

De hoofdverdeling van een planning kan er als volgt uitzien:

- **MILESTONES**
- **PERMITS**
- **DESIGN REVIEWS**
- **FRONT END LOADING (FEL)** (basic engineering)
- **COST ESTIMATE**
- **DETAIL ENGINEERING**
- **PROCUREMENT**
- **CONTRACTS**
- **CONSTRUCTION**
- **COMMISSIONING**

Daarna volgt de subverdeling.

Veel taken in de subverdeling zijn repeterende taken.

Om een indruk te geven van de repeterende taken volgt hier een overzicht van meest voorkomende repeterende taken in een engineering/Construction planning.

Voor de gebruikte afkortingen zie overzicht aan het einde van dit document.

## **MILESTONES**

FEL start date  
Building permit granted  
Start piling works  
Mechanical Completion  
Beneficial operation

## **PERMITS**

Environmental permit  
Wm permit revision existing plant  
Revised permit - for public views  
Public view period  
Wm permit revision existing plant granted  
Wm permit project .....

Anouncement of project ..... (concept)  
Anouncement of project ..... (formal)  
Authority approval period  
Anouncement project ..... granted  
Public view period  
Building permit – project .....

Pre-meeting with Authorities  
Building permit application  
Authority approval period  
Building permit granted  
Public view period

## **DESIGN REVIEWS**

EHS reviews

## **FRONT END LOADING**

- Hazard study
- Relief philosophy
- SIS/LOPA study
- EHS criticality study
- Cable routing philosophy
- Paving and drainage / fire water run-off
- Fire prevention & protection
- Execution phase
- S&H risk inventory and evaluation
- HAZCON
- Relief & Blowdown studies
- Area classification (RI&E ATEX)
- Hazard study (PSSR)
- Hazard study (Post Project Verification)
- HAZOP

## **COST ESTIMATE**

- Obtain budget quotations (where necessary)
- Prepare cost estimate +/-10%
- Review / validate cost estimate
- Incorporate comments
- Determine engineering costs execution phase
- Final issue cost estimate +/-10%

## **DETAIL ENGINEERING**

- 3D design
- Studying, routing
- Modeling pipes
- Supporting
- Implementation latest vendor info
- Pipe stress calculations
- P&ID check
- Database populated with line details
- Clash check
- nn% model review

### **Piping Specialties**

- Technical specification
- Document requirements
- Requisition document
- Review / validation
- Incorporate comments
- Issue for inquiry
- Technical evaluation of bids
- Update for purchase
- Issue for purchase

### **Installation Contracts**

- ISBL
- Technical specification
- Review / validate
- Incorporate comments

Issue for tender  
Technical evaluation of tenders  
Update RFC  
Issue RFC

### **Connectivity diagrams**

Motor drawers  
Review / validate  
Incorporate comments  
Issue for tender  
Update RFC  
Issue RFC

### **Specifications and requisitions**

Transformers  
Technical specification  
Document requirements  
Requisition document  
Review / validation  
Incorporate comments  
Issue for inquiry  
Technical evaluation of bids  
Update for purchase  
Issue for purchase

## **INSTRUMENTATION**

### **Diagrams / lists / design drawings**

Preparation  
Review / validation  
Incorporate comments  
Issue for tender  
Update RFC  
Issue RFC

### **Requisitions (in line and equipment instruments)**

#### **Flow instruments**

Populate SIR database / produce data sheet  
Technical specification  
Document requirements  
Requisition document  
Review / validation  
Incorporate comments  
Issue for inquiry  
Technical evaluation of bids  
Update for purchase  
Issue for purchase

## **CIVIL**

### **Piling contract**

- Final load calculations
- Piling drawings
- Prepare technical specification
- Review / validate
- Incorporate comments
- Issue for inquiry
- Technical evaluation of bids
- Update for order
- Issue for order
- Authority approval of details
- Detailed engineering contractor

### **Civil package .....**

- Concrete drawings
- Steel drawings
- Platform drawings
- Reinforcement drawings
- Other detail drawings (anchor plans, etc.)
- Issue for order
- Authority approval of details

### **Package OSBL Civil**

#### **For tender**

- Concrete drawings
- Technical specification
- Review / validation
- Incorporate comments
- Issue for tender
- Technical evaluation of tenders

#### **RFC**

- Update Tender documents to RFC
- Reinforcement drawings
- Other detail drawings (anchor plans, etc.)
- Issue for order
- Authority approval of details

**PROCUREMENT  
EQUIPMENT**

**Field fabricated equipment**

Request for quotation  
Bidding period  
Commercial evaluation  
Bid tab  
ATO  
Negotiations  
Purchase order

**Vendor documents**

Piping studies  
Preliminary vendor docs  
Commenting  
Processing of comments  
Review & approval  
GA drawings RFC

**Other equipment**

Request for quotation  
Bidding period  
Commercial evaluation  
Bid tab  
ATO  
Negotiations  
Purchase order

**Delivery time**

Delivery on site

**Vendor documents**

Piping studies  
Preliminary vendor docs  
Commenting  
Processing of comments  
Review & approval  
GA drawings RFC

**Piping Specialties**

Request for quotation  
Bidding period  
Commercial evaluation  
Purchase order  
Delivery time  
Delivery on site

**Vendor documents**

Preliminary dimensional sketches  
Preliminary vendor docs  
Commenting  
Processing of comments  
Review & approval  
Final vendor documents

## **CONTRACTS**

### **Site preparation contract**

- Request for tender
- Tender period
- Commercial evaluation
- Order award
- Delivery time

### **Civil contract - package .....**

- Request for tender
- Tender period
- Commercial evaluation
- Order award

## **CONSTRUCTION**

- Construction activities

## **COMMISSIONING**

- Commissioning activities

## Afkortingen

Veel voorkomende afkortingen in een planning zijn:

ATEX	Atmosphère Explosives
ATO	Autorisation To Order
CHAZOP	Control Hazard and Operability
EHS	Environmental Health Safety
FEL	Front End Loading
GA	General Arrangement
HAZCON	Hazards in Construction
HAZDEM	Hazards in Demolition
HAZOP	Hazard and Operability
ISBL	Insite Batery Limit
LOPA	Layers Of Protection Analysis
RFC	Released For Construction
RFD	Released For Design
RI&E	Risico Inventarisatie & Evaluation
SIL	Safety Integrity Level
SIS	Safety Integrity System
S&H	Safety & Held
OSBL	Outsite Battery Limit
PSSR	Pre Startup Safety Review
P&ID (PID)	Piping & Instrument Diagram
R&B	Relive & Blowdown
TRA	Taak Risico Analyse
UFD	Utility Flow Diagram
WABO	Wet Algemene Bepalingen Omgevingsrecht (loket bouwvergunningen)
WM	Wet Milieubeheer