

OUR EXPERTISE

1) Infra Port Dredging



2) Sand Mining & Trading



3) Construction Equipment



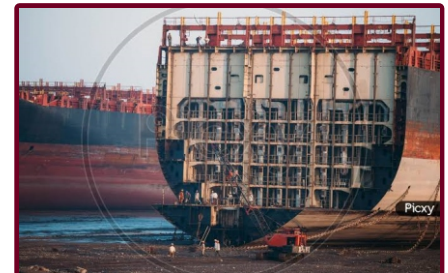
4) Real State & Infra



5) Dam Construction



6) Ship Yard, Ship Building & Ship Repairing



7) Indonesian & Indian Coal Mines Trading



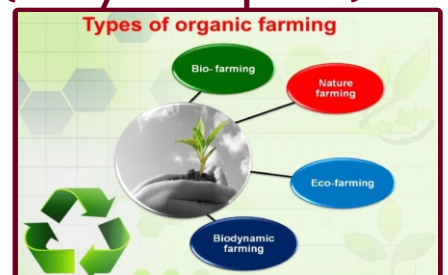
8) Telecom & Submarine Infrastructure Development



9) Lithium-Ion Battery & Electric Vehicles Manufacturing



10) Organic Agro Farming (Deary Development)



Mr. ASHUTOSH SINGH (FOUNDER & C.E.O.) having Good Experience in multiple business sector with SG SHIVA GROUP A unit of SHIVA SHIPPING TRADING was established in the year 2009 the dynamic leadership of the sincere efforts of all other Directors from the initial stage of business has proved the rapid growth of the company. United under one roof of the company has unique diversified portfolio which includes . The primary objective of the company is to meet the growing needs & demands of the Marine sector, River , Lack , pond, All typ of Dredging , Dam construction & Repairing, ship Building, chartering, Broking, Jetty construction, Break Water, seawall construction, Port Development & Management, Shipping Industry, infrastructure, optical fiber cable Laying, HDPE pipe, / electrical cable for submarine Projects , Road , Building, Railway, Power , solar , Oil & Gas Sectors. Earthwork, Control Blasting, Back Filling, Demolition work , development which Roads, Drains, Utility Pipe Line, infrastructure , projects Managements. Our registered office is located in the coastal city of MUMBAI, & GUJRAT India. We function and operate throughout India with strategically located branch offices at Mumbai (Maharashtra), Bhavnagar (Gujarat), Cochin (Kerala) and Goa (Maharashtra)

MR. ABHISHEK MISHRA (Managing partner) Having Experience As a Marine Engineer with over 5 years experience in the Marine Industry. He started his career in 2017 He believed in improvement and reliability. Gaining comprehensive Experience, skill with initiative of handling vast variety of onboard operational and technical management problems, he developed a “CAN DO” attitude at sea and ashore. He served the industry in crew management, ship operations.

MR. RANA CHATERJEE (NAVAL ARCHITECTS) Having Experience As a Ship building and Repairing, ship Breaking with over 15 years experience in the Marine Industry. He started his career in 2007, With his in-depth knowledge of shipyards industry, They have good experience Multi type Vessels, building experience,

SHRI. LAXMAN SINGH SOUN (C.O.O.) performed diving services offshore and onshore utilising highly qualified project management and dive teams with an array of diving packages of maximum allowed depth as per IMCA & U.S. Navy Diving Manual. Air Diving Onshore & Offshore work (Includes block placing, break water, Diving support for Jetty Construction / Maintenance Works) Mix Gas Diving Works, Saturation Diving Work, Offshore SBM / SPM Maintenance work, Marine Survey Work & Personnel, Underwater Cable Laying, We also provide all the categories of personnel related to field mentioned below who are qualified with relevant certification and experience in their respective fields. Offshore & Onshore Construction Companies – Complete Project Crew. Drilling / Exploration Companies – Drilling Personnel Offshore, Shipping & Marine – All categories of Officers & Ratings

SHRI. NILESH NARENDRA BHANSALI (MARINE CONSULTANT) work process, EPCC, manufacturing processes, cost estimating softwares and systems, coordinating, and controlling the new building construction contracts in marine, offshore, oil and gas, renewable energy sectors, Key Skills - Projects Schedule | Projects Control | Processes Co-ordination | Task Monitoring | Projects Reporting | Project Management | Productivity Analysis | Strategic Communication | Leadership | Budget Management | Multitasking | Adaptive | Analytical | Organised | Team member | Sound Judgment | Training | Interpersonal Communication | Microsoft Office | Microsoft Project | Primavera P6

Strong leader skilled at managing the staff, detailed oriented, highly organised and ability to prioritise and manage multiple tasks, New Build Projects - HVDC Platform, Subsea Oil Storage Tank, H6e Semi Submersibles, Seismic Vessels, Tugs, Floating Dock, Diving Support Vessels, Anchor Handling Tugs, Bunker Tankers, Gravity Base Structure, Floating Crane, Naval Projects – Missile Boats, Border Security Boats, Suction Dredger, Medium Refit of Submarines, Prototype of Nuclear Submarine, New Build Facilities Augmentations, Heavy Lift Operations, Heavy Transportation, Loadout and Launching

CAPTAIN A KRISHNA KUMAR (VICE PRESIDENT PROJECTS) is a master mariner (FG) for the past 5 years. His vast experience of 30 years in Dredging, Shipping and Oil and Gas Industry has given the company an upper edge in project execution. with SHIVA SHIPPING TRADING from the time of inception assisting into investigations of marine casualties. He is also a qualified ISO: 9001 lead auditor & ISM internal auditor and has done various value added courses relating to marine investigation, surveys and audits. He is overall in-charge of the projects and spear heads Crisis Management and Management of Major emergencies in the core Management team.

ABOUT US

SG SHIVA GROUP A unit of SHIVA SHIPPING TRADING was established By Ashutosh Kumar in the year 2009 the dynamic leadership of the sincere efforts of all other Directors from the initial stage of business has proved the rapid growth of the company. United under one roof of the company has unique diversified portfolio which includes .

SG SHIVA GROUP Established in 2021, as a group we started our operations in the Marine , Shipping equipment manufacturing, Dredging, Port Development, Jetty construction, Break Water, oil & Gas, mining sand, coal, Iron-ore, Copper , Granite , Marble , Lithium-ion, sodium-ion, Battery, also Researching on Hydrogen green Energy, gradually transitioned to the Logistics, Coal Trading & Coal Handling, organic Agro Farming & Deary Development , Export, Import, business. Since then, we have consistently grown and deepened our roots in the industry.

SG SHIVA GROUP With a vision to provide best-in-class service throughout the end-to-end supply of coal, we have consistently met our customer demands and have built our reputation as a brand that delivers the best quality product on time in alignment with the specifications provided. Coming from a rich heritage, our lines are spread across timber, logistics, oil & Gas, Green Energy, businesses.

WHY US?

SG SHIVA GROUP Since the very start we have won the trust of renowned companies, who have stayed with us throughout thus making a major contribution to our repeat business. We look beyond the emerging trends and venture out to new markets as per the product demand and innovation.

We follow a mantra of providing highest levels of quality & customer satisfaction. Throughout the years we have built strong associations focusing on long term relations than short term gains. By working at the mines level with coal utilities we procure the best quality coal at very competitive rates to ensure the operational costs for our customers remain low.



MARINE INFRA PORT DREDGING RIVER, LAKES , PONDS

Lake Restoration and Beautification Project

There Are Mainly Two Types Of Sources Of Water

1. Surface Sources

- River
- Lakes
- Ponds
- Springs

2. Subsurface sources

- Wells
- Infiltration gallery
- Aquifers



The need for restoration of the lake



To restore our degraded lake

There are many reasons for degradation of the lake such as too much amount of sludge diversion in a lake, silt formation in a bed of a lake, polluted water from industries, lack of maintenance, and rapid urbanization. Hence, we need to protect our lake with solution and pollution control methodology.



To recharge groundwater

By providing a recharge well inside the lake or at the side of the lake we can increase the groundwater level. By increasing the groundwater, we can use it for a different purpose.



Rainwater harvesting with the help of lake

We can harvest the rainwater in more quantity by use of good technology of rainwater harvesting and take good steps. With the help of that water, we can directly transfer the rainwater into the recharge well.



Make water suitable for irrigation purpose

We know that lake water use for irrigation purpose but if there are any pollutants or any chemical impurities in the water body that water cannot use for directly in irrigation. Hence, we must treat that water before use.



To mitigating future issues

As before discuss there is a very scarcity of water in the future, so we need to prepare our self to mitigate that situation.



Conservation of natural resources

By restoring our lakes and water bodies we save our natural resources. As per our point of view, it is a gift from God.



Beautification of Lakes

Through beautification, gardening and recreational facility we can improve the local tourism and an increase in employment.

The Main Reason For The Degradation Of The Lake

- Pollution In lake
- Less availability of water
- Less maintenance
- Shoreline management
- Land ownership
- No de-silting of lake



SHIVA DREDGING SOLUTIONS

Natural Treatment For Bacteria Reduction In Water

Most bacteria are harmless or beneficial. However, there are several forms of pathogenic bacteria that will cause sickness, disease and possibly even death. Pathogenic bacteria contamination of water bodies is a growing concern throughout the world. Freshwater supplies are under attack from stormwater runoff, leaking septic tanks, untreated or partially treated wastewater and neglect. We hear about beach closures due to coliform and fecal bacteria. We hear about restaurant food with pathogenic bacteria concerns, which leads to speculation that irrigation water is potentially contaminated. We hear about storms causing overflows in water treatment systems. It is no wonder concerns about bacteria in water are at an all-time high.

Bacteria can infect people if they are swallowed, inhaled, or come in contact with an open wound. Infections from bacteria can affect the ears, eyes, brain, skin, bowel, throat and lungs. Numerous studies have found that the levels of bacteria in the water are much lower than the levels in the sediments on the bottom of the water body. Then as recreational activities such as swimming, water skiing, and boating stir up the organic sediments on the bottom, bacteria levels in the water can actually increase. Of course, major storms and groundwater runoff can also increase bacteria levels very quickly in a water body.

BEFORE POND AERATION



AFTER POND AERATION



How to Reduce Bacteria in Water

The SHIVA DREDGING SOLUTIONS Continuous Laminar Flow Inversion Oxygenation System Will Reduce Bacteria Levels In Several Ways:-

- Some pathogenic bacteria are anaerobes. **SHIVA DREDGING** increases the oxygen concentration levels throughout the entire water column and into the sediment pore water, so many of these bacteria are killed.
- Pathogenic bacteria of the fecal type require an organic nutrient broth in order to survive. **SHIVA DREDGING** allows aerobic beneficial bacteria to consume the organic nutrients, removing them from the water column and eliminating the nutrient broth
- Practically all pathogens are killed by ultraviolet light, which the sun emits. This ultraviolet does not penetrate the water deeply, so only surface water is affected under normal conditions. Introduction of **SHIVA DREDGING SOLUTIONS** will bring the unaffected bottom waters to the surface, where ultraviolet will kill and or weaken the bacteria.
- Most pathogens require carbon dioxide, phosphorus, nitrogen, ammonia or sulfur to live. The **SHIVA DREDGING SOLUTIONS** system reduces the amount of these nutrients in the water.
- Most pathogens require an acidic to a slightly acidic environment for survival, in the pH range of 5.0 to 8.0. By removing carbon dioxide and killing acid producing bacteria through steps 1 and 3 above, the **SHIVA DREDGING SOLUTIONS** system causes water to become more alkaline.
- **SHIVA DREDGING SOLUTIONS** creates conditions whereby some aerobic bacteria actually feed on pathogenic bacteria. As a result of oxygenating the water body, creating an environment where aerobic bacteria thrive, reducing the nutrient media, raising the pH and exposing pathogenic bacteria to sunlight, these pathogens are weakened or killed.

BEFORE POND AERATION



AFTER POND AERATION



BEFORE POND AERATION



AFTER POND AERATION



How to Reduce Bacteria in Water

Debris removal from the area above water level Uses of Bathymetric and Vegetation Mapping for Reservoirs, Ponds, & Lakes*

- Sonar depth and vegetative mapping services can be used for any size lake, pond, reservoir, or any other water body to determine important variables including:
- Average Water Depths
- Maximum Water Depths
- Calculating Water Volumes & Surface Areas
- Sediment Volumes and Monitoring
- Pond & Lake Aeration Design Parameters
- Water Quality Monitoring
- Fisheries Management
- Water treatment / recycling
- Marine Biology area
- Water tourism activities area
- Many rivers, estuaries, lakes, ponds and other water bodies across the globe are victims of urbanization and are polluted beyond their self- recovery capacity. Uncontrolled dumping of garbage, debris and sewage into water bodies leads to an influx of various pollutants including organic compounds, phosphates and nitrates, thereby adversely impacting the water quality. These pollutants lead to eutrophication of ponds and lakes by boosting growth of algae and undesirable weeds like water hyacinth. Excessive algal growth, in turn, interferes with penetration of light and also leads to reduced dissolved oxygen levels in water bodies,



thereby hampering the growth of other aquatic organisms and disruption of the balance of the aquatic ecosystem. Due to reduced dissolved oxygen, anaerobic degradation of organic matter takes place, which leads to the production of foul-smelling gases like ammonia and hydrogen sulphide, causing odour issues in the vicinity.

A sustainable restoration of various polluted water bodies like lakes, ponds, estuaries etc. for reversing the adverse impacts of the pollutants by bioremediation technique. Bioremediation is a treatment process in which the affected water body is restored by in-situ application of selective biocultures (yeast, fungi or bacteria) or their consortium to degrade accumulated complex organics and other hazardous substances into less toxic or non-toxic end products.

- Algae & Aquatic Weed Control Reduction in Organic Muck After Aeration

Vegetation and Bathymetric Mapping for Water Quality Improvement

- Shiva Dredging Solutions pond, lake and reservoir mapping with BioBase is an efficient method to help understand a body of water's unique characteristics. Vegetation and bathymetric maps produced using BioBase can be a great measurement tool for any restoration or water quality improvement project as these maps provide an in-depth understanding of the physical and morphological characteristics of the water body.

(WATER KING) Dredger is the amphibious multipurpose solution for all shallow water work

- Capabilities include Suction dredging, Backhoe dredging, Raking & Pile driving – all from dry ground to 6 meters depth. Typical Water king applications:
- Deepen and maintain shallow waterways
- Prevent floods and clean the environment
- Utilize in construction projects
- Maintain and clean industrial ponds
- Water king reduces investment, operational and maintenance costs since one machine does the work of many separate machines.
- Water king is fully amphibious in all work modes, capable of operating in water, wetlands and on dry ground – able to reach and work at the most challenging sites.
- Mobilizing Water king is easy. Transport on a standard trailer, unload and walk independently into water without crane assistance. Water king has its own propulsion system, four stabilizers and a flexible excavator arm so moving, anchoring and operating in water is also quick and independent. Water king is operated by one man, no assisting vessels, extra labour, separate anchors, wire-cables or winches are needed. Water king's smart work process maximizes productive work time and minimizes the need for repositioning and manual servicing.
- The unique mobility, heavy duty versatility and field-proven reliability supported by Water king service network make Water king the smart solution for hard work.



TECHNICAL SPECIFICATION Cutter Suction Dredger. CSD water king” Amphibian Structure Dredger

- Length - 10.5 mtr.
- Breadth- 03.00 mtr.
- Height- 1.2 mtr.
- Weight (approx) - 21 tons
- Draft (Loaded) - 0.55 mtr.
- Side pontoons for Positive Buoyancy - Suitable,

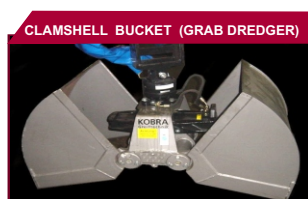
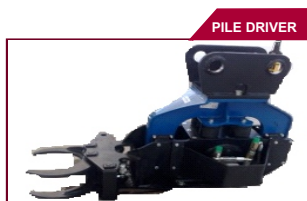


Blow Deck

- Engine mounted Caterpillar (Perkins) - 186 kw / 252 HP
- Dredging depth- 6 mtr.
- Dredging output - 770 m³/hr
- Delivery distance - 1000 mtr.
- Hydraulically driven cutter head- 600 mm



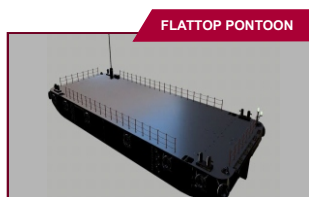
Six typ services in one Dredger



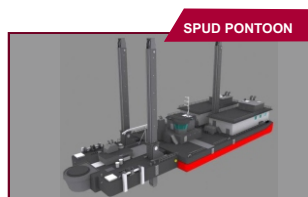
- **SG SHIVA GROUP** today, is considered among the top Dredging companies in India, which itself is a testimony to our commitment, hardwork and success in this field of work. with its fleet of cutter suction dredgers, Trailing suction hopper dredger, Grab Dredger, Multy Bucket ladder Dredger , Backhoe Dredger, assisted by a professionally experienced project Execution team has successfully completed many dredging projects for various ports dotting the Indian Coast. also we have a vast experience over four decades.
- We have a fleet strength of 20 equipments.
- Undertaken several contracts with the government of Maharashtra - India

we have the following Marine equipment

- 1. GRAB DREDGER with 100 & 150 ton capacity- 2 No.
- 2. Backhoe Dredger- Degin Depth- 18 Mtr, = 2 No.
- 3. Cutter suction dredger 300 mm suction dia, Degin depth = 10 mtr. = 2 no.
- 4. Cutter suction dredger- 450 mm suction dia, Degin DEPTH- 15 mtr with pipe line - 500 mtr = 1 No.,
- 5. Cutter suction dredger- 650 mm suction dia, Degin depth = 21 mtr, - with pipe line = 2 km. == 1 no.
- 6. TUG- 700 BHP (IV CLASS) = 1 NO.
- 7. TUG - 1700 BHP (IV CLASS) = 1 NO.
- 8. ANCHORE HANDLING TUG - 450 BHP (IV CLASS) = 1 NO.
- 9. TUG - 2400 BHP (IRS CLASS) = 1 NO.
- 10. FLATOP PONTOON = 55 X 17 MTR. = 1 NO.
- 11. FLATOP PONTOON = 36 X 12 MTR = 1 NO.
- 12. SELF PROPELLED HOPPER BARGE (BOTTOM DOOR Opening) 1000 m³ = 1 no.
- 13. SELF PROPELLED HOPPER BARGE (BOTTOM DOOR Opening) 750 m³ = 1 no.
- 14. SELF PROPELLED HOPPER BARGE (BOTTOM DOOR Opening) 500 m³ = 1 no.
- 15. Drum Hopper barge- 350 cbm = 1 no.
- 16. STEEL BOAT SINGAL ENGINE - 165 BHP = 4 NO.
- 17. MULTY BUCKET LADDER DREDGER = 1 NO.
- 18. SELF PROPELLED TRAILING SUCTION HOPPER DREDGER- 6000 M3, HOPPER CAPACITY
- 19. JACK UP BARGE WITH 300 TON CRANE, SPUD LENGTH- 32 MTR = 1 NO.



FLATTOP PONTOON



SPUD PONTOON



JACK UP BARGE



WATER KING (AMPHIBIOUS)



SELF PROPELLED SPLIT HOPPER BARGE



SELF PROPELLED GRAB DREDGER



T.S. HOPPER DREDGER



TUG



MULTY BUCKET LADDER DREDGER



BACKHOE DREDGER



CUTTER SUCTION DREDGER

Road , Railway, ofc & HDPE pipe, Electric cable laying , Earthwork, Control Blasting, Piling, Back Filling, Demolition work, Drains, Utility Pipe Line, manpower supply, Management,

Telecom (Fiber Optic Cable Network Laying) Submarine

- The Company has rich experience in laying Optical Fiber Cable (OFC) and Optical Power Ground Wire (OPGW) & SUBMARINE cables on turnkey basis.
- SIP Underground Fiber Optic Cable Installation expertise and methods adopted for successful fool proof installations.
- Our Division is actively involved in the execution of OFC Based Backbone and Backhaul Networks. We have successfully carried out OFC projects all over India. Our customers include service providers such as Vodafone, Idea Cellular Limited, Tata Communications & Power Grid Corporation of India Limited, GAIL India Limited, RailTel Corporation of India Limited.



Direct Burial Installations



- Direct burial installations are most common for long cross-country installations. The cables are plowed in or buried in a trench; the installation process can be very quick. The most common cables used for direct burial are steel armored outdoor fiber cables.
- Fiber optic cables can also be pulled through underground ducts, which protect the cables from harsh environment. Underground duct installation also provides opportunity for future expansion without the need to dig. This is the most common practice in urban areas. Another benefit is that fiber cables without armor can be used which makes the installation even easier.



Cable Burial Techniques



- (1) Plowed under
- Plowing in a fiber cable is faster than trenching. But this process has to be carefully monitored to prevent from damaging the cable.

- 2. Trenched
- The fiber cable can also be trenched. This process is slower than plowing in; however, it allows a much more controlled cable installation. Trenches can be dug by hand or by machine.



- 3. Directional boring
- Directional boring technique is used where the surface cannot be worked on such as high, railway crossings, etc. Instead, a boring machine is used to bore a several inches diameter hole underneath the surface, a duct is pulled through the hole and then fiber cables pulled into the duct.

Preparation Before Underground Cable Installation



- Obtain proper right-of-way permits
- Identify existing underground utilities such as buried cables, pipes
- Investigate the soil condition in order to determine the installation depth, whether duct should be used, the type of fiber cable should be used and plowing equipment needed

PLANNING & ENGINEERING

- Traffic analysis / traffic engineering.
- - Firming up network architecture.
- - Network specification and sourcing
- - Schematic diagrams.
- - Site Engineering
- - Site surveys.
- - Route surveys.
- - Installation plans and schedules.
- - Permits and right of way for cable routes.
- - Site preparation.

DOCUMENTATION & OPERATION MAINTENANCE

- Preparation of as-built drawings.
- - We have the expertise and experience of operation and maintenance (O & M) of OFC Based long distance networks.
- - Patrolling of OF cable routes.
- - Maintenance of utility system.
- - Corrective maintenance of faults in the various subsystem
- - Spare Management

OFC WORKS

- Blowing / pulling of cables.
- - OFC cable splicing..
- - Cable termination and jointing.
- - Cable testing from both directions.
- - Provisional and final acceptance testing

SUPPLY AND WAREHOUSING FOR EQUIPMENT MATERIAL

- Test instruments.
- - Digital and fiber distribution frames.
- - Joint enclosures and terminal boxes.
- - Inspection.
- - Transportation

Documentation & Operation Maintenance

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- Corrective maintenance of faults in the various subsystem.
- Spare Management.

Outside Plant Management System

- Outside Plant (OSP) network also at times referred to as the last mile solution is an important component of a telecom network. It connects the subscribers' premises with the node/exchange. Mehta Infocom Private Limited has developed an outstanding expertise in planning, engineering and execution of OSP projects. The types of services rendered are:.
- Design, Planning & Engineering of OSP Network. Primary, Secondary & Distribution Network.
- ROW Permission.
- Procurement of Pipes, OF Cables, Cabinets, DPs etc.
- Trenching and Trenchless (HDD, Mouling) way of laying of pipes, installation of manholes.
- Cable pulling, jointing, termination and testing.
- An important feature of outside plant is to have information available about every subscriber cable pair at a centralized place. This enables to check the feasibility of providing new lines especially on the congested routes and to attend to a line fault in case of a line fault on a cable pair

Submarine Cables Laying

- Submarine cables are laid down by using specially modified ships (sometimes even purpose built ships) that carry the submarine cable on board and slowly lay it out on the seabed as per the charts/plans given by the cable operator. The ships can carry with them up to 2,000 kilometers length of cable.
- Depending on the equipment on-board the cable-ship, the type of plough used, the sea conditions and the ocean-bed where the cable is being laid-down, cable ships can do anywhere from 100-150km of cable laying per day. Newer ships and ploughs now do about 200 km of cable laying per day.
- The ships are commonly referred to as cable-layers or cable-ships.

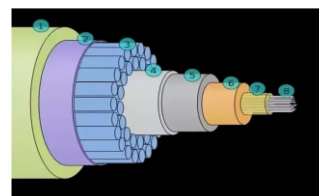


Cable Dissection

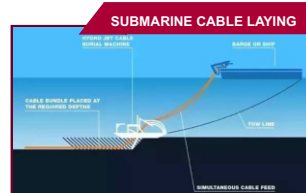
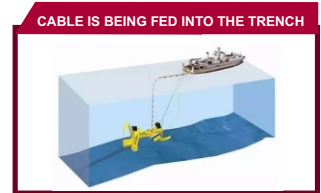
- Depending on where the cable is being laid, it might differ in thickness. Thinner cable systems are used for shallower ocean depths, whilst thicker cables are used for deep ocean beds, typically up to 20,000 feet. Such cables are able to withstand pressure from 12,000 lbs/square-inch to 22,000 lbs/square-inch (this is necessary because of the extreme pressures in the deep ocean beds).
- Submarine cable laying process starts from the Landing Station, where a long cable section is attached (connected) to the landing-point and then extended out to a few miles in the sea. This end is connected to the cable on the ship and then the ship starts its cable laying process (a simple representation of this process

Here Is What A Typical 3-d Cross-sectional Cut-out Of A Submarine Cable Looks Like

- | | |
|--------------------------------|---------------------------|
| • Polyethylene | • Polycarbonate |
| • "Mylar" tape | • Copper or aluminum tube |
| • Stranded metal (steel) wires | • Petroleum jelly |
| • Aluminum water barrier | • Optical fibers |



Cable Dissection



Construction Equipment

- In business since mid 80's
- Hiring cranes all over India
- Total fleet strength of more than 40 equipments
- Consists of mainly crawler cranes from 75 tone to 500 tone



TRUCK



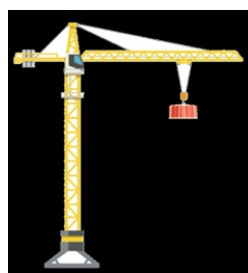
BACKHOE



CONCRETE MIXER



CRANE



TOWER CRANE



ROAD ROLLER



BULLDOZER

Real Estate & Infra



- We have a land bank in and around Mumbai which we have started developing into real estate. We have entered into this business with a residential project of 2 lakh sq.ft.

- **OUR SERVICES**
- Earthwork & Rock Excavation by Diamond cutter and Expansive Mortar Method.
- Expert in Hand Rock Excavation.
- Building Demolition.
- RCC Works.
- Building Contractor
- Development Projects
- Construction & Earthmoving Machinery & Equipments on quantity basis.
- Pipeline Work
- Infrastructure Projects.

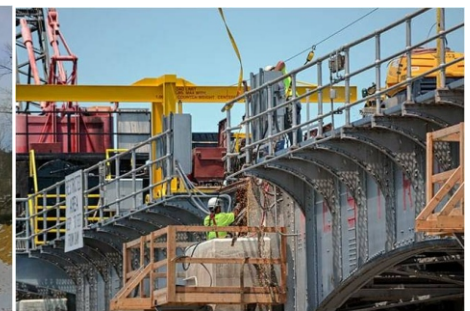


Dam Construction



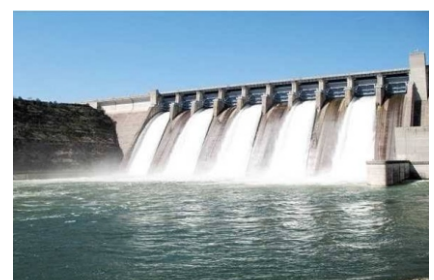
- we specialize in dam construction and repairs on navigational, hydroelectric, diversion, storage, detention, and earthen structures of all sizes. We work on every part of the dam, both above and below the waterline. Brennan crews have the experience and equipment necessary to work in a variety of conditions, including confined spaces, elevated work stations, underwater construction, and more. When most firms pursue dam work as a secondary focus, we have made it a primary focus with dedicated crews, specialized equipment, and a robust safety program.

- Dams are massive barriers built across rivers and streams to confine and utilize the flow of water for human purposes. These purposes may be Irrigation, Hydropower, Water-supply, Flood Control, Navigation, Fishing and Recreation. This confinement of water creates lakes or reservoirs. **INTRODUCTION REASONS TO BUILD A DAM** Dams have two main functions.
 - The first is to store water to compensate for fluctuations in river flow or in demand for water and energy.
 - The second to raise the level of the water upstream to enable water to be diverted into a canal or to increase 'hydraulic head' -- the difference in height between the surface of a reservoir and the river downstream.
 - The creation of storage and head allow
 - Dams to generate electricity (hydropower provides nearly a fifth of the world's electricity)
 - To supply water for agriculture, industries and households
 - To control flooding
 - To assist river navigation by providing regular flows and drowning rapids.
 - Other reasons for building large dams include reservoir fisheries and leisure activities such as boating.



Dam Construction Mass Pours

- Dam construction is no easy task and it requires a contractor that can carry out time sensitive concrete placement in areas of difficult access. At SHIVA GROUP, we work closely with clients, engineers, subcontractors and vendors to carry out critical schedule construction projects. Whether it is a design-build, or design-bid-build, we will create a strong team atmosphere through transparency and a high level of coordination.
- To carry out a mass concrete pour on a dam, a contractor must be creative and innovative. Working in difficult access areas and remote locations, crews must have a thorough understanding of the hazardous conditions that surround them. Transportation of the concrete must be done in a way that is safe, while complying with the time limits allowed under strict quality control requirements. Our crews specialize in this, and will effectively coordinate the operations with all those involved.



Gate And Actuator Installation

- Gate replacement and repair is not only a challenging construction project, it is a science. Limited access, varying concrete conditions, hazardous surroundings, and degraded mechanical components are all variables when considering a gate installation. At SHIVA GROUP, we specialize in removing, installing, and even restoring gates of all types, as well as the equipment that operates them. From massive roller gates to small sluice gates, no project is too big or too small. Our approach to planning the work and working the plan will ensure a high quality replacement that will not put undue stress on the structure. We can achieve replacements from a floating marine plant or from land, safely and efficiently. If your structure doesn't have bulkhead slots, our patented floating bulkhead may be just the ticket! Brennan can also provide millwright and mechanical services to gate control equipment. This includes hoists, chains, trunnion pins and bushings, actuators, and more. Our ability to think creatively has led to several innovative solutions that have provided economic benefits to our clients. We have developed proprietary processes and tools that have increased the effectiveness and safety of our work on gates, actuating equipment, seals, seal heaters, deicing systems, and the surrounding structure.
- We work on every kind of gate!**
- Bascule gates
 - Crest gates
 - Headgates
 - Inflatable
 - Lift gates
 - Roller gates
 - Sluice gates
 - Tainter gates
 - Miter gates
 - Wicket gates
 - Often times concrete repairs are required around the trunnion pins and gate bays. We can carry out a complete repair of the entire gate structure to make sure you get a tight seal from your gates every time

Intakes And Headworks

- We work on every part of the dam, and intakes and headworks are no exception. Brennan can implement the construction and replacement of structural steel components. We excel at providing turnkey installations and reliable maintenance to several types of water control structures. Our certified welders and knowledgeable crews have the right equipment to carry out long lasting repairs, as well as install newly fabricated pieces. We understand the importance of each piece and that precision manufacturing, alignment, and placement is required to optimize the operations of the dam. SHIVA GROUP is also one of the only contractors in the nation that can offer both above and below water solutions which could lead to the elimination of costly cofferdams.
- Bulkheads and slots**
- Diversions
 - Fish ladders
 - Flow lines
 - Penstocks
 - Rail systems
 - Screens
 - Service bridges
 - Stop logs and slots
 - Tailraces
 - Trash racks

Ship Yard, Ship Building & Ship Repairing



UNDER WATER DIVING

SG SHIVA GROUP performed diving services offshore and onshore utilising highly qualified project management and dive teams with an array of diving packages of maximum allowed depth as per IMCA & U.S. Navy Diving Manual.

Air Diving Onshore & Offshore work (Includes block placing, break water, Diving support for Jetty Construction / Maintenance Works)

Mix Gas Diving Works

Saturation Diving Work

Offshore SBM / SPM Maintenance work

Marine Survey Work & Personnel

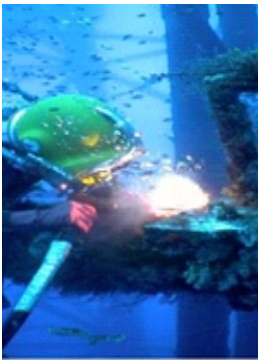
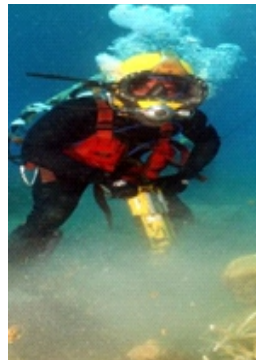
Underwater Cable Laying

We also provide all the categories of personnel related to field mentioned below who are qualified with relevant certification and experience in their respective fields.

Offshore & Onshore Construction Companies – Complete Project Crew.

Drilling / Exploration Companies – Drilling Personnel

Offshore, Shipping & Marine – All categories of Officers & Ratings



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