

"Merging Traditional Values with Today's Technologies to Better Serve our Client's Future." Robert Hanlon, President

STATEMENT OF QUALIFICATIONS

THE SINGLE SOURCE

ARCHITECTURE & ENGINEERING

DESIGN – PLANNING - DEVELOPMENT - MANAGEMENT

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STATEMENT OF QUALIFICATIONS –

Hanlon Engineering & Architecture, Inc. is pleased to present this Statement of Qualifications outlining the capabilities that provide exceptional single source Engineering and Architectural services. Through commitment to emerging markets and new technology, this firm offers to clients a state-of-the-art professional consultation that establishes HEA as a leader in the Engineering & Architectural fields. In strong belief that a Client's satisfaction is the foundation of a Project; this firm's commitment and Professional Competency is the key for offering unparalleled excellence on each and every Project.

Our team of Professionals is proud to be innovative in approach and practical in solution for the mining, Commercial, Corporate, Industrial, Institutional, Water Resources, Civil Construction, Renewable Energy, and Construction Industries. We capitalize on effective utilization of company and client resources, as well as selective teaming with independent consultants, to enhance our technical expertise, extend our staffing capabilities, and economically meet individual project requirements.

Robert J. Hanlon created in 1999 Hanlon Engineering & Architecture, Inc. with the vision of becoming one of the country's leading mining engineering and architecture firms. Since its establishment HEA has logged over 1,425 completed Projects that carry a constructed value of over \$1B. Nationally recognized, a significant portion of the work involves renovation and modernization of existing facilities throughout the United States, Canada, Central and South America.

Hanlon Engineering & Architecture, Inc. handpicks specific independent consultants to extend the capabilities of the team for any given Project. These qualified Professionals coupled with HEA core strengths assembles the team beneficial to provide Engineering & Architecture services for the most simple, complex and diverse projects.

This Statement of Qualifications details areas of expertise for past clients who include mining companies, state and federal jurisdictions, international projects, feasibility studies, and foreign federal agencies.

Thank you for your interest in Hanlon Engineering & Architecture, Inc. If you have any questions, please contact Robert J. Hanlon.

Sincerely,

Hanlon Engineering & Architecture, Inc.

Robert J. Hanlon

President

Hanlon Engineering & Architecture, Inc.

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SINGLE SOURCE

Single Sourcing for Professional Engineering & Architectural Services maintains better Quality Assurance/Quality Control through communication and efficiency. As Industry Experts with cutting edge production and modeling tools we are your single source firm.

Architecture

- New/Renovation
- Tenant Improvements
- Commercial
- Corporate
- Industrial
- Institutional
- Mixed -use
- Religious

Engineering

- Civil
- Concrete
- Structural
- Mechanical
- Piping
- Electrical
- Instrumentation
- Controls System
- Process

Management

- Project
- Construction
- Administrative Support

General Services

- Project Team Building
- BIM
- LEED
- Feasibility Studies
- Due Diligence

Industrial Services

- Metallurgical & Process Engineering
- Metallurgical Test Programs
- Geological & Ore Reserves
- Mining & Mine Planning
- Mine Process Plants & Facilities
- Chemical Process Systems
- Crushing, Conveying, & Milling
- Treatment Plants for Industrial & Mine Waste Water Permitting
- Environmental Impact Statement (EIS) Support

Industries

- Base Metals
- Precious Metals
- Industrial Minerals
- Solar Energy Facilities
- Industrial, Manufacturing & Facility Engineering
- Chemical & Polymers

- Program Development
- Administration
- Management
- Close-outs

- Reverse Osmosis
- Ion Exchange
- Electrical Power Transmission & Distribution
- Pumping Systems
- Tankage
- Heating & Ventilation
- Filtering Systems
- Dust Collection

- Water, Wastewater & Water Resources
- Power Transmission & Distribution
- Pharmaceutical & Biotechnologies
- Schools, Education Facilities
- Food & Consumer Products
- Project & Construction Management

BUILDING INFORMATION MODELING - B.I.M.

Hanlon Engineering & Architecture, Inc. BIM – Building Information Modeling Practices – Our Professionals use Building Information Modeling software (B.I.M.) to design Projects efficiently and effectively. B.I.M. allows our Team to work simultaneously creating an all-inclusive; information based 3-Dimensional digital models. The inherent accuracy of this process streamlines the transition from Pre-Design through Construction Documentation to built Project.

3D/2D Translation:

- Continuity
- Accuracy
- Efficiency

Conflict:

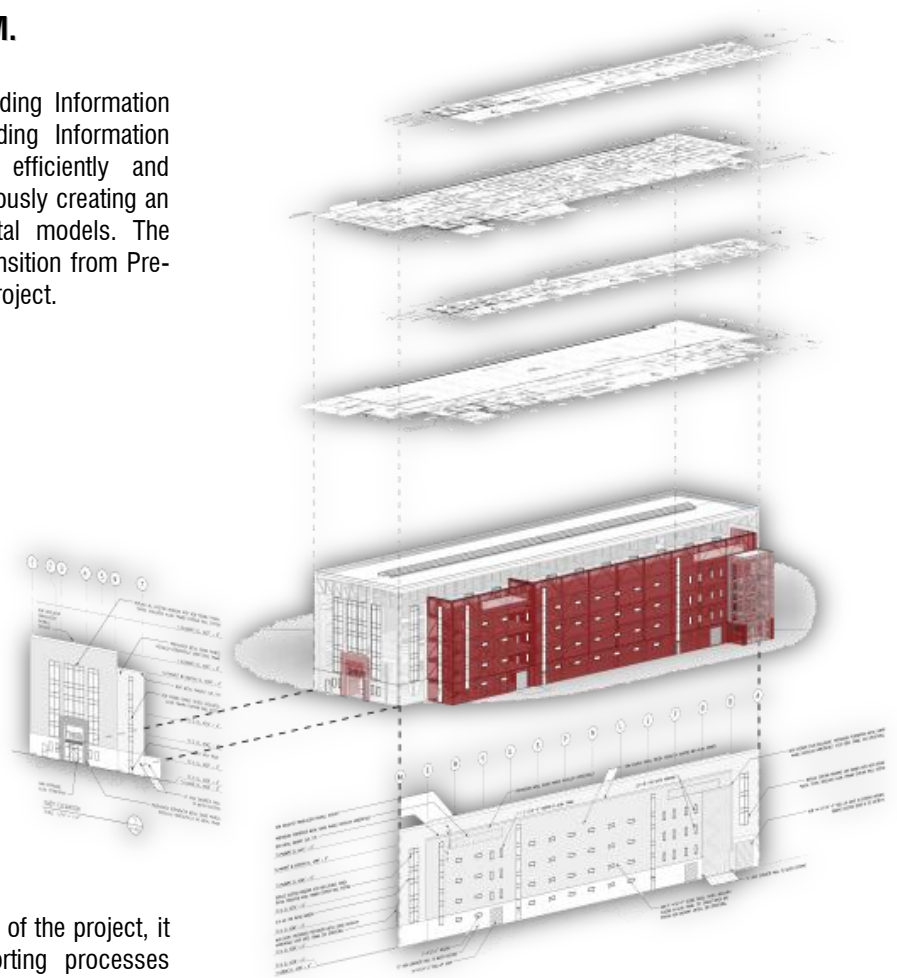
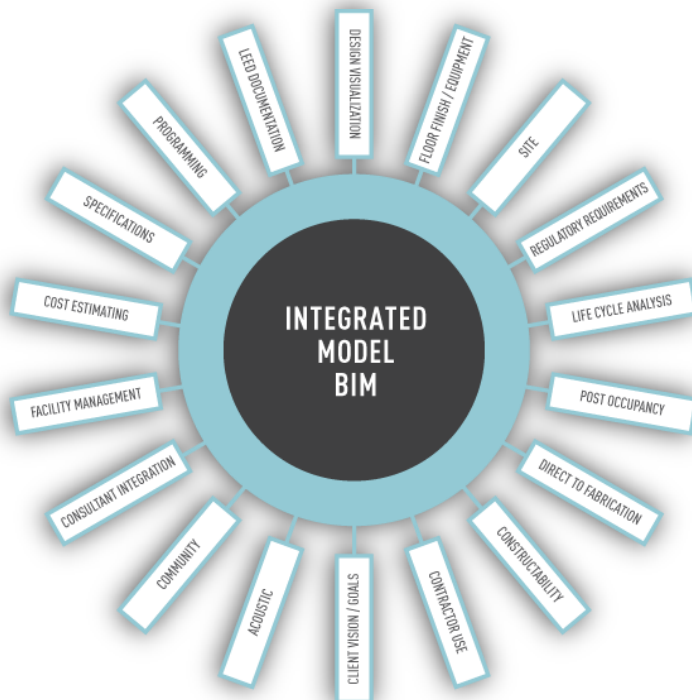
- Detection
- Resolution
- Single Source Coordination

Project:

- Development
- Design Communication
- Visualization
- Presentation

Construction Documentation

HEA BIM goes beyond the planning and design phase of the project, it extends throughout the building life cycle, supporting processes including cost management, construction management, project management and facility operation.



Our BIM Practices offers:

1. Improved graphical understanding.
2. Improved production efficiency, ease of obtaining information
3. Coordination cross disciplines improves QA/QC firm wide
4. Contains real time 'smart' information relating to specific materials, location of details and quantities required for procurement.
5. Project Delivery BIM Method improves scheduling.
6. Design Production & Project Costs reduction.

SOFTWARE AUTOMATION

Hanlon Engineering & Architecture, Inc.'s capabilities exceed most firms. HEA staff has expertise in all types of CAD capabilities, which include but are not limited to the use of the following software: *AutoCAD, REVIT, ADOBE, OFFICE, RISA, RS LOGIX, INTOUCH, HYTRAN, PIPEFLO, and CEASER.*

HEA commissioning efforts, with QA/QC in place for all disciplines and consultant work, field verification protocols, digital automation practices within the firm, and other value added elements benefit a project that is on time and under budget. HEA prides itself in creating a collaborative environment where Client receives the project while HEA maintains accountability throughout. Beyond meeting the timeline and cost targets, HEA designs each project to meet a greater durability, longer term lifecycle, and cost efficiency for reducing future facility expenditures.

Utilizing the In-House Proprietary Software (HIPS), this allows HEA to share compatible data with Contractors and Vendors between Autodesk, RISA and other programs. This gives HEA the capacity to make changes three-dimensionally, in all formats simultaneously. One of only a few firms that actually use Software Automation Capabilities effectively as a design tool to identify conflicts, and improve the overall quality of our work through conflict detection and resolution.

LIBRARIES

Hanlon Engineering & Architecture, Inc. stays on the leading edge of Code regulations and Professional accountability by supporting Projects utilizing the vast and up-to-date references listed below. HEA provides this as part of the QA/QC training/work resource for all employees. The directive is to ensure that all design decisions can be source documented, Code relevant, quickly obtained, able to meet HEA high standard of quality, and be used to assist in Client Education.



American Concrete Institute (ACI)
American Institute of Architects
American Institute of Steel Construction (AISC)
American National Standards Institute (ANSI)
American Petroleum Institute (API)
American Railway Eng & Maint.-of-Way Assoc (AREMA)
American Society for Testing and Materials (ASTM)
American Society of Civil Engineers (ASCE)
American Society of Mechanical Engineers (ASME)
American Water Works Association (AWWA)
Arizona Department of Environmental Quality (ADEQ)
Arizona Public Service Company

Chlorine Institute

Electric Service Specifications
Electrical Service Specifications

Hydraulic Institute

Institute of Electrical and Electronics Engineers (IEEE)
International Building Code (IBC)
International Code Council Electrical Code (ICCEC)
International Code Council Performance Code (ICCPC)
International Codes – General Uncategorized Information
International Electrical Testing Association (NETA)
International Energy Conservation Code (IECC)
International Existing Building Code (IEBC)

International Fire
Code (IFC)
International Fuel Gas Code (IFGC)
International Mechanical Code (IMC)
International Plumbing Code (IPC)
International Private Sewage Disposal Code (IPSDC)
International Property Maintenance Code (IPMC)
International Residential Code (IRC)
International Wildland-Urban Interface Code (IWUIC)
International Zoning Code (IZC)

MasterSpec 2012 (CSI FORMAT)

Metallurgical and Materials Society (MetSoc)
Mine Safety and Health Administration (MSHA)

National Electric Code (NEC)

National Electrical Manufacturers Association (NEMA)
National Fire Protection Association (NFPA)
NCARB

Occupational Safety and Health Administration (OSHA)

Post-Tensioning Institute (PTI)

Project Management Institute (PMI)

Richardson Process Plant Estimating System

RS Means

Rural Utilities Service (RUS)

The National Association of Corrosion Engineers (NACE)

SUSTAINABILITY



Hanlon Engineering & Architecture, Inc. recognizes its responsibility to conduct business in a way that protects and improves the state of the environment for future generations. HEA understands that the long-term well-being of society, the well-being of its Employees, the strength of the global economy, and the continuing success of internal business depends on the commitment to a sustainable environment. In the quest for sustainability, we shall maintain integrity in our efforts to provide the highest caliber of Engineering & Architectural Design Solutions.

Hanlon Engineering & Architecture, Inc. conducts business and implements strategic and operational decisions with environmental sustainability where practical, and has integrated the practice as part of a common business agenda. HEA is reaffirming commitment to integrate environmentally friendly policies and practices into by operating in a manner that promotes energy and materials conservation, as well as waste reduction. HEA is also committed to assist Clients in analyzing, reducing, and managing their own environmental impact and risks.

Hanlon Engineering & Architecture, Inc. sustainability program has three components:

- HEA commitment to take action to reduce the sustainability impact of our own activities.
- HEA commitment to provide Clients with the expertise, advice, products, and solutions that help them with their own sustainable challenges, and to support them with opportunities where environmental issues are present.
- HEA commitment to provide Employees with an environmentally conscious workplace.

As an Engineering and Architecture Professional Services Firm with more than 50 employees and Clients in many States and Countries, Hanlon Engineering & Architecture, Inc. continues to work to develop and implement environmentally responsible business practices throughout the organization and strive for the sustainable growth of both HEA and Clients' businesses. HEA encourages its Employees to join in the journey by supporting and furthering environmental efforts.

The charge as industry advancements are made green and greener, it is through education that HEA offers to its Clients that will add the greatest value to Current and Future Projects.

LEED

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria.



LEED is a third-party certification program and the nationally accepted benchmark for the design, construction and operation of high performance green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

Hanlon Engineering & Architect, Inc. can assist in defining your Projects environmental target and corresponding budget. HEA helps focus the design team to achieve the LEED goal. Value engineering applicable to green investments relating to energy & money saving features will align goals with Life Cycle benefits rather than Short Term Costs. The team will produce innovative green solutions & be able to recognize opportunities for integrated synergies to earn LEED credits without increasing costs by identifying means of offsetting certain expenses through savings in other areas.

QUALITY ASSURANCE / QUALITY CONTROL -

Hanlon Engineering & Architecture, Inc. Project QA/QC Manager and Team Project Managers will ensure that the highest standards of quality are adhered to in every project activity. Quality is best managed through documented reports and inspections performed on a regular basis. All submittals need to be in place ahead of the work commencing. By incorporating such elements as witness/hold points, submittal checklists, and testing procedures and intervals, the highest level of quality will be achieved. Each Discipline head is tasked with QA/QC for respective work. HEA 6-digit format MasterSpec to augment Project Specifications. QC/QA process is to review of each Specification Section with the applicable drawing information in an effort to ensure there are no conflicts. Additionally, drawing information is maintained to be general in nature; whereas, the Specifications are best utilized to transmit more specific information, which is verified to be both current and appropriate to application.



Hanlon Engineering & Architecture, Inc. surveys by process of field verification; measurements, digital imagery, laser modeling, as-built drawing review and supplied owner information for all the areas in and around a Project for built information as well as confirmation of As-Built conditions that would affect design. HEA performs Field Verification to produce accurate data for informed decision making, using all documentation provided by Client and readily available by other means, such as public record and utility providers as applicable. All facilities are cataloged digitally and verified by measure as part of normal services and made a part to the Project Archive to assist our Team in accurate work. HEA will not rely on work performed by other firms as basis for project commencement, so HEA starts from the same point with each project with our own protocols for project assessment. HEA takes full authority over its own surveys for accuracy and workability with any design scenario from existing to new projects. HEA avoids all major and most minor changes to design concepts due to the fact that the relevant information is known prior to beginning.

Hanlon Engineering & Architecture, Inc. commissioning efforts, with QA/QC in place for all disciplines and consultant work, field verification protocols, digital automation practices within the firm, and other value added elements benefit a project that is on time and under budget. HEA prides itself in creating a collaborative environment where the Client receives the project contracted for while HEA maintains accountability throughout. Beyond meeting the timeline and cost targets, HEA designs each project to meet a greater durability, longer term lifecycle, and cost efficiency for reducing future facility expenditures.

Commissioning Process

Planning	Design	Construction	Commissioning	Occupancy & Operation
<ul style="list-style-type: none"> Owner Project Requirements (OPR defined and documented). 	<ul style="list-style-type: none"> Project Commissioning Plan created. Design Documents periodically reviewed for OPR compliance. Commissioning Specifications created. 	<ul style="list-style-type: none"> Contractor Submittals reviewed for OPR compliance. Construction installation inspected for OPR compliance. Checklists, tests, and procedures developed to verify project operation. 	<ul style="list-style-type: none"> Completed construction inspected and tested for proper operation. Inspection and test results documented. Commissioning Report and Systems Manual created. Contractor production of Operations & Maintenance Manuals and execution of Owner training verified. 	<ul style="list-style-type: none"> Post occupancy inspection conducted near end of warranty period. Performance and seasonal testing conducted and documented.



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CONTACT INFORMATION -

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