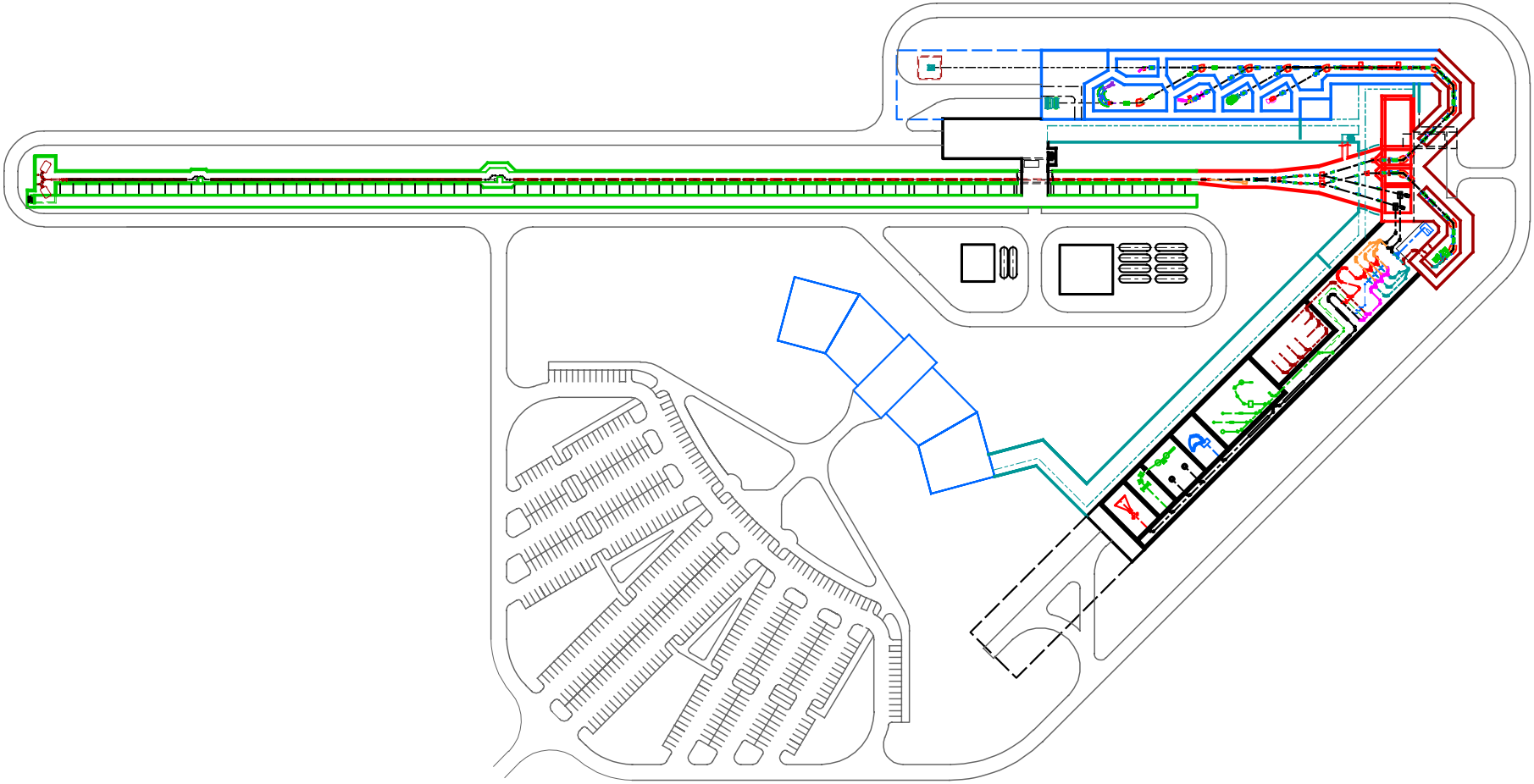
National Superconducting Cyclotron Laboratory (NSCL)

- MSU: "Big Ten" research university with 43,000 students enrolled in 14 colleges on a 5,000 acre campus.
- NSCL: 127,575 ft^2 building, 220 employees (including 23 faculty and 100 students), federal funding in FY2000 > $17.5 M.

RIA at MSU: Site Characteristics

- On campus site: approximately 5-minute drive to Physics, Chemistry and Engineering Buildings; bus and shuttle service to Campus.
- Large campus infrastructure: lecture halls, meeting rooms, food services, athletic facilities, emergency services (police, fire, medical, radiation & chemical safety) ...
- Cost effective housing in dorms, Kellogg Center and brand new MSU Executive Training Center (connected with MSU Faculty Club).
- Close proximity of Interstate exits, hotels, restaurants, and varied fast food services.
- Optimal accelerator and facility layout.
- Water and fiber-optics communications provided by MSU.
- Low-Cost Sewer Connection.

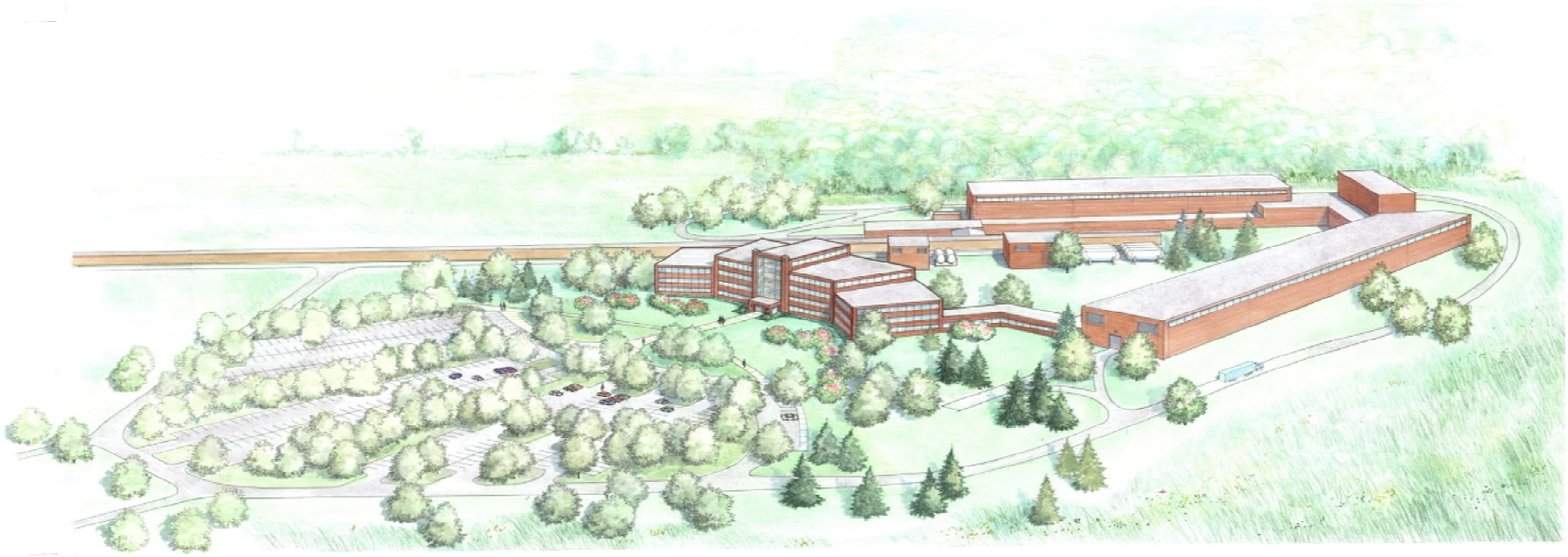
Plan View



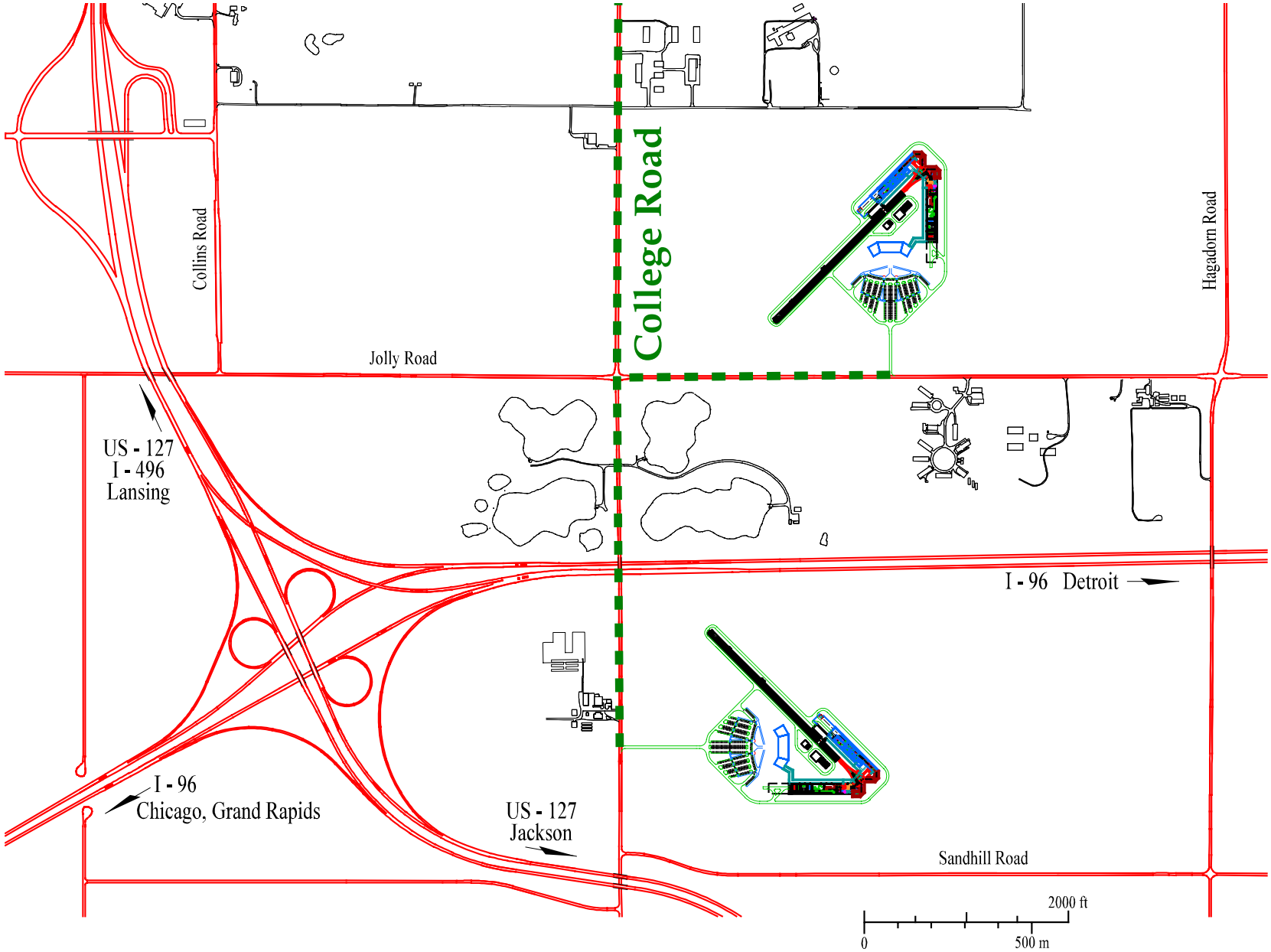
- No site-related constraints on construction.
  - Straight and folded linac possible, choice will be based only on cost/benefits analysis.
- 140,000 ft^2 office building.
- Ample space for expansion of experimental areas.

Why MSU is an Attractive Option for the RIA Site

- On-campus site provides ideal synergy between cutting-edge research and graduate/undergraduate education for next generation of scientists.
- RIA concept has been majorly shaped by MSU faculty; it is the logical extension of the ongoing NSCL research program that produces beams of rare isotopes by projectile fragmentation.
- Demonstrated experience in building and operating a national user facility; proven track record of cost-effective construction and operation.
- Historically, the NSCL has been one of the best examples for a constructive partnership between a University and a Federal Agency.



The Best Two Site Options



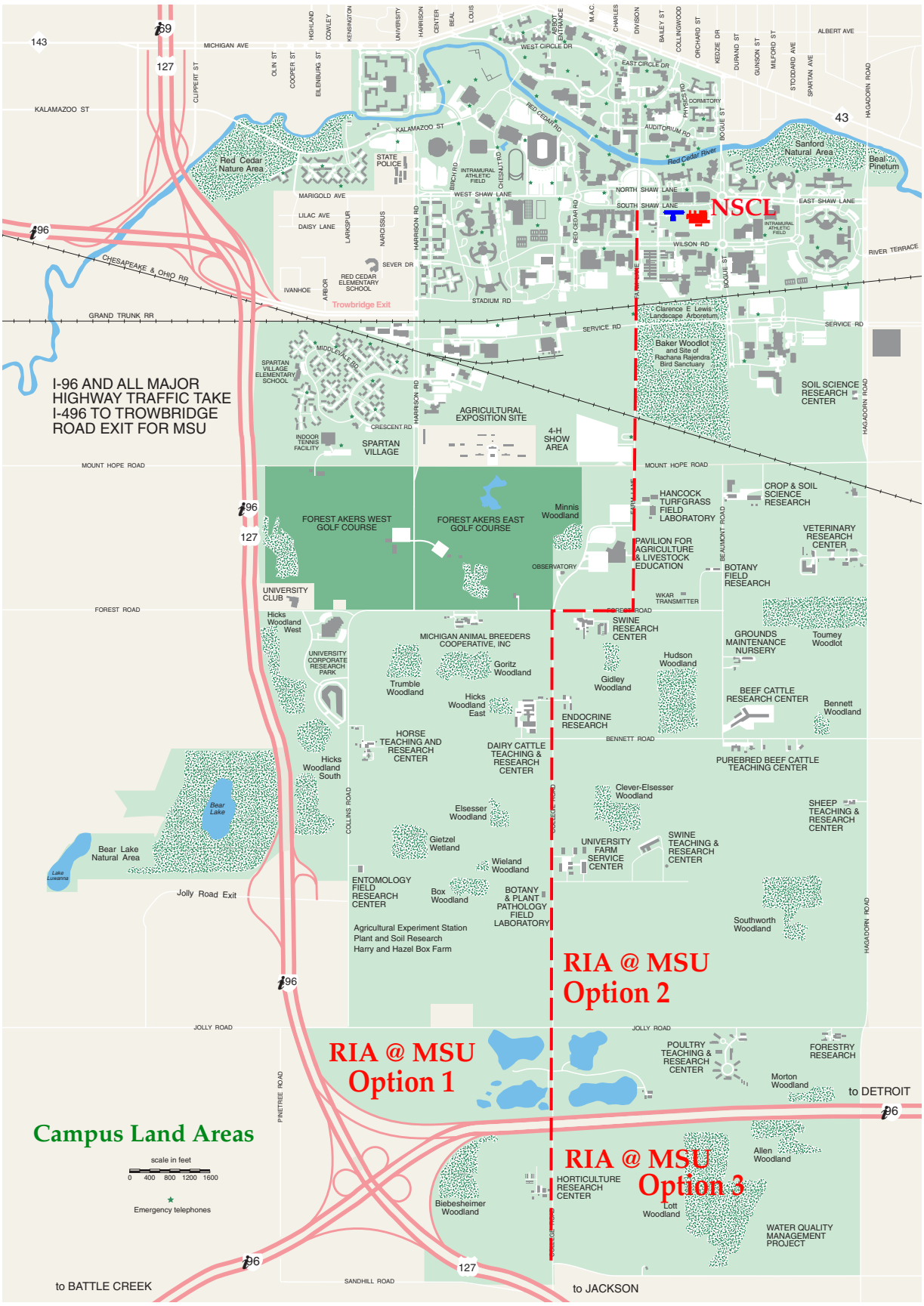
- **South site offers more space and flexibility, only adds about 1 minute to the commute to Physics and Chemistry.**

Site Specific Issues

- MSU site offers maximum flexibility and ample space for future expansion/upgrade options.
- The construction of a brand-new re-accelerator and low-energy experimental area has an extra cost-burden for the MSU site, since ANL plans to connect RIA directly to the existing Atlas facility.
  - …But offers the opportunity to provide modern and state-of-the-art equipment and infrastructure that will be fully optimized to meet the needs of the RIA experimental program.
- Differential cost burden will be provided by MSU and/or State of Michigan funds.

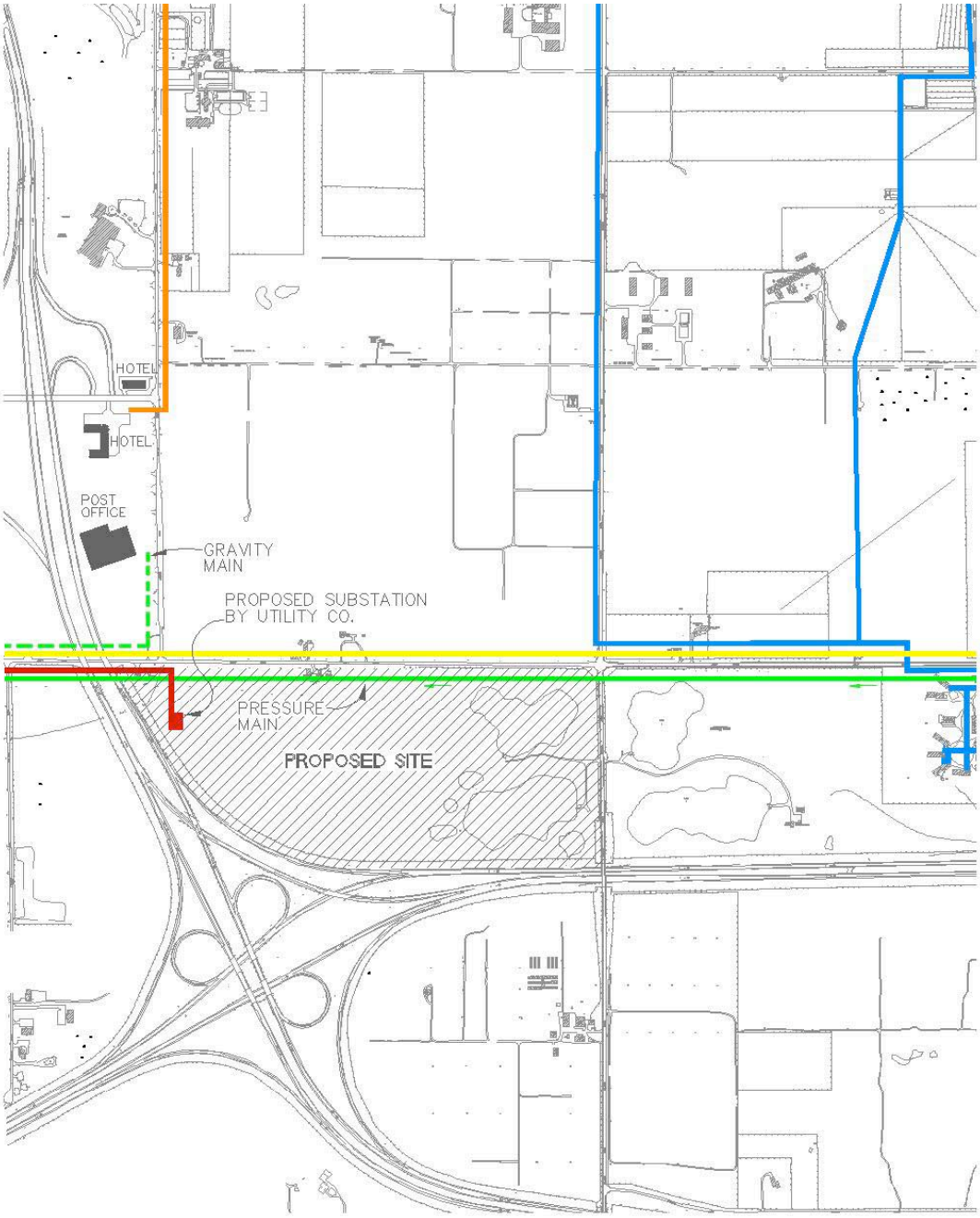
➲ An MSU site for RIA will have no cost penalty for the Federal Government.

Several Site Options Exist



Konrad Gelbke: RIA@MSU

Existing Utilities



SITE UTILITY LOCATIONS

0 400' 2000'

KEY:

- EXISTING WELL LINE
- EXISTING/PROPOSED POWER LINE
- EXISTING SEWER LINE
- EXISTING FIBER OPTIC COMMUNICATIONS LINE
- EXISTING GAS LINE

Konrad Gelbke: RIA@MSU