



**Counsilman - Hunsaker**  
AQUATICS FOR LIFE



*Frost*  
ENGINEERING & CONSULTING





# Councilman-Hunsaker

- 50+ Years of Aquatic Engineering & Design
- Core Services
  - Feasibility Studies
  - Facility Audits
  - Design Services
  - Aquatic Operations
  - Web-Apps
- Market Sectors
  - K-12 & Higher Education
  - Parks & Recreation
  - Waterparks
  - Hospitality
  - Wellness



## CIRCLE OF SERVICES

### WEB-APPS: WHERE AQUATIC MANAGEMENT MEETS LIFE

- Bringing peace of mind through industry standard record keeping
- Quickly access your data, including records, reports, and trends
- Provides the solution to limited space and storage at your pool

### OPERATE: FOCUSED OPERATIONS AND RISK MANAGEMENT

- Highly trained, experienced professionals to assist with your on-site facility operations
- Wide variety of services include maintenance training and creation of operation plans
- Optimizes safety and sustainability to ensure a positive experience for every visitor.

### AUDIT: PLAN FOR THE FUTURE

- Specialists and engineers assess the physical condition of the aquatic facility
- Provides information needed to make a knowledgeable decision regarding the future of your pool
- Comprehensive reports provide detailed information regarding code compliance and industry standards

### STUDY: MAKE THE IMPORTANT DECISIONS

- Feasibility studies and master plans provide clients the information to effectively plan for the future of their aquatic facility
- Explores the various options and costs to build
- Anticipates the cost to operate

### DESIGN: VISION BECOMES REALITY

- Leader in transformative aquatic design expertise since 1970
- Thousands of completed single and multi-pool projects worldwide
- Portfolio includes competition venues, private and municipal pools, hotels and condos, academic facilities, and military bases



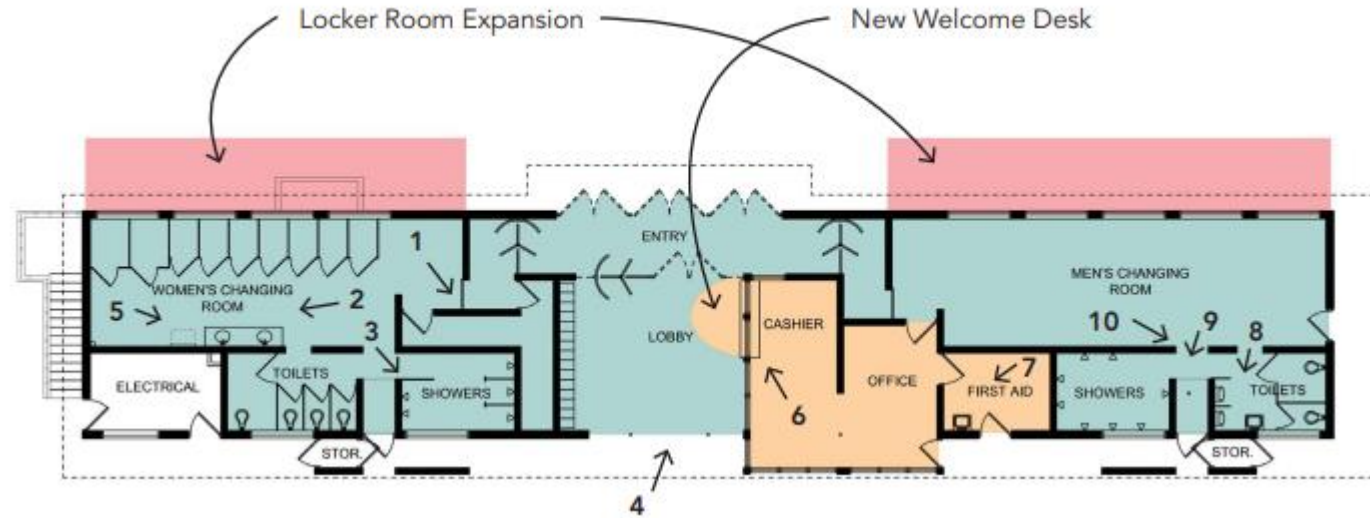
## Office Locations

- St. Louis, MO
- Dallas, TX
- Denver, CO
- Ann Arbor, MI
- San Diego, CA



# Architectural – Functionality & Support Spaces

- ADA Accessibility
- Family Changing
- Finishes
- Deck
- Security





# Pool Structure & Finish

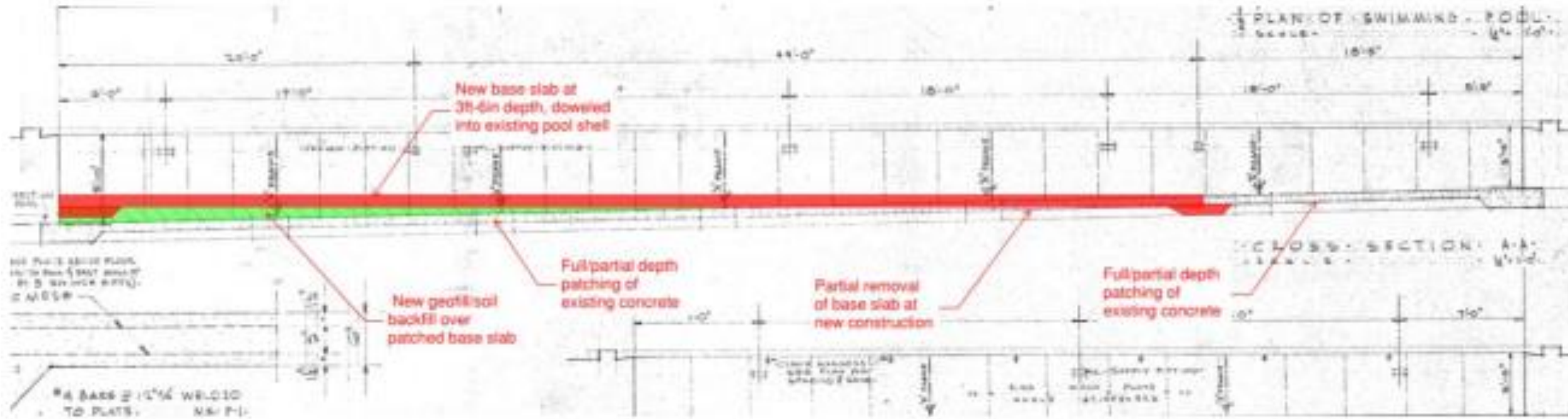
- Dive Pool
  - Fair to satisfactory condition with no significant cracking or spalling
  - Liner delamination
- Lap Pool
  - Very poor condition at base slab with widespread and extensive cracking
  - Cracks in the slab have extended up into the pool shell walls in approximately 7 locations
  - Cracking has continued to progress and interconnect, forming a spiderweb of cracks across nearly the entire bottom surface
  - Prior surface patches in the concrete base slab have failed with vertical separation/heaving noted at nearly all repairs. Existing concrete under failed surface patching was found to be heavily delaminated







# Short-Term Repair Option Explored



- Full / Partial slab removal with patching
- Geofoam interstitial layer below partial new floor slab at 3.5-4.0 feet deep
- Short-Term Repair Costs to Re-Open: \$2.0m
  - Labor availability
  - Limited life expectancy compared to new construction
- Long-Term Repairs for Total Renovation: \$5.7m





# Pool Piping & Water Loss

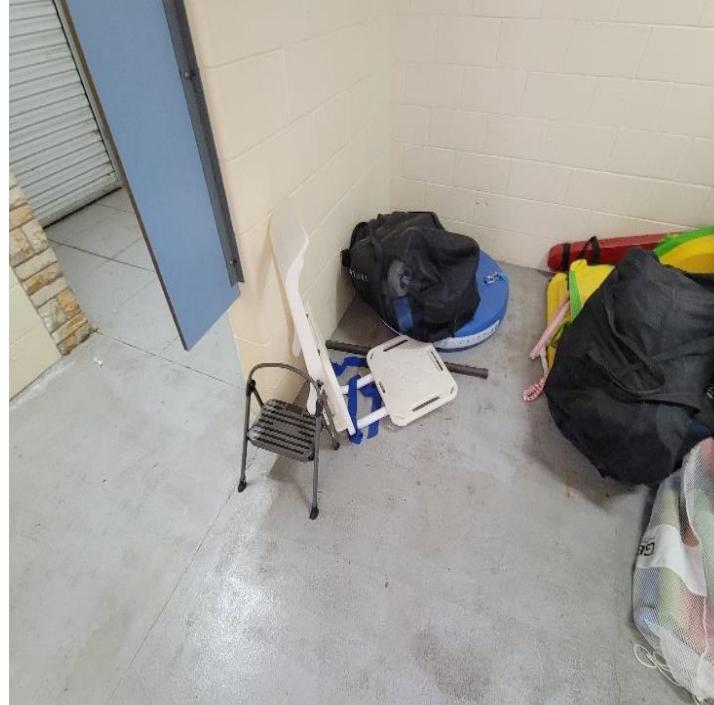
- 14,000 gallons / day
- Buried cast iron piping and fittings original to 1955 construction transitions to PVC once in the basement mechanical room
- No visible signs of settling or subsurface issues
- Piping undersized based on current code, especially for perimeter overflow





# Code & Safety Compliance

- ADA passed in 2010 covers accessibility to new and existing pools
- Virginia Graeme Baker Pool & Spa Safety Act passed in 2007 for drain covers
- Minimum water depth for diving





# Pool Mechanical & Chemical Treatment Systems

- Vertical sand filtration – 1996
  - Manufacturer no longer in business
  - Unaware of last media change
  - Filtration rate of 19.5 GPM/SF
- No redundancy for pump recirculation with deteriorated pipe connections and strainer
- Chemicals stored in office space
- Chemical closet empty and lacks proper fire rating for storage enclosure

