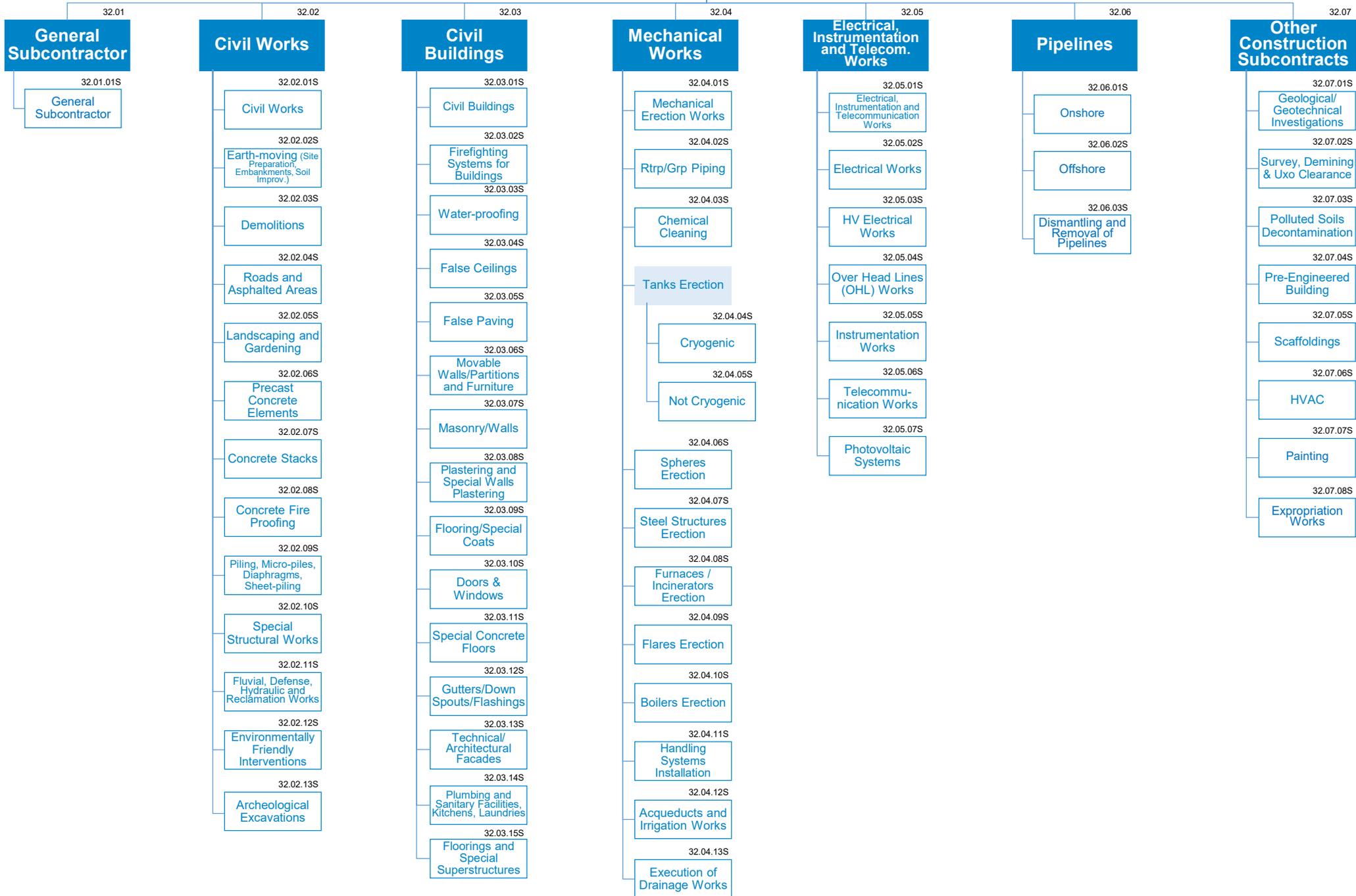


# Construction and Civil Works



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This Group covers the set of geotechnical, civil, structural, mechanical, electrical, instrumentation, telecommunication and geotechnical activities performed of a site for the erection and construction of a plant. It focuses from site preparation till building auxiliary infrastructure like roads, pipelines, water treatment systems.

It generally covers activities that are sub-contracted by the overall Contractor, either to a General Sub-Contractor or to a mix of focused service providers – specialized in the different areas of expertise - under the coordination of the Contractor's Construction team.

On a family level the priority has been given to the different types of construction, whilst on a category level to the specifications and purpose of the services offered.

## MAIN RATIONALES BEHIND THE STANDARD CATEGORIZATION

### General Subcontractor

- This Family refers to companies dedicated to take charge of the entire Construction phase. They can potentially subcontract activities and managing them, or engage in the direct hiring of construction resources
- Competition generally remains “flat”, based on the type of plant that is managed under the General Subcontractor role, since suppliers that are experts in a specific field can add value by performing key activities that are part of the main project

### Civil Works

- This Family refers to any type of activity related to civil works that prepares the site for the construction.
- Each activity can be assigned to a Construction company (with reference to the Category “Civil Works”) or subcontracted to a set of specialized supplier (e.g. 32.02.02S Earth Moving, 32.02.03S Demolitions, 32.02.04S Roads and Asphalted Areas, and 32.02.05S Landscaping and Gardening)
- 32.02.08S “Concrete Fire Proofing” relates to certified structures made out of concrete that have an elevated fire-resistance rating
- 32.02.09S “Piling, Micro-Piles, Diaphragms, Sheet-Piling” has the purpose of grouping the most common types of piling used in the industry to set up the foundations of a structure
- 32.02.10S “Special Structural Works” groups suppliers dedicated to working with structures with particular specifications (e.g. building refurbishment after damage, structural consolidation, architectural restorations, plant upgrade for a given building, etc.)
- 32.02.11S “Fluvial, Defense, Hydraulic and Reclamation Works” refers to any type of civil work that involves water and avoiding potential floods of the grounds of the construction
- The categories do not take into account maintenance or lease of equipment that might be needed by subcontractors to perform their activities and that is part of Group 16 “Hire and Rental of Onshore Equipment and Vehicles”

### Civil Buildings

- 32.03.01S “Civil Buildings” refers to any type of building capable of holding operations
- Categories 32.03.04S False Paving & 32.03.05S False Ceilings concern hard surfaces that can be applied to form roads or roofs depending of the case

### Mechanical Works

- The list presents a wide range of different characteristics and specifications that can only be found when the supplier is specialized
- 32.04.02S “RTRP/GRP Piping” refers to Reinforced Thermosetting Resin Pipe (RTRP), whereas stands for Glassfiber Reinforced Plastic or Polyester (GRP)
- Different types of specific mechanical erections have been included: tanks, spheres, steel structures, furnace/incinerators, flares and boilers as they are typically performed by specialized suppliers
- Tanks erection has been divided in two categories: cryogenic, which is used to store frozen material and not cryogenic, which are other type of tank used to store materials

### Electrical, Instrumentation, and Telecommunication Works

- The competition in this Family changes based on the competences required and not all the vendors are able to deliver the combined set of competences to fulfil the integrated scope of work
- 32.05.02S “Electrical Works”, 32.05.03S “HV Electrical Works” (High Voltage), 32.05.04S “Overhead Line Works (OHL)” and 32.05.07S “Photovoltaic Works” are related to any type of fixed structure, appliances, equipment or service that control, generate or make use electricity
- 32.05.05S “Instrumentation Works” refers to services dedicated to the measurement and control of process variables such as temperature, level, humidity, flow, PH, speed, etc., within an specific area
- 32.05.06S “Telecommunication Works” is a category that focuses on installing devices that use wire, radio, optical or other electromagnetic systems in order to perform transmission signals, messages, writings, images and sounds or intelligence of any nature

### Pipelines

- This Family refers to tubular sections used to transport a determined substance such as oil, gas, water, ...
- The categories are divided in Onshore (in land) and Offshore (shallow water, deepwater) as vendors are usually specialized and need to leverage on different assets

### Other Construction Subcontracts

- This Family refers to subcontracts that are important and significant in the industry but that do not fit in the already mentioned families. For example, geological investigations, any type of clearance or decontamination are services often needed during a construction or civil work
- 32.07.05S “Scaffoldings” Works are the set of activities required to provide and install metal or wooden temporary structures that support workers build, repair or clean a building structure
- 32.07.06S “HVAC” (Heat, Ventilation and Air Conditioning) Works are the set of activities required to install HVAC systems at site
- 32.07.07S Painting refers to any type of painting work performed at the site