

GAVCO CONSTRUCTION. LLP

Sign of Quality, Reliability, Efficiency & Effective Control



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WELCOME TO GAVCO

WE ARE ONE OF THE BEST IN THE INDUSTRY

GAVCO LLP Establishment is based in INDIA since 1999 and one of the leading and progressing General Contracting, Construction, Trading, business company providing solutions to the customers to meet their production targets and in reduction of cost and downtime.

The consistent massive growth that **GAVCO** has attained clearly demonstrates the client's confidence in the company's ability to provide world class quality technical and management solutions through a combination of Process Excellence Work Quality, Safety Management and Services delivering innovations.

GAVCO is formed by Technocrats & Engineers, having Vast Experience in handling small to medium projects in the fields of Civil, Electro-Mechanical construction and core Mechanical, Instrumentation & Electrical.

We provide General Contracting, Civil Works, Oil & Gas, Building Designing, Metal Fabrication, Erection, **Trading, of Electro Mechanical Parts, Packing Machinery systems and Steel Fabrication include state-of-the-art technology to deliver high performance and customized engineering & automation solutions.**

We are looking for a Technically Strong and reliable company to jointly participate in many upcoming New Projects, T/A, Maintenance, Online leak sealing and Upgrade projects in Mechanical, Electrical & Instrumentation/Controls fields and all business we do.

Our existing clients are example for our quality service and dedicated work; we are here to serve you with quality service and dedicated work. Feel free to contact us to full fill your requirements.



PROJECT CONSULTANCY SERVICES

*We are aligned with engineers who see themselves as members of your team. We are dedicated to undertaking your project using the **latest tools and innovative solutions** in the industry. As your project progresses, we will continually document each step of the process, communicate status to you in the manner and frequency of your choosing, and monitor all aspects of quality assurance. We have the experience, the skills and the methods to bring your project to completion on time and on budget*



DESIGN AND ENGINEERING SERVICES

*We design the packages inclusive of Equipment, Mechanical, Piping, Civil & Structural, Electrical, Instrumentation, HVAC, Fire Fighting, Underground utility, Offsite and Infra structure facilities for Chemical / Fertilizer, Petrochemical, Industrial Projects, Infrastructure Projects and Commercial projects. With associates we provide our professional services for Know-How, Process and **Energy Benchmarking, Feasibility Studies, Process Simulations**, Product yields and quality enhancement, Undertaking **HAZAN, HAZOP and Risk Analysis**.*

WELCOME TO MANAGEMENT STATEMENT

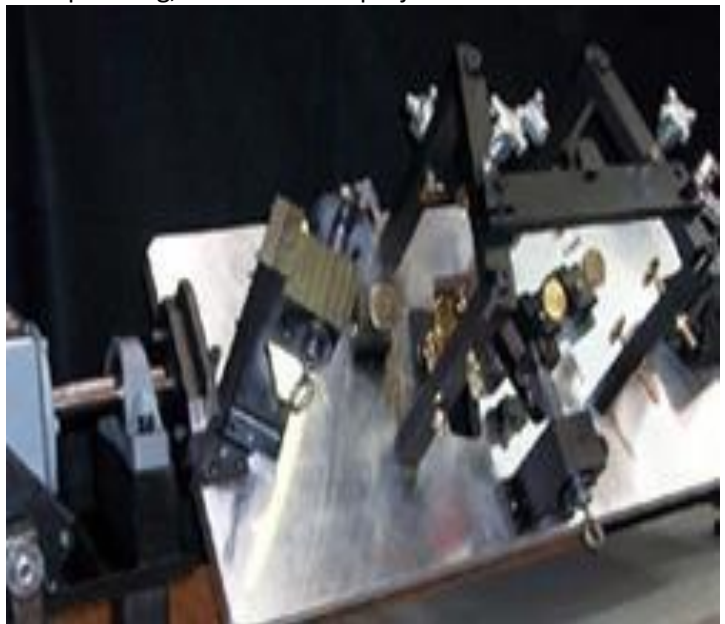
GAVCO, we believe that management is not just about managing things, but leading people. In today's complex business and construction environment, we need to call on the best talent, enthusiasm and experience to lead a project successfully from instigation to completion. Our management team is uniquely positioned to deliver this advantage to our clients while providing the in-house systems and programs to unlock this potential. We are continuing to hone a successful business model so that we are here to meet our clients' needs both now and in the future. All activities of the overall management function that determine the quality policy, objectives and responsibilities and implement them by means such as quality planning, quality control, quality assurance and quality system. Management maintains the quality of company's products and services so as to meet customer's requirements, to ensure continuous quality of its operational activities and process within the framework of the quality system. Preparation of quality assurance procedures and work instructions to our clients covering defined work processes and activities pertaining to design, supply, installation, testing, commissioning and after sales services.

We are looking for a Technically Strong tallest to jointly participate in many upcoming New Projects, T/A, Maintenance and Upgrade projects, We are fully comply with the Kingdoms labor law especially in terms with the Saudization, Timely payment of Zakat (Tax) as well as Gosi, Medical Coverage and other benefits as per the labor law thereby our employees are enjoying a descent Salaries, timely payments, well maintained accommodations, Vacations, and all the other benefits as per the government instructions. We are employing multinationals and are having branch offices around the globe to recruit the qualified employees and we always ensure their credentials and testimonials are original. Furthermore, all our employees are selected through the personnel interview only.



PROJECT MANAGEMENT SERVICES

We believe perfect planning and scheduling is a key of project management. Our project managers have extensive expertise to direct, support and coordinate all aspect of your engineering project irrespective of small or big. Our project managers are proficient in overseeing and directing both internal company support and third-party subcontractors to ensure that **budget and schedule constraints** are met. Our project managers are experienced to fully understand the complete scope of your project and direct it from initiation to completion. We follow the system with responsibilities from planning, execution and project close-out.



OUR MISION

GAVCO believes on long term business relationship, by providing the customer excellent service. Educates the customer by conducting seminars / training program to make their lives easy. Service after sales is our philosophy for the success.

We are people who make it our business to be like a good neighbor; who built a premier company by selling and keeping Promises through our marketing partnership; who bring diverse talents and experiences to our work of serving the State Farm customer.

Our vision for the future is to be the customer's first and best choice in the products and services we provide. We will continue to be the leader in the industry and we will become a leader in the Industrial services arena. Our customers' needs will determine our path. Our values will guide us. We are also vision to be one among the top companies this region. The consistent massive growth that Gavco Establishment a combination of

Process Excellence Work Quality, Safety, Management



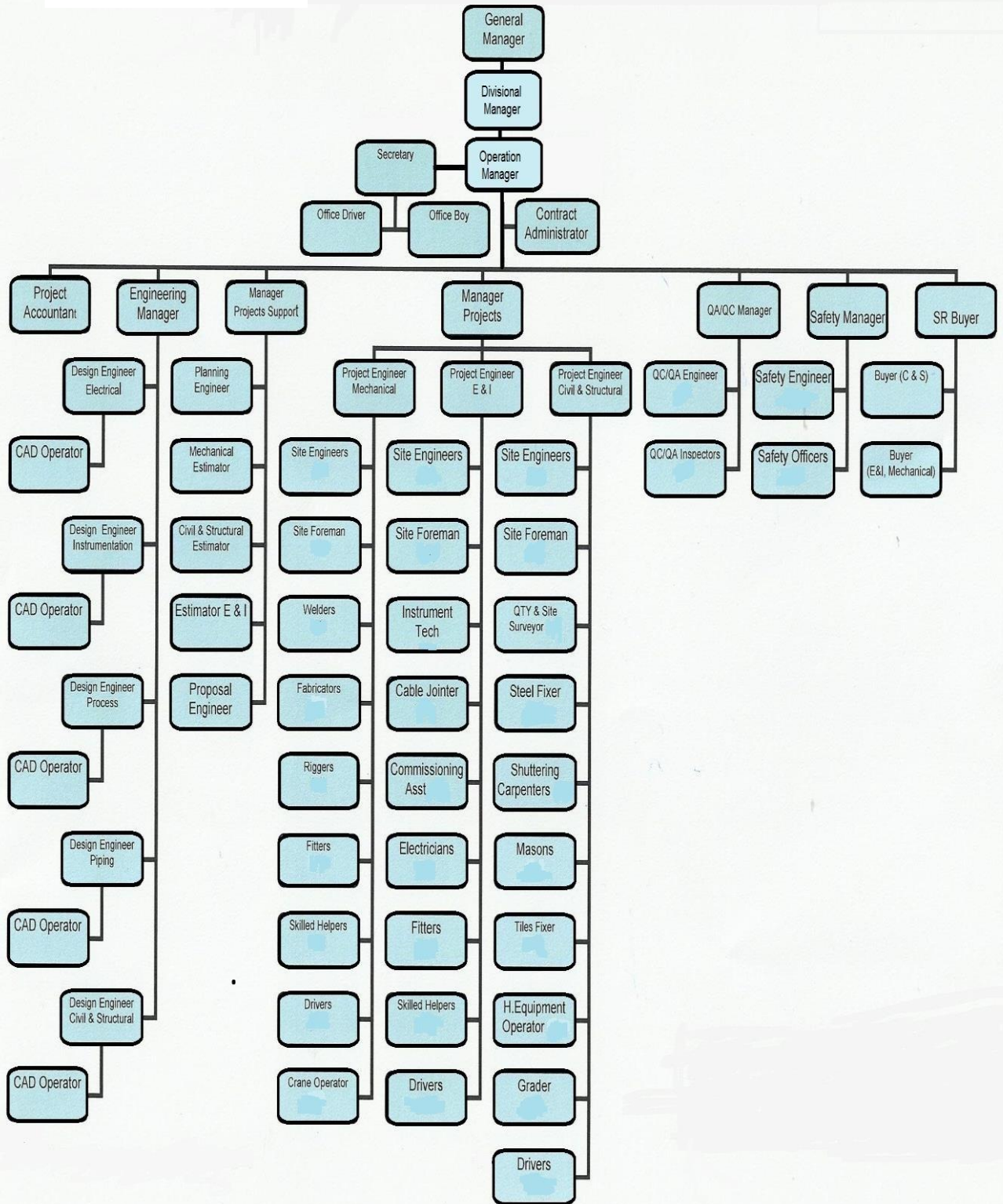
OUR HISTORY

Gavco is established in Saudi Arabia by technocrats and engineers. It was his goal to establish a construction business big enough to service clients' requirements, yet personal enough to understand clients' needs. Gavco would be proud of what Gavco has become and what we continue to be.



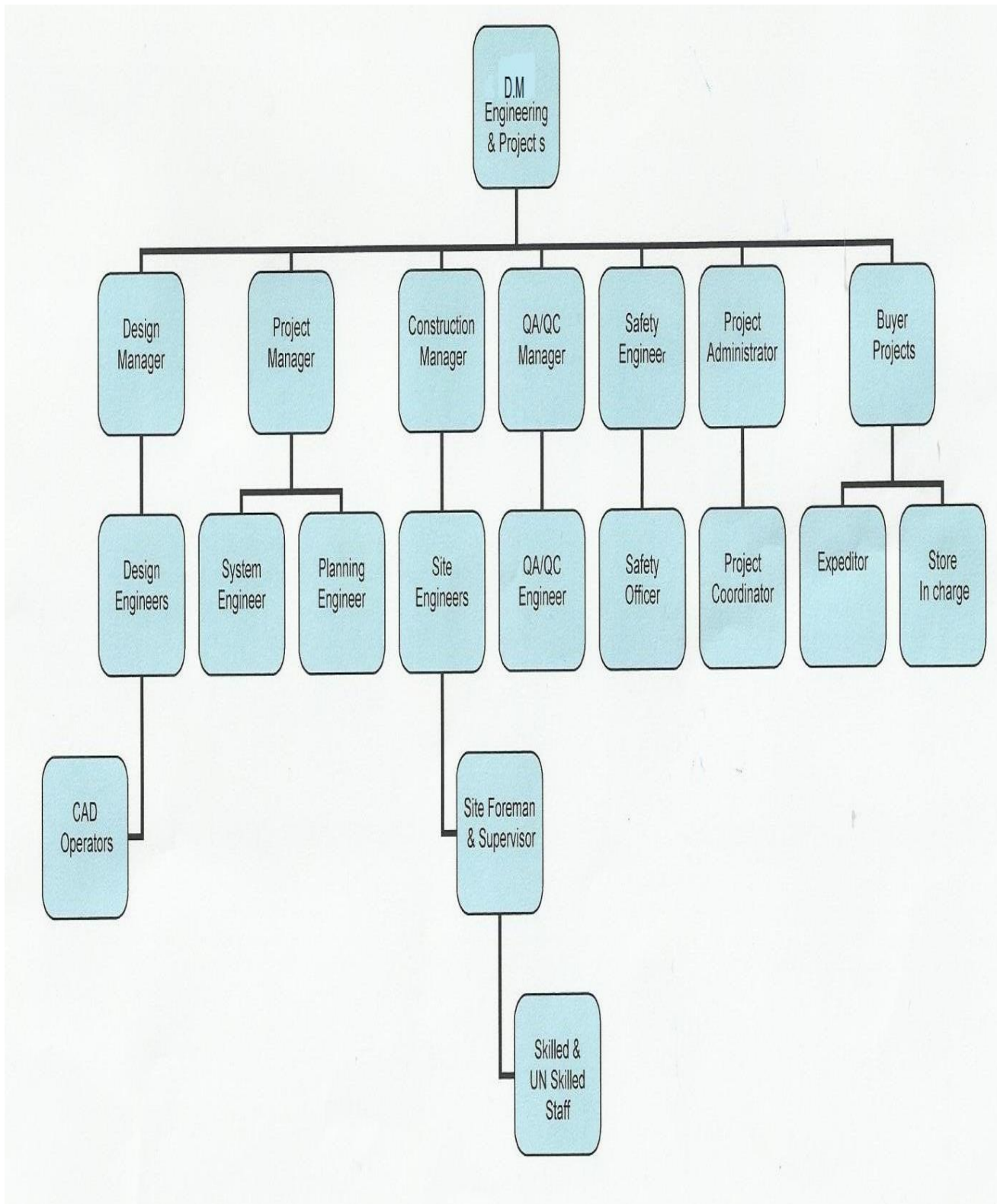
GAVCO LLP

ORGANISATIONAL CHART



GAVCO LLP

Project Site Organisational Chart



OUR QUALITY POLICIES MANUAL

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Introduction

Gavco has in place a Quality Management System (QMS) which promotes “Quality” as a strategic imperative for our business based on the principle that; the QMS is a comprehensive and fundamental set of rules and beliefs for leading and operating the **Gavco** organization, aimed at continually improving performance over the long-term by focusing on the needs and expectations of our customers while addressing the requirement of all the organization stake holders – owners, employees, supplier and environment.

The QMS at **Gavco** operates at 5 levels of implementation which are illustrated in figure 1.0 enabling the organization to have comprehensive quality assurance system. The QMS at **Gavco** provides a

standard approach to the prevention of quality problems through planned and systematic activities: specification, review, monitoring, preventive action and documentation.

The Quality Policies Manual establishes requirements and guidelines for the overall QMS objectives at **Gavco**. The Quality Procedures Manual is a collection of Standard Operating Procedures (SOPs) which are documented in conformance with, and support the Quality Policies Manual’s requirements and guidelines. Work instructions, for specific performance of individual tasks, are documented as necessary to support each applicable quality procedure. Records provide the objective evidence of compliance.

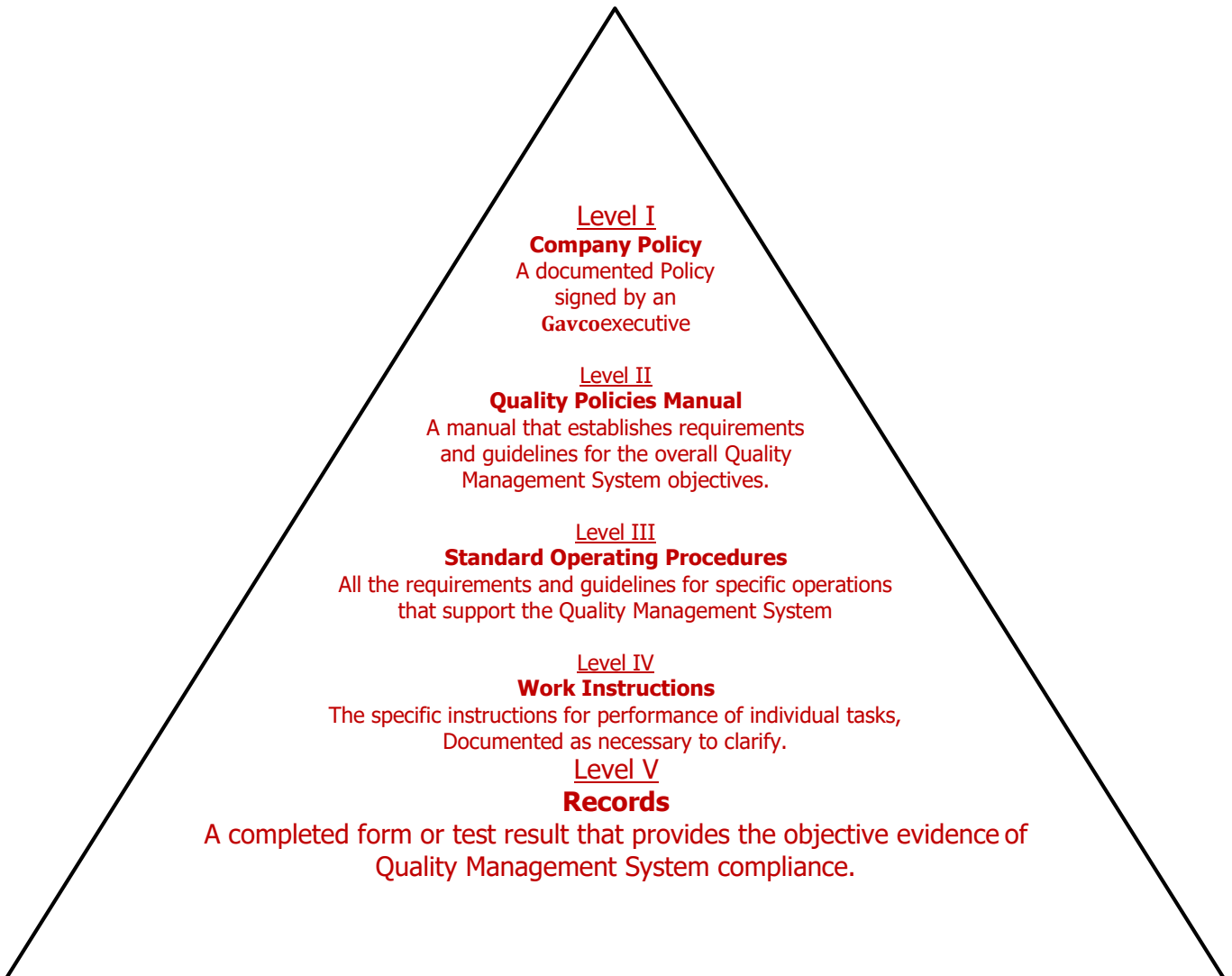


Figure 1.0: Levels of Quality Management at **Gavco**

Customer Focused Organization	Assure conformance to defined customer requirements. Ensure effective response to customer feedback.	Understand current and future customer needs and expectations. Address customer loyalty. Measure customer satisfaction and act on it.
Leadership	Set and deploy policy and verifiable objectives, provide resources and establish an environment for Quality.	Establish vision, direction and shared values. Set challenging goals and implement strategies to achieve them. Coach, facilities and empower people.
Involvement of People	Establish competency levels, train and qualify personnel. Provide clear authority and responsibility.	Create personal ownership of the organization’s goal, by using it’s people’s knowledge and experience, and through

		education achieve involvement in operational decisions and process improvement.
Process Approach	Establish, control and maintain documented processes.	Explicitly identify internal/external customers and suppliers of processes. Focus on use of resources in process activities, leading to effective use of people, equivalent, methods and materials.
System Approach-to Management	Establish and maintain a suitable and effective documented Quality Management System.	Identify a set of processes in the system. Understand their interdependencies. Align the processes with the organisations goals. Measure results against key objectives.
Continual Improvement	Through management review, internal / external audits and corrective / preventive actions, continually improve the effectiveness of the Quality Management System.	Set realistic and challenging improvement goals, provide resources and give people the tools, opportunities and encouragement to contribute to continual improvement of processes.
Factual Approach-to Decision Making	Management decisions and actions on the Quality Management Systems are based on the analysis of factual data and information gained from reports on audits, corrective action, nonconforming products, customer complaints and other resources.	Decisions and actions are based on the analysis of data and information to maximize productivity and to minimize waste and rework. Effort is placed minimizing cost, improving performance and market share through the use of suitable tools and technology.
Mutually Beneficial Supplier Relationships	Adequately define and document requirements to be met by subcontractors and suppliers/vendors. Review and evaluate their performance to control the supply of quality products and services.	Establish strategic alliances or partnerships, ensuring early involvement and participation defining the requirements for joint development and improvement of products, processes and systems. Develop mutual trust, respect and commitment to customer satisfaction and continual improvement.

Figure 2.0: Principles and Benefits of QMS at **Gavco**

1.1. Purpose

The purpose of Quality Policies Manual is to document the Quality Management System used by **Gavco** to assure the quality of its products and services.

1.2. Scope

The scope of the quality Management System includes only the activities and materials of **Gavco** operations under the requirements of current contracts and agreements.

2. Quality Management System

2.1. General Requirements

2.1.1. **Gavco** has implemented Quality Management System (QMS) that is continuously maintained for effectiveness and process improvements in accordance with the requirements of internationally acknowledged quality management and quality assurance standards.

2.2. Documentation Requirements

2.2.1. General

2.2.1.1. The Quality System Documentation consists of five level; the **Gavco** Company Policy (level one), the Quality Policies Manual (level two), Quality Procedures Manual (level three), Work Instructions (level four) and Records (level five). Supplemental to these documents are the Inspection and Test Plans and Master Lists.

- 2.2.1.2. Level I Company Policy – A documented Policy Statement.
 - 2.2.1.3. Level II Quality Policies Manual - The Quality Policies Manual establishes requirements and guidelines for the overall Quality System objectives. These requirements and guidelines are applicable to the operation of **Gavco**.
 - 2.2.1.4. Level III Quality Procedures – The Quality Procedures Manual is a collection of Standard Operating Procedures (SOP's) which are documented in conformance with, and support of Quality Policies Manual's requirements and guidelines. The Quality Procedures Manual details the implementation of requirements and guidelines for all hard copies at relevant workstations at **Gavco** locations throughout Saudi Arabia)
 - 2.2.1.5. Level IV Work Instructions – Work instructions are documented as necessary to support each applicable Quality Procedure. They detail specific quality or inspection information and specific instructions for performance of individual tasks.
 - 2.2.1.6. Level V Records – Completed forms provide the objective evidence of compliance.
- 2.2.2. Quality Manual
- 2.2.2.1. The Director of Projects of **Gavco** delegates the responsibility for the preparation, distribution and the maintenance of the Quality Policies Manual to the Administration & Property Manager and Construction Manager.
- 2.2.3. Revisions are subject to the following:
- 2.2.3.1. Manual revisions are controlled by page and only revised pages of a section have revision level, (i.e.Rev.:2R)
 - 2.2.3.2. Revision levels are assigned in numeric order, starting with “1” for the original issue and increasing by one with each revision.
 - 2.2.3.3. Section: 0.1 (Index) is also revised to incorporate identification of the changed section / page and to document the revision status of the manual.
- 2.2.4. Controlled / Uncontrolled Copies:
- 2.2.4.1. The Administration & Property Manager and Construction Manager issue only Controlled Copies of the Quality Assurance Manual.
 - 2.2.4.2. Controlled copies are assigned according to the Quality Manual Distribution List. The Administration & Property Manager and Construction Manager maintain the Quality Manual Distribution List.
 - 2.2.4.3. Serial numbers of copies downgraded from controlled to uncontrolled are not reused.
 - 2.2.4.4. Only controlled copies of the Quality Policies Manual are distributed and used by **Gavco** personnel.
- 2.2.5. Revision Distribution:
- 2.2.5.1. The Administration and Property Manager and Construction Manager revise all copies of the Quality Policies Manual and distributes as required.
 - 2.2.5.2. It is the responsibility of the Director of Projects and the Administration & Property Manager and Construction Manager to implement and maintain the Quality System defined in the Quality Policies Manual.
- 2.2.6. Control of Documents:
- 2.2.6.1. **Gavco** establishes, implements and maintains documented procedures to control all documentation and data that relate to Quality System

requirements, to include documents of external origin such as standards and customer service levels.

3. Management Responsibility

3.1. Management Commitment

3.1.1. **Gavco** has implemented a Quality Management System that is continuously maintained for effectiveness and process improvements in accordance with the requirements of acknowledged information, quality standards, customer service agreements and all other statutory of regulatory requirements as appropriate.

3.2. Customer Focus

3.2.1. **Gavco** establishes implements and maintains documented procedures for contract review and for the coordination of related activities.

3.2.2. It is responsibility of the Construction Department to review all tenders and contract offerings.

3.2.3. Customer quotations, inquiries, order and contracts are reviewed to ensure customer requirements are adequately defined and documented.

3.3. Company Policy

3.3.1. **Gavco** defines and documents its Policy for Quality, which provides the overall objectives for an effective Quality Management System. The Company Policy is relevant to the Company's goals and the expectations of its customers.

3.3.2. **Gavco** is a provider of property development, design, construction management and construction services with sales in all regions of Saudi Arabia. Our company Policy is:

Gavco is committed to providing its customers with Quality products and services that continually meet and exceed customer expectations.

Approved: _____ Date: _____
Director of Projects

3.4. Planning

3.4.1. Quality Objectives

3.4.1.1. The Director of Projects is responsible for identifying and implementing the processes; equipment and controls (including test equipment needed to achieve the required quality).

3.4.1.2. It is the responsibility of the Director of Projects and the Administration & Property Manager and Construction Manager to ensure the compatibility of all Quality Management System pieces.

3.4.2. Quality Management System Planning

3.4.2.1. **Gavco** Director of Projects reviews the appropriate resource requirements for planning, provides adequate resources and assigns trained personnel to execute all functions of the Quality Management System.

3.5. Responsibility, Authority and Communication

3.5.1. Responsibility and Authority

3.5.1.1. **Gavco** Directors of Project is responsible for the review of the appropriate resource requirements, providing adequate resources and assigning trained personnel to communicate and execute all functions of the Quality Management System within the organization.

3.5.2. Management Representative

3.5.2.1. The Administration & Property Manager and Construction Manager at **Gavco** are the Management Representatives and are responsible for reporting the progress and implementation of the provisions outlines in the Quality Policies Manual in accordance with acknowledged

- international standards and customer service level agreements and expectations.
353. Internal Communication
 - 353.1. **Gavco**'s Director of Projects ensures that appropriate communications processes are established within the organization. Thus, a Quality Review Council Meeting is conducted weekly regarding the effectiveness of the Quality Management System.
- 3.6. Management Review
 361. General
 - 361.1. The Director of Projects, Administration & Property Manager and Construction Manager with company staff conduct a Management Review of the Quality Management System annually, (at a minimum); to assess its continued suitability, effectiveness and future direction.
4. Resource Management
 - 4.1. Provision of Resources
 - 4.1.1. **Gavco**'s Director of Projects is responsible for determining the appropriate resource requirements and providing adequate resources for the organization. This includes, assigning trained personnel to implement and maintain the Quality Management System and continually improve its effectiveness in regards to customer satisfaction and customer requirements.
 - 4.2. Human Resources
 421. General
 - 421.1. **Gavco** establishes implements and maintains documented procedures for identifying training needs and for ensuring that personnel performing activities affecting quality are adequately trained, qualified and certified per established requirements or standards.
 422. Competence, Awareness and Training
 - 422.1. Department and Project Managers are responsible for defining personnel qualifications and ensuring that the appropriate personnel are trained and aware of their role affecting product quality.
5. Product and Service Realization
 - 5.1. Planning of Product and Service Realization
 - 5.1.1. **Gavco** develops the processes needed for Product and Service Realization in accordance with the requirements of other processes of the Quality Management System.
 - 5.2. Customer-Related Processes
 521. Determination of Requirements Related to the Product and Service.
 - 521.1. **Gavco** Determines the following:
 - 521.1.1. The requirements specified by the customer, including the requirements for delivery and post-delivery activities.
 - 521.1.2. The requirements not stated by the customer but necessary for specified or intended use, where such is known.
 - 521.1.3. Statutory and regulatory requirements related to the product and service.
 - 521.1.4. Any additional requirements determined by the organization.
 522. Review of Requirements Related to the Product and Service
 - 522.1. **Gavco** reviews the requirement related to the product prior to contracting with a customer and ensures that:
 - 522.1.1. Product and service requirements are defined.
 - 522.1.2. Contract or order requirements differing from those previously expressed are resolved.
 523. Customer Communication

- 5.3.1. **Gavco** develops and implements effective methods of communicating with customers in relation to product information, enquiries, contracts or order handling, including amendments and customer feedback, including customer complaints.
- 5.3. Design Specification, Scope and Development
 - 531. Design Specification, Scope and Development of Products and Services
 - 53.1.1. **Gavco** plans and controls the design, specification, scope and development of product and services and manages the interfaces between different groups involved to ensure communication by determining:
 - 53.1.1.1. The design, specification, scope and developments stages.
 - 53.1.1.2. The review, verification and validation that are appropriate to each design, specification, scope and development stage.
 - 53.1.1.3. The responsibilities and authorities for design, specification, scope and development.
 - 532. Design, Specification, Scope and Development Inputs
 - 53.2.1. **Gavco** determines input relating to product and service design, specification, scope and development to include:
 - 53.2.1.1. Functional and performance requirements.
 - 53.2.1.2. Applicable client statutory and regulatory requirements.
 - 533. Design, Specification, Scope and Development Outputs
 - 53.3.1. **Gavco** provides the outputs in a form that enables verification against the design specification, scope and development input, which are approved prior to release.
 - 53.3.2. The design, specification, scope and development outputs shall:
 - 53.3.2.1. Meet the input requirements for design, specification, scope and development.
 - 53.3.2.2. Provide appropriate information for purchasing, implementation and for service provision.
 - 534. Design, Specification, Scope and Development Review
 - 53.4.1. **Gavco** performs systematic review of design, specification, scope and development in accordance with planned arrangements to:
 - 53.4.1.1. Evaluate the ability of the results of design, specification, scope and development to meet requirements.
 - 53.4.1.2. Identify any problems and propose necessary actions.
 - 535. Design and Development Verification
 - 53.5.1. **Gavco** performs verification of design and development in accordance with planned arrangements to ensure that the design, specification, scope and development outputs have met the design and development input requirements. Records of the results of the verification and necessary actions are maintained.
 - 536. Control of Design, Specification, Scope and Development Changes
 - 53.6.1. **Gavco** identifies design, specification, scope and development changes and records are maintained. The changes are reviewed, verified and validated, as appropriate and approved before implementation. The review of design, specification, scope and development changes includes evaluation of the effect of the changes on constituent parts of products and services already delivered by **Gavco**.
- 5.4. Product Identification and Traceability
 - 54.1. **Gavco** establishes, implements and maintains the appropriate documented procedures for assets and product identification and traceability during all stages of product and service realization.

542. The Administration & Property Manger is responsible for asset identification and traceability. Assets both of customers and **Gavco** are identified during all stages of service and use.
6. Contracts and Purchasing
- 6.1. The Contracting and Purchasing Processes
- 6.1.1. **Gavco** has developed documented and implemented procedures and systems to ensure that material, products and services purchased from suppliers and contracts placed with contractors conform to specified requirements.
- 6.2. Contract Purchasing Information
- 6.2.1. **Gavco** ensures that specified contract and purchase requirements are adequate prior to being communicated to the supplier and that they describe the product, to include:
- 6.2.1.1. Requirements for approval of products, procedures. Processes and equipment.
- 6.2.1.2. Quality Management System requirements.
- 6.3. Verification of Contracted and Purchased Product.
- 6.3.1. **Gavco** ensures that the contracted and purchased products meet specified requirements in accordance with quality procedures. The verification of materials and services, including purchase-supplied material, are the responsibility of the Receiving Department, Construction Department and Procurement Warehouse.
7. Measurement, Analysis and Improvement
- 7.1. **Gavco** determines the monitoring, measurement, analysis and improvement processes, including methods such as statistical techniques that are need to:
- 7.1.1. Demonstrate conformity of the product and services.
- 7.1.2. Ensure conformity of the Quality Management System.
- 7.1.3. Continually improve the effectiveness of the Quality Management System.
- 7.2. Monitoring and Measurement
- 7.2.1. Customer Satisfaction
- 7.2.1.1. **Gavco** determines method for monitoring, measuring and improving customer satisfaction. This measurement of process performance shall include the analysis of customer complaints.
- 7.2.2. Internal Audits
- 7.2.2.1. **Gavco** establishes, implements and maintains documented procedures for a comprehensive system of internal audits at planned intervals to verify the effectiveness of the Quality.
- 7.2.2.2. The Administration & Property Manager and Construction Manager are responsible for administering the Internal Audit system per documented procedures. The Administration & Property Manager and Construction Manager develop a schedule for internal audits according to Quality Management system requirements and conducts unscheduled audits (internal and external) when reasons for such audits exist.
- 7.2.3. Monitoring and measurement of Process
- 7.2.3.1. **Gavco** implements and maintains comprehensive methods for monitoring and measuring the Quality Management System process, which demonstrate the ability of the processes to achieve planned results
- 7.3. Analysis of Data
- 7.3.1. **Gavco** utilizes statistical techniques and methods for the analysis of appropriate performance data collected to demonstrate the suitability and effectiveness of the Quality Management System.
- 7.3.2. Methods used to generate relevant date are reviewed periodically to ensure the information provided relates to:
- 7.3.2.1. Customer satisfaction.
- 7.3.2.2. Conformity to product and service requirements.

- 7.3.2.3. Characteristics and trends of process and products and services including opportunities for preventive action.
- 7.3.2.4. Suppliers
- 7.4. Improvement
 - 74.1. Continual Improvement
 - 74.1.1. **Gavco** continually improves the effectiveness of its Quality Management System through the use of Quality Policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management reviews.
 - 74.2. Corrective Action
 - 74.2.1. **Gavco** establishes, implements and maintains documented procedures to initiate corrective and preventive actions for conditions adverse to quality.
 - 74.3. Preventive Action
 - 74.3.1. **Gavco** established and maintains documented procedures to determine the appropriate preventive actions required to eliminate the causes of potential nonconformities in order to prevent their occurrence.

a.C onstruction and Project Management

Gavco can provide pre-construction and construction phase services to the Project Owner in coordination with the Owner's Architect/Engineer to form the construction team.



The pre-construction phase services provided are:

Project Planning and Management

- Scope of work definition and preparation
- Evaluating proposed or existing facilities
- Budget and cost control
- Financial and economic analysis
- Construction analysis
- A/E evaluation and selections
- Overview of design/construction process.

Design phase Services

- Cost models and plans
- Scheduling, cost and budget controls
- Design change schedule impact studies
- Value engineering and cost estimating
- Constructability of multiple design efforts
- Coordination of multiple design efforts.

Procurement Phase Services

- Construction procurement methodologies
- Development of pre-bid schedules
- Preparation of solicitation notices
- Participation of pre-bid conferences
- Bid evaluation and recommendations

The Construction Phase Services provided are

- Construction project management
- On-site administrative services
- Maintenance of project master schedule
- Review of contractor-provided submittals
- Project financial management assistance
- Scheduling, cost, and budget controls
- Cost negotiation preparation and assistance
- Change order analysis
- Progress payment submittal reviews
- Site visit coordination and assistance
- As-built drawings
- On-site construction observation
- Progress reporting and report preparation
- Personnel and labor compliance reviews

Gavco Safety & Loss Prevention Plan (ASLP)

INTRODUCTION

The purpose of this plan is to outline the Safety Organization and arrangements to be in place to enable the execution of works, under this Contract, with due consideration of the Environment, Healthy, Safety and Welfare of all involved parties.

This will be achieved by:

- Maintaining a safe and healthy working environment
- Preventing fatalities and lost time injuries both on and off the work sites.
- Preventing damage to equipment, facilities and potential effects on progress.
- Eliminating risk to the environment.
- This plan is not a manual of rules and regulations. Safety policy requirements are clearly specified in Saudi Arab Government Laws and Client policies. This plan explains how specific policies are implemented by **Gavco**. for client Contracts. The Safety plan meets the requirements of the contract between Client and **Gavco**. All levels of **Gavco**. are responsible to implement and enforce the provisions of this plan within their respective areas of accountability. This includes all subcontracted work also. Inspections and audits will be performed to ensure compliance and data recorded to assess potential problem areas and progress. **GOALS**

- The Project Goals.
- No fatalities
- No lost time injuries
- No fires
- No damage to any equipment of facilities
- No environmental incidents
- A safe and productive project, on time, safely



SAFETY FUNCTIONS

The safety and loss prevention function of the project organization is as follows;

- Health and Welfare
- First Aid
- Work Attire
- Working Hours
- Transportation
- Work Permits
- Fire Prevention/Protection

SITE ACTIVITIES

Gavco and client perform certain activities and methods of work at the sites which have particular safety requirements imposed on them.

The list of this is as follows:

- Personnel Certification
- Formworks
- Excavations
- Welding & Cutting Operation
- Existing Electrical Hazards
- Hand & Power Tools
- Site Planning & House Keeping
- Calibration

SAFETY ORIENTATION

- Personnel Protective Equipment
- Fire Prevention & Protection
- Seek Safety Group on usage
- Work Permits
- Scaffolding/Working at Height
- Excavation
- Alarms
- Emergency Procedure if driving a vehicle
- Traffic Safety
- Disciplinary Action
- Accident Reporting and Investigation
- Reporting Forms

MANPOWER LIST

SL NO	CATEGORIES	QUANTITY
	MECHANICAL	
01.	Engineer (Mechanical)	15 Nos.
02.	Engineer (Piping)	6 Nos.
03.	Engineer (Mechanical - QA /QC)	5Nos.
04.	Supervisor (Mechanical)	16 Nos.
05.	Foreman (Mechanical)	12 Nos.
06.	Pipe Fitter	50 Nos.
07.	Pipe Fabricator	30 Nos.
08.	Structural Fabricator	15 Nos.
09.	Mechanical Fitter	11 Nos.
10.	Welder 6 G	10 Nos.
11.	TIG Welder	12 Nos.
12.	Welder Structural	15 Nos.
13.	Machinist	5 Nos.
14.	Rigger	8Nos.
15.	Scaffolder	18Nos.
16.	Erector	12 Nos.
17.	Millwright	10 Nos.
18.	Mechanical Helpers	16 Nos.
	CIVIL	
01.	Engineer (Civil)	2 Nos.
02.	Engineer (Civil – QA / QC)	2 Nos.
03.	Foreman	2 Nos.
04.	Quantity Surveyor	1 No.
05.	Carpenter – Shuttering	8 Nos.
06.	Steel Fixer	14 Nos.
07.	Mason (Tiles)	11 Nos.
08.	Mason (Plastering)	8 Nos.
09.	Painter	6 Nos.
10.	Plumber	4 Nos.
11.	Electrician	5 Nos.
	ELECTRICAL & INSTRUMENTATION	
01.	Engineer (Electrical)	4 Nos.
02.	Engineer (Instrumentation)	2 Nos.
03.	Foreman (Electrical)	2 Nos.
04.	Instrument Technician	6 Nos.
05.	Electrician Industrial	8 Nos.
	SAFETY	
01.	Safety Co-ordinator	4 No.
02.	Safety Officer	8 Nos.
	TOTAL	348

ENGINEERING & PROJECTS MANAGEMENT DEPARTMENT

Engineering Services:

Our company is dedicated to provide to its prestigious clients with the best possible high class engineering design and pre-engineering services in a best possible economical cost to their projects using the skills of. Our highly professional and skilled designers, ensuring and maintaining the quality and minimal future Maintenance cost of the projects.

Our Scope of Services is:

- Detailed Design Engineering Services (Civil, Structural, Piping, Electrical, Instrumentation, and Process)
- Site Inspection and Site Preparations
- Preparation of All kinds of Engineering Paper Works (Scope of Works, Engineering Drawings, Estimation, QA/QC & Safety Standards.)
- Testing Commissioning and Trouble Shooting Services

Our Mission:

“Conversion Client’s Requirements in a Professional and Quality Oriented Design”
&

“Engineering Solutions with the Adaptability of Future Needs”

Project Support & Execution Services:

We have a highly professional & qualified group of people to perform all types of services and execute all types of projects under the management of our prestigious clients.

Our Scope of Services is:

- Execution of All types of (Civil, Structural, Piping, Electrical, Instrumentation) Projects under the Client’s management.
- Execution of All types of projects even on the supply of manpower and temporary equipments only.
- Preparation of All types of Project Drawings, Shop Drawings and other project related documentation as per client’s instructions.

Turn Key Project Management

As a contractor

- As an Independent Contractor we are offering Complete Turnkey Solution Services in following fields:
- Turnkey Short Form Projects Execution
- (Mechanical, Civil, Structural, Electrical, Instrumentation, HYD & HVAC)
- Turnkey Long Form Projects Execution
- (Mechanical, Civil, Structural, Electrical, Instrumentation, HYD & HVAC)
- Our project execution program has the following steps:
- Pre Award Project Management Activities
- Post Award Project Management Activities

We have designed our post award project management activities to ensure our clients the following Activities:

- Our Comprehensive Introduction to Clients at their door steps. The aim is to facilitate them in Locating a pain’s taking Industrial Services provider company

- Providing all necessary information to the Clients to evaluate us Technically and Commercially as per their criteria of Technical and Commercial Evaluation. The idea is to save the time of our valued Clients in their attempt to evaluating our strengths and weaknesses as an Industrial Services Provider

Contracting Company

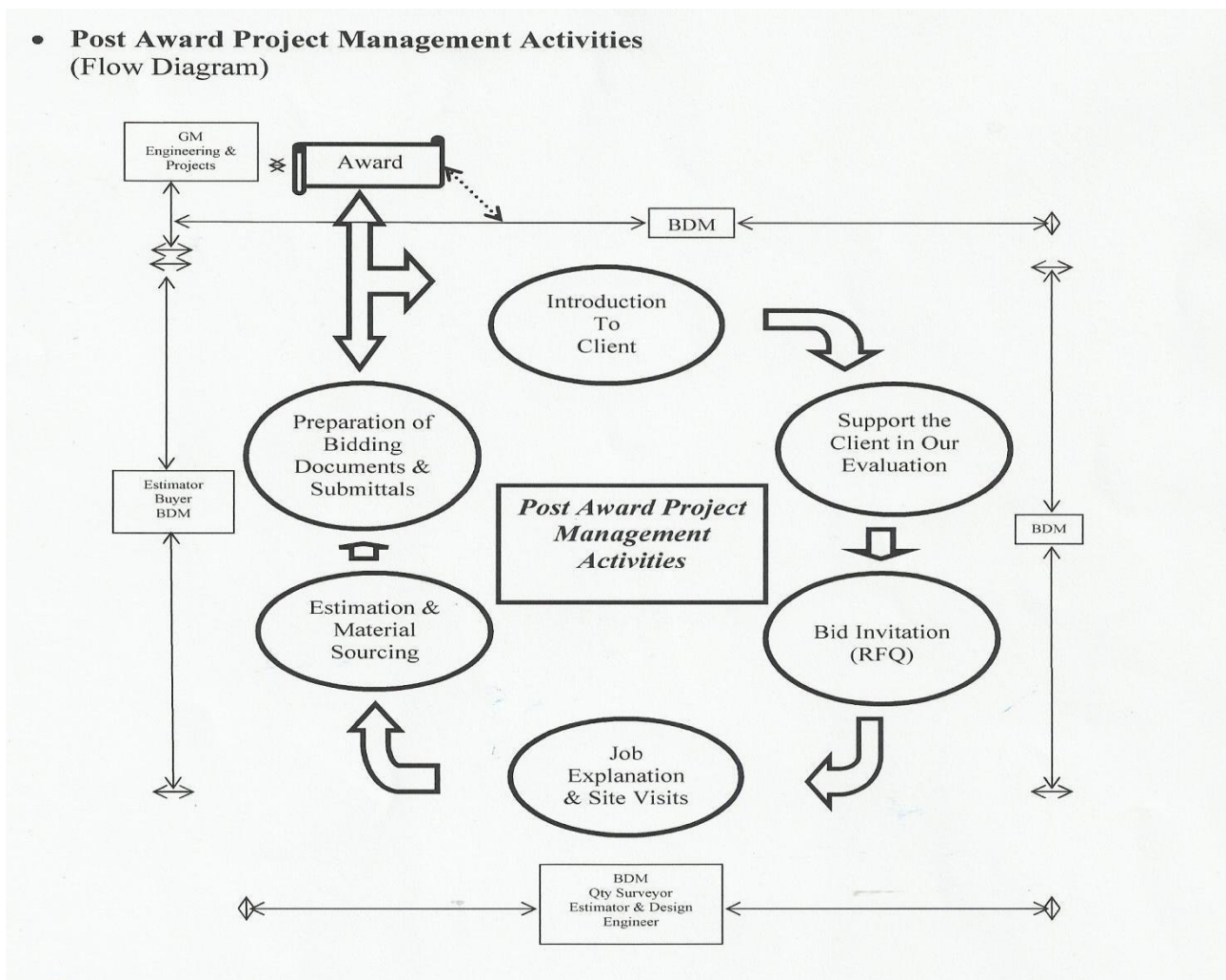
- To entertain every Bid Invitation Properly & Professionally.
- Getting first hand knowledge about the Client’s requirements, provide them necessary solutions if enquired during the Job Explanation Meetings. The aim is to develop the clear understandings about The Job, Clients requirements in terms of QC/QA and Safety standards to be followed during the Execution.
- Estimation the aim is to locate quality material from the Client’s Approved Source or to provide the

Cost effective equal quality material from the equal Approved Source. The essence of this activity is To provide Quality oriented Cost Effective Price to our valued clients.

- Preparation of Bidding Documents & on time Submittals.

Introduction

- **Post Award Project Management Activities**
(Flow Diagram)



• After Award Project Management Activities

Our project execution program has the following steps:

- Project Management
- Project Plan
- Material Procurement and Expediting

- Execution of Work
- Safety and Housekeeping

Project Management

The first and foremost step in any Project Execution is to design a perfect **Project**

Management Module

Which our designing and system engineering team are used to design as per the first hand knowledge of the

Client's requirements or as per the agreed solution proposed by our team which ever the case.

Our project management procedure is consists on the following steps discussed as follows:

Architectural design and detailed Engineering plan is the first step in Project Management activity where

The initial perspectives of any civil contract are presented including the detailed plans for all disciplines for

The smooth execution of projects and being used for identification of materials needed in the project.

Estimation is the second step in Project Management activity i.e., based on the detailed plan we can get an idea that how much the capital is required to execute the particular project. For this we have experienced engineers and technically skilled and trained staff to estimate the entire project's cost as good (low) as possible but not at the cost of Quality.

Scheduling is the third and important step because in this way we first divide the whole job into different stages and then develop the whole program that on which day we are going to execute the stages of works. It also helps us to specify the time span of the whole project.

Cost Controlling is the 4th step in which our well-experienced engineers and commercial staff evaluate the initial estimate of the projects and try to reduce the cost of the said project without compromising on the quality standards. In this attempt we always keep the quality standard and specification required by the client in our mind. In other word our motto is:

“Control the Cost up to the Extent that Quality of Work shall not been Questioned”

Project execution where the mobilization will start and the Engineering Surveyor will do first the technical works in surveying the right area dimension for the project. Right after the survey be finished and the materials and equipment are mobilized the proper project construction will start.

Progress Monitoring is also one of the very vital steps during the project execution just to find out the progress, to know that is there any difference between the actual execution and scheduled plan, so that in case of any difference we can control it without affecting the total time span of the project that was committed with the client. This will help us to:

“Materializing commitments on time.”

Material Expediting and Inspection: We develop a complete program prior to our start to manage the Supply & chain relationship and on site inventory management system. The material required during the Different stages of the job, as per the required quality and specification (after get it approve from the client Side) assured to be in our site storage 5 days prior to its use so that we and our clients can insure its specifications and quality prior to its use.

Engineering Plan Review is one of the important tasks to find out if there is any un-executed works in the project design remained or not.

Construction liaison that is to prepare the construction's drawing and detailed plan, get them approved from the government agencies and give these to the engineering staff who are going to utilize them on the construction site. It is also our practice to initiate the general and clear instructions to our Field Engineers, Supervisors and Other field staff who are going to do the job on site in order to achieve the optimum level of efficiency and progress from them.

The management of the site and its modification is the last but one step and a very vital also, just to insure that our work place is well equipped with all necessary tools, equipments, work facilities and even the living facilities of our field staff which are necessary at the particular stage of the project well on time. And modify these as per the changing requirements of different stages time to time. The main aim is to: "Arrange the facility and equipment prior to the occurrence of its requirement just to maintain the flow of work."

The development of Field Inspection Program and preparation of Project Manuals is the last task of Project Management process. Field inspection is important to supervise the whole project activity at the different stages. The project manual is important to make it clear to all the operational peoples who are going to start it.

The purpose is:

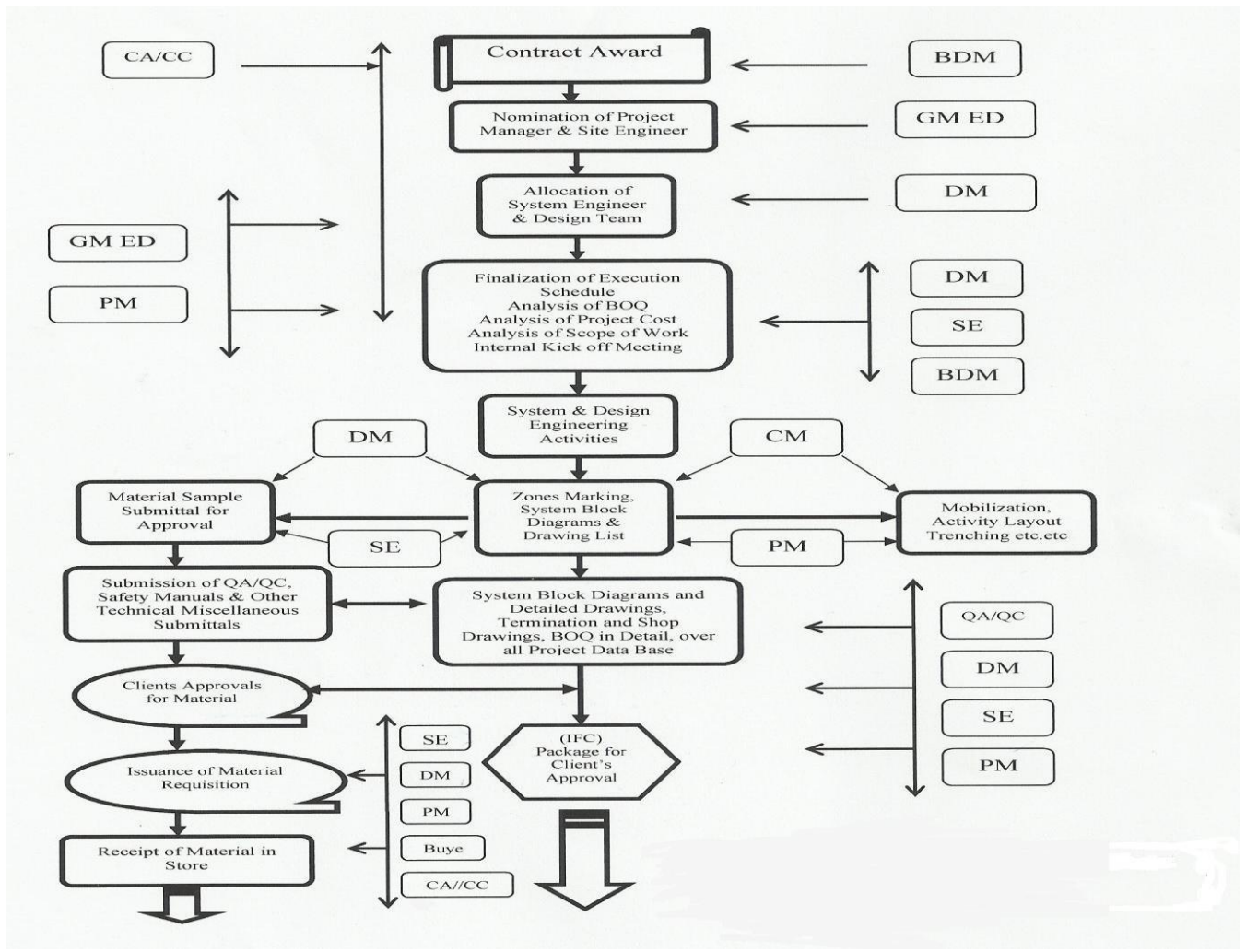
"Just to monitor the activity and control it well on time."

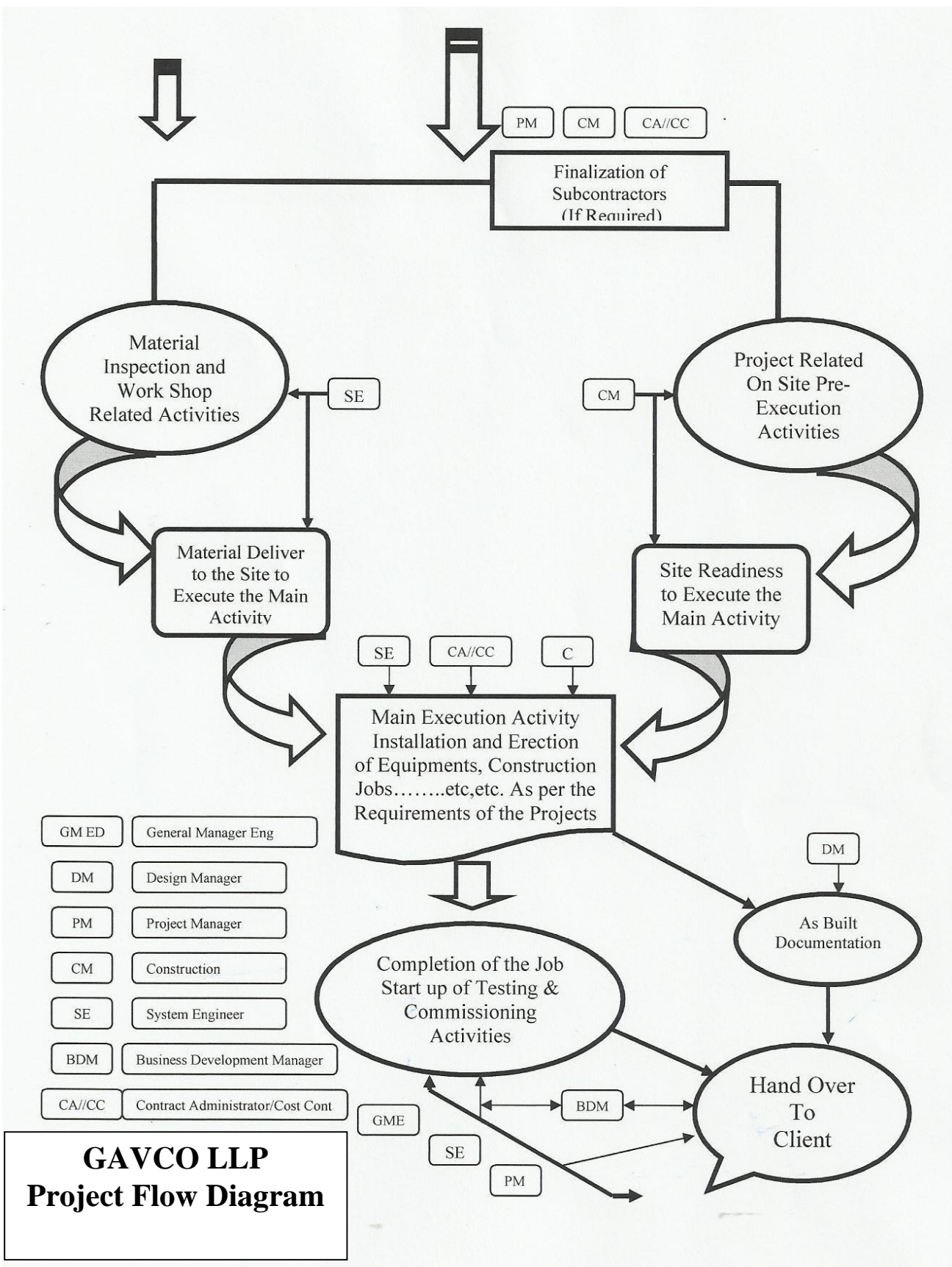
Detailed cost break down of the project to compare it with the estimated cost in order to verify the

Accuracy of the estimation and also try to explore some other possibilities to control the cost but not the cost of 'quality'.

Preparation of Budget and Payout Analysis is the next step to monitor the whole expenses of the project. It is necessary in order to control the whole cost of the project. It must be also explained that at what stage how much capital required and what should be its sources.

Our detailed on site Project Flow Chart has been designed based on above philosophy of Project Management.





Material Procurement

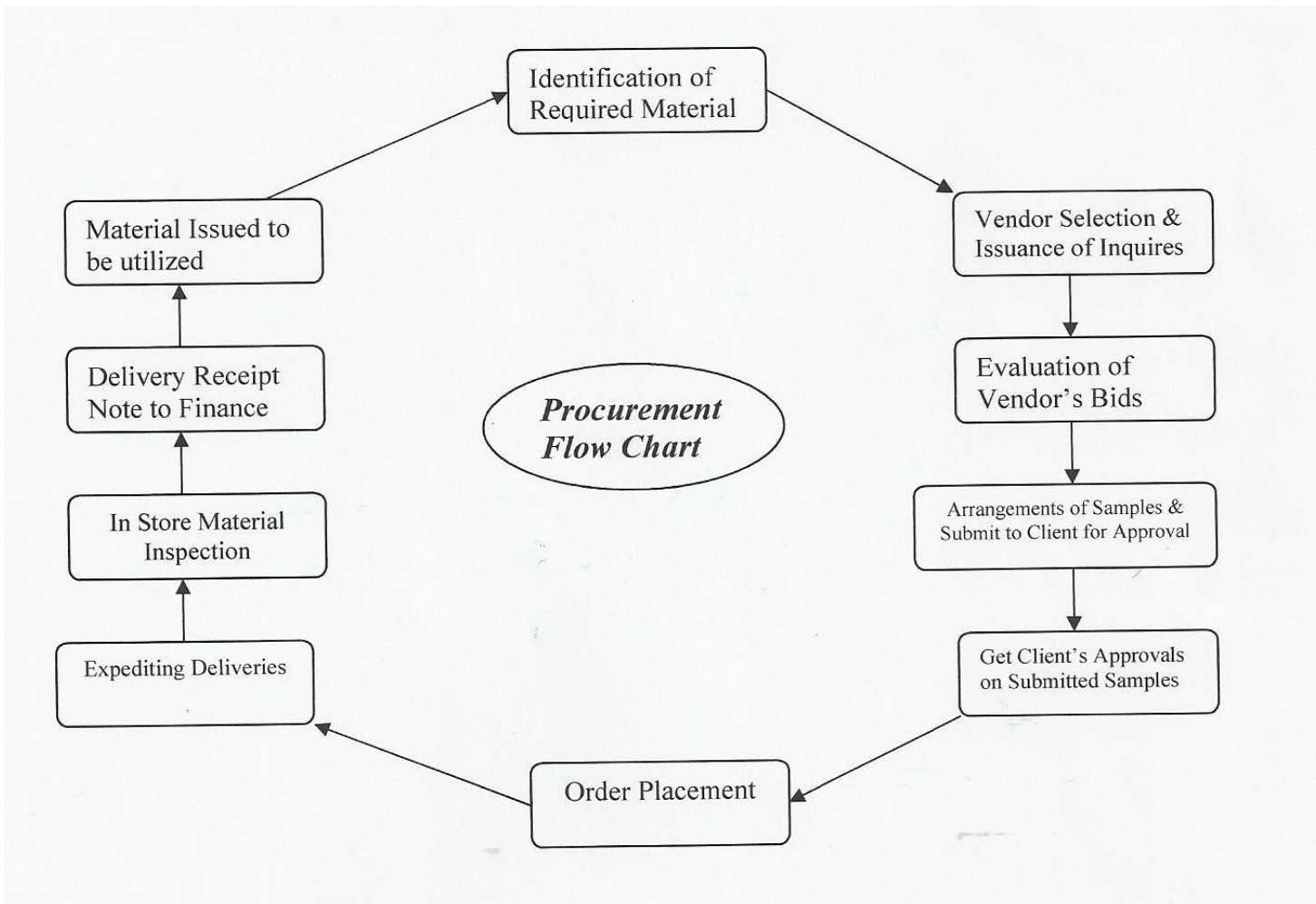
We have designed our procurement system based on the philosophy that:

It must insure all the goods and material which we are going to be procure shall be as per the specified

Requirements of our clients must be available at the work place prior to its usage time.

Based on the above idea our procurement procedures are consisting on:

- Identification of requirement
- Selection of vendors and inquire the quotations
- Evaluation of BID
- Arrangements of Samples for Client's Approval
- Getting Client Approval
- Order Placement
- Expediting delivery
- On Receipt, material inspection and status report
- Delivery Note forwarded to Finance department for Invoice Clearance
- Material Issued from store to be Utilize



Our main aim in the procurement procedure is to follow the specifications and quality standards, which we have received, from the buyer's side with the project. However, we have tried our best to reduce the project cost as low as possible but we prefer the quality of work first and then the cost effectiveness.

In this procedure first of all our technical staff will **identify the whole requirements** after the minute examination of the project, papers and plan sites. Then they forward the material requisition along with the complete specification and quality standards to our procurement department.

In the second steps of our Procurement Procedure, we will **select the vendors of good repute** by getting the information about them and by visiting their shops, go downs and other facilities. Good repute means that the supplier must have the ability to handle the sizeable quantity of required materials, must have the solid financial base and good connections with the foreign exporters also. And above all he must offer the comprehensive warranty period of his goods and services. On the basis of our survey we decide that which vendor has a good quality material as per the requirement of our clients. Then the process of asking quotations has been started. In this process we called the quotation from at least 3 of our selected vendors.

In the 3rd step, the process of **evaluation of BIDS** has been started. In this step we give primary importance to those vendors who have good quality materials and the cost effectiveness comes at secondary level. After the BID approval we **conduct a proper shop inspection** in order to verify the quality and Specification of the goods at the supplier's location. In this process along with the evaluation of price we have also tried our best to give the preference to Saudi suppliers.

Than getting the samples for client's approvals. After the sale man samples get it approve by the Clients we will issue the purchase order.

In the last step of our material procurement procedure, we **expediting the deliveries** from the vendor's location to our location, we always try to receive all the materials and equipment required to be at our location 5 days prior to its use so that we can inspect it minutely and transfer it to our client's location well on time. The final step is the **minute inspection** of the material on receipt at our location, in order to verify its quantity, quality and specifications and develop a report for the top management as well as to the client if required.

Safety and House Keeping

Gavco is aware of the potential hazard associated with its activities and committed to provide maximum assurance towards the safety of its personnel and safe operation of its activity.

All employees have to be conscious about the importance of their individual roles to be played in the implementation of our company safety policy, which is based on following basic idea;

Provide a safe working environment to our clients and accident free working place to our workers we are conducting our operations in a way that protects people, property, workers, communities and the environment.

Our goal is to prevent the accidents

A root cause of injuries and occupational illnesses & Save the loss of man hours.

Safety instructions are issued for individual employees for their protection and must be adhere to it all times and in all jobs assignments.

All employees should do everything reasonable and necessary to eliminate accidents. All accidents must be reported, investigated and necessary action will be taken to prevent similar occurrence in the future. Housekeeping is one of the vital activities which we are concerning, that means we are responsible to handed over the project back to client in a clear and good conditions, we use all hygienic measures in this attempt.

CIVIL DEPARTMENT

Civil Works and Constructions are main activity of **Gavco**.

Construction and Engineering is the specialty the company.

Construction department is responsible for civil, mechanical, electrical and instrumentation works. The civil construction work that we undertake reflect our expertise in this domain. We construct different types of residential and commercial buildings as per the clients' requirements. We bring in use the best quality construction materials that are sourced from reliable vendors.

One of the salient tasks of construction department is the compilation and distribution of work procedures. These procedures describe in detail method of execution for all civil, mechanical and other works.

In each field of activity **Gavco** Construction and Engineering Company assign a supervisor to ensure the construction and erection are executed in strict compliance with the specification, drawings, standards and other contract documents.

Prior to handing over the complete project, in case the client required, Gavco can assist client in commissioning and startup. This would offer the opportunity of training to client personnel who later would be responsible for plant operation. Construction dept is fully equipped with heavy machinery and equipment together with related personnel.

Gavco Construction teams perform all required activity for implementation of an Oil, GAS and Petrochemical plants, Buildings and Industrial factories.



Construction activities consist of the following items:

OUR EXPERTISE

- Excavation
- Filling
- Grading
- Concrete paving
- Gravel paving
- Road
- Fencing
- Equipment foundation
- Building construction
- Shelter
- Pipe support foundation
- U/G cable root
- Pole lighting concrete
- Earth rod manhole
- Concrete cable trench
- Dike wall

WELCOME TO BUILDING CONSTRUCTION DEPARTMENT

Construction company, with environments friendly approach with reduced cost and high reliable.!

At **Gavco**, we are committed to building environmentally friendly structures using the highest quality, innovative materials, all while maintaining superior value, efficiency and safety. In addition, when you hire **Gavco**, will work with the industry leaders in Green Building through our partnerships and alliances. **Gavco** is pleased to be a member of the one of the leading environmental friendly building designer.

Gavco is an approved independent general contractor trained in the building construction.



OUR SPECIALITIES

Green Manufacturing – Created with natural raw materials, **Gavco** leaves no by-products. Is recyclable, inert, non-toxic, and does not produce indoor air pollution.

Fire-Resistant – No concern for toxic gases/vapors in the event of a fire.

Energy Efficient – Energy Star rated product.

Pest-Resistant – Inorganic material requires no need for chemical treatments.

Gavco is a cost-effective alternative to traditional building materials such as CMU, fire block, tilt wall, and pre-cast concrete partitions.

Applications include.

Load and non-load bearing walls (exterior & interior).

Exterior non-load bearing relief and ornamental panels.

Fire walls.

Demising walls.

Acoustical/Sound insulation.

EIFS alternative.

Elevator shafts.

Floor and roof panels.



MECHANICAL DEPARTMENT

We handle many types of mechanical engineering works such as structural works, Pre-engineered Buildings, pipe line, storage tanks, scaffolding and access equipment, surface preparation and painting, rotating equipments. Etc.

Quality, safety and commitment to excellence fueled by the desire to expand empowers **Gavco** to extend its services to Oil sector, Government Sectors as well as Private Sectors. **Gavco** is growing as a major force in the Oil and Gas Industries through strategic alliances with some of the international reputed companies. We shall employ the finest professionals and skilled workers to aim for the success of all projects we undertake. **Gavco** will conduct its business in parlance with good international practices and will provide safe and healthy working conditions for its employees.



Structural Steel

Gavco fabrication has over thirty years experience in fabrication, handling, and processing structural steel. With over 19,000 sq. ft. of facility space dedicated to structural steel fabrication, we can offer a wide array of services. We have full time QA/QC managers, certified welders, trusses, AutoCAD, skids and bases, customer fabrication, in-house detailing, material handling systems, and surface preparation. Our shop fabrication and welding procedures are of the highest quality and standards. We take pride meeting the critical schedule milestones of our customers.

Our structural steel fabrication services routinely include steel structures, pipe bridges, catwalks, stairs, tool pedestals, handrails and ladders, canopies, equipment structures, and structural steel frames.

- ***STAIRWAYS AND LADDERS***
- ***HANDRAILS AND GUARDRAILS***
- ***ELEVATED PLATFORMS***
- ***STRUCTURAL & MISCELLANEOUS IRON***
- ***MEZZANINE FLOORS***
- ***CONVEYOR SYSTEMS***
- ***TANK AND MACHINERY MOVING***
- ***AWS CERTIFIED WELDING***

Gavco Industrial is a full service mechanical contractor, providing state-of-the-art industrial fabrication and installation from our facilities in Oregon and Washington. **Gavco** is stamped and certified by ASME, AISC certified for structural steel fabrication, and certified by the No1 quality program for fabrication. Learn more about our newest industrial fabrication facility: A large module fabrication facility on the K.S.A in AL-JUBAIL



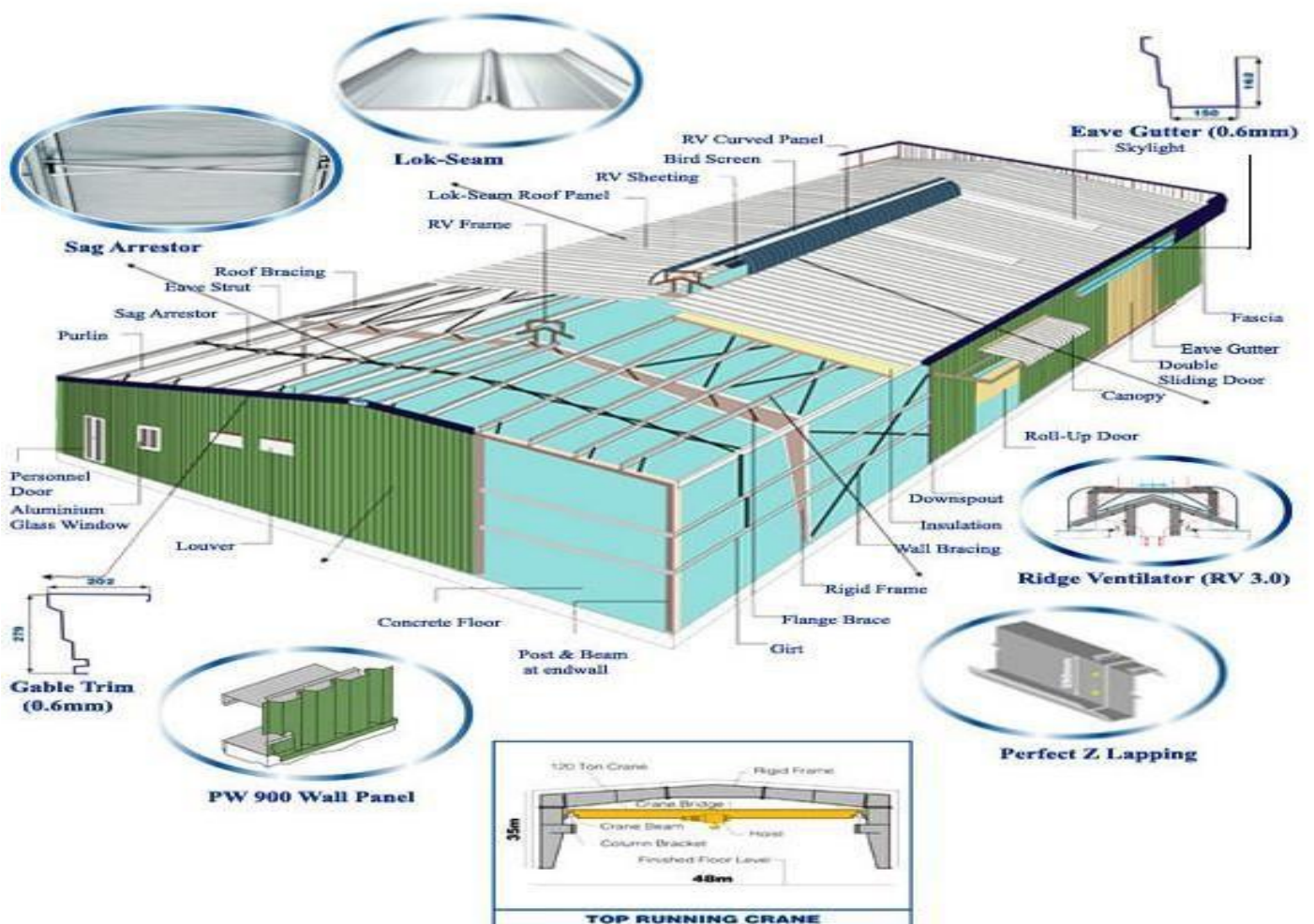
Pre – engineered Buildings

Applications range from small car parking sheds through 100m (+) wide clear span aircraft hangars, low-rise multi-storey buildings. Almost every conceivable building use has been achieved using the Pre-Engineered Buildings approach.

THE MOST COMMON APPLICATIONS OF PRE-ENGINEERED BUILDINGS ARE:

[WAREHOUSES](#), [. FACTORIES](#), [. WORKSHOPS](#), [. OFFICES](#), [. GAS STATIONS](#), [. VEHICLE PARKING SHEDS](#), [. SHOWROOMS](#), [. AIRCRAFT HANGARS](#), [. METRO STATIONS](#), [. SCHOOLS](#), [. RECREATIONAL](#), [. INDOOR STADIUM ROOFS](#), [. OUTDOOR STADIUM CANOPIES](#), [. BRIDGES](#), [. RAILWAY PLATFORM SHELTERS](#), [. FACTORIES](#), [. WAREHOUSES](#), [. COMMERCIAL/TRADE CENTERS](#), [. SUPERMARKETS](#), [. SPORTS STADIUMS](#), [. EXHIBITION HALLS](#), [. AIRCRAFT HANGARS](#)

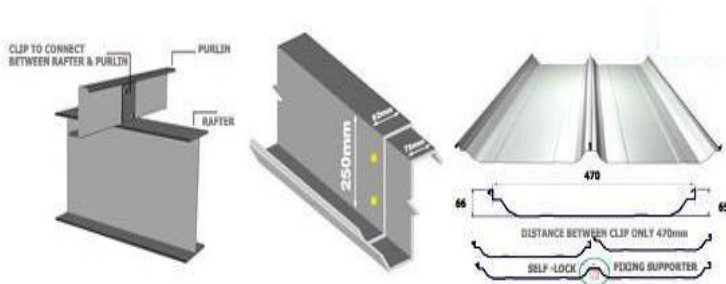
PRE-ENGINEERED BUILDINGS



PRE-ENGINEERED BUILDINGS COMPONENTS

A Pre-Engineered Buildings (PEBs) is a steel shell utilizing three distinct product categories:

- Built-up "I" shaped primary structural framing members (columns and rafters).
- Cold-formed "Z" and "C" shaped secondary structural members (roof purlins, eave struts and wall girts).
- Roll formed profiled sheeting (roof and wall panels).



PLANT PIPING & FOR OFFSITE PIPING

The business of **Gavco** is to provide K.S.A and sabic clients with unparalleled pipe fabrication services which encompasses the production of specialty. Spools, skids, module assemblies, custom steel fabrication and pipe supports

Gavco has developed and registered a wide range of ASME section IX weld procedures including manual semi-automatic and machine weld process. Our fabrication abilities include the use of mild steel, austenitic, stainless steels, low temperature carbon steel, 1.25% chrome, 2.25% chrome, P91, specialty alloys including inconnel, monel, 6Mo, Duplex stainless steel, Titanium and dissimilar Combinations are all covered with some procedures qualified up to 8" in thickness



The company holds AWS, ASME, certification for the fabrication of pressure lines.

- *Power piping. ASME B31.1*
- *Fuel Gas piping. ASME B31.2*
- *Process piping. ASME B31.3*
- *Pipeline Transportation system for liquid hydrocarbon*
- *Refrigeration piping. ASME B31.5*
- *Gas transmission & distribution piping system ASME B31.8*
- *Building Services piping. ASME B31.9*
- *Slurry Transportation piping system. ASME B31.11*
- *Repair and Alteration of pressure vessels in accordance with ASME Sect VIII Div.1*
- *RTR piping (Reinforced thermosetting resin)*

Our mandate is to continually evaluate and incorporate new processes and alloy combinations to provide greater capabilities and services to meet our customer's changing requirements. The **Gavco** team is comprised of experienced management, skilled crafts men and dedicated administrative support who are all committed to delivering industry leading customer satisfaction



This department deals primarily with Piping Systems, in accordance with Client specifications, and ASME B31.1, and B31.3 codes. This department is capable of specifying piping Component Classes, as well as overall

layouting, piping engineering, detailing, all the way down to Isometrics and MTO. Capability of 2D , and 3D is available for the piping. 2D AutoCad is used. 3D CadWorks is Used.

This department performs stress analysis, and pipe support designs for the piping system.

Typical deliverables

- Piping material classes.
- Wall Thickness Calculations
- Piping Design Basis
- Specifications for Materials (Pipes, Fitting, Flanges, Valves, etc..)
- Datasheets for Specialty Materials
- Specification for Valve interlock systems
- Specification for Pipe Supports
- Tie-in Schedules'
- Piping Stress Analysis (Static / Dynamic) using CAESAR II
- Plot Plan
- Piping Demolition Key plan
- Equipment Layout
- Piping GA
- Piping Sections and Supports details
- Pipe Support Schedule





PROJECT WORKS

OUR KEY AREAS OF EXPERTISE

- Reformers, Heater & Furnace
- Composite Mechanical Works
- Cryogenic Plants
- Process modules & offshore Decks
- Heavy Erection / Equipment (Static & Rotary)
- Piping & Structural job (Fabrication & Erection)
- Shutdown/Revamp jobs
- Filter tank/Storage Tank etc.
- Material Handling System
- Supply of Specialized technical services (Mech. Elect. /Instrumentation)

With our construction workforce, facilities and equipment; as well as our professional and experienced project management team; we can be relied upon to deliver fit-for purpose, Cost effective and timely projects. Our early Involvement in a project assures the best possible chance of Optimizing project value.

. The stringent quality standards required by the oil and gas Industry are complied through our ISO 9001 accredited Quality Management system. All fabricated items are supplied With a comprehensive Manufacturer's Data Report which Includes the required material traceability, weld procedures, Welder records and NDT reports.





GAVCO jv GAVCO fabricates components and products of stainless steel, carbon steel, galvanized metals, aluminum, alloys, and other materials.

GAVCO Jv GAVCO undertakes specialty jobs, and works to fulfill project requirements within client's budget and deadlines. GAVCO provides skilled labor, on site and when required,

24 hours a day, 7 days a week. Whether client requires Construction to existing installations or facilities, contract Maintenance, or plant/equipment relocation, our trained, Knowledgeable technicians will find the best solution for your Project-related dilemmas in a timely manner.

We have vast experience in working with major companies in the petrochemical and steel industry. We provide highly qualified, company-trained workforce and materials to complete projects "on-time" and "within budget".

Experienced supervision and management ensure that all contracts are conducted in a safe and timely manner, with maximum compatibility for client operations scheduling.









Interplant Piping Job Fab & Erection





Standard Features:

Open Top Floating Roof Tanks

Internal Floating Roof Tanks

Clarifiers/Thickness/Aeration Tanks

Anaerobic Digesters

Fertilizer Tanks

Fire Protection Tanks

Cone Roof Tanks

Self Supporting Roof Tanks

Dome Roof Tanks

Knuckle Roof Tanks

Elevated Temperature Tanks

Bulk Storage Tanks

Cone Bottom/Shovel Bottom Tanks

Dished Bottom/Sloped Bottom

Reservoirs

Stand Pipes

Stacks

Waste Treatment Tanks

Silos



SILOS - DESIGN AND MANUFACTURE AND INSTALLATION



Electrical

Gavco's gamut of activities includes design, Project planning & control, manage, deliver and maintain projects of small, medium and large size operations. Preparation of technical bid analysis cost estimate, tender pre qualification, vender development and procurement, project execution, testing and commissioning, warranty and maintenance services of our installations. During a project handling we evaluate and report development of the Project and its execution strategies and performance time to time. We take care of procurement, vender co-ordination and construction co-ordination, in order to deliver a job beyond the fullest satisfaction of our clients.

Electrical Works

Gavco Provides complete engineering and design, supply of equipment, installation testing and commissioning and maintenance for all kind of Electrical Works.

- HV,MV and LV cabling
- Switchgear, MCC's and all kind s panel boards
- Engineering power generators
- All kinds of low voltage systems
- Telephone systems
- CCTV systems
- Public address systems
- Security systems
- Fire alarm system
- Computer networks
- Power and Lighting for Commercial and Industrial Projects
- Power and Control wiring for Processing Equipment
- Main Switch gear Installations and Services Panel Upgrades
- Bus Duct and Rider Feeders
- Computer Room Installations

Power Quality Analysis



Instrumentation

Gavco has been assisting customers in the Industrial Electrical and Instrumentation fields since 1999. Our experienced technicians, supervisors and project Managers are committed to completing your Project safely and on time.

We offer a full range of instrumentation, automation, design and building services. Our capabilities include:

Process / Instrumentation Design.
Prototype / Testing / Construction.
Control Panel Building / Assembly.
Mechanical / Electrical Design and Installation.

Controller Programming.

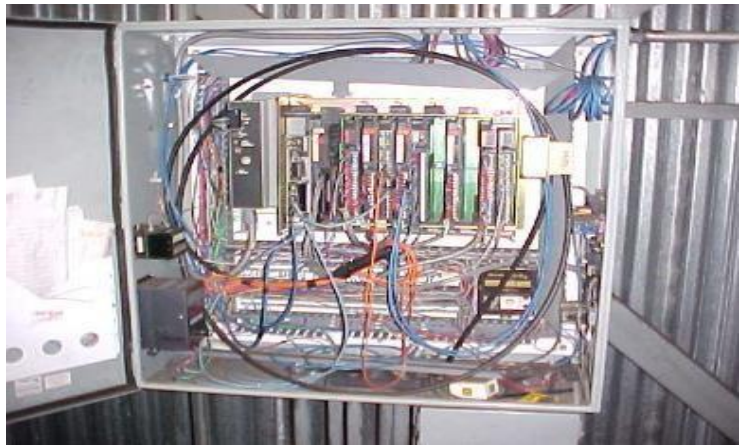
Industrial / Commercial Automation.

Custom Solutions.

Plant relocations.

Electrical power & process control we offer a wide range of electrical repair and installation services for industrial, commercial and government customers. All of our work is specified to code.

- Oil & Gas, Oil Shale process design and Installation.
- Power and Lighting Installation.
- Motor Control Centers - MCC.
- Power Distribution / UPS Systems/ Generators.
- Grounding / Surge Suppression.
- Telecommunication Cabling Systems.
- Fire / Security System Energy Conservation.
- High and Low Voltage Work.
- Fiber Optic Cabling Systems.
- Custom control system
- RF Control Systems.
- AC Drives.
- DC Drives.
- PLC / DCS Controls.
- Pump Controls.
- Control System Upgrades



- **Instrumentation Services**
- PID Tuning - Complete tuning of PID loop.
- Maintenance Contracts – ISI offers scheduled maintenance and calibration to keep your processes within specs.
- Start-up Services – Full turnkey and technical assistance in the start-up of major process systems projects.
- In-Plant modification and expansion.
- Purchasing and Procurement
- EVOLUTION OF PLC
 - HARD WIRED CONTROL
 - HARD WIRED SOLID STATE CONTROLLER
 - PROGRAMMABLE LOGIC CONTROLLER
- HARD-WIRED CONTROL
 - THE CONTROL TASKS WERE SOLVED WITH CONTACTOR OR RELAY CONTROL.
 - CIRCUIT DIAGRAM HAD TO BE DESIGNED.
 - ELECTRICAL COMPONENT INSTALLED.
 - WIRING LIST CREATED.
 - WIRE THE COMPONENTS NECESSARY TO PERFORM A SPECIFIC TASK.
- HARD-WIRED CONTROL
 - THE CONTROL TASKS WERE SOLVED WITH CONTACTOR OR RELAY CONTROL.
 - CIRCUIT DIAGRAM HAD TO BE DESIGNED.
 - ELECTRICAL COMPONENT TO BE INSTALLED.
 - WIRING LIST TO BE CREATED.
 - WIRE THE COMPONENTS NECESSARY TO PERFORM A SPECIFIC TASK.
 - HARD-WIRED CONTROL
 - ADVANTAGE
 - RELATIVELY SIMPLE



- CHANGE AND REWIRING.
- SPACE REQUIRED IS MORE.
- DIAGNOSTICS BECOMES DIFFICULT FOR COMPLEX LOGIC
- HARDWIRED SOLID STATE CONTROLLER
 - SYSTEM CONSISTING OF ELECTRONIC LOGIC DEVICES HARDWIRED IN A SPECIFIC CONFIGURATION.
- ADVANTAGES
 - SMALLER IN SIZE COMPARED TO RELAY LOGIC
 - LOW POWER CONSUMPTION.
 - ALLOWS ON LINE TESTING OF I/O CIRCUITS MANUALLY OR AUTOMATICALLY.
- DISADVANTAGES
 - DISCRETE COMPONENTS.
 - CONTROLLED ENVIRONMENT NEEDED.

NO WATCH DOG TIMER AVAILABLE

Instrumentation is the branch of engineering *that deals with measurement and control.*

An instrument is a device that measures or manipulates variables such as flow, temperature, level, or pressure. Instruments include many varied contrivances which can be as simple as valves and transmitters, and as complex as analyzers. Instruments often comprise control systems of varied processes. The control of processes is one of the main branches of applied instrumentation.

Control instrumentation includes devices such as solenoids, valves, circuit breakers, and relays. These devices are able to change a field parameter, and provide remote or automated control capabilities.

Transmitters are devices which produce an analog signal, usually in the form of a 4–20 mA electrical current signal, although many other options using voltage, frequency, or pressure are possible. This signal can be used to control other instruments directly, or it can be sent to a PLC, DCS, SCADA system, or other type of computerized controller, where it can be interpreted into readable values and used to control other devices and processes in the system.

Instrumentation plays a significant role in both gathering information from the field and changing the field parameters, and as such are a key part of control loops..



Air Conditioning

Gavco is expert in installation and commissioning of various capacities of Air-conditioning & Refrigerating systems for civil as well as specialty facilities such as oil industries. The portfolio of our varied projects includes many control buildings, substations, analyses shelters and administration buildings for civil as well as large Government facilities. We have extensive experience in Refineries for all types of HVAC and Refrigeration equipment including explosion and non explosion proof such as chillers, Pkg, split window AC's Refrigerators, air curtains etc. We have been capable to handling large and small projects including design, supply and installation HVAC jobs for new substations, control buildings, shelters, residential and high raise commercial complexes, telephone exchanges, process industries, hospitals, recreation centers, workshops involving low relative humidity.etc.

We are active players in providing complete solutions for design, supply, installation, testing and commissioning of HVAC and BEMS systems. Our team works with a scope to provide total project management from the planning stage to the design, scheduling, installation, start-up, and service. Their active communication with the client's engineers and architects ensures that our customers receive the best possible solutions.



Firefighting

Product Portfolio

Gavco is Service Providers & Suppliers of complete Fire Related Solutions to our clients. The fire fighting systems are provided on turnkey basis, where we undertake the job work right from the conceptualization to designing, erection and commissioning. We provide Consultancy, Execution and Maintenance i.e. undertake AMC's of Fire Alarm/Detection, Fire Hydrant System, Fire Extinguishers etc. Our company is also engaged in supplying of all types of fire fighting equipments, valves (for industrial purpose) of reputed companies. Our range of products also includes Fire Extinguishers, Fire Hydrant System, Fire Alarm & Detection System, Fire Protection Services, and Turnkey Projects, CO2 Flooding System and much more. These services are used extensively for domestic as well as industrial setup. Our products and services are known for their quality and competitive prices and easy handling within various industries.

We have successfully provided turnkey project solutions to some of the prestigious corporate clients / organizations for commercial complexes, industries & multi-storied residential societies and other places.

Turnkey Solutions

We provide total turnkey project solutions for complete fire protection systems. The complete designing, supplying, installations support, testing, and commissioning are provided by us for following systems as mentioned below:

Fire Protection Systems

We can undertake the Turnkey projects up to commissioning stage for different types of automatic fire fighting systems, viz.

- Fire hydrant systems
- Long range intelligent addressable wireless
- Manual fire alarm
- Detection systems
- Gas flooding systems
- Automatic sprinkler systems
- All types of fire extinguishers
- Fighting equipment & systems.

The overall maintenance and regular checkups is also a prominent attribute of our Turnkey Solution offering.



Fire Sprinkler System

Being an eminent name in the industry, we are engaged in trading and supplying of an extensive range of Fire Sprinkler System. These systems are designed in accordance with the standards of the industry that enable us to meet the requirement of the clients in a better way. These systems are applicable at the places where fire accidents takes place as it sprinkles the water in a better way. We offer these systems in an affordable range.

Some important features are:

- Reliability
- Easy to use
- Low maintenance



LEAK SEALING SERVICE &

Online Leak Repair

Online leak sealing is used to seal various types of leaks, including leaks through packing glands, valve bonnets, pipe joints, tees and elbows.

Online leak sealing has proven to be effective on a wide array of pipeline, valve and pressure vessel leaks. The process is successful on steam, water, hydrocarbons, and on a wide range of chemical systems at pressures from a vacuum to 6000 psig and temperatures from cryogenic to 1000°C.

We can safely and efficiently seal leaks on flanges, pipelines, fittings and valves operating at cryogenic temperature to 927°C and at pressure ranging from vacuum to 414 bar, whilst online. In addition to repairing steam, water and air leaks we can also repair almost all hydrocarbon, chemical and gas leaks.

Online Leak Repair

- Valve packing drill & tap
- Flange clamp
- Tongue clamp
- Packing clamp
- Wire wrap repair
- Flat-face flange repair
- Total flange enclosure
- Tee enclosure
- 90° Ell enclosure
- Total valve enclosure



CONTROLLED BOLTING SERVICES

BOLTING AND BOLTED JOINT INTEGRITY

Our teams of highly trained and experienced service engineers make **leak-free bolted connections** safely and competently and with full regard to the environment.

We use innovative, purpose designed products to ensure that all bolting operations, will be carried out efficiently and safely. Our well trained crews will ensure that correct **bolt loads** are achieved and not just applied. We pride ourselves in providing an unrivalled quality of service and value for money.

CONTROLLED BOLTING - TORQUE AND TENSION

Our highly trained and competent service teams inspire confidence that all bolting operations, whether **torque or tension bolt loading**, will be carried out efficiently and safely, ensuring the correct **bolt loads** are achieved and not just applied. We incorporate our innovative purpose-built products and multi-skilled crews to provide an unrivalled quality of service and value for money.

GASKET ACCESS - FLANGE SPREADING

A leak-free start up is a goal more readily achieved by replacement of worn or damaged gaskets, however, this operation can be time consuming. Moving pipes out of alignment to access gaskets can prove a major task. Highly skilled GAVCO technicians can quickly access gaskets using our **purpose-built flange spreaders** to assess gasket integrity and replace as necessary.

PIPE ALIGNMENT - FLANGE PULLING

Avoid delays caused by the commonly occurring misalignment of pipe with GAVCO's Flange Puller, professionally operated by our technicians to quickly orientate pipes and make the connection with the minimum of downtime.

SEIZED NUT SPLITTING

The combination of GAVCO's unique tools and expert operators ensures that seized and corroded nuts, which can severely delay a well-planned maintenance schedule, will never trouble you again. GAVCO's **nut splitting service** quickly removes seized and corroded nuts ensuring all deadlines are achieved.



Major Industrial Clients and Sectors India & Saudi Arabia

PETROCHEMICALS	OIL & GAS	STEEL
<ul style="list-style-type: none"> ➤ Reliance Industries Ltd., Dahej ➤ Reliance Industries Ltd., Hazira ➤ Reliance Engineering Associates Pvt.Ltd. ➤ Sabic (KSA) ➤ Sadara 	<ul style="list-style-type: none"> ➤ Oil and Natural Gas Corp. Ltd ➤ Cairn Energy Pvt. Ltd. ➤ Hazira LNG Terminal (Shell) ➤ Gujarat Gas Company Ltd ➤ Saudi Aramco (KSA) 	<ul style="list-style-type: none"> ➤ Essar Steel Ltd ➤ Birla Copper ➤ Emirates Steel, UAE ➤ Ma'aden ➤
FERTILIZERS & CHEMICALS	POWER	CEMENT
<ul style="list-style-type: none"> ➤ KRIBHCO ➤ IFFCO ➤ GNFC ➤ Adarsh Chemicals & Fertilizers 	<ul style="list-style-type: none"> ➤ NTPC ➤ Essar Power Plant ➤ Siemens ➤ Alstom Power, J&K ➤ Marafiq ➤ Saudi Electricity 	<ul style="list-style-type: none"> ➤ Narmada Cement Company Ltd ➤ Ultra Tech Cement Ltd ➤ L&T Cement Ltd ➤ Sabic ➤ Ma'aden
OTHER INDUSTRIES		
<ul style="list-style-type: none"> ➤ China First Metallurgical Company Limited ➤ Das Offshore Engineering Ltd ➤ Essar Constructions (I) Limited ➤ Jayhind Projects Ltd. ➤ Essar Heavy Engineering Section ➤ First Carbon Project, Dahej ➤ Reliance Engineering Associates Pvt. LTD ➤ Larsen & Toubro 		

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