TEMPORARY WORKS DESIGN BRIEF

Pump station formwork and falsework

Example Pump Station, 2468

Formwork and falsework

BRIEF REFERENCE	REVISION	STATUS
TW 090	A	Issued 29 Sept 2026

CONSEQUENCE OF FAILURE	DESIGN COMPLEXITY	EXECUTION RISK	CHECK CATEGORY
CFR2	DCR3	ER2	Cat 3

Revision record

Rev	Date	Description	Prepared	Reviewed
A	29 Sept 2026	Issued for design	A. Example	F. Example

Signatures

Role	Name	Signature	Date
Prepared by (author)	A. Example, Project Engineer		
Reviewed by (Temporary Works Coordinator)	F. Example		
Received by (designer)	Example Temporary Works Design, D. Example		

Contents

Part 1. Cover brief 2

1 Scope of the design 2

2 Constraints that cannot be drawn 2

3 Documents referenced 3

4 Designer actions 3

Part 2. Drawings 4

Part 3. Appendices 54

Appendix B Requirements of the designer 54

Appendix C Return brief and the designer's statements 55

Appendix G Documents and attachments 58

This brief gives the designer the information, constraints and requirements for the design. It is not a design, and nothing in it is to be read as one. The author and the coordinator sign it at issue and the designer on receipt.

Prepared with TworkX from the brief data and a structured question set with a scope gap check (library FW01 version 1.22.0). At issue the check recorded 0 Stop, 0 Major and 3 Advisory items and 7 concept screening prompts.

SAMPLE

Part 1. Cover brief

1 Scope of the design

The contractor requires the design of the formwork and falsework for the 7 pours below. The design is to cover every stage on the stage sheets, from erection through the pour to striking, backpropping and reuse, for the concrete, loads and conditions described in the cover brief, the key information sheet and the data tables of the drawing sheets.

- T1 Tank wall, lift 1, wall, 3 m high. Proposed by the author: proprietary panel system, Example Panel 240 (Example Formwork Supplies).
- T2 Tank wall, lift 2, wall, 3 m high. Proposed by the author: proprietary panel system, Example Panel 240 (Example Formwork Supplies).
- T3 Tank wall, lift 3, wall, 3 m high. Proposed by the author: proprietary panel system, Example Panel 240 (Example Formwork Supplies).
- K1 Valve pit, wall, 2.8 m high. Proposed by the author: proprietary panel system, Example Panel 240 (Example Formwork Supplies).
- C1 Pump station column, column, 4 m high. Proposed by the author: steel form, Example Column Form 600 (Example Formwork Supplies).
- H1 Pump station headstock, headstock, 4 m of falsework. Proposed by the author: custom timber and ply, Example Frame 40 falsework (Example Formwork Supplies).
- S1 Pump station roof slab, suspended slab, 3.85 m of falsework. Proposed by the author: custom timber and ply, Example Frame 40 falsework (Example Formwork Supplies).

The design includes:

- The forms, ties, walers and bracing for the wet concrete pressure, with the design pressure, the method and the rate of rise it assumes stated in the pressure statement in Appendix C.
- The falsework from its founding to the soffit, with its lateral restraint and its bearing on the ground or the supporting structure (the data tables of the drawing sheets).
- Allowance for the construction loads, plant, wind and the standing period before the pour in the data tables of the drawing sheets.
- The bracing and anchorage of the standing forms for wind, with the parameters returned in the statement in Appendix C.
- The anchors into previously cast concrete in the data tables of the drawing sheets.
- The forming at each junction and construction joint of the pours (the stop end, form face, kicker or head at each joint, sealed against concrete cast before where that applies), with the bars that cross it, in the data tables of the drawing sheets.
- The striking sequence and backpropping, to the stripping strengths the project specifies (the stage sheets).

The design is to the standards and requirements in the cover brief and the key information sheet. Design life: in use for the pour and the curing period only, not more than 4 weeks per use; nothing is left in place. The approved design is required on site by 15 Jan 2027.

The A3 drawing sheets in Part 2 carry the brief: the key information sheet TW 090-SK-01 first, then each pour with the data its views are drawn from and the items the designer is to verify, tagged by number at their places. The appendices in Part 3 hold the full record.

2 Constraints that cannot be drawn

The author's typed answers that set a requirement no drawing shows. The answers that describe the works are on the sheets beside their views; every answer with its source, the plain no answers among them, is in the record of Appendix A.

Brief administration

FWQ006 Company procedure governing temporary works on this project, if any: Example Constructions temporary works procedure TW 001 rev 3

FWQ155 Hazards and residual risks handed down for the designer to act on, each with its source: Anchors and bracket cones into lift 1 only at the positions the permanent works designer accepted (letter of 12 September 2026)

Monitoring, hold points, public safety and environment

FWQ115 Who stops the pour and on what observation: Example Constructions site supervisor stops the pour on any movement of the forms, leakage at joints or ties, a founding settlement or a tie failure; the pump operator stops on the supervisor's call

FWQ116 Contingency for pump breakdown, blowout, leakage and weather: A second pump on standby from Example Pumps within 45 minutes; blowout or leakage stops the pour and the joint is formed at the level reached; the pour is not started if rain is forecast within the pour window

FWQ118 Environmental matters that bear on the pour: Concrete washout and slurry; Noise from pumps and vibrators; Weather

SAMPLE

window for the pour

FWQ117 Could failure or the works affect the public or third parties beyond the site boundary: No

3 Documents referenced

The works are in Western Australia. The brief cites the Work Health and Safety Act 2020 (WA) and Work Health and Safety (General) Regulations 2022 (WA), the WA formwork code of practice (AS 3610:1995) and, for the specification of the formwork surface, AS 3610.1. The formwork is to be designed to AS 3610.2 (Int). Documents are cited by reference. The designer uses the current edition of each unless the project specification names another.

Calculation basis: limit state design to the standards listed (AS 3610.2 (Int) for the design, AS 3610.1 for the formwork surface, AS 3600 for the slab, AS/NZS 1170.0 and 1170.2 for the loads, AS 1576.1 where scaffold components are used in the falsework), unless the project specification states otherwise.

Provided with this brief: permanent works drawings, concept or method sketches and markups, survey, geotechnical information, methodology and sequencing, plant data sheets, concrete mix designs and formwork and falsework system supplier data. The documents not provided, and how each document is provided, are listed in Appendix G.

4 Designer actions

Each item is tagged with its number on the sheet named, at the place it concerns, or listed on the key information sheet where it has no place on a drawing; the sheet's Designer to verify table gives the item in full with what it rests on. The designer is to respond on each by its number with the return brief in Appendix C.

Designer actions by tag number

Open items stay open at issue only with an owner; Stop items cannot be issued open.

No	Action	Sheet
1	Advisory FWR091. Confirm with the designer and the project specification which standard the design is to.	SK-03, listed
2	Advisory FWR018. Reduce the drop height with a tremie or a hose extension, or tell the designer the drop height.	SK-32
3	Advisory FWR106. State the waterstop at the joint from the specification and the drawings, or confirm that none is required.	SK-42

SAMPLE

Part 2. Drawings

The drawings are A3 landscape sheets generated from the brief data to the house drafting standard, numbered by the brief reference: 48 sheets, TW 090-SK-01 to TW 090-SK-48. The key information sheet comes first and lists every sheet; each sheet of views carries the data the views are drawn from and its Designer to verify table. Each carries the status line: they are information for the designer, not a design. The same drawings are available as a DXF file for AutoCAD from the brief's Issue tab, in model space at full size with true levels.

Drawing register

The sheets that follow, in order.

Drawing number	Title	Scale at A3
TW 090-SK-01	Key information	Not to scale
TW 090-SK-02	Key information continued	Not to scale
TW 090-SK-03	Key information continued	Not to scale
TW 090-SK-04	Legend and general notes	Not to scale
TW 090-SK-05	T1 Tank wall, lift 1. Sections	1:25
TW 090-SK-06	T1 Tank wall, lift 1. Plan	1:100
TW 090-SK-07	T1 Tank wall, lift 1. Elevations	1:100
TW 090-SK-08	T1 Tank wall, lift 1. General arrangement. Data	Not applicable
TW 090-SK-09	T1 Tank wall, lift 1. General arrangement. Data continued	Not applicable
TW 090-SK-10	T1 Tank wall, lift 1. Junction J1	1:25
TW 090-SK-11	T1 Tank wall, lift 1. Junction J1	1:10
TW 090-SK-12	T1 Tank wall, lift 1. Stages 1 to 4	1:50
TW 090-SK-13	T1 Tank wall, lift 1. Stages 5 to 7	1:50, 1:100
TW 090-SK-14	T2 Tank wall, lift 2. Sections	1:25
TW 090-SK-15	T2 Tank wall, lift 2. Plan	1:100
TW 090-SK-16	T2 Tank wall, lift 2. Elevations	1:100
TW 090-SK-17	T2 Tank wall, lift 2. Junction J1	1:25
TW 090-SK-18	T2 Tank wall, lift 2. Stages 1 to 4	1:50
TW 090-SK-19	T2 Tank wall, lift 2. Stages 5 to 7	1:50, 1:100
TW 090-SK-20	T3 Tank wall, lift 3. Sections	1:25
TW 090-SK-21	T3 Tank wall, lift 3. Plan	1:100
TW 090-SK-22	T3 Tank wall, lift 3. Elevations	1:100
TW 090-SK-23	T3 Tank wall, lift 3. Junction J1	1:25
TW 090-SK-24	T3 Tank wall, lift 3. Stages 1 to 4	1:50
TW 090-SK-25	T3 Tank wall, lift 3. Stages 5 to 7	1:50, 1:100
TW 090-SK-26	K1 Valve pit. Sections	1:25
TW 090-SK-27	K1 Valve pit. Plan and elevations	1:100
TW 090-SK-28	K1 Valve pit. Junction J1	1:20, 1:25

Drawing number	Title	Scale at A3
TW 090-SK-29	K1 Valve pit. Stages 1 to 4	1:50
TW 090-SK-30	K1 Valve pit. Stages 5 to 7	1:50, 1:100
TW 090-SK-31	C1 Pump station column. Sections	1:50
TW 090-SK-32	C1 Pump station column. Plan and elevations	1:100, 1:200
TW 090-SK-33	C1 Pump station column. Junction J1	1:20, 1:50
TW 090-SK-34	C1 Pump station column. Junction J2	1:25
TW 090-SK-35	C1 Pump station column. Stages 1 to 4	1:100
TW 090-SK-36	C1 Pump station column. Stages 5 to 7	1:100
TW 090-SK-37	H1 Pump station headstock. Sections	1:50, 1:100
TW 090-SK-38	H1 Pump station headstock. Sections. Data	Not applicable
TW 090-SK-39	H1 Pump station headstock. Stages 1 to 4	1:100
TW 090-SK-40	H1 Pump station headstock. Stages 5 to 7	1:100
TW 090-SK-41	S1 Pump station roof slab. Sections	1:50
TW 090-SK-42	S1 Pump station roof slab. Soffit plan	1:200
TW 090-SK-43	S1 Pump station roof slab. Plan and elevations	1:100
TW 090-SK-44	S1 Pump station roof slab. Junction J1	1:20
TW 090-SK-45	S1 Pump station roof slab. Junction J2	1:20, 1:25
TW 090-SK-46	S1 Pump station roof slab. Junction J3	1:20
TW 090-SK-47	S1 Pump station roof slab. Stages 1 to 4	1:100
TW 090-SK-48	S1 Pump station roof slab. Stages 5 to 7	1:100

SAMPLE

The brief

Reference	TW 090, revision A, Issued 29 Sept 2026
Works	Pump station formwork and falsework
Project	Example Pump Station

Purpose

This brief sets out the information, constraints and requirements for the design of the formwork and falsework for the concrete pours described below. It is issued to the nominated designer as the basis of the design.

The designer is to confirm receipt, review the brief for completeness and raise any query in writing before commencing design; what the designer is to return is on the key information sheet.

The brief at a glance

The works	T1 Tank wall, lift 1: wall, 3 m high, 300 mm thick, 18.85 m long, base RL 10.00; proprietary panel system, Example Panel 240 (Example Formwork Supplies) T2 Tank wall, lift 2: wall, 3 m high, 300 mm thick, 18.85 m long, base RL 13.00; proprietary panel system, Example Panel 240 (Example Formwork Supplies) T3 Tank wall, lift 3: wall, 3 m high, 300 mm thick, 18.85 m long, base RL 16.00; proprietary panel system, Example Panel 240 (Example Formwork Supplies) K1 Valve pit: wall, 2.8 m high, 250 mm thick, 18 m long, base RL 10.00; proprietary panel system, Example Panel 240 (Example Formwork Supplies) C1 Pump station column: column, 4 m high, 600 mm thick, 0.6 m long, base RL 10.00; steel form, Example Column Form 600 (Example Formwork Supplies) H1 Pump station headstock: headstock, soffit RL 14.00, 4 m of falsework; custom timber and ply, Example Frame 40 falsework (Example Formwork Supplies) S1 Pump station roof slab: suspended slab, 21 by 9 m, 250 mm slab, soffit RL 14.05, 3.85 m of falsework; custom timber and ply, Example Frame 40 falsework (Example Formwork Supplies)
Where	Example Pump Station, 2468; Western Australia; levels to AHD
Concrete and pressure	T1: S40 20 mm, MD 1187, 2450 kg/m³, by boom pump, rate of rise 1.77 m/h; full hydrostatic head 72.1 kPa against a rating of 100 kPa (indicative, Appendix E) T2: S40 20 mm, MD 1187, 2450 kg/m³, by boom pump, rate of rise 1.77 m/h; full hydrostatic head 72.1 kPa against a rating of 100 kPa (indicative, Appendix E) T3: S40 20 mm, MD 1187, 2450 kg/m³, by boom pump, rate of rise 1.77 m/h; full hydrostatic head 72.1 kPa against a rating of 100 kPa (indicative, Appendix E) K1: S40 20 mm, MD 1187, 2450 kg/m³, by boom pump, rate of rise 1.87 m/h; full hydrostatic head 67.3 kPa against a rating of 100 kPa (indicative, Appendix E) C1: S50 14 mm, MD 4402, 2450 kg/m³, by boom pump, rate of rise 5.56 m/h; full hydrostatic head 96.1 kPa against a rating of 120 kPa (indicative, Appendix E) H1: S40 20 mm, MD 3101, 2400 kg/m³, by boom pump; full hydrostatic head 33 kPa (indicative, Appendix E) S1: S40 20 mm, MD 3101, 2400 kg/m³, by boom pump; full hydrostatic head 15.3 kPa (indicative, Appendix E)
Design standard	AS 3610.2 (Int)
Governing loads and plant	Example Pumps EP 36 30 t, Example Cranes EC 60 48 t, Example Pumps EP 36 30 t, Example Concrete 8 m³ agitator 28 t and Example Cranes EC 60 48 t; wind region A, terrain category 2 and region C, terrain category 2 (the data tables of the drawing sheets)
Critical constraints	Rate of rise controlled to 1.5 m/h at T1, 1.5 m/h at T2, 1.5 m/h at T3, 1.5 m/h at K1 and 3 m/h at C1 and 9 junctions and construction joints (the data tables of the drawing sheets and the cover brief)

The brief at a glance, continued

Height tier	T1: Vertical form 2.4 to 3.5 m high; design by engineer; pre pour inspection by competent person T2: Vertical form 2.4 to 3.5 m high; design by engineer; pre pour inspection by competent person T3: Vertical form 2.4 to 3.5 m high; design by engineer; pre pour inspection by competent person K1: Vertical form 2.4 to 3.5 m high; design by engineer; pre pour inspection by competent person C1: Vertical form more than 3.5 m high, repetitive arrangement; design by engineer; pre pour inspection by engineer H1: Soffit formwork 3 m high or more, or 250 mm thick or more; design by engineer; pre pour inspection by engineer S1: Soffit formwork 3 m high or more, or 250 mm thick or more; design by engineer; pre pour inspection by engineer
Consequence of failure	CFR2, potentially major impact, including injury, fatality or significant loss, but the failure would not set off a further chain of major incidents. A 3.85 m high falsework carrying a 250 mm slab with 650 mm beams over the building's working area: collapse during the pour would kill or injure the crew on the deck and below it.
Design complexity	DCR3, complex or innovative designs that produce complex sequences, where the consequence category is not CFR3. Soffit formwork 3 m high or more and 250 mm thick or more, with monitoring during the pour, a founding on compacted fill the designer must confirm, and frames used to the supplier's manual.
Execution risk	ER2, conventional structures, where the consequence category is CFR2 or below. Jack extensions, bracing and the sole boards are controls the crew must hold during erection.
Check category	3. A complex or innovative design: complex sequences of moving or construction, unusual forms, significant departures from the standards, novel analysis or considerable engineering judgement.
Deliverables	Design sketches or drawings, design calculations, design report, design certificate, design check certificate, safety in design register, with the residual risks written on the drawings, construction methodology and sequence drawings, inspection and test plan with the hold points and the permit stages and 7 documentation items (lists, records and statements) (the key information sheet)
Open items	None
Design required on site by	15 Jan 2027
Designer and checker	Example Temporary Works Design, D. Example, 0400 000 002; checked by Design checker, Example Checking Engineers
Prepared by	A. Example, Project Engineer, 0400 000 001 (author); F. Example (Temporary Works Coordinator); engaged by the contractor; issued by Example Constructions

Where each item is set out in full is given in brackets. Values in italics are still to be completed.

Element, categories and height tier

Pour	Element	Height tier of the Queensland Formwork Code of Practice 2016
T1 Tank wall, lift 1	Wall, double sided, 3 m high	Vertical form 2.4 to 3.5 m high: design by engineer, pre pour inspection by competent person
T2 Tank wall, lift 2	Wall, double sided, 3 m high	Vertical form 2.4 to 3.5 m high: design by engineer, pre pour inspection by competent person
T3 Tank wall, lift 3	Wall, double sided, 3 m high	Vertical form 2.4 to 3.5 m high: design by engineer, pre pour inspection by competent person
K1 Valve pit	Wall, double sided, 2.8 m high	Vertical form 2.4 to 3.5 m high: design by engineer, pre pour inspection by competent person

Element, categories and height tier, continued

Pour	Element	Height tier of the Queensland Formwork Code of Practice 2016
C1 Pump station column	Column, double sided, 4 m high	Vertical form more than 3.5 m high, repetitive arrangement: design by engineer, pre pour inspection by engineer
H1 Pump station headstock	Headstock, 4 m of falsework	Soffit formwork 3 m high or more, or 250 mm thick or more: design by engineer, pre pour inspection by engineer
S1 Pump station roof slab	Suspended slab, 3.85 m of falsework	Soffit formwork 3 m high or more, or 250 mm thick or more: design by engineer, pre pour inspection by engineer

TWfAU categories: CFR2, potentially major impact, including injury, fatality or significant loss, but the failure would not set off a further chain of major incidents; DCR3, complex or innovative designs that produce complex sequences, where the consequence category is not CFR3; ER2, conventional structures, where the consequence category is CFR2 or below. Tiers: Queensland Formwork Code of Practice 2016, reproduced with attribution to the State of Queensland. The tiers decide who designs and who inspects before the pour; the categorisation decides whether a design is needed.

State documents and the AS 3610 editions, by reference

State or territory	Western Australia
Act and regulations	Work Health and Safety Act 2020 (WA); Work Health and Safety (General) Regulations 2022 (WA)
Formwork code cited	WA formwork code of practice (AS 3610:1995)
Formwork surface specification	AS 3610.1
Design standards recorded	AS 3610.2 (Int) and AS 3610-1995
Design standard chosen for this brief	AS 3610.2 (Int)

Full hydrostatic head, indicative

Pour	Figure	Formula and inputs
T1	Full hydrostatic pressure at the base of the pour: 72.1 kPa	p = ρ g H = 2450 kg/m³ × 9.81 m/s² × 3 m / 1000 = 72.1 kPa
T2	Full hydrostatic pressure at the base of the pour: 72.1 kPa	p = ρ g H = 2450 kg/m³ × 9.81 m/s² × 3 m / 1000 = 72.1 kPa
T3	Full hydrostatic pressure at the base of the pour: 72.1 kPa	p = ρ g H = 2450 kg/m³ × 9.81 m/s² × 3 m / 1000 = 72.1 kPa
K1	Full hydrostatic pressure at the base of the pour: 67.3 kPa	p = ρ g H = 2450 kg/m³ × 9.81 m/s² × 2.8 m / 1000 = 67.3 kPa
C1	Full hydrostatic pressure at the base of the pour: 96.1 kPa	p = ρ g H = 2450 kg/m³ × 9.81 m/s² × 4 m / 1000 = 96.1 kPa
H1	Full hydrostatic pressure at the base of the pour: 33 kPa	p = ρ g H = 2400 kg/m³ × 9.81 m/s² × 1.4 m / 1000 = 33 kPa
S1	Full hydrostatic pressure at the base of the pour: 15.3 kPa	p = ρ g H = 2400 kg/m³ × 9.81 m/s² × 0.65 m / 1000 = 15.3 kPa

p = ρ g H: an upper bound and a check value, not a design pressure. No reduction for the rate of rise, the temperature or the mix is computed. The design pressure is the designer's, returned in the pressure statement in Appendix C; the site's rate of rise limit is written from it. The figures from the data with their formulas are in Appendix E.

Notes

How to read this set

1. This sheet and TW 090-SK-02, TW 090-SK-03 give what holds for the whole brief. The legend, the symbols and the general notes are on TW 090-SK-04.
2. Each sheet of views carries the data its views are drawn from, and its Designer to verify table.
3. Numbered tags mark the items the designer is to verify. The cover brief lists every one by its number.
4. Documents are cited by reference only; the designer uses the current edition unless the project specification names another.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
Key information

Drawing number
TW 090-SK-01

Rev
A

Scale at A3
Not to scale

Date
29 Sept 2026

Sheet
1 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

Stripping strengths and the project drawings they come from

Vertical forms	15 MPa in situ before the side forms are struck, from the project specification clause on formwork removal
Soffits and beams	32 MPa in situ before the soffit forms and falsework are struck, from the structural drawings general notes
Project drawings referenced	EX 900 rev A, Example Pump Station, general arrangement and grid; EX 901 rev A, Tank wall, plan, elevation and lifts; EX 902 rev A, Valve pit, plan and sections; EX 903 rev A, Column and headstock, elevations and sections; EX 904 rev A, Roof slab plan and sections

From the project's drawings and specification only; the tool ships no stripping values.

The works, described from the data

T1 Tank wall, lift 1 is a wall cast in a double sided form, 18.85 m long, 300 mm thick and 3 m high, from RL 10.00 to RL 13.00. It is lift 1 of Tank wall. In plan it is a curved or segmented run of 1 segments (arc R 9 m through 120 degrees left), 18.844 m along the centreline. Its junctions and construction joints are J1 base joint with Tank base slab, base slab (800 mm) (the data tables of the drawing sheets).

T2 Tank wall, lift 2 is a wall cast in a double sided form, 18.85 m long, 300 mm thick and 3 m high, from RL 13.00 to RL 16.00. It is lift 2 of Tank wall, standing on T1. In plan it is a curved or segmented run of 1 segments (arc R 9 m through 120 degrees left), 18.844 m along the centreline. Its junctions and construction joints are J1 base joint with Tank wall, lift 1, the lift below (300 mm) (the data tables of the drawing sheets).

T3 Tank wall, lift 3 is a wall cast in a double sided form, 18.85 m long, 300 mm thick and 3 m high, from RL 16.00 to RL 19.00. It is lift 3 of Tank wall, standing on T2. In plan it is a curved or segmented run of 1 segments (arc R 9 m through 120 degrees left), 18.844 m along the centreline. Its junctions and construction joints are J1 base joint with Tank wall, lift 2, the lift below (300 mm) (the data tables of the drawing sheets).

K1 Valve pit is a wall cast in a double sided form, 18 m long, 250 mm thick and 2.8 m high, from RL 10.00 to RL 12.80. It is lift 1 of Valve pit. In plan it is a polygonal cell of 6 sides (straight 3 m; turn 60 degrees left, then straight 3 m; turn 60 degrees left, then straight 3 m; turn 60 degrees left, then straight 3 m; turn 60 degrees left, then straight 3 m; turn 60 degrees left, then straight 3 m), 18 m along the outer face. Its junctions and construction joints are J1 base joint with Pit base slab, base slab (400 mm) (the data tables of the drawing sheets).

C1 Pump station column is a column cast in a double sided form, 0.6 m long, 600 mm thick and 4 m high, from RL 10.00 to RL 14.00. Its junctions and construction joints are J1 base joint with Pile caps PC1 to PC8, pile cap (1200 mm) and J2 joint at the top with Pipe rack beams B1 to B8, beam (900 by 600 mm) (the data tables of the drawing sheets).

C1 Pump station column: Notes on this pour: The eight columns are poured one per day with the same form; the first arrangement is inspected by the engineer and the rest by the site engineer.

H1 Pump station headstock is a suspended headstock on falsework, with beams 1400 mm deep. The soffit is at RL 14.00 and the falsework founds at RL 10.00 on compacted fill, 4 m of falsework. Under it: working area.

S1 Pump station roof slab is a suspended suspended slab on falsework, 21 by 9 m in plan, with a 250 mm slab and beams 650 mm deep. The soffit is at RL 14.05 and the falsework founds at RL 10.20 on compacted fill, 3.85 m of falsework. Under it: working area. Its junctions and construction joints are J1 construction joint, J2 junction over a column or wall with Columns C1 to C8, column (400 by 400 mm) and J3 edge against a wall or column with Pump house wall W2, wall (300 mm) (the data tables of the drawing sheets).

Reference drawings

Number	Title	Revision	Status
EX 900	Example Pump Station, general arrangement and grid	A	Issued for construction
EX 901	Tank wall, plan, elevation and lifts	A	Issued for construction
EX 902	Valve pit, plan and sections	A	Issued for construction
EX 903	Column and headstock, elevations and sections	A	Issued for construction
EX 904	Roof slab plan and sections	A	Issued for construction

The permanent works drawings the designer is to work from. The designer is to confirm the revisions held before starting design.

For every pour

T1: no penetrations, confirmed against the drawings. T2: no penetrations, confirmed against the drawings. T3: no penetrations, confirmed against the drawings. K1: no penetrations, confirmed against the drawings. C1: no penetrations, confirmed against the drawings.

Performance criteria, standards and categorisation: the author's answers

FWQ120	Deflection and tolerance limits for the forms, with their source: Soffit deflection under the wet concrete not more than span/360 and 10 mm precamber to the beams, from the structural drawings general notes; tolerances of AS 3610.1 Class 3
FWQ121	Client or project specifications that apply to formwork and concrete (List): Example Water Authority specification EWC 3.2 Concrete work, section 5 Formwork; structural drawings general notes on stripping
FWQ122	Standards the design is to comply with (List): AS 3610.2 (Int) for the design, AS 3610.1 for the formwork surface, AS 3600 for the slab, AS/NZS 1170.0 and 1170.2 for the loads, AS 1576.1 where scaffold components are used in the falsework

Deliverables, monitoring and inspection: the author's answers

FWQ146	Who installs, reads and reviews the monitoring during the pour (Parties): Example Survey Services sets the baseline and reads the soffit levels; the site engineer reviews each reading against the alert and stop levels during the pour
FWQ147	Inspection regime during erection and before the pour: Progressively during erection and before the pour
FWQ148	Engineer or competent person who carries out the pre pour inspection: D. Example, Example Temporary Works Design (engineer) for the first arrangement; the site engineer, a competent person, thereafter
FWQ149	Document format, numbering and review turnaround periods: Drawings numbered TW 0xx, review turnaround 5 working days

Preferred concept

The preferred concept, from the form type entered for each pour, is proprietary panel system. The designer may propose an alternative where it is unsuitable, and is to advise the author before proceeding with it.

Concept screening prompts

Prompt	Screening prompt
FWC011	Mass pour. Mounding at the discharge point, the rate of placement across the plan, and the thermal behaviour of the mix.
FWC013	A soffit with a deflection limit or monitoring thresholds. Baseline levels, the stop level, the reading frequency and who stops the pour must be defined.
FWC014	A lift on previously cast concrete. The forms, props and platforms of the upper lift bear on and anchor into the lift below; the concrete strength when loaded, the anchor capacity and the permanent works designer's acceptance are design inputs the brief carries.
FWC015	Bars through a stop end or a form face at a junction or construction joint. The stop end or the panel is cut around every bar, fitted after the reinforcement is fixed and stripped back over it, so the bar positions must be fixed before the form closes and the cut panel is not reused as a face. Couplers or a continuity strip avoid cutting the form but change the permanent reinforcement and need the permanent works designer's acceptance.
FWC016	Construction joint within a suspended slab or beam. The stop end is fixed to the deck and holds the bars at their cover against the first pour; the deck and the falsework at the joint carry the first pour and then the second, so they are not struck or moved between the pours except as the designer states, and the joint is where the drawings or the permanent works designer put it.
FWC017	Bars drilled and fixed into existing concrete. The holes are set out clear of the existing reinforcement, the bar, the embedment and the adhesive are the permanent works designer's, and the form is sealed against an existing face that may be out of line or level; the bars are in place and accepted before the form closes.
FWC018	Kicker cast with the base. The kicker form is suspended above the base pour from the base forms or the reinforcement and must hold its line, level and the cover to the starter bars while the base is placed and finished around it; the wall or column form is then set and sealed on the kicker.

Prompts on the preferred concept for the designer's attention. They do not assess adequacy.

Who designs and who inspects before each pour, from the height tier

Pour	Tier	Design by	Pre pour inspection by
T1	Vertical form 2.4 to 3.5 m high (form height 3 m)	Engineer	Competent person
T2	Vertical form 2.4 to 3.5 m high (form height 3 m)	Engineer	Competent person
T3	Vertical form 2.4 to 3.5 m high (form height 3 m)	Engineer	Competent person
K1	Vertical form 2.4 to 3.5 m high (form height 2.8 m)	Engineer	Competent person
C1	Vertical form more than 3.5 m high, repetitive arrangement (form height 4 m)	Engineer	Engineer. Initial pre pour inspection by an engineer on the first arrangement only, then a competent person thereafter
H1	Soffit formwork 3 m high or more, or 250 mm thick or more (falsework height 4 m, thickness 1400 mm)	Engineer	Engineer
S1	Soffit formwork 3 m high or more, or 250 mm thick or more (falsework height 3.85 m, thickness 650 mm)	Engineer	Engineer

Tiers: Queensland Formwork Code of Practice 2016, reproduced with attribution to the State of Queensland. Thresholds applied: vertical forms 2.4 m and 3.5 m, single sided 2.4 m, soffits 3 m or 250 mm, infill slabs 4.5 m, 20 m² or 300 mm, stairs 3 m or 200 mm. The tiers decide who designs and who inspects before the pour, not whether a design is needed, which the categorisation above states.

Notes

How to read this set

1. This sheet and TW 090-SK-02, TW 090-SK-03 give what holds for the whole brief. The legend, the symbols and the general notes are on TW 090-SK-04.
2. Each sheet of views carries the data its views are drawn from, and its Designer to verify table.
3. Numbered tags mark the items the designer is to verify. The cover brief lists every one by its number.
4. Documents are cited by reference only; the designer uses the current edition unless the project specification names another.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
Key information continued

Drawing number
TW 090-SK-02

Rev
A

Scale at A3
Not to scale

Date
29 Sept 2026

Sheet
2 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

TWfAU categorisation and checking

Categorisation after the TWfAU Temporary Works Risk Guidelines: the author states CFR2, DCR3, ER2 and check category 3; the level each stands for and the reason are on the key information sheet. From the brief data the tool proposes CFR2, DCR3, ER3 and check category 3, and the stated categories depart from it with ER2 where ER3 is proposed. The author's reasoning in full, the proposal with its reasoning, every deliverable and inspection the TWfAU guide lists and the permit stages are in Appendix D.

Design checking: Checked by an independent organisation not involved in the design and not consulted by the designer. The checker is the design checker, Example Checking Engineers (different organisation, not involved in the design), which meets the independence required.

The designer's requirements in short

Deliverables: the designer is to provide for design complexity DCR3:

- Design sketches or drawings: general arrangement, sections, details, notes and the interfaces with other works

- Design calculations

- Design report: inputs, methodology, standards, risks considered and residual, calculations and records

- Design certificate

- Design check certificate

- Safety in design register, with the residual risks written on the drawings

- Construction methodology and sequence drawings

- Inspection and test plan with the hold points and the permit stages

- Documentation (good construction practice, see DIT PC-CN4): list of the reference documents used in the design, with their revisions; list of departures from the brief, the standards or the permanent works, each with its status; job specific risk assessments for erection, use, maintenance and dismantling; instrumentation requirements: what is measured, where, how often, and the readings at which work stops; list of the approvals obtained and those still required, with who obtains each; record of the construction team's acceptance of the design documentation; statement of how the heightened risk of failure has been treated in the design

Inspections: the installed works are inspected before the permit to load by:

- Installation inspected and the permit signed by the package owner and the supervisor

- Installation inspected by the designer or the proof engineer before the permit to load

The concept design activities DCR3 calls for are listed in Appendix B.

The designer is to return:

1. Written confirmation of receipt, with any query or additional information requirement, before design starts.

2. The design statement responding to this brief, stating the edition of each document the design is to; the requirements of the designer are in Appendix B.

3. The return brief in Appendix C, each item confirmed or queried, with the designer's pressure statement, the statement of the wind and standing form parameters and the statement of the anchors into previously cast concrete, also in Appendix C, and the deliverables listed on the key information sheet.

The requirements of the designer in full, scaled for the design complexity category, are in Appendix B.

The parties to the works

Key	Party	Organisation and named person
Site	Contractor site team	Example Constructions, G. Example (site supervisor)
TWC	Temporary Works Coordinator	Example Constructions, F. Example
TWD	Formwork designer	Example Temporary Works Design, D. Example
Chk	Design checker	Example Checking Engineers, K. Example
PWD	Permanent works designer	Example Permanent Works Design, P. Example
Geo	Geotechnical consultant	Example Geotechnical Consultants
FWC	Formwork contractor or installer	Example Formwork Contractors, S. Example
Sup	Formwork system supplier	Example Formwork Supplies
Conc	Concrete supplier	Example Concrete
Surv	Surveyor or monitoring provider	Example Survey Services
Clt	Client or asset owner	Example Water Authority

The organisation and the person named for each party; the full register with the keys the matrix in Appendix D uses is there.

Responsibilities

No organisation or person is named yet for the package owner and temporary works inspector.

The formwork designer (TWD) is responsible for concept design and option selection, detailed design of the formwork, design of the falsework and its founding, state the design pressure, the method and the rate of rise assumed, certify field variations and manage design changes when site conditions differ. It is consulted on 12 other activities. The full matrix, with who is responsible (R), accountable (A), consulted (C) and informed (I) for every activity, is in Appendix D. The allocation is to be confirmed in writing with each party, or listed as an open item in the designer actions of the cover brief.

Sheet list

Drawing	Title	Scale at A3
TW 090-SK-01	Key information	Not to scale
TW 090-SK-02	Key information continued	Not to scale
TW 090-SK-03	Key information continued	Not to scale
TW 090-SK-04	Legend and general notes	Not to scale
TW 090-SK-05	T1 Tank wall, lift 1. Sections	1:25
TW 090-SK-06	T1 Tank wall, lift 1. Plan	1:100
TW 090-SK-07	T1 Tank wall, lift 1. Elevations	1:100
TW 090-SK-08	T1 Tank wall, lift 1. General arrangement. Data	Not applicable
TW 090-SK-09	T1 Tank wall, lift 1. General arrangement. Data continued	Not applicable
TW 090-SK-10	T1 Tank wall, lift 1. Junction J1	1:25
TW 090-SK-11	T1 Tank wall, lift 1. Junction J1	1:10
TW 090-SK-12	T1 Tank wall, lift 1. Stages 1 to 4	1:50
TW 090-SK-13	T1 Tank wall, lift 1. Stages 5 to 7	1:50, 1:100
TW 090-SK-14	T2 Tank wall, lift 2. Sections	1:25
TW 090-SK-15	T2 Tank wall, lift 2. Plan	1:100
TW 090-SK-16	T2 Tank wall, lift 2. Elevations	1:100
TW 090-SK-17	T2 Tank wall, lift 2. Junction J1	1:25
TW 090-SK-18	T2 Tank wall, lift 2. Stages 1 to 4	1:50
TW 090-SK-19	T2 Tank wall, lift 2. Stages 5 to 7	1:50, 1:100
TW 090-SK-20	T3 Tank wall, lift 3. Sections	1:25
TW 090-SK-21	T3 Tank wall, lift 3. Plan	1:100
TW 090-SK-22	T3 Tank wall, lift 3. Elevations	1:100
TW 090-SK-23	T3 Tank wall, lift 3. Junction J1	1:25
TW 090-SK-24	T3 Tank wall, lift 3. Stages 1 to 4	1:50
TW 090-SK-25	T3 Tank wall, lift 3. Stages 5 to 7	1:50, 1:100

Sheet list, continued

Drawing	Title	Scale at A3
TW 090-SK-26	K1 Valve pit. Sections	1:25
TW 090-SK-27	K1 Valve pit. Plan and elevations	1:100
TW 090-SK-28	K1 Valve pit. Junction J1	1:20, 1:25
TW 090-SK-29	K1 Valve pit. Stages 1 to 4	1:50
TW 090-SK-30	K1 Valve pit. Stages 5 to 7	1:50, 1:100
TW 090-SK-31	C1 Pump station column. Sections	1:50
TW 090-SK-32	C1 Pump station column. Plan and elevations	1:100, 1:200
TW 090-SK-33	C1 Pump station column. Junction J1	1:20, 1:50
TW 090-SK-34	C1 Pump station column. Junction J2	1:25
TW 090-SK-35	C1 Pump station column. Stages 1 to 4	1:100
TW 090-SK-36	C1 Pump station column. Stages 5 to 7	1:100
TW 090-SK-37	H1 Pump station headstock. Sections	1:50, 1:100
TW 090-SK-38	H1 Pump station headstock. Sections. Data	Not applicable
TW 090-SK-39	H1 Pump station headstock. Stages 1 to 4	1:100
TW 090-SK-40	H1 Pump station headstock. Stages 5 to 7	1:100
TW 090-SK-41	S1 Pump station roof slab. Sections	1:50
TW 090-SK-42	S1 Pump station roof slab. Soffit plan	1:200
TW 090-SK-43	S1 Pump station roof slab. Plan and elevations	1:100
TW 090-SK-44	S1 Pump station roof slab. Junction J1	1:20
TW 090-SK-45	S1 Pump station roof slab. Junction J2	1:20, 1:25
TW 090-SK-46	S1 Pump station roof slab. Junction J3	1:20
TW 090-SK-47	S1 Pump station roof slab. Stages 1 to 4	1:100
TW 090-SK-48	S1 Pump station roof slab. Stages 5 to 7	1:100

Designer to verify: items with no place on a drawing

No	Item	What is needed
1	Advisory FWR091. The design standard named is an interim standard. The designer is to confirm the standard the design is to and that it is current on the date of the design certificate. (AS 3610.2 (Int); AS 3610-1995)	Confirm with the designer and the project specification which standard the design is to.

Notes

How to read this set

1. This sheet and TW 090-SK-02, TW 090-SK-03 give what holds for the whole brief. The legend, the symbols and the general notes are on TW 090-SK-04.
2. Each sheet of views carries the data its views are drawn from, and its Designer to verify table.
3. Numbered tags mark the items the designer is to verify. The cover brief lists every one by its number.
4. Documents are cited by reference only; the designer uses the current edition unless the project specification names another.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
Key information continued

Drawing number
TW 090-SK-03

Rev
A

Scale at A3
Not to scale

Date
29 Sept 2026

Sheet
3 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

Symbols

RL 10.00 — Level marker: a reduced level in metres to the datum

A — Section marker: the section letter, with the arrow toward the side the section looks

Break line: the drawing is cut and the part between is not shown; the levels are true in each part

N — North point

1200 — Dimension in millimetres, with ticks and extension lines

Line work by layer

- AZ-TEXT (0.18 mm): labels, notes and leaders
- AZ-DIM (0.18 mm): dimensions, extension lines and dimension text
- AZ-LEVEL (0.18 mm): level markers and level text
- AZ-SECTION (0.35 mm): section planes, section and elevation markers, north point, break lines
- AZ-GROUND (0.5 mm): existing ground surface and its symbol
- AZ-GROUND-LAYER (0.18 mm): boundaries between ground layers, rock head
- AZ-HATCH (0.13 mm): material hatching
- AZ-EXCAVATION (0.5 mm): the excavation as cut, at the stage drawn
- AZ-CONCRETE (0.5 mm): the pour being briefed, in section, plan and elevation
- AZ-EXISTING (0.35 mm): existing structures, footings, lifts cast before, the structure a scaffold stands against, existing pits
- AZ-PIT (0.5 mm): new pits and chambers built in the excavation, at the outside and inside faces the permanent works drawings give them
- AZ-SUPPORT (0.35 mm): excavation support as entered, ground treatment, backfill
- AZ-INDICATIVE (0.25 mm): members drawn indicatively at nominal sizes and spacings
- AZ-PLANT (0.35 mm): plant footprints, surcharges, stacked materials
- AZ-LOAD (0.18 mm): load arrows
- AZ-SERVICE (0.35 mm): underground services
- AZ-ZONE (0.18 mm, dotted): service clearance zones
- AZ-LIMIT (0.25 mm, phantom): set back limits, spoil limits, plant lines
- AZ-WATER (0.25 mm, dashed): groundwater level and its symbol
- AZ-REPOSE (0.25 mm, dash dot): lines at the angle of repose from loads and footings
- AZ-PRESSURE (0.35 mm): concrete pressure diagram and its resultant
- AZ-REBAR (0.5 mm): reinforcement that runs through a construction joint or a form face, as the permanent works drawings give it, drawn at a nominal cover
- AZ-WARN (0.35 mm): warnings

Hatches and their AutoCAD patterns

- Sand (AR-SAND)
- Gravel (GRAVEL)
- Silt (MUDST)
- Clay (ANSI31)
- Organic soil and peat (SWAMP)
- Rock (AR-B816)
- Concrete (AR-CONC)
- Fill and made ground (EARTH)
- Stabilised or cement treated ground (ANSI37)
- Grouted ground (DOTS)
- Other ground treatment (ANSI32)
- Backfill (EARTH)
- Light screen picking out the subject of a figure (SOLID)

Notes

General notes

1. Design brief information. Not for construction. The drawings show the information in the brief for the designer; they are not a design.
2. Dimensions are in millimetres and levels in metres to AHD.
3. The scales are stated at A3. Use the scale bar on each view; do not scale a print of another size.
4. Members on the layer AZ-INDICATIVE, drawn grey, are shown at nominal sizes and spacings to explain the arrangement the brief describes. The design sets them.
5. Colour is used for warnings only: hold points, lines that meet the excavation, services under load, live services and limits exceeded.
6. Where a drawing needs data the brief does not hold, the view draws what the data supports and its notes say what is not drawn.
7. Key plans are not drawn: the brief data does not set out the works on the site. The reference drawings listed in the brief show the location.
8. The same drawings are available as a DXF file for AutoCAD from the brief's Issue tab: model space in millimetres with true levels, on the layers above.
9. Numbered tags mark the items the designer is to verify at the place each concerns. Each sheet lists its tags in its Designer to verify table; the items with no place on a drawing are listed on the key information sheet. The numbers are the same in the cover brief.
10. The tables on each sheet give the brief data the views on it are drawn from, each value printed once. The key information sheet gives what holds for the whole brief.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
Legend and general notes

Drawing number
TW 090-SK-04

Rev
A

Scale at A3
Not to scale

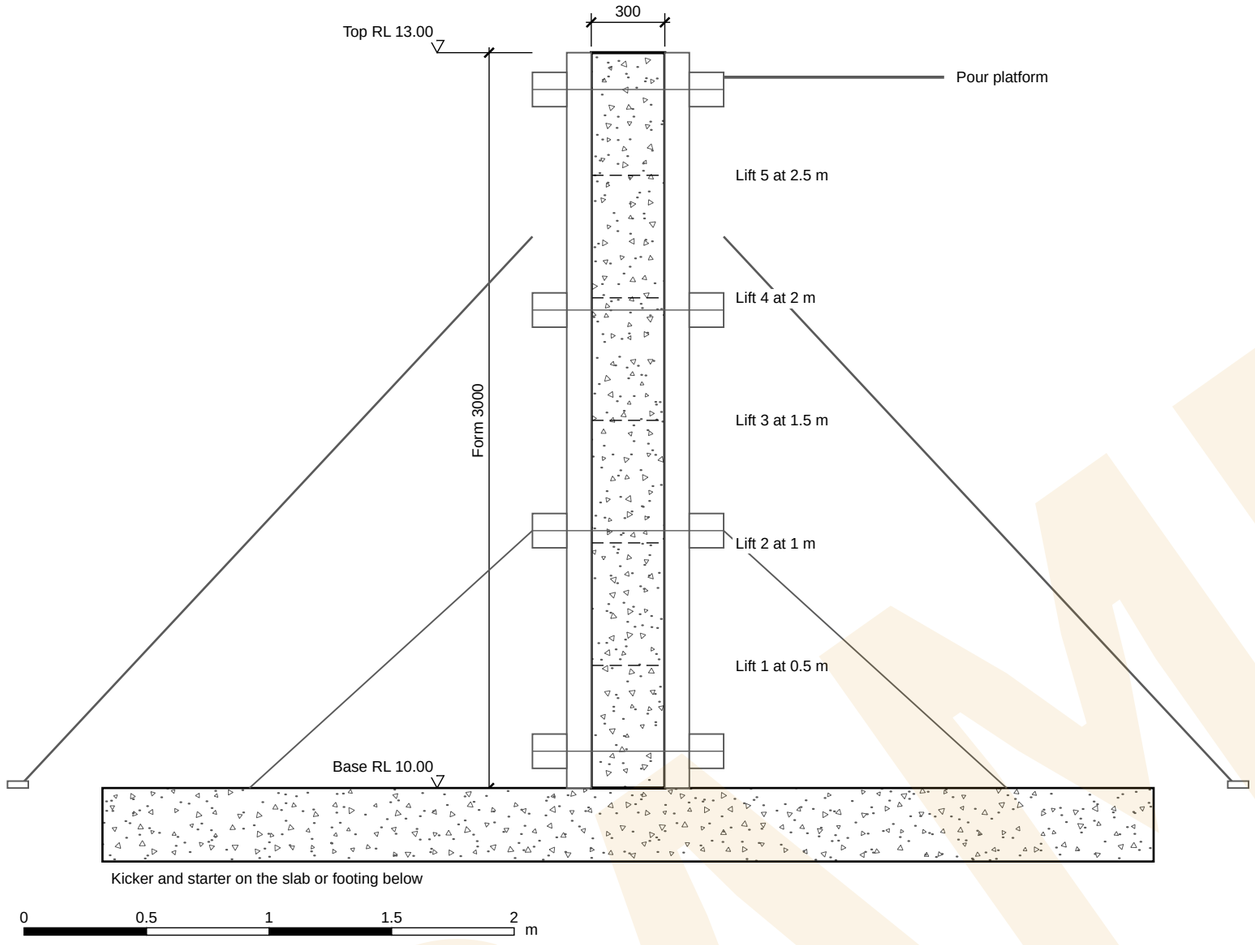
Date
29 Sept 2026

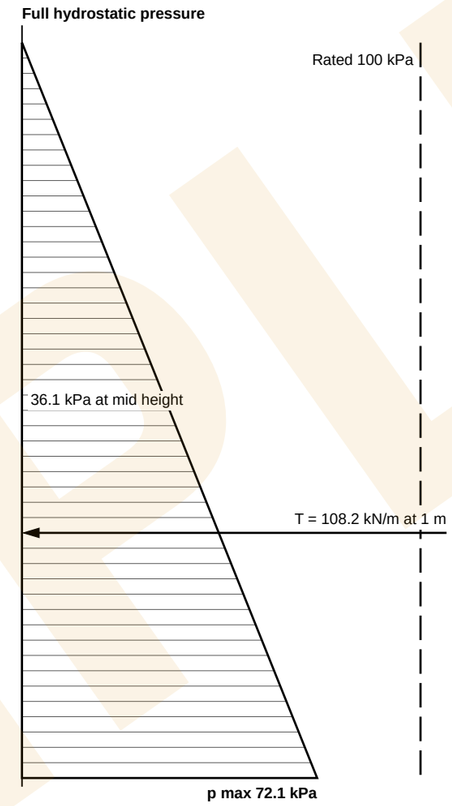
Sheet
4 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, double sided, proprietary panel system (Example Panel 240)





ρ 2450 kg/m³, H 3 m, rate of rise 1.77 m/h. Upper bound; the design pressure is the designer's

T1 Section A-A through the form

Tank wall, lift 1

Scale 1:25 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Concrete and placement

Mix	S40 20 mm, MD 1187	**Specified strength**	40 MPa
Wet density	2450 kg/m³	**Density source**	Mix design MD 1187, Example Concrete
Slump or slump flow	slump 120 mm	**Self compacting**	No
Cement and SCM	GB (blended), Slag	**Admixtures**	Water reducer, Retarder
Initial set (supplier)	5 h	**Maximum aggregate**	20 mm
Placement method	Boom pump	**Placement rate**	10 m³/h
Rate of rise from the data	1.77 m/h (10 m³/h over 5.65 m²)	**Controlled rate of rise (site limit)**	1.5 m/h
Lifts	0.5 m lifts, 30 min between lifts, revibrated: no	**Pour volume and duration**	17 m³, 1.7 h at the placement rate, 7 h window
Placing temperature	25 °C	**Ambient range and measures**	12 to 34 °C; Retarder dosed to the placing temperature per the mix design; the pour is deferred above 35 °C ambient
Vibration	Internal poker vibrator, immersion 150 mm	**Free drop height**	1.5 m
Pour direction and sequence	Around the ring from the start corner in 500 mm lifts, the internal wall placed with each lift, at not more than 1.5 m/h	**Mandatory joints**	Construction joint at the top of each lift with a keyed rebate and a hydrophilic strip; kicker joint at the base of lift 1

Notes

Section A-A through the form with the pressure diagram

1. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Concrete and placement, continued

Date and hours	18 Nov 2026, 06:00 to 13:00
Haul time	35 min
Discharge points	Boom, start corner at 1.5 m along, 0.2 m across; Boom, far side at 8 m along, 7.8 m across
Placing temperature cases	15 °C at 1.5 m/h intended; 25 °C at 1.5 m/h intended; 30 °C at 1.5 m/h intended; the designer states the permitted rate of rise for each

Wet concrete pressure: the author's answers

FWQ049	Pressure method the designer is expected to use: AS 3610.2 method for the design of formwork pressure

Falsework and founding: the author's answers

FWQ167	Services, pits or voids below the falsework founding: None; the hardstand was scanned and no service, pit or void lies within the influence of the falsework

Access, platforms and edge protection: the author's answers

FWQ110	Access to the pour (Select all that apply): Pour platform on the deck; Stair tower or scaffold stair; Elevating work platform
FWQ111	Edge protection, screens and penetration covers (Select all that apply): Edge protection on the deck; Penetration covers, fixed and marked; Barricade back from the leading edge
FWQ112	Is a false deck provided where erection would put workers more than two metres above the level below: Yes
FWQ113	Emergency egress from the deck or the pour platform: Stair tower at the north end and the scaffold stair at the south end; both kept clear during the pour

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T1 Tank wall, lift 1. Sections

Drawing number
TW 090-SK-05

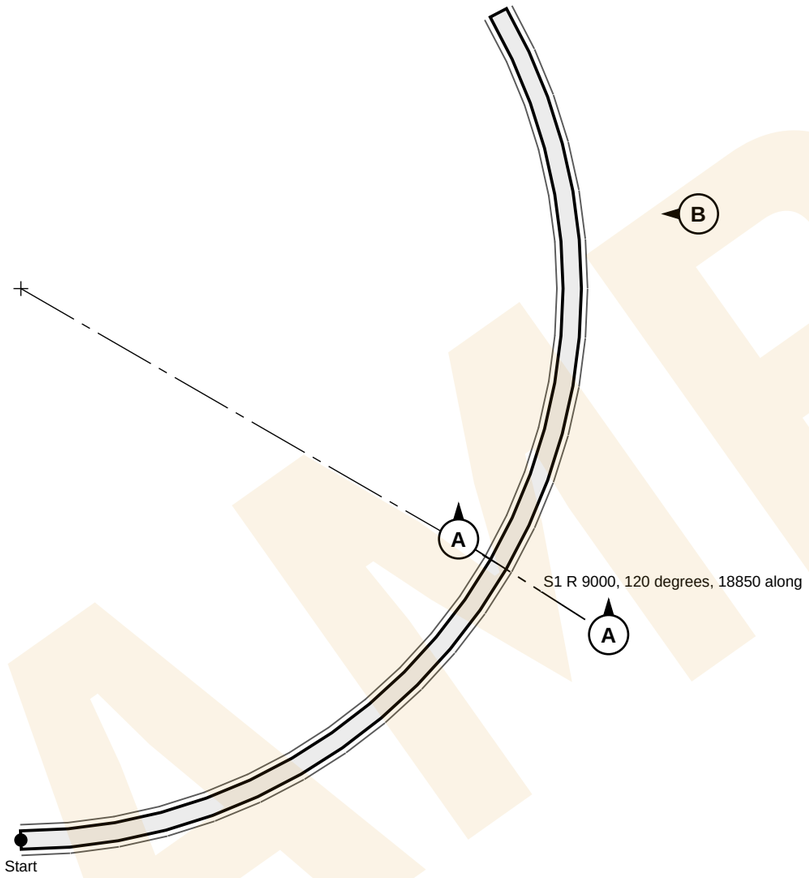
Rev
A

Scale at A3
1:25

Date
29 Sept 2026

Sheet
5 of 48

Design brief information. Not for construction
Issued 29 Sept 2026



0 2 4 6 8 m

T1 Plan of the pour

Tank wall, lift 1

Scale 1:100 at A3
Dimensions in millimetres

Notes

Plan of the pour

1. Dimensions along the set out line, the centreline; 18.844 m in all
2. S1: arc R 9000 through 120 degrees left, 18850 along, wall 300 thick
3. Section A-A and elevation B are the generated figures: the section is across the first segment, and the elevation looks at its outer face, developed along the wall
4. Plant and discharge points are listed in the data for a wall walked as segments; they are not drawn on its plan
5. Junctions J1 are detailed separately; the 3D formwork model places them along the wall
6. Arcs drawn as chords of no more than 5 degrees; lengths and areas along an arc are within 0.05 per cent of the true arc.

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Loads other than concrete

Deck live load the site controls to	Not set; the designer states it
Materials craned onto the deck	Yes
Wind region and terrain (AS/NZS 1170.2)	region A, terrain category 2
Days the forms stand before the pour	3
Screens or shade cloth on the forms	No
Water, flood or scour at the founding	No
Stacked materials	None entered
Other loads	Pump line on the pour platform; access scaffold tied to the cast lifts (separate scaffold brief)

Loads and environment other than concrete: the author's answers

FWQ071	Is the bracing and anchorage that keeps the forms stable at every stage, from erection to striking, part of this brief: Yes
FWQ163	Operations by others during the life of the works that could load the forms or falsework or constrain their geometry, with their period: None known
FWQ165	Plant and traffic that could strike the forms, the falsework or its founding, and the protection: The agitator route runs outside the falsework footprint; concrete barriers between the route and the nearest legs, placed and maintained by the site team
FWQ169	Are void formers cast in a suspended slab: No

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T1 Tank wall, lift 1. Plan

Drawing number
TW 090-SK-06

Rev
A

Scale at A3
1:100

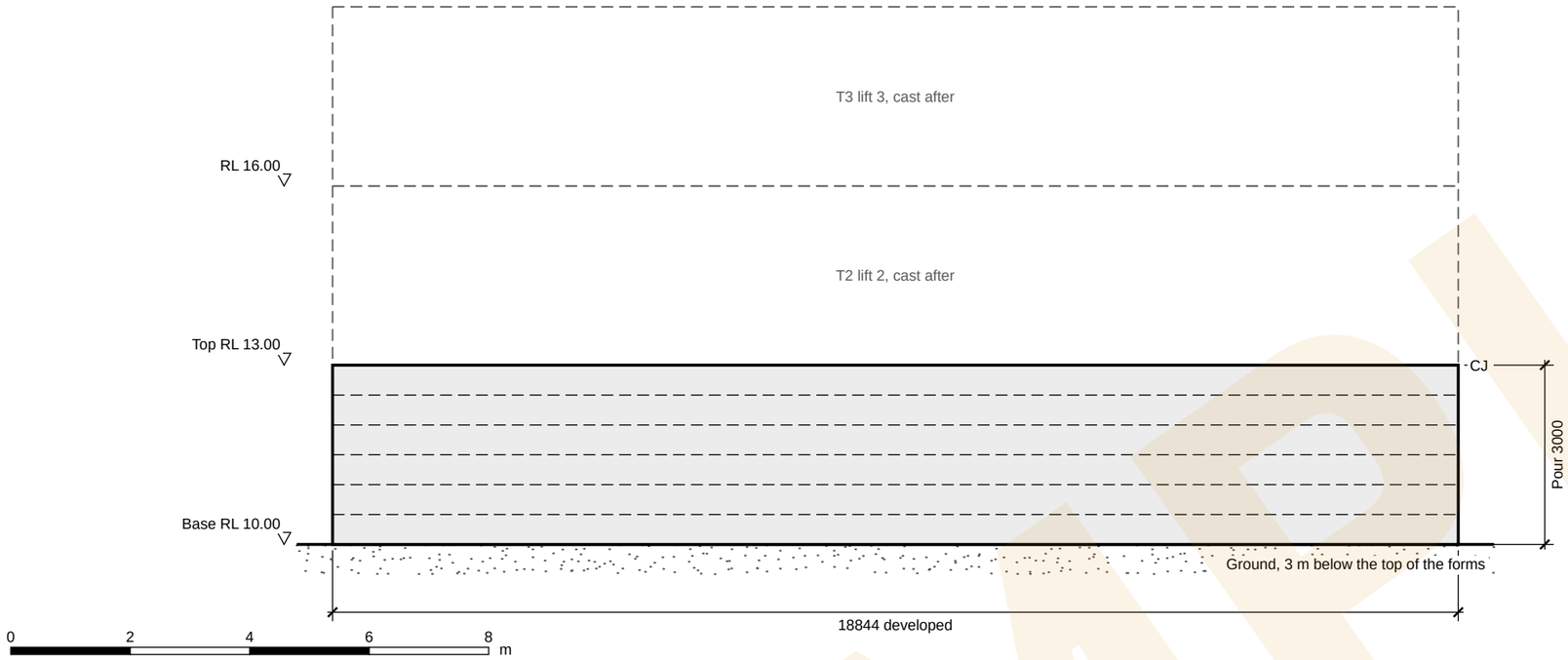
Date
29 Sept 2026

Sheet
6 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, lift 1 of Tank wall, 3000 high; 0 penetrations; 2 other lifts of the element shown



T1 Elevation B of the outer face

Tank wall, lift 1

Scale 1:100 at A3
Dimensions in millimetres, levels to the project datum

Element and geometry

Element type	Wall	**Drawing**	EX 901 rev A
Plan length	18.85 m	**Thickness**	0.3 m
Form height	3 m	**Pour height**	3 m
Sided	Double sided	**Plan area**	5.65 m²
Base RL and top RL	Base RL 10.00, top RL 13.00	**Element and lift**	Lift 1 of 3 in this brief of Tank wall
Plan shape	Curved or segmented run of 1 segments (arc R 9 m through 120 degrees left), 18.844 m along the centreline	**Length of wall poured and perimeter**	18.85 m of wall; 18.84 m along the set out line
Top of the forms above ground	3 m	**Penetrations**	None, confirmed against the drawings
Ties	Through ties	**Ties restricted by the specification**	No
On the project grid	Start corner at grid 1/A, 2 m along x and 2 m along y from it, its length along the grid's x axis	**Cast order**	Pour 1 in the project's cast order
Form type	Proprietary panel system	**Proprietary system**	Example Panel 240, Example Formwork Supplies; rated 100 kPa; for ties at 600 by 600 with the supplier's heavy walers, the configuration rated 100 kPa in the data sheet; panels 2.7 m plus a 0.9 m extension; corner and internal wall junctions with the supplier's corner posts; from Example Formwork Supplies technical data sheet EP 240 rev 4, June 2026
Surface finish class	Class 2 (AS 3610.1)	**Architectural constraints**	Tie holes on the regular grid of drawing EX 402; no tie within 300 mm of a penetration
Repeated pour and reuse	Yes; 4 reuse cycles expected	**Left in place**	No

Notes on the data

The full hydrostatic head of the fresh concrete at the base is 72.1 kPa, an upper bound and a check value set out with its formula and inputs in Appendix E. The design pressure is the designer's, returned in the pressure statement in Appendix C; the site's rate of rise limit is written from it.

Element and geometry: the author's answers

FWQ024	Is a current survey of the founding or supporting surface available: Yes

Notes

Elevation B of the outer face with the lifts and the penetrations

1. Placement lifts of 0.5 m drawn dashed
2. Developed elevation along the set out line from its start; the start of each segment is marked
3. No penetrations in this pour, confirmed against the drawings

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Plant register (proposed loading)

Plant	**Concrete pump: Example Pumps EP 36**
Mass	30 t loaded mass
Published data used	outriggers 8.3 by 6.2 m; maximum outrigger load 180 kN; pads 1 m square
Where it works	Right side; set back 3 m from the form face or falsework; works over the forms; Pumping each lift from the west side
Plant	**Mobile crane: Example Cranes EC 60**
Mass	48 t travel mass with counterweight
Published data used	outriggers 7.2 by 7 m; maximum outrigger load 420 kN; pads 1.2 m square
Where it works	Right side; set back 6 m from the form face or falsework; works over the forms; Lifting the form panels in and out
Plant	**Concrete pump: Example Pumps EP 36**
Mass	30 t loaded mass
Published data used	outriggers 8.3 by 6.2 m; maximum outrigger load 180 kN; pads 1 m square
Where it works	Left side; set back 2 m from the form face or falsework; works over the forms; Pumping the pour from the north side
Plant	**Concrete agitator: Example Concrete 8 m³ agitator**
Mass	28 t loaded mass
Published data used	wheelbase 5.2 m; axle loads 7, 10.5, 10.5 t
Where it works	Left side; set back 6 m from the form face or falsework; Discharging to the pump hopper
Plant	**Mobile crane: Example Cranes EC 60**
Mass	48 t travel mass with counterweight
Published data used	outriggers 7.2 by 7 m; maximum outrigger load 420 kN; pads 1.2 m square
Where it works	Right side; set back 4 m from the form face or falsework; works over the forms; Lifting the form panels in and out

Every item of plant on or near the forms and falsework, with the manufacturer's published data. The document each figure comes from, and simple arithmetic on the published data, are in Appendix E.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T1 Tank wall, lift 1. Elevations

Drawing number	Rev
TW 090-SK-07	**A**

Scale at A3	Date	Sheet
1:100	29 Sept 2026	7 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

Stages and hold points for T1

No	Kind	Work in the stage	Concrete level	Hold point and who releases it
1	Erect	Set out, fix the kicker and starter, erect and align the forms, fix ties and bracing		
2	Pre pour	Pre pour inspection and certificate		Pre pour inspection: Ties, walers, strongbacks, bracing and anchors as designed; rated pressure and rate of rise stated on the permit Released by the Temporary Works Coordinator
3	Pour	Pour lift 1 to 0.5 m above the base at the controlled rate of rise	0.5 m above the base	Permit to load: Permit to pour issued against the pre pour certificate; rate of rise and placing temperature recorded Released by the Temporary Works Coordinator
4	Pour	Continue lifts 2 to 5 in 0.5 m lifts, each within the stated time of the last, to 1.5 m at the mid point of the pour	1.5 m above the base	
5	Pour	Pour lift 6 to the top of the pour at 3 m	3 m above the base	
6	Cure	Cure; verify the strength before striking	3 m above the base	Strength verification before strike: In situ strength verified at the stripping strength stated Released by the Temporary Works Coordinator
7	Strike	Strike the forms in the stated order; keep bracing to the cast element until it can stand on its own against wind and impact	3 m above the base	Permit to strike: Permit to strike issued against the strength verification Released by the Temporary Works Coordinator

7 stages with 4 hold points.

Stages and hold points for T2

No	Kind	Work in the stage	Concrete level	Hold point and who releases it
1	Erect	Set out, fix the kicker and starter, erect and align the forms, fix ties and bracing		
2	Pre pour	Pre pour inspection and certificate		Pre pour inspection: Ties, walers, strongbacks, bracing and anchors as designed; rated pressure and rate of rise stated on the permit Released by the Temporary Works Coordinator
3	Pour	Pour lift 1 to 0.5 m above the base at the controlled rate of rise	0.5 m above the base	Permit to load: Permit to pour issued against the pre pour certificate; rate of rise and placing temperature recorded Released by the Temporary Works Coordinator
4	Pour	Continue lifts 2 to 5 in 0.5 m lifts, each within the stated time of the last, to 1.5 m at the mid point of the pour	1.5 m above the base	
5	Pour	Pour lift 6 to the top of the pour at 3 m	3 m above the base	
6	Cure	Cure; verify the strength before striking	3 m above the base	Strength verification before strike: In situ strength verified at the stripping strength stated Released by the Temporary Works Coordinator
7	Strike	Strike the forms in the stated order; keep bracing to the cast element until it can stand on its own against wind and impact	3 m above the base	Permit to strike: Permit to strike issued against the strength verification Released by the Temporary Works Coordinator

7 stages with 4 hold points.

Stages and hold points for T3

No	Kind	Work in the stage	Concrete level	Hold point and who releases it
1	Erect	Set out, fix the kicker and starter, erect and align the forms, fix ties and bracing		
2	Pre pour	Pre pour inspection and certificate		Pre pour inspection: Ties, walers, strongbacks, bracing and anchors as designed; rated pressure and rate of rise stated on the permit Released by the Temporary Works Coordinator
3	Pour	Pour lift 1 to 0.5 m above the base at the controlled rate of rise	0.5 m above the base	Permit to load: Permit to pour issued against the pre pour certificate; rate of rise and placing temperature recorded Released by the Temporary Works Coordinator
4	Pour	Continue lifts 2 to 5 in 0.5 m lifts, each within the stated time of the last, to 1.5 m at the mid point of the pour	1.5 m above the base	
5	Pour	Pour lift 6 to the top of the pour at 3 m	3 m above the base	
6	Cure	Cure; verify the strength before striking	3 m above the base	Strength verification before strike: In situ strength verified at the stripping strength stated Released by the Temporary Works Coordinator
7	Strike	Strike the forms in the stated order; keep bracing to the cast element until it can stand on its own against wind and impact	3 m above the base	Permit to strike: Permit to strike issued against the strength verification Released by the Temporary Works Coordinator

7 stages with 4 hold points.

Stages and hold points for K1

No	Kind	Work in the stage	Concrete level	Hold point and who releases it
1	Erect	Set out, fix the kicker and starter, erect and align the forms, fix ties and bracing		
2	Pre pour	Pre pour inspection and certificate		Pre pour inspection: Ties, walers, strongbacks, bracing and anchors as designed; rated pressure and rate of rise stated on the permit Released by the Temporary Works Coordinator
3	Pour	Pour lift 1 to 0.5 m above the base at the controlled rate of rise	0.5 m above the base	Permit to load: Permit to pour issued against the pre pour certificate; rate of rise and placing temperature recorded Released by the Temporary Works Coordinator

Notes

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T1 Tank wall, lift 1. General arrangement. Data

Drawing number
TW 090-SK-08

Rev
A

Scale at A3
Not applicable

Date
29 Sept 2026

Sheet
8 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

Stages and hold points for K1, continued

No	Kind	Work in the stage	Concrete level	Hold point and who releases it
4	Pour	Continue lifts 2 to 5 in 0.5 m lifts, each within the stated time of the last, to 1.5 m at the mid point of the pour	1.5 m above the base	
5	Pour	Pour lift 6 to the top of the pour at 2.8 m	2.8 m above the base	
6	Cure	Cure; verify the strength before striking	2.8 m above the base	Strength verification before strike: In situ strength verified at the stripping strength stated Released by the Temporary Works Coordinator
7	Strike	Strike the forms in the stated order; keep bracing to the cast element until it can stand on its own against wind and impact	2.8 m above the base	Permit to strike: Permit to strike issued against the strength verification Released by the Temporary Works Coordinator

7 stages with 4 hold points.

Stages and hold points for C1

No	Kind	Work in the stage	Concrete level	Hold point and who releases it
1	Erect	Set out, fix the kicker and starter, erect and align the forms, fix ties and bracing		
2	Pre pour	Pre pour inspection and certificate		Pre pour inspection: Ties, walers, strongbacks, bracing and anchors as designed; rated pressure and rate of rise stated on the permit Released by the Temporary Works Coordinator
3	Pour	Pour lift 1 to 0.6 m above the base at the controlled rate of rise	0.6 m above the base	Permit to load: Permit to pour issued against the pre pour certificate; rate of rise and placing temperature recorded Released by the Temporary Works Coordinator
4	Pour	Continue lifts 2 to 6 in 0.6 m lifts, each within the stated time of the last, to 1.8 m at the mid point of the pour	1.8 m above the base	
5	Pour	Pour lift 7 to the top of the pour at 4 m	4 m above the base	
6	Cure	Cure; verify the strength before striking	4 m above the base	Strength verification before strike: In situ strength verified at the stripping strength stated Released by the Temporary Works Coordinator
7	Strike	Strike the forms in the stated order; keep bracing to the cast element until it can stand on its own against wind and impact	4 m above the base	Permit to strike: Permit to strike issued against the strength verification Released by the Temporary Works Coordinator

7 stages with 4 hold points.

Stages and hold points for H1

No	Kind	Work in the stage	Concrete level	Hold point and who releases it
1	Erect	Prepare and verify the founding surface, place sole boards and spreaders		Founding verification: Founding surface prepared, drained and verified before the falsework is loaded Released by the Temporary Works Coordinator
2	Erect	Erect the falsework, bracing progressively, with a false deck where erection is more than two metres above the level below		
3	Erect	Place bearers, joists and the deck; install edge protection and penetration covers		
4	Pre pour	Fix reinforcement and cast in items; pre pour inspection and certificate		Pre pour inspection: Frames, props, bearers and joists at the design spacing, jack extensions, bracing and backpropping checked and certified Released by the Temporary Works Coordinator
5	Pour	Place the concrete in the stated sequence at the stated rate	Full	Permit to load: Permit to load the falsework with the pour issued against the pre pour certificate Released by the Temporary Works Coordinator
6	Cure	Cure; verify the strength before striking	Full	Strength verification before strike: In situ strength verified at the stripping strength stated Released by the Temporary Works Coordinator
7	Strike	Strike in the stated order, with backpropping in place before the supports are removed	Full	Permit to strike: Permit to strike issued against the strength verification and the backpropping plan Released by the Temporary Works Coordinator

7 stages with 5 hold points.

Notes

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T1 Tank wall, lift 1. General arrangement. Data continued

Drawing number
TW 090-SK-09

Rev
A

Scale at A3
Not applicable

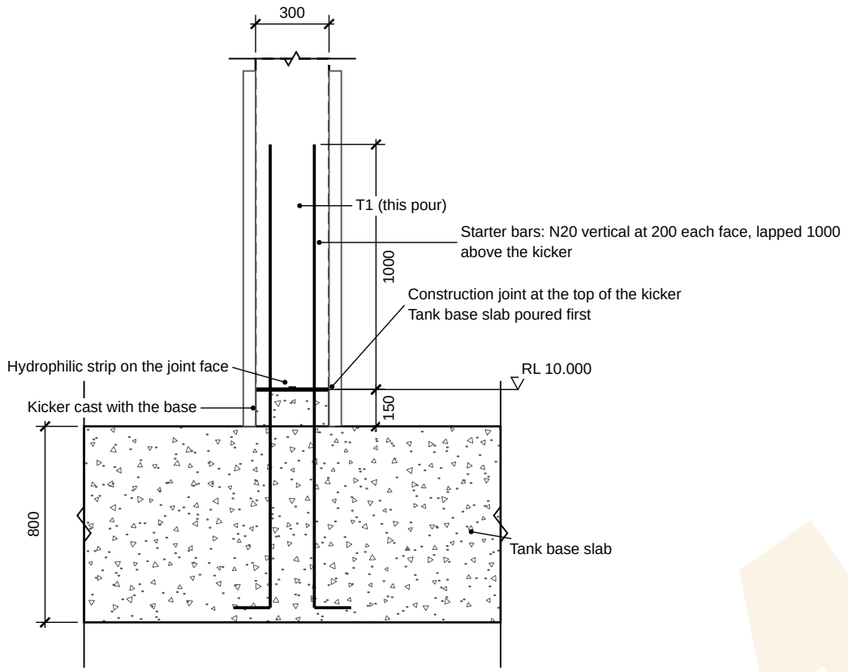
Date
29 Sept 2026

Sheet
9 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

J1 base joint: Tank base slab poured first, kicker 150, bars across the joint

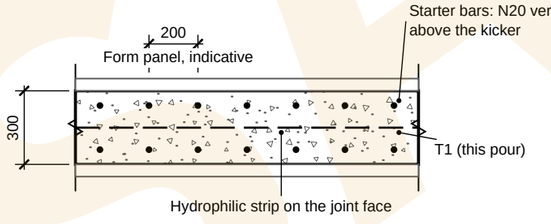


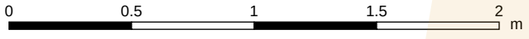
T1 J1 Section through the base joint

With Tank base slab

Scale 1:25 at A3
Dimensions in millimetres, levels to the project datum

J1 base joint: plan at the joint





T1 J1 Plan at the joint

With Tank base slab

Scale 1:25 at A3
Dimensions in millimetres

Notes

J1 section through the base joint with Tank base slab

1. The forms are drawn indicatively at nominal sizes; the design sets them
2. Bars drawn at a nominal cover of 50 mm; the drawings set the cover, the size and the spacing
3. Joint face: scabbled or water blasted to expose the aggregate
4. Detail on the permanent works drawings: EX 402 detail 1
5. Tank base slab drawn running on both sides; its extent is on the drawings

J1 plan at the joint with the bars with Tank base slab

6. Kicker 150 high, the width of the wall above
7. Bars drawn at the spacing entered on both faces; the drawings set them
8. The forms are drawn indicatively; the design sets them

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Junction J1

Mark	**T1 J1**
Junction	Base joint with Tank base slab, base slab (800 mm)
Pour order and joint	Tank base slab poured first, kicker 150 mm
Bars across the joint	N20 vertical at 200 each face, lapped 1000 above the kicker
How the joint is formed	Kicker cast with the base, the kicker form suspended from the base forms
Waterstop, key and face	Hydrophilic strip on the joint face; face scabbled or water blasted to expose the aggregate
Detail	EX 402 detail 1

Where each pour meets another member or stops at a joint within itself, the pour order and the construction joint it puts there, and the bars that cross the joint as the drawings give them. The design details the forming at each junction and the stop end, form face, kicker or head at each joint. Two views of each are drawn on the drawings in Part 2.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T1 Tank wall, lift 1. Junction J1

Drawing number
TW 090-SK-10

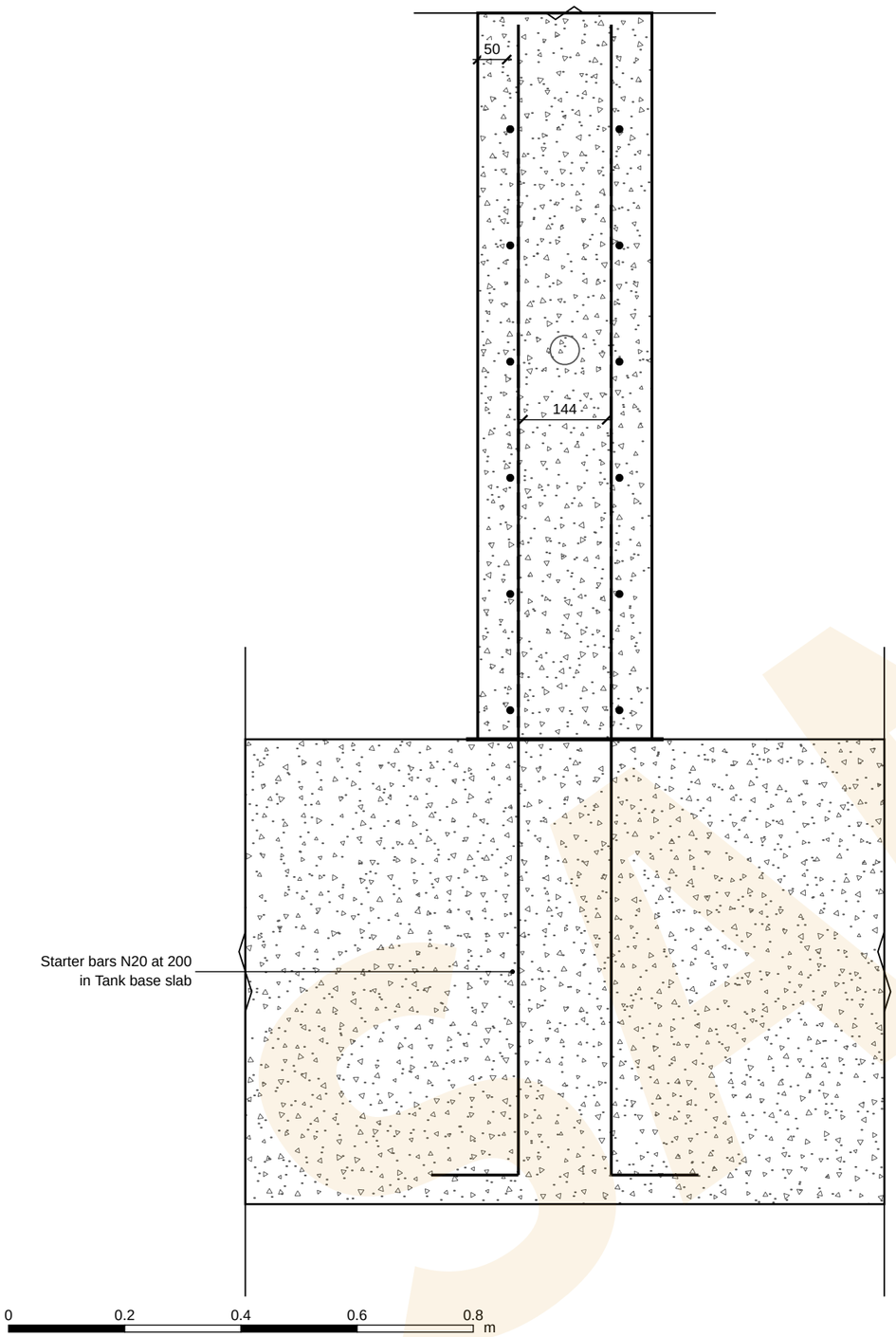
Rev
A

Scale at A3	Date	Sheet
1:25	29 Sept 2026	10 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Congestion at J1: section through the wall at the lap



T1 J1 Congestion at the bars

Base or lift below, with Tank base slab

Scale 1:10 at A3
Dimensions in millimetres

Notes

J1 congestion at the bars with Tank base slab

1. Vibrator head 50 mm (not labelled on the section)
2. T1 vertical bars N16 at 200 (not labelled on the section)
3. Horizontal bars N12 at 200 (not labelled on the section)
4. Least clear spacing: 164 mm, at the lap of the bars across the joint with this pour's bars; the limits ask for 30 mm (1.5 times the 20 mm aggregate).
5. Clear gap between the bars on the two faces: 144 mm, in a 300 mm member with 50 mm cover; the 50 mm vibrator needs 75 mm.
6. The bars are drawn at the cover, size and spacing entered from the drawings; the drawings govern. Not a placing drawing, schedule or bending detail
7. Read against the congestion limits the brief took from the author's table

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Interfaces with the permanent works: the author's answers

FWQ075	Cast in items that constrain the forms (Select all that apply): Sleeves and penetrations; Starter bars and couplers; Holding down bolts
FWQ076	Does the formwork or falsework rely on the permanent works for restraint or support: Yes
FWQ077	Has the permanent works designer agreed to that reliance: Yes
FWQ168	Movements of the permanent works that load the falsework or the props beyond stressing: shortening, settlement as the load builds, or load shared when the structure acts compositely: None expected; the columns below are cast and cured before the falsework is loaded
FWQ081	Is the element water retaining: Yes
FWQ082	Has the specification's tie and waterstop requirement for the water retaining element been confirmed: Yes
FWQ085	Adjacent structures affected by the falsework loads or by vibration: None within the influence of the falsework loads or the vibration
FWQ087	Has the permanent works designer been consulted on the formwork and falsework concept: Yes
FWQ153	How reinforcement cages are kept stable until the forms are closed and the concrete placed, and who designs the temporary support: Cages braced with raking props to the slab below at the spacing the formwork designer states, from the start of fixing until both faces of the form are closed and tied; no brace removed until the form takes over the support. The bracing is designed by the formwork designer and shown on the formwork drawings.
	Answered no: Is the element post tensioned (FWQ078); are precast elements propped on or beside the pour (FWQ080); is the loading state of an adjacent structure during the pour a design condition, and who controls it (FWQ086).

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

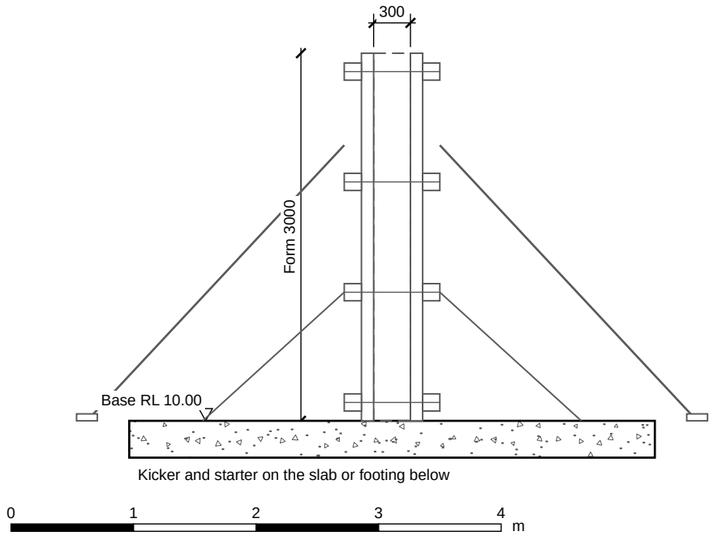
Title
T1 Tank wall, lift 1. Junction J1

Drawing number	Rev
TW 090-SK-11	**A**

Scale at A3	Date	Sheet
1:10	29 Sept 2026	11 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

Wall, double sided, proprietary panel system (Example Panel 240)

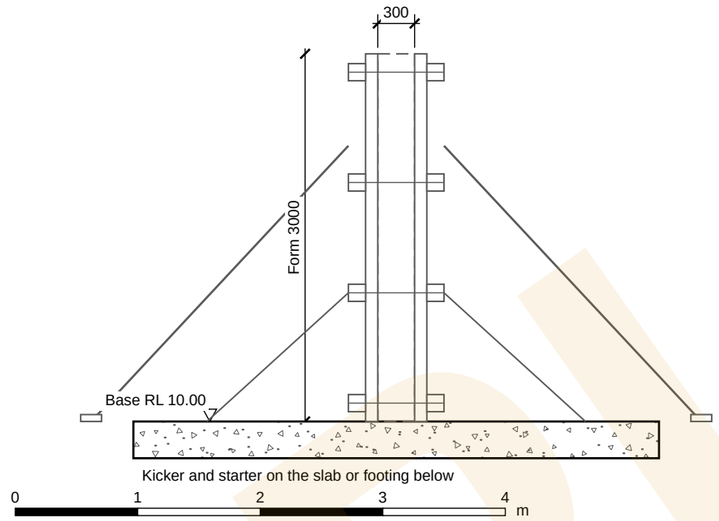


T1 Stage 1 of 7

Set out, fix the kicker and starter, erect and align the forms, fix ties and bracing

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Wall, double sided, proprietary panel system (Example Panel 240)



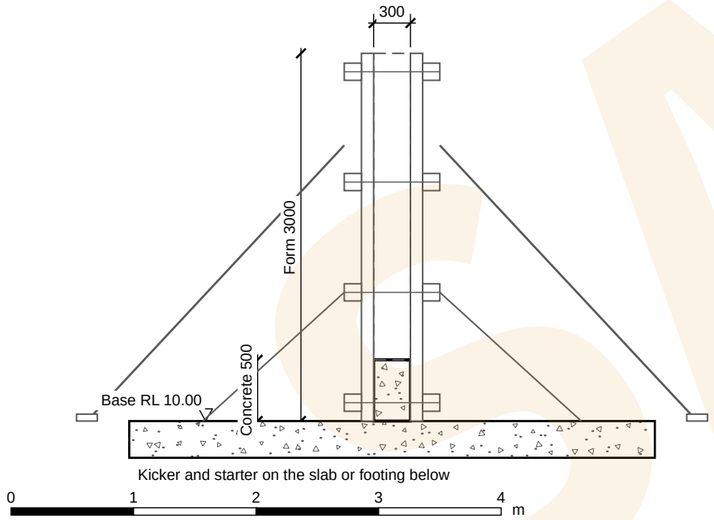
Hold point: Pre pour inspection
Ties, walers, strongbacks, bracing and anchors as designed; rated pressure and rate of rise stated on the permit. Released by Example Constructions.

T1 Stage 2 of 7

Pre pour inspection and certificate

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Wall, double sided, proprietary panel system (Example Panel 240)



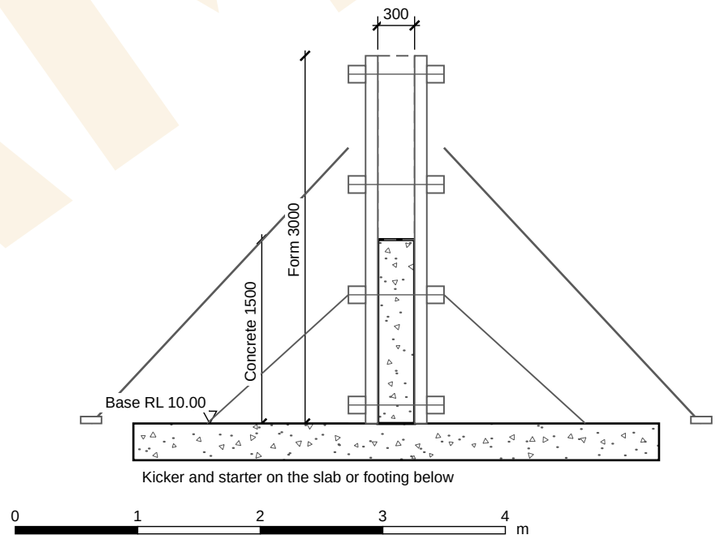
Hold point: Permit to load
Permit to pour issued against the pre pour certificate; rate of rise and placing temperature recorded. Released by Example Constructions.

T1 Stage 3 of 7

Pour lift 1 to 0.5 m above the base at the controlled rate of rise

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Wall, double sided, proprietary panel system (Example Panel 240)



T1 Stage 4 of 7

Continue lifts 2 to 5 in 0.5 m lifts, each within the stated time of the last, to 1.5 m at the mid point of the pour

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Notes

Stage 1 of 7
1. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 2 of 7
2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 3 of 7
3. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 4 of 7
4. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Sequence, striking and reuse: the author's answers

FWQ092	How in situ strength will be verified before striking: Site cured cylinders
FWQ093	Who certifies the strength before striking (Party): Example Constructions site engineer, on the cylinder results from Example Concrete's laboratory
FWQ094	Striking order: Strike from the centre of the span towards the supports, lowering the jacks progressively so the deck comes off the soffit before any support is removed; no support removed until the strength certificate is signed
FWQ095	Backpropping and reshoring plan with the retention period: Backprops are not required: the slab spans to permanent supports once struck, as the permanent works designer confirms; the falsework is retained until the strength is certified
FWQ096	Stripping method and exclusion zone (Select all that apply): Progressive lowering of the supports with the deck dropped onto them; Exclusion zone with signage while stripping
FWQ097	Will forms be lifted by crane: Yes
FWQ098	Who prepares and owns the lift plan for the forms (Party): Example Formwork Contractors prepare the lift plan; Example Constructions' lifting supervisor approves it
FWQ099	Tare mass of the forms and certification of the lifting lugs: Table sections 1.2 t each; lifting lugs certified by Example Formwork Supplies, certificate LL 118
FWQ173	Capacity of the crane or plant that handles the forms at the working radius: Example Cranes EC 60: 2.5 t at the 12 m working radius, from the load chart in lift study LS 22
FWQ171	Site restrictions on the erection and crane handling of the forms: overhead power lines, height limits, a railway or water beside the forms, fixed crane positions: None beyond the working hours; no overhead power line, height limit, railway or water within reach of the forms

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T1 Tank wall, lift 1. Stages 1 to 4

Drawing number
TW 090-SK-12

Rev
A

Scale at A3
1:50

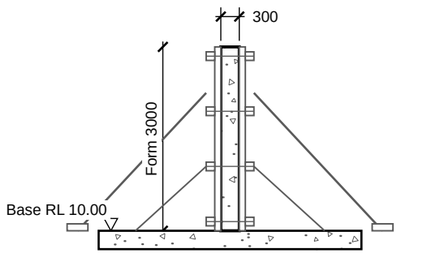
Date
29 Sept 2026

Sheet
12 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, double sided, proprietary panel system (Example Panel 240)

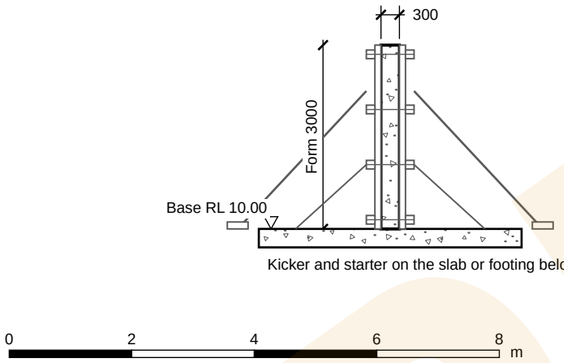


T1 Stage 5 of 7

Pour lift 6 to the top of the pour at 3 m

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Wall, double sided, proprietary panel system (Example Panel 240)



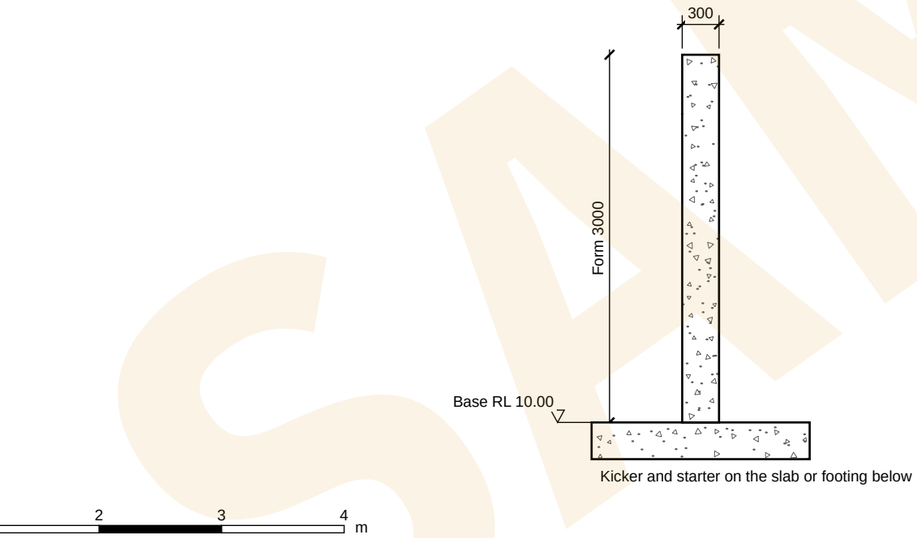
Hold point: Strength verification before strike
In situ strength verified at the stripping strength stated. Released by Example Constructions.

T1 Stage 6 of 7

Cure; verify the strength before striking

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Wall, double sided, proprietary panel system (Example Panel 240)



Hold point: Permit to strike
Permit to strike issued against the strength verification. Released by Example Constructions.

T1 Stage 7 of 7

Strike the forms in the stated order; keep bracing to the cast element until it can stand on its own against wind and impact

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Notes

Stage 5 of 7
1. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 6 of 7
2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 7 of 7
3. Forms struck; bracing to the cast element as the design requires until it stands on its own

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Sequence, striking and reuse: the author's answers, continued

FWQ100	Permits and certificates the site expects (Select all that apply): Pre pour inspection certificate; Permit to pour (load); Certification of strength before stripping; Permit to strike; Certification of field variations by the engineer
FWQ101	How field variations to the formwork are certified: Any departure from the drawings is recorded on the pre pour inspection form and certified by the designer before the permit to pour is issued
FWQ105	How will design changes be handled if site conditions differ from the brief: Changes are raised with the temporary works coordinator, who refers them to the designer; nothing is poured until the designer's amended drawing or written acceptance is on site

Design sensitivities and how each is verified

Pour	Sensitivity	How it is verified
T1	Rate of rise not more than 1.5 m/h at every placing temperature	Lift levels and times recorded on the pour record every 30 minutes
T1	Concrete strength of the lift below at or above the anchor's requirement before the props are loaded	Cylinder result or maturity reading recorded on the permit to load

Features where a small departure on site would invalidate the design. The designer is to confirm or amend them and the hold points in the design; they carry into the permit conditions for the pour.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T1 Tank wall, lift 1. Stages 5 to 7

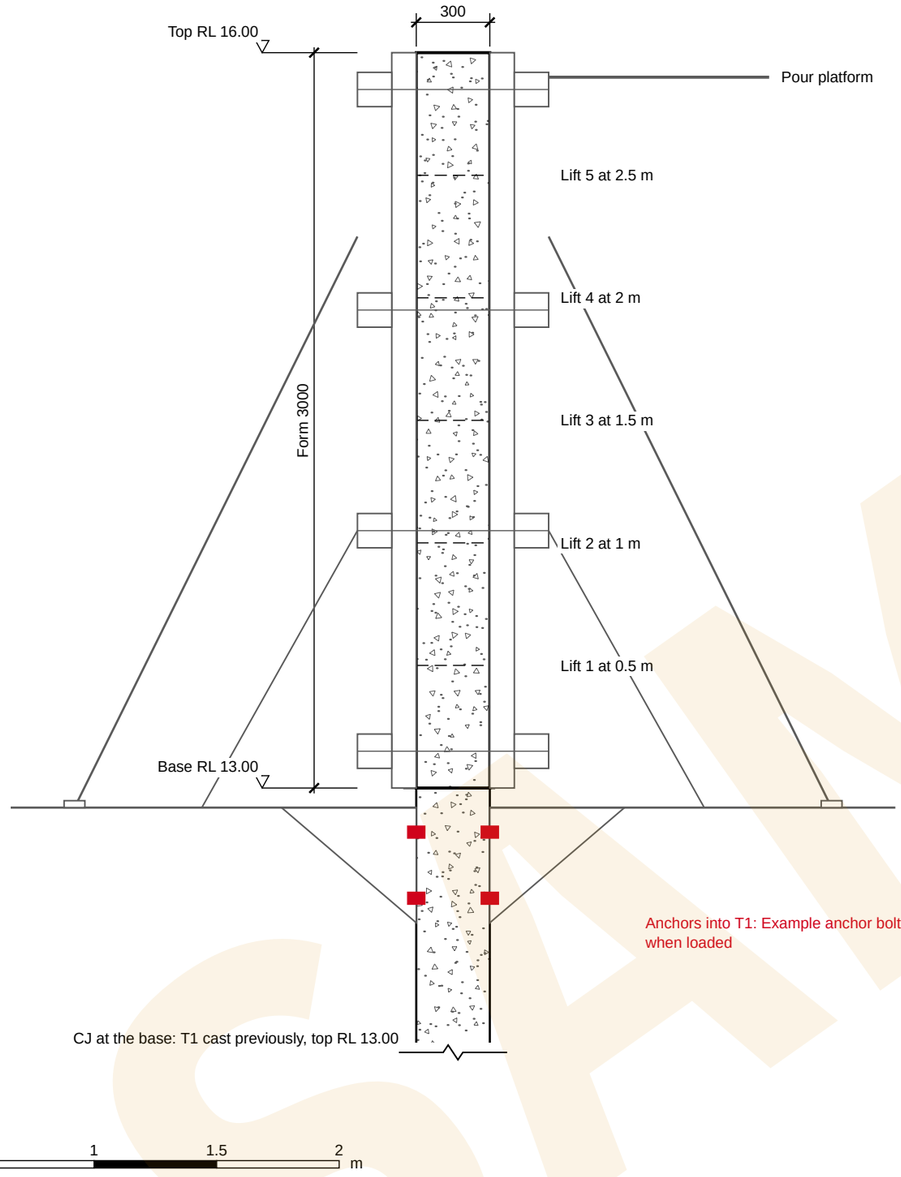
Drawing number	Rev
TW 090-SK-13	**A**

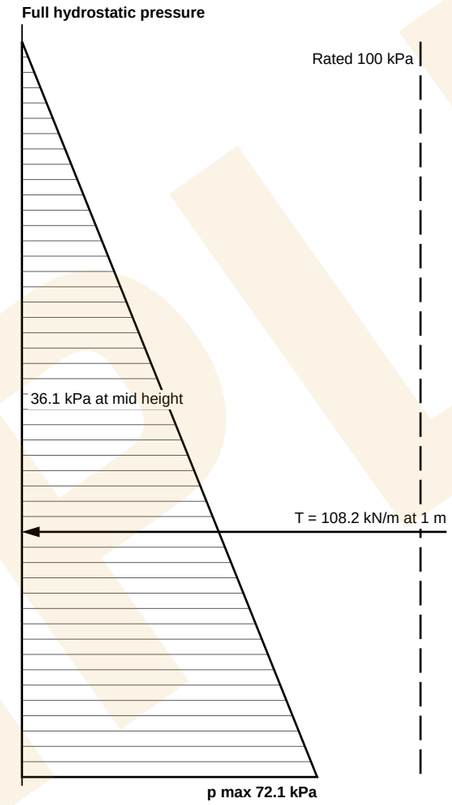
Scale at A3	Date	Sheet
1:50, 1:100	29 Sept 2026	13 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, double sided, proprietary panel system (Example Panel 240)





ρ 2450 kg/m³, H 3 m, rate of rise 1.77 m/h. Upper bound; the design pressure is the designer's

T2 Section A-A through the form

Tank wall, lift 2

Scale 1:25 at A3

Dimensions in millimetres, heights from the base of the form (RL 13.00)

Concrete and placement

Mix	S40 20 mm, MD 1187	**Specified strength**	40 MPa
Wet density	2450 kg/m³	**Density source**	Mix design MD 1187, Example Concrete
Slump or slump flow	slump 120 mm	**Self compacting**	No
Cement and SCM	GB (blended), Slag	**Admixtures**	Water reducer, Retarder

Notes

Section A-A through the form with the pressure diagram

1. Upper lift: the props and the pour platform bear on brackets anchored into the lift below, drawn indicatively; the anchor schedule lists the anchors
2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Concrete and placement, continued

Initial set (supplier)	5 h
Maximum aggregate	20 mm
Placement method	Boom pump
Placement rate	10 m³/h
Rate of rise from the data	1.77 m/h (10 m³/h over 5.65 m²)
Controlled rate of rise (site limit)	1.5 m/h
Lifts	0.5 m lifts, 30 min between lifts, revibrated: no
Pour volume and duration	17 m³, 1.7 h at the placement rate, 7 h window
Placing temperature	25 °C
Ambient range and measures	12 to 34 °C; Retarder dosed to the placing temperature per the mix design; the pour is deferred above 35 °C ambient
Vibration	Internal poker vibrator, immersion 150 mm
Free drop height	1.5 m
Pour direction and sequence	Around the ring from the start corner in 500 mm lifts, the internal wall placed with each lift, at not more than 1.5 m/h
Mandatory joints	Construction joint at the top of each lift with a keyed rebate and a hydrophilic strip; kicker joint at the base of lift 1
Date and hours	02 Dec 2026, 06:00 to 13:00
Haul time	35 min
Discharge points	Boom, start corner at 1.5 m along, 0.2 m across; Boom, far side at 8 m along, 7.8 m across
Placing temperature cases	15 °C at 1.5 m/h intended; 25 °C at 1.5 m/h intended; 30 °C at 1.5 m/h intended; the designer states the permitted rate of rise for each

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title

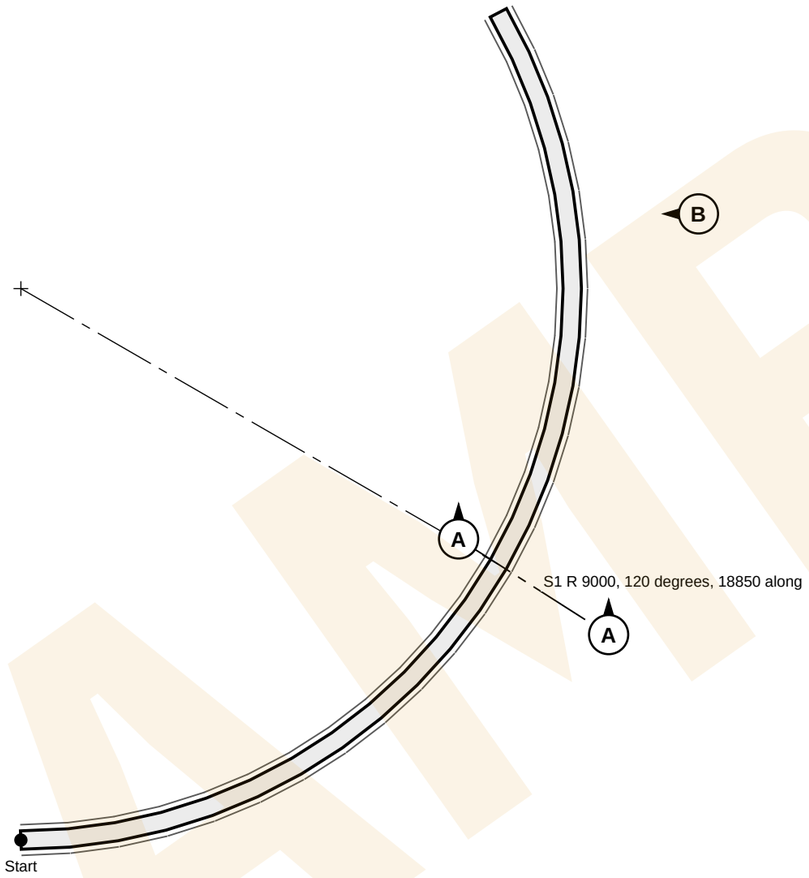
T2 Tank wall, lift 2. Sections

Drawing number	Rev
TW 090-SK-14	**A**

Scale at A3	Date	Sheet
1:25	29 Sept 2026	14 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE



0 2 4 6 8 m

T2 Plan of the pour

Tank wall, lift 2

Scale 1:100 at A3
Dimensions in millimetres

Notes

Plan of the pour

1. Dimensions along the set out line, the centreline; 18.844 m in all
2. S1: arc R 9000 through 120 degrees left, 18850 along, wall 300 thick
3. Section A-A and elevation B are the generated figures: the section is across the first segment, and the elevation looks at its outer face, developed along the wall
4. Plant and discharge points are listed in the data for a wall walked as segments; they are not drawn on its plan
5. Junctions J1 are detailed separately; the 3D formwork model places them along the wall
6. Arcs drawn as chords of no more than 5 degrees; lengths and areas along an arc are within 0.05 per cent of the true arc.

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Loads other than concrete

Deck live load the site controls to	Not set; the designer states it
Materials craned onto the deck	Yes
Wind region and terrain (AS/NZS 1170.2)	region A, terrain category 2
Days the forms stand before the pour	3
Screens or shade cloth on the forms	No
Water, flood or scour at the founding	No
Stacked materials	None entered
Other loads	Pump line on the pour platform; access scaffold tied to the cast lifts (separate scaffold brief)

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T2 Tank wall, lift 2. Plan

Drawing number
TW 090-SK-15

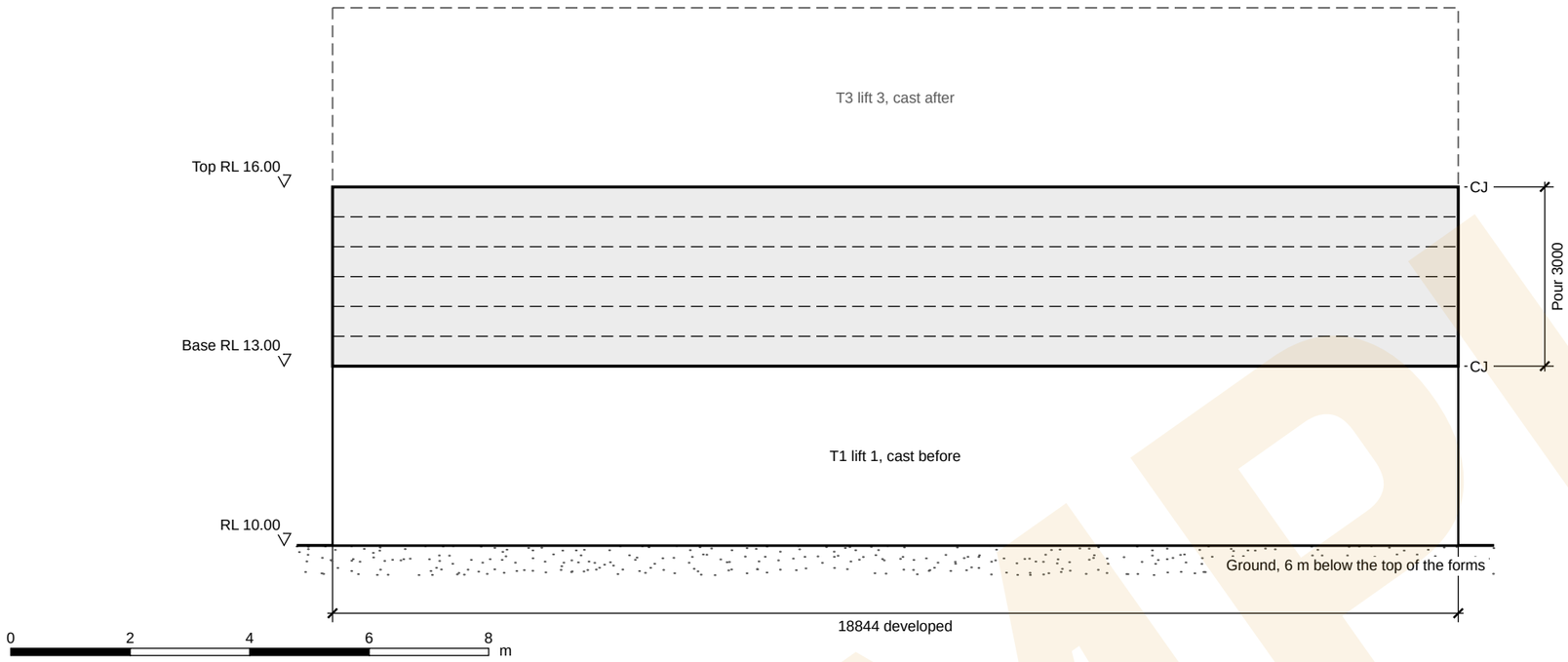
Rev
A

Scale at A3	Date	Sheet
1:100	29 Sept 2026	15 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, lift 2 of Tank wall, 3000 high; 0 penetrations; 2 other lifts of the element shown



T2 Elevation B of the outer face

Tank wall, lift 2

Scale 1:100 at A3
Dimensions in millimetres, levels to the project datum

Element and geometry

Element type	Wall	**Drawing**	EX 901 rev A
Plan length	18.85 m	**Thickness**	0.3 m
Form height	3 m	**Pour height**	3 m
Sided	Double sided	**Plan area**	5.65 m²
Base RL and top RL	Base RL 13.00, top RL 16.00	**Element and lift**	Lift 2 of 3 in this brief of Tank wall; stands on T1 (top RL 13.00)
Plan shape	Curved or segmented run of 1 segments (arc R 9 m through 120 degrees left), 18.844 m along the centreline	**Length of wall poured and perimeter**	18.85 m of wall; 18.84 m along the set out line
Top of the forms above ground	6 m	**Penetrations**	None, confirmed against the drawings
Ties	Through ties	**Ties restricted by the specification**	No
On the project grid	Start corner at grid 1/A, 2 m along x and 2 m along y from it, its length along the grid's x axis	**Cast order**	Pour 2 in the project's cast order
Form type	Proprietary panel system	**Proprietary system**	Example Panel 240, Example Formwork Supplies; rated 100 kPa; for ties at 600 by 600 with the supplier's heavy walers, the configuration rated 100 kPa in the data sheet; panels 2.7 m plus a 0.9 m extension; corner and internal wall junctions with the supplier's corner posts; from Example Formwork Supplies technical data sheet EP 240 rev 4, June 2026
Surface finish class	Class 2 (AS 3610.1)	**Architectural constraints**	Tie holes on the regular grid of drawing EX 402; no tie within 300 mm of a penetration
Repeated pour and reuse	Yes; 4 reuse cycles expected	**Left in place**	No

Notes on the data

The full hydrostatic head of the fresh concrete at the base is 72.1 kPa, an upper bound and a check value set out with its formula and inputs in Appendix E. The design pressure is the designer's, returned in the pressure statement in Appendix C; the site's rate of rise limit is written from it.

Notes

Elevation B of the outer face with the lifts and the penetrations

1. Placement lifts of 0.5 m drawn dashed
2. Developed elevation along the set out line from its start; the start of each segment is marked
3. No penetrations in this pour, confirmed against the drawings

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Anchors into previously cast concrete

Pour	**T2**
Purpose	Push pull props for the next lift
Anchor type	Example anchor bolt M16 by 150
Embedment	110 mm
Concrete strength when loaded	20 MPa
Spacing	2.4 m
Accepted by the permanent works designer	Yes
Source	Example Formwork Supplies anchor data sheet AB 16 rev 2, 2026; acceptance in the permanent works designer's letter of 12 September 2026
Pour	**T2**
Purpose	Platform or working brackets
Anchor type	Example bracket cone 20 mm cast into lift 1
Embedment	200 mm
Concrete strength when loaded	15 MPa
Spacing	1.5 m
Accepted by the permanent works designer	Yes
Source	Example Formwork Supplies bracket data sheet BK 20 rev 1, 2026; the same letter

Anchors into the lift below or the adjacent structure for props, platform brackets, single sided forms or climbing brackets, as the site expects them. The design sets the anchors and their loads; the concrete strength each anchor needs when loaded is the hold point before the next lift's props are loaded.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T2 Tank wall, lift 2. Elevations

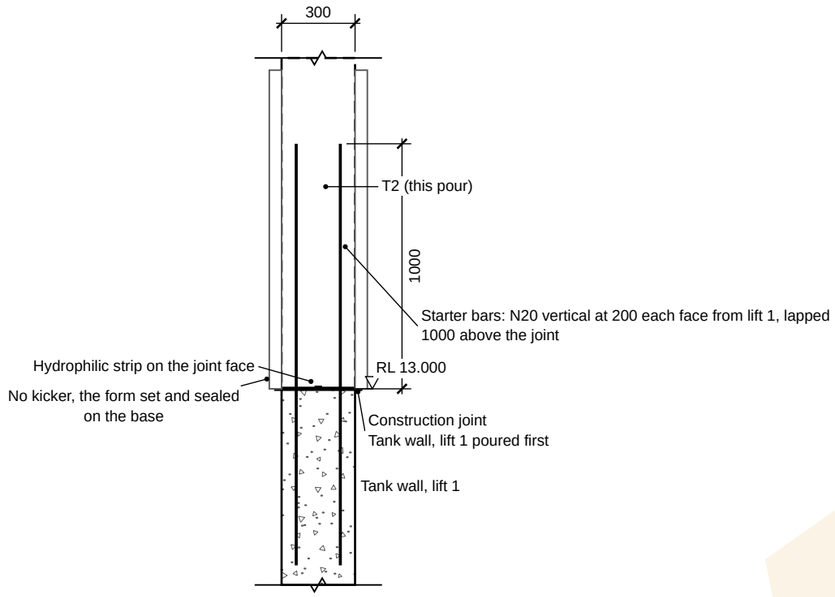
Drawing number	Rev
TW 090-SK-16	**A**

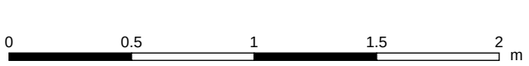
Scale at A3	Date	Sheet
1:100	29 Sept 2026	16 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

J1 base joint: Tank wall, lift 1 poured first, no kicker, bars across the joint



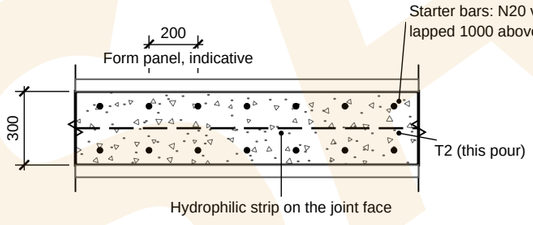


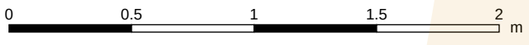
T2 J1 Section through the base joint

With Tank wall, lift 1

Scale 1:25 at A3
Dimensions in millimetres, levels to the project datum

J1 base joint: plan at the joint





T2 J1 Plan at the joint

With Tank wall, lift 1

Scale 1:25 at A3
Dimensions in millimetres

Notes

J1 section through the base joint with Tank wall, lift 1

1. The forms are drawn indicatively at nominal sizes; the design sets them
2. Bars drawn at a nominal cover of 50 mm; the drawings set the cover, the size and the spacing
3. No kicker: the forms are set and sealed directly on the base, and the line and level are held by the forms
4. Joint face: scabbled or water blasted to expose the aggregate
5. Detail on the permanent works drawings: EX 402 detail 2

J1 plan at the joint with the bars with Tank wall, lift 1

6. Bars drawn at the spacing entered on both faces; the drawings set them
7. The forms are drawn indicatively; the design sets them

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Junction J1

Mark	**T2 J1**
Junction	Base joint with Tank wall, lift 1, the lift below (300 mm)
Pour order and joint	Tank wall, lift 1 poured first, no kicker
Bars across the joint	N20 vertical at 200 each face from lift 1, lapped 1000 above the joint
How the joint is formed	No kicker, the form set and sealed on the base
Waterstop, key and face	Hydrophilic strip on the joint face; face scabbled or water blasted to expose the aggregate
Detail	EX 402 detail 2

Where each pour meets another member or stops at a joint within itself, the pour order and the construction joint it puts there, and the bars that cross the joint as the drawings give them. The design details the forming at each junction and the stop end, form face, kicker or head at each joint. Two views of each are drawn on the drawings in Part 2.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T2 Tank wall, lift 2. Junction J1

Drawing number
TW 090-SK-17

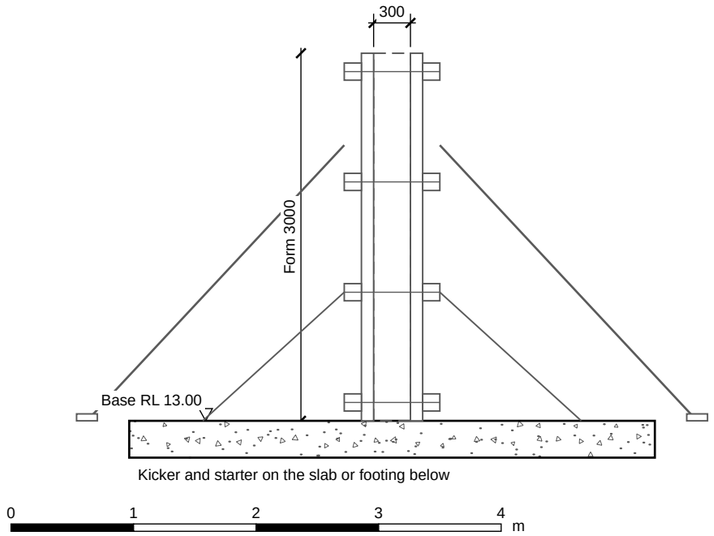
Rev
A

Scale at A3	Date	Sheet
1:25	29 Sept 2026	17 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, double sided, proprietary panel system (Example Panel 240)

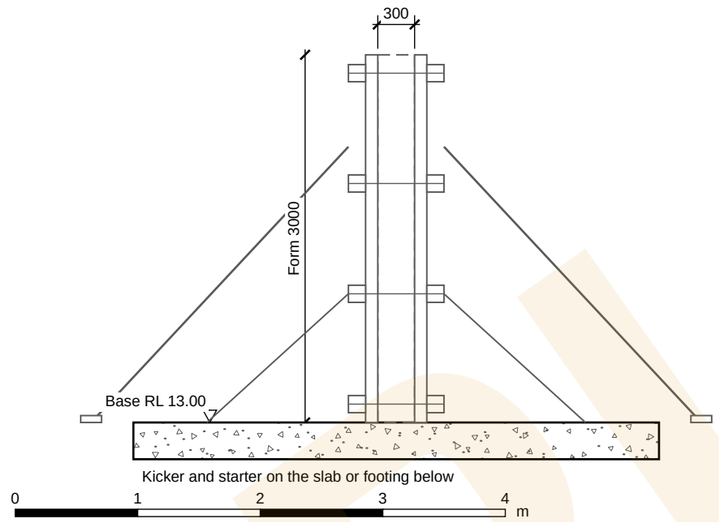


T2 Stage 1 of 7

Set out, fix the kicker and starter, erect and align the forms, fix ties and bracing

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 13.00)

Wall, double sided, proprietary panel system (Example Panel 240)



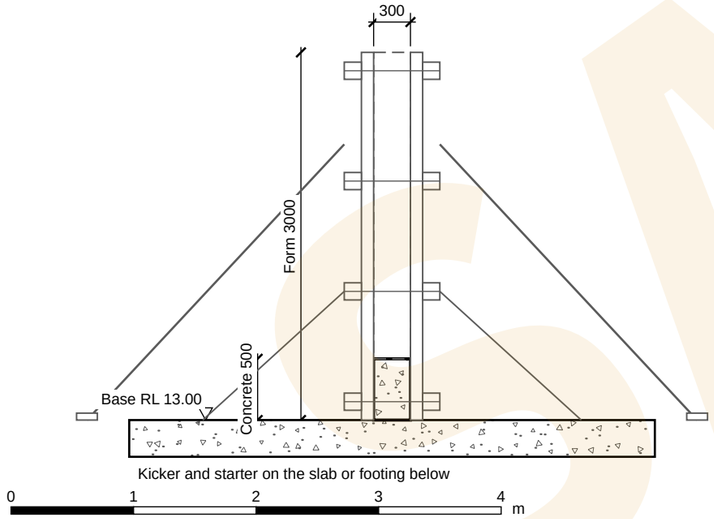
Hold point: Pre pour inspection
Ties, walers, strongbacks, bracing and anchors as designed; rated pressure and rate of rise stated on the permit. Released by Example Constructions.

T2 Stage 2 of 7

Pre pour inspection and certificate

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 13.00)

Wall, double sided, proprietary panel system (Example Panel 240)



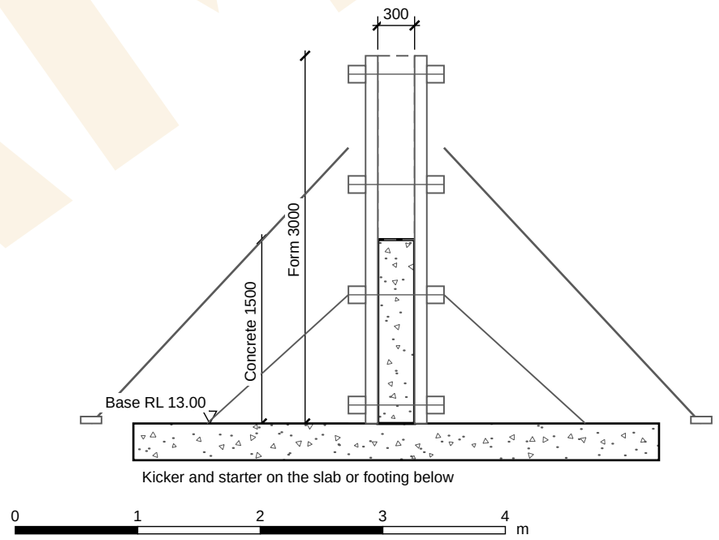
Hold point: Permit to load
Permit to pour issued against the pre pour certificate; rate of rise and placing temperature recorded. Released by Example Constructions.

T2 Stage 3 of 7

Pour lift 1 to 0.5 m above the base at the controlled rate of rise

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 13.00)

Wall, double sided, proprietary panel system (Example Panel 240)



T2 Stage 4 of 7

Continue lifts 2 to 5 in 0.5 m lifts, each within the stated time of the last, to 1.5 m at the mid point of the pour

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 13.00)

Notes

Stage 1 of 7
1. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 2 of 7
2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 3 of 7
3. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 4 of 7
4. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Design sensitivities and how each is verified

Pour	Sensitivity	How it is verified
T2	Rate of rise not more than 1.5 m/h at every placing temperature	Lift levels and times recorded on the pour record every 30 minutes
T2	Concrete strength of the lift below at or above the anchor's requirement before the props are loaded	Cylinder result or maturity reading recorded on the permit to load

Features where a small departure on site would invalidate the design. The designer is to confirm or amend them and the hold points in the design; they carry into the permit conditions for the pour.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T2 Tank wall, lift 2. Stages 1 to 4

Drawing number
TW 090-SK-18

Rev
A

Scale at A3
1:50

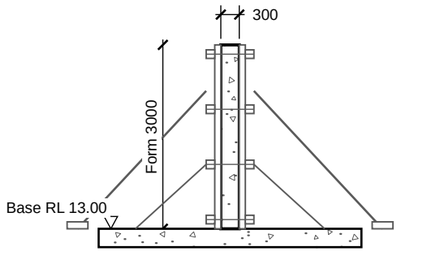
Date
29 Sept 2026

Sheet
18 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, double sided, proprietary panel system (Example Panel 240)

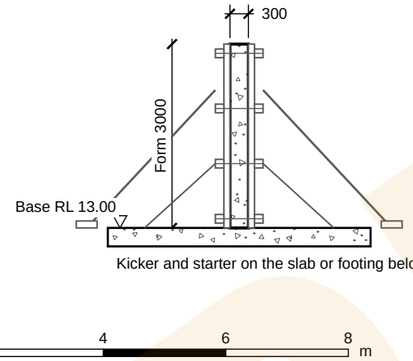


T2 Stage 5 of 7

Pour lift 6 to the top of the pour at 3 m

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 13.00)

Wall, double sided, proprietary panel system (Example Panel 240)



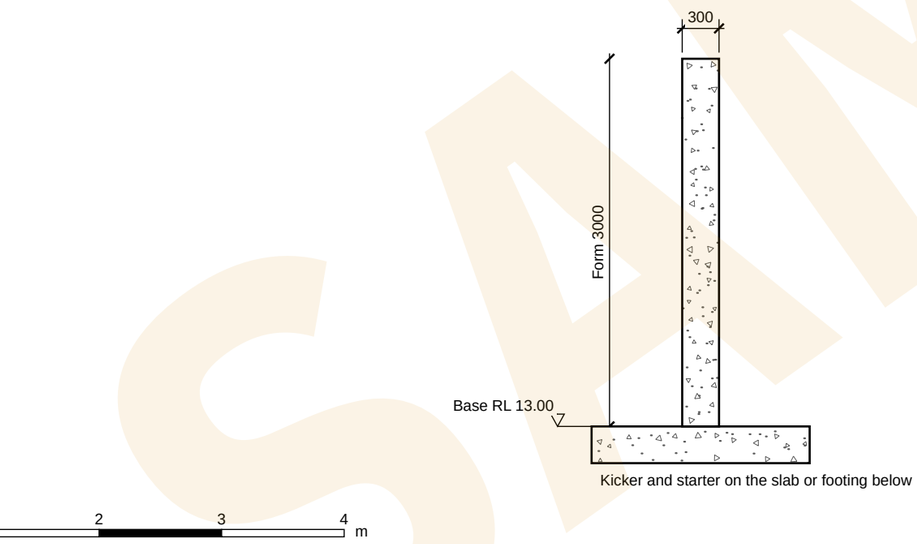
Hold point: Strength verification before strike
In situ strength verified at the stripping strength stated. Released by Example Constructions.

T2 Stage 6 of 7

Cure; verify the strength before striking

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 13.00)

Wall, double sided, proprietary panel system (Example Panel 240)



Hold point: Permit to strike
Permit to strike issued against the strength verification. Released by Example Constructions.

T2 Stage 7 of 7

Strike the forms in the stated order; keep bracing to the cast element until it can stand on its own against wind and impact

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 13.00)

Notes

Stage 5 of 7

1. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 6 of 7

2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 7 of 7

3. Forms struck; bracing to the cast element as the design requires until it stands on its own

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T2 Tank wall, lift 2. Stages 5 to 7

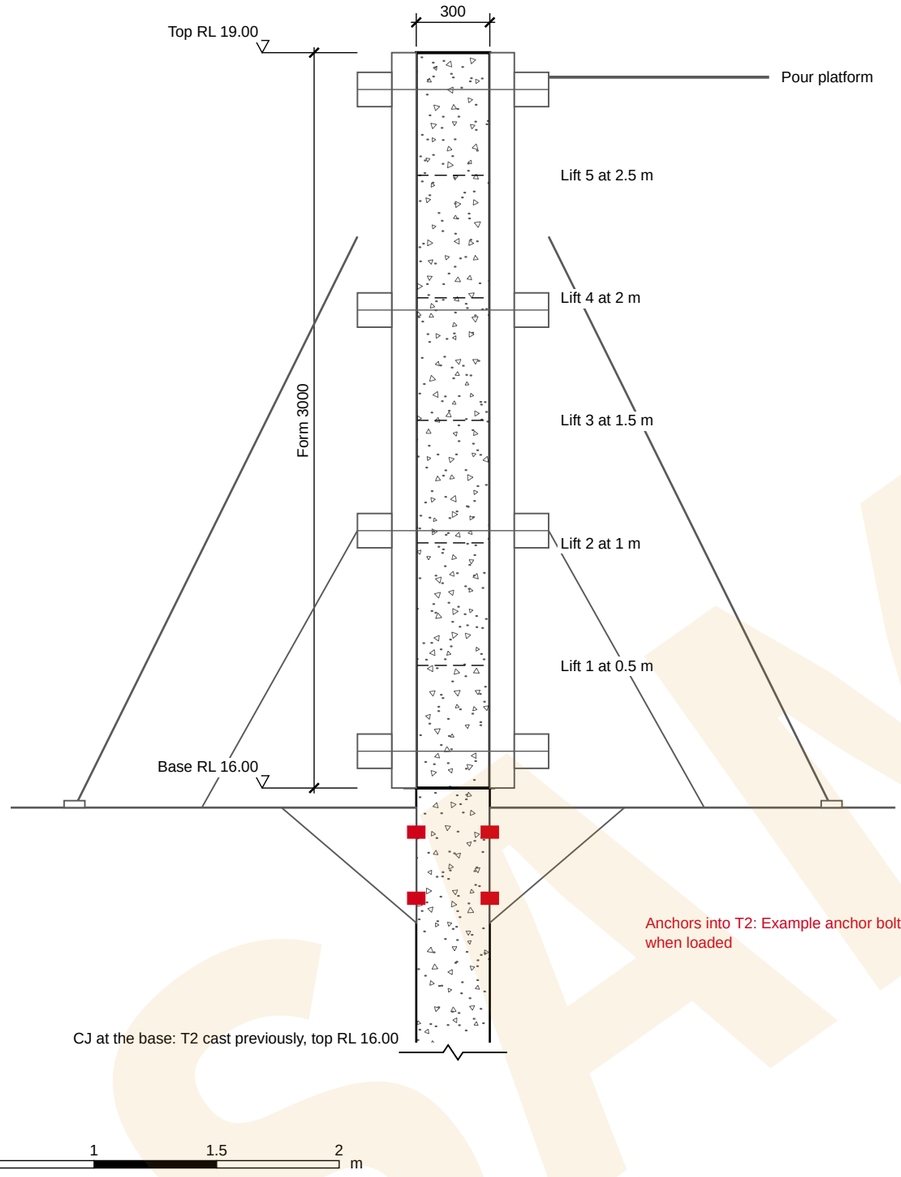
Drawing number	Rev
TW 090-SK-19	**A**

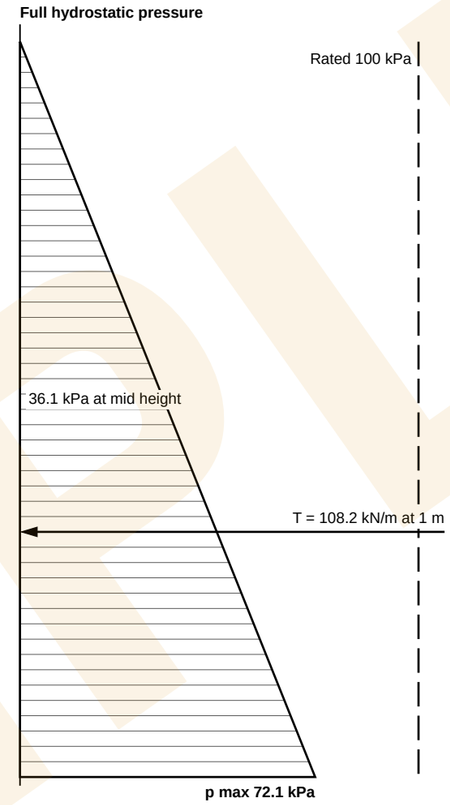
Scale at A3	Date	Sheet
1:50, 1:100	29 Sept 2026	19 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, double sided, proprietary panel system (Example Panel 240)





ρ 2450 kg/m³, H 3 m, rate of rise 1.77 m/h. Upper bound; the design pressure is the designer's

T3 Section A-A through the form

Tank wall, lift 3

Scale 1:25 at A3

Dimensions in millimetres, heights from the base of the form (RL 16.00)

Concrete and placement

Mix	S40 20 mm, MD 1187	**Specified strength**	40 MPa
Wet density	2450 kg/m³	**Density source**	Mix design MD 1187, Example Concrete
Slump or slump flow	slump 120 mm	**Self compacting**	No
Cement and SCM	GB (blended), Slag	**Admixtures**	Water reducer, Retarder

Notes

Section A-A through the form with the pressure diagram

1. Upper lift: the props and the pour platform bear on brackets anchored into the lift below, drawn indicatively; the anchor schedule lists the anchors
2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Concrete and placement, continued

Initial set (supplier)	5 h
Maximum aggregate	20 mm
Placement method	Boom pump
Placement rate	10 m³/h
Rate of rise from the data	1.77 m/h (10 m³/h over 5.65 m²)
Controlled rate of rise (site limit)	1.5 m/h
Lifts	0.5 m lifts, 30 min between lifts, revibrated: no
Pour volume and duration	17 m³, 1.7 h at the placement rate, 7 h window
Placing temperature	25 °C
Ambient range and measures	12 to 34 °C; Retarder dosed to the placing temperature per the mix design; the pour is deferred above 35 °C ambient
Vibration	Internal poker vibrator, immersion 150 mm
Free drop height	1.5 m
Pour direction and sequence	Around the ring from the start corner in 500 mm lifts, the internal wall placed with each lift, at not more than 1.5 m/h
Mandatory joints	Construction joint at the top of each lift with a keyed rebate and a hydrophilic strip; kicker joint at the base of lift 1
Date and hours	02 Dec 2026, 06:00 to 13:00
Haul time	35 min
Discharge points	Boom, start corner at 1.5 m along, 0.2 m across; Boom, far side at 8 m along, 7.8 m across
Placing temperature cases	15 °C at 1.5 m/h intended; 25 °C at 1.5 m/h intended; 30 °C at 1.5 m/h intended; the designer states the permitted rate of rise for each

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T3 Tank wall, lift 3. Sections

Drawing number
TW 090-SK-20

Rev
A

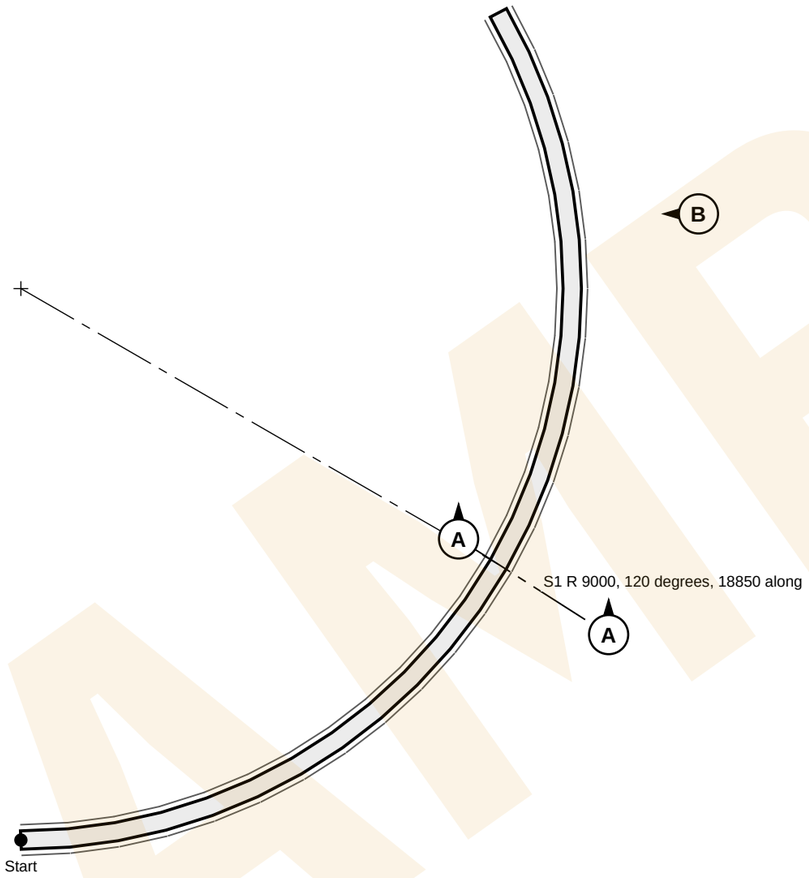
Scale at A3
1:25

Date
29 Sept 2026

Sheet
20 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE



0 2 4 6 8 m

T3 Plan of the pour

Tank wall, lift 3

Scale 1:100 at A3
Dimensions in millimetres

Notes

Plan of the pour

1. Dimensions along the set out line, the centreline; 18.844 m in all
2. S1: arc R 9000 through 120 degrees left, 18850 along, wall 300 thick
3. Section A-A and elevation B are the generated figures: the section is across the first segment, and the elevation looks at its outer face, developed along the wall
4. Plant and discharge points are listed in the data for a wall walked as segments; they are not drawn on its plan
5. Junctions J1 are detailed separately; the 3D formwork model places them along the wall
6. Arcs drawn as chords of no more than 5 degrees; lengths and areas along an arc are within 0.05 per cent of the true arc.

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Loads other than concrete

Deck live load the site controls to	Not set; the designer states it
Materials craned onto the deck	Yes
Wind region and terrain (AS/NZS 1170.2)	region A, terrain category 2
Days the forms stand before the pour	3
Screens or shade cloth on the forms	No
Water, flood or scour at the founding	No
Stacked materials	None entered
Other loads	Pump line on the pour platform; access scaffold tied to the cast lifts (separate scaffold brief)

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T3 Tank wall, lift 3. Plan

Drawing number
TW 090-SK-21

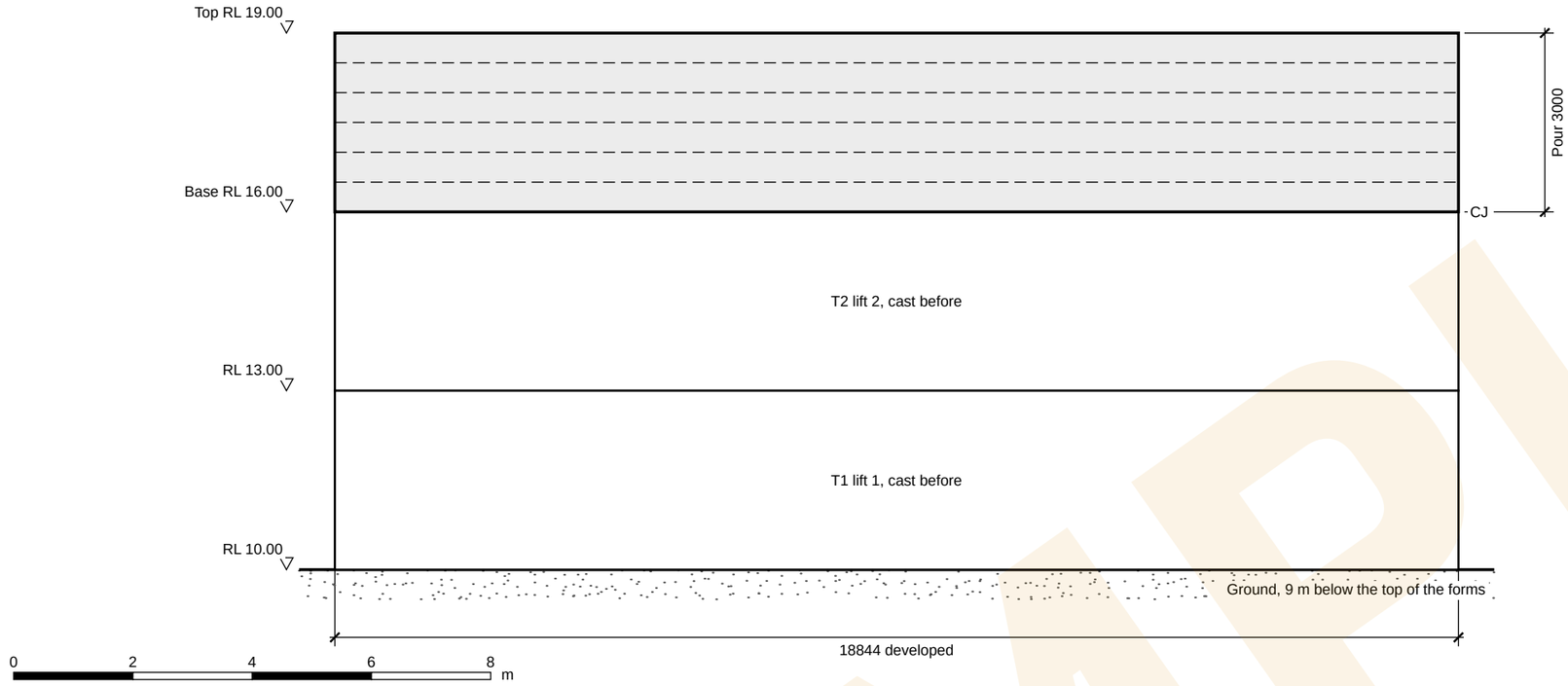
Rev
A

Scale at A3	Date	Sheet
1:100	29 Sept 2026	21 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, lift 3 of Tank wall, 3000 high; 0 penetrations; 2 other lifts of the element shown



T3 Elevation B of the outer face

Tank wall, lift 3

Scale 1:100 at A3
Dimensions in millimetres, levels to the project datum

Element and geometry

Element type	Wall	**Drawing**	EX 901 rev A
Plan length	18.85 m	**Thickness**	0.3 m
Form height	3 m	**Pour height**	3 m
Sided	Double sided	**Plan area**	5.65 m²
Base RL and top RL	Base RL 16.00, top RL 19.00	**Element and lift**	Lift 3 of 3 in this brief of Tank wall; stands on T2 (top RL 16.00)
Plan shape	Curved or segmented run of 1 segments (arc R 9 m through 120 degrees left), 18.844 m along the centreline	**Length of wall poured and perimeter**	18.85 m of wall; 18.84 m along the set out line
Top of the forms above ground	9 m	**Penetrations**	None, confirmed against the drawings
Ties	Through ties	**Ties restricted by the specification**	No
On the project grid	Start corner at grid 1/A, 2 m along x and 2 m along y from it, its length along the grid's x axis	**Cast order**	Pour 3 in the project's cast order
Form type	Proprietary panel system	**Proprietary system**	Example Panel 240, Example Formwork Supplies; rated 100 kPa; for ties at 600 by 600 with the supplier's heavy walers, the configuration rated 100 kPa in the data sheet; panels 2.7 m plus a 0.9 m extension; corner and internal wall junctions with the supplier's corner posts; from Example Formwork Supplies technical data sheet EP 240 rev 4, June 2026
Surface finish class	Class 2 (AS 3610.1)	**Architectural constraints**	Tie holes on the regular grid of drawing EX 402; no tie within 300 mm of a penetration
Repeated pour and reuse	Yes; 4 reuse cycles expected	**Left in place**	No

Notes on the data

The full hydrostatic head of the fresh concrete at the base is 72.1 kPa, an upper bound and a check value set out with its formula and inputs in Appendix E. The design pressure is the designer's, returned in the pressure statement in Appendix C; the site's rate of rise limit is written from it.

Notes

Elevation B of the outer face with the lifts and the penetrations

1. Placement lifts of 0.5 m drawn dashed
2. Developed elevation along the set out line from its start; the start of each segment is marked
3. No penetrations in this pour, confirmed against the drawings

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Anchors into previously cast concrete

Pour	**T3**
Purpose	Push pull props for the next lift
Anchor type	Example anchor bolt M16 by 150
Embedment	110 mm
Concrete strength when loaded	20 MPa
Spacing	2.4 m
Accepted by the permanent works designer	Yes
Source	Example Formwork Supplies anchor data sheet AB 16 rev 2, 2026; acceptance in the permanent works designer's letter of 12 September 2026
Pour	**T3**
Purpose	Platform or working brackets
Anchor type	Example bracket cone 20 mm cast into lift 1
Embedment	200 mm
Concrete strength when loaded	15 MPa
Spacing	1.5 m
Accepted by the permanent works designer	Yes
Source	Example Formwork Supplies bracket data sheet BK 20 rev 1, 2026; the same letter

Anchors into the lift below or the adjacent structure for props, platform brackets, single sided forms or climbing brackets, as the site expects them. The design sets the anchors and their loads; the concrete strength each anchor needs when loaded is the hold point before the next lift's props are loaded.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T3 Tank wall, lift 3. Elevations

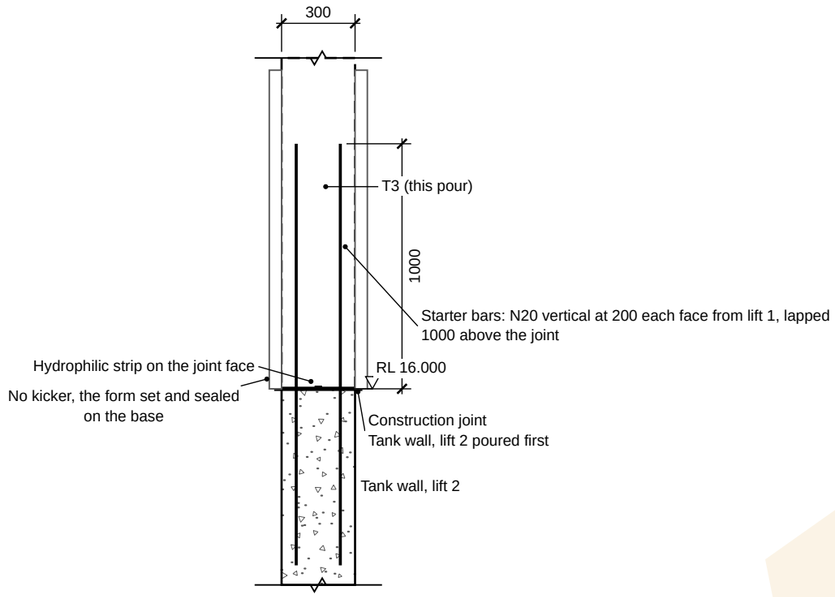
Drawing number	Rev
TW 090-SK-22	**A**

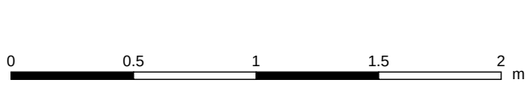
Scale at A3	Date	Sheet
1:100	29 Sept 2026	22 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

J1 base joint: Tank wall, lift 2 poured first, no kicker, bars across the joint



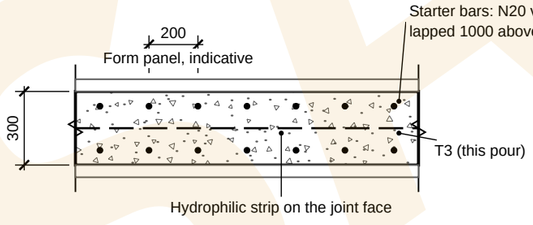


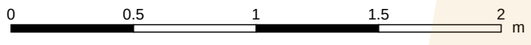
T3 J1 Section through the base joint

With Tank wall, lift 2

Scale 1:25 at A3
Dimensions in millimetres, levels to the project datum

J1 base joint: plan at the joint





T3 J1 Plan at the joint

With Tank wall, lift 2

Scale 1:25 at A3
Dimensions in millimetres

Notes

J1 section through the base joint with Tank wall, lift 2

1. The forms are drawn indicatively at nominal sizes; the design sets them
2. Bars drawn at a nominal cover of 50 mm; the drawings set the cover, the size and the spacing
3. No kicker: the forms are set and sealed directly on the base, and the line and level are held by the forms
4. Joint face: scabbled or water blasted to expose the aggregate
5. Detail on the permanent works drawings: EX 402 detail 2

J1 plan at the joint with the bars with Tank wall, lift 2

6. Bars drawn at the spacing entered on both faces; the drawings set them
7. The forms are drawn indicatively; the design sets them

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Junction J1

Mark	**T3 J1**
Junction	Base joint with Tank wall, lift 2, the lift below (300 mm)
Pour order and joint	Tank wall, lift 2 poured first, no kicker
Bars across the joint	N20 vertical at 200 each face from lift 1, lapped 1000 above the joint
How the joint is formed	No kicker, the form set and sealed on the base
Waterstop, key and face	Hydrophilic strip on the joint face; face scabbled or water blasted to expose the aggregate
Detail	EX 402 detail 2

Where each pour meets another member or stops at a joint within itself, the pour order and the construction joint it puts there, and the bars that cross the joint as the drawings give them. The design details the forming at each junction and the stop end, form face, kicker or head at each joint. Two views of each are drawn on the drawings in Part 2.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T3 Tank wall, lift 3. Junction J1

Drawing number
TW 090-SK-23

Rev
A

Scale at A3
1:25

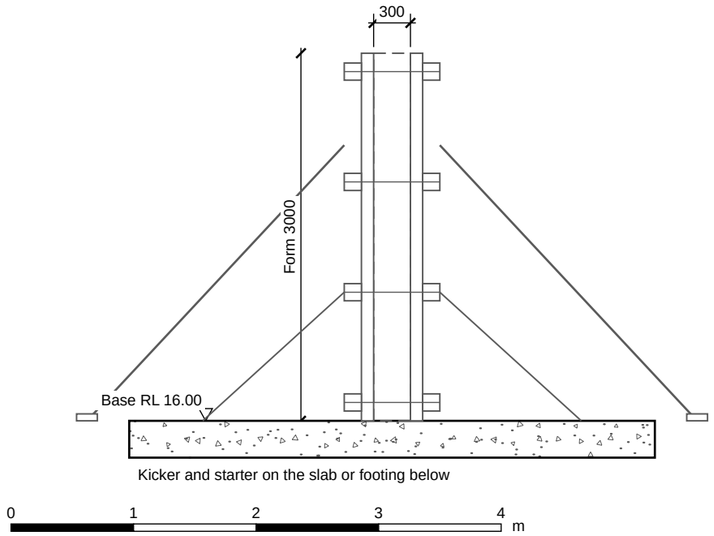
Date
29 Sept 2026

Sheet
23 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, double sided, proprietary panel system (Example Panel 240)

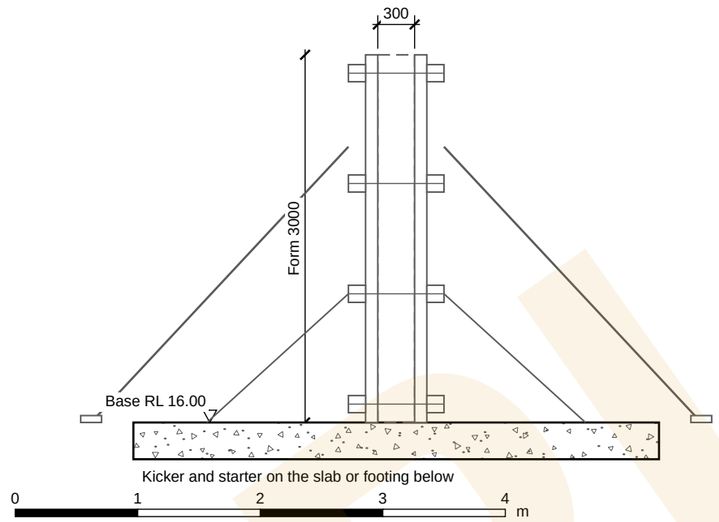


T3 Stage 1 of 7

Set out, fix the kicker and starter, erect and align the forms, fix ties and bracing

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 16.00)

Wall, double sided, proprietary panel system (Example Panel 240)



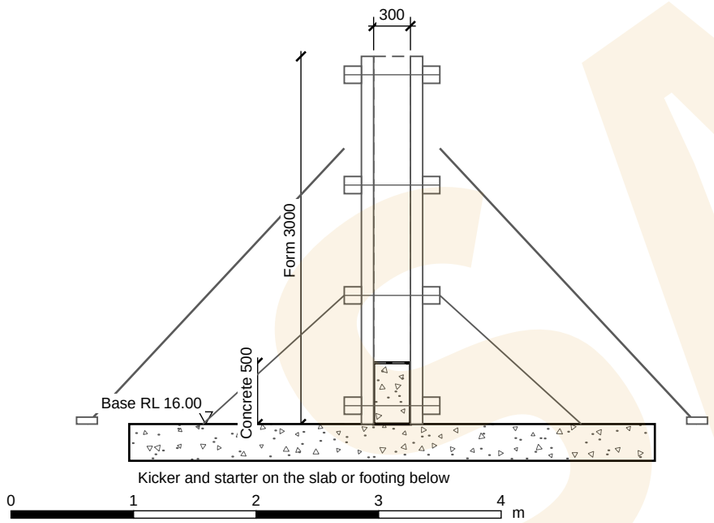
Hold point: Pre pour inspection
Ties, walers, strongbacks, bracing and anchors as designed; rated pressure and rate of rise stated on the permit. Released by Example Constructions.

T3 Stage 2 of 7

Pre pour inspection and certificate

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 16.00)

Wall, double sided, proprietary panel system (Example Panel 240)



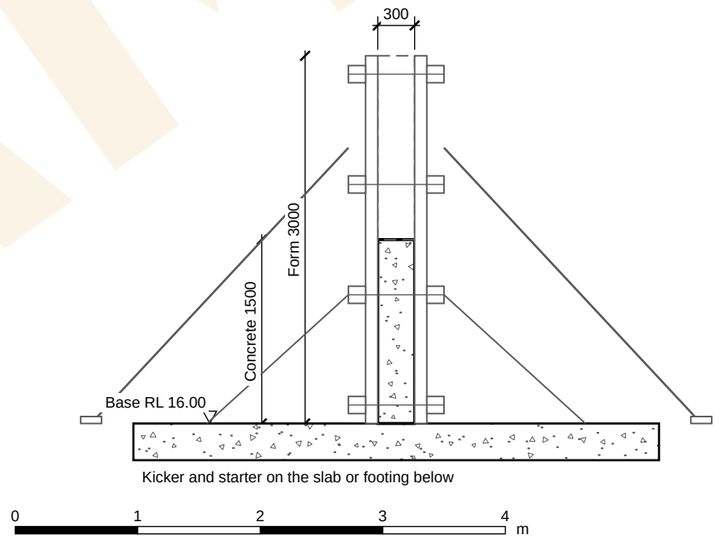
Hold point: Permit to load
Permit to pour issued against the pre pour certificate; rate of rise and placing temperature recorded. Released by Example Constructions.

T3 Stage 3 of 7

Pour lift 1 to 0.5 m above the base at the controlled rate of rise

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 16.00)

Wall, double sided, proprietary panel system (Example Panel 240)



T3 Stage 4 of 7

Continue lifts 2 to 5 in 0.5 m lifts, each within the stated time of the last, to 1.5 m at the mid point of the pour

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 16.00)

Notes

Stage 1 of 7
1. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 2 of 7
2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 3 of 7
3. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 4 of 7
4. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Design sensitivities and how each is verified

Pour	Sensitivity	How it is verified
T3	Rate of rise not more than 1.5 m/h at every placing temperature	Lift levels and times recorded on the pour record every 30 minutes
T3	Concrete strength of the lift below at or above the anchor's requirement before the props are loaded	Cylinder result or maturity reading recorded on the permit to load

Features where a small departure on site would invalidate the design. The designer is to confirm or amend them and the hold points in the design; they carry into the permit conditions for the pour.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T3 Tank wall, lift 3. Stages 1 to 4

Drawing number
TW 090-SK-24

Rev
A

Scale at A3
1:50

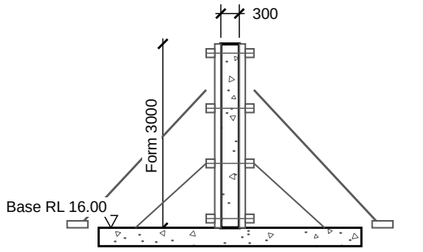
Date
29 Sept 2026

Sheet
24 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, double sided, proprietary panel system (Example Panel 240)



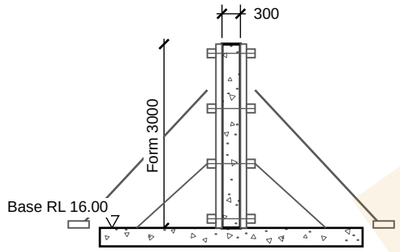
0 2 4 6 8 m

T3 Stage 5 of 7

Pour lift 6 to the top of the pour at 3 m

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 16.00)

Wall, double sided, proprietary panel system (Example Panel 240)



0 2 4 6 8 m

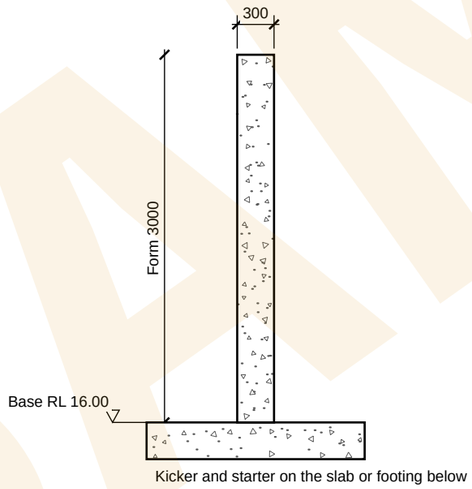
Hold point: Strength verification before strike
In situ strength verified at the stripping strength stated. Released by Example Constructions.

T3 Stage 6 of 7

Cure; verify the strength before striking

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 16.00)

Wall, double sided, proprietary panel system (Example Panel 240)



0 1 2 3 4 m

Hold point: Permit to strike
Permit to strike issued against the strength verification. Released by Example Constructions.

T3 Stage 7 of 7

Strike the forms in the stated order; keep bracing to the cast element until it can stand on its own against wind and impact

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 16.00)

Notes

Stage 5 of 7

1. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 6 of 7

2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 7 of 7

3. Forms struck; bracing to the cast element as the design requires until it stands on its own

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
T3 Tank wall, lift 3. Stages 5 to 7

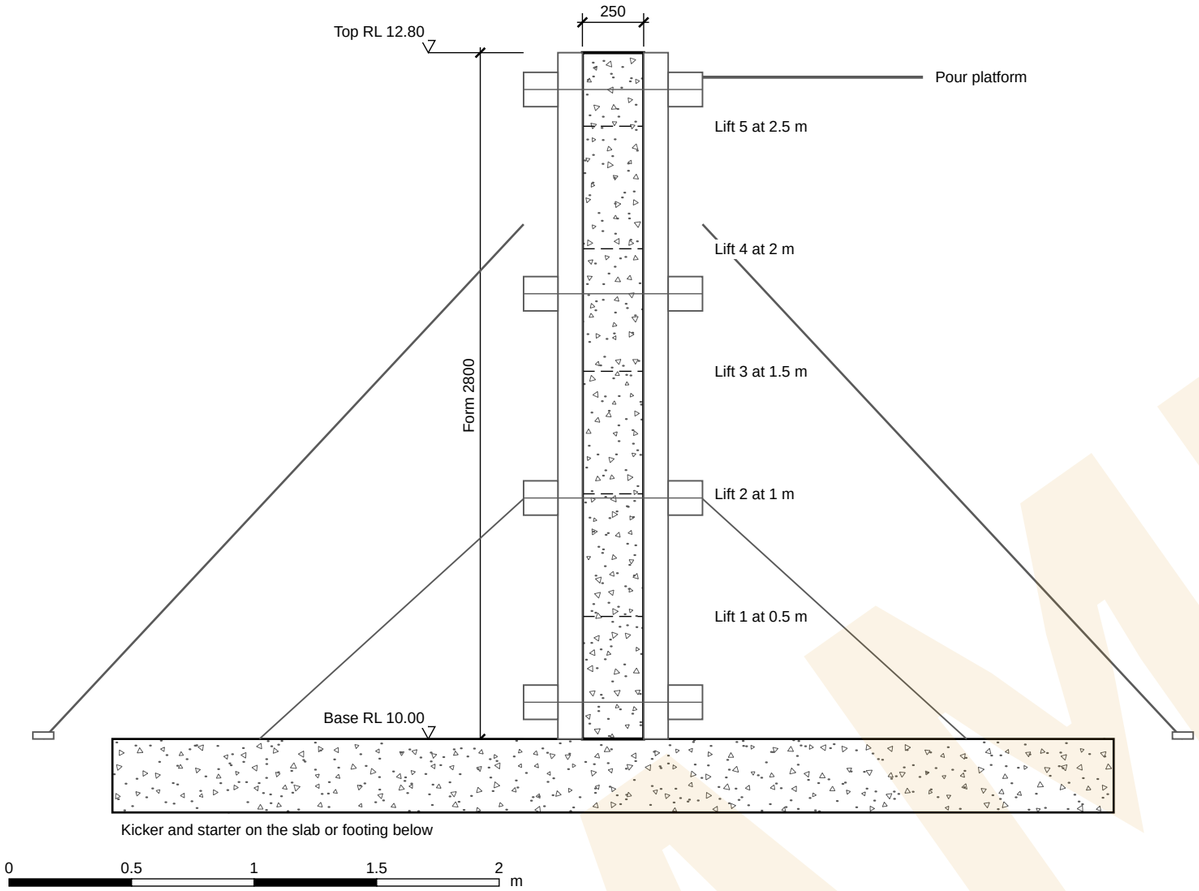
Drawing number	Rev
TW 090-SK-25	**A**

Scale at A3	Date	Sheet
1:50, 1:100	29 Sept 2026	25 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

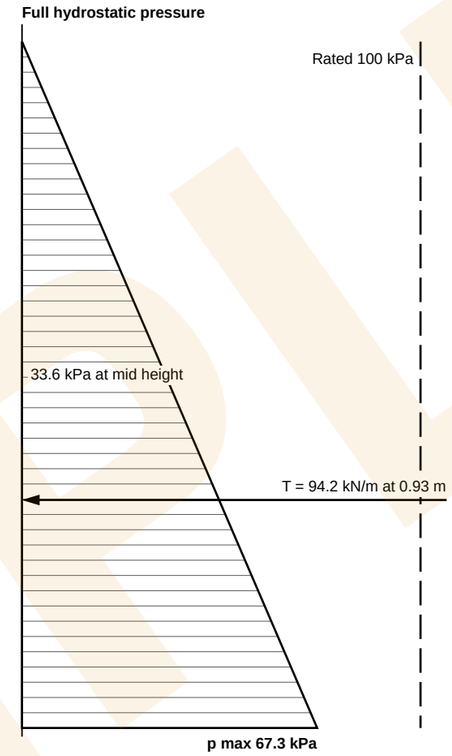
SAMPLE

Wall, double sided, proprietary panel system (Example Panel 240)



K1 Section A-A through the form

Valve pit



ρ 2450 kg/m³, H 2.8 m, rate of rise 1.87 m/h. Upper bound; the design pressure is the designer's

Scale 1:25 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Element and geometry

Element type	Wall	**Drawing**	EX 902 rev A
Plan length	18 m	**Thickness**	0.25 m
Form height	2.8 m	**Pour height**	2.8 m
Sided	Double sided	**Plan area**	4.28 m²
Base RL and top RL	Base RL 10.00, top RL 12.80	**Element and lift**	Lift 1 of Valve pit
Plan shape	Polygonal cell of 6 sides (straight 3 m; turn 60 degrees left, then straight 3 m; turn 60 degrees left, then straight 3 m; turn 60 degrees left, then straight 3 m; turn 60 degrees left, then straight 3 m; turn 60 degrees left, then straight 3 m), 18 m along the outer face	**Length of wall poured and perimeter**	18 m of wall; 18 m along the set out line
Top of the forms above ground	2.8 m	**Penetrations**	None, confirmed against the drawings
Ties	Through ties	**Ties restricted by the specification**	No
On the project grid	Start corner at grid 2/A, 4 m along x and 3 m along y from it, its length along the grid's x axis	**Cast order**	Pour 1 in the project's cast order

Notes

Section A-A through the form with the pressure diagram

1. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Element and geometry, continued

Form type	Proprietary panel system
Proprietary system	Example Panel 240, Example Formwork Supplies; rated 100 kPa; for ties at 600 by 600 with the supplier's heavy walers, the configuration rated 100 kPa in the data sheet; panels 2.7 m plus a 0.9 m extension; corner and internal wall junctions with the supplier's corner posts; from Example Formwork Supplies technical data sheet EP 240 rev 4, June 2026
Surface finish class	Class 2 (AS 3610.1)
Architectural constraints	Tie holes on the regular grid of drawing EX 402; no tie within 300 mm of a penetration
Repeated pour and reuse	Yes; 4 reuse cycles expected
Left in place	No

Concrete and placement

Mix	S40 20 mm, MD 1187
Specified strength	40 MPa
Wet density	2450 kg/m³
Density source	Mix design MD 1187, Example Concrete
Slump or slump flow	slump 120 mm
Self compacting	No
Cement and SCM	GB (blended), Slag
Admixtures	Water reducer, Retarder
Initial set (supplier)	5 h
Maximum aggregate	20 mm
Placement method	Boom pump
Placement rate	8 m³/h
Rate of rise from the data	1.87 m/h (8 m³/h over 4.28 m²)
Controlled rate of rise (site limit)	1.5 m/h
Lifts	0.5 m lifts, 30 min between lifts, revibrated: no
Pour volume and duration	12 m³, 1.5 h at the placement rate, 7 h window

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
K1 Valve pit. Sections

Drawing number
TW 090-SK-26

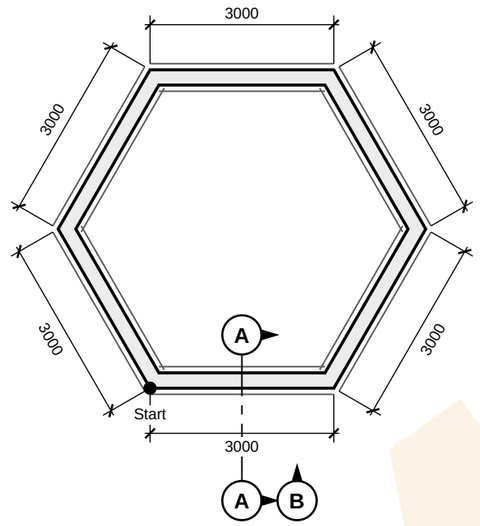
Rev
A

Scale at A3
1:25

Date
29 Sept 2026

Sheet
26 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

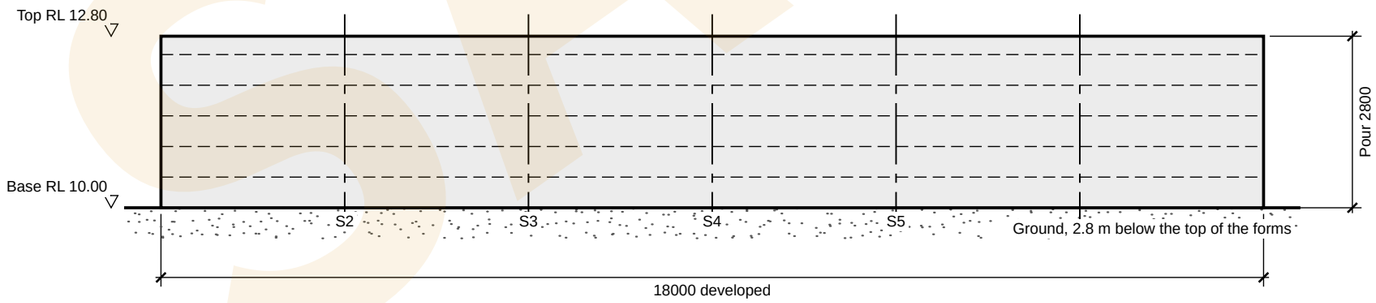


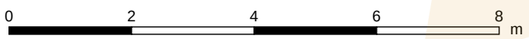
K1 Plan of the pour

Valve pit

Scale 1:100 at A3
Dimensions in millimetres

Wall, lift 1 of Valve pit, 2800 high; 0 penetrations





K1 Elevation B of the outer face

Valve pit

Scale 1:100 at A3
Dimensions in millimetres, levels to the project datum

Notes

Plan of the pour

1. Dimensions along the set out line, the outer face; 18 m in all around the cell
2. S1: straight 3000, wall 250 thick
3. S2: straight 3000 after a turn of 60 degrees left, wall 250 thick
4. S3: straight 3000 after a turn of 60 degrees left, wall 250 thick
5. S4: straight 3000 after a turn of 60 degrees left, wall 250 thick
6. S5: straight 3000 after a turn of 60 degrees left, wall 250 thick
7. S6: straight 3000 after a turn of 60 degrees left, wall 250 thick
8. Section A-A and elevation B are the generated figures: the section is across the first segment, and the elevation looks at its outer face, developed along the wall
9. Plant and discharge points are listed in the data for a wall walked as segments; they are not drawn on its plan
10. Junctions J1 are detailed separately; the 3D formwork model places them along the wall

Elevation B of the outer face with the lifts and the penetrations

11. Placement lifts of 0.5 m drawn dashed
12. Developed elevation along the set out line from its start; the start of each segment is marked, around the cell
13. No penetrations in this pour, confirmed against the drawings

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Concrete and placement, continued

Placing temperature	25 °C
Ambient range and measures	12 to 34 °C; Retarder dosed to the placing temperature per the mix design; the pour is deferred above 35 °C ambient
Vibration	Internal poker vibrator, immersion 150 mm
Free drop height	1.5 m
Pour direction and sequence	Around the ring from the start corner in 500 mm lifts, the internal wall placed with each lift, at not more than 1.5 m/h
Mandatory joints	Construction joint at the top of each lift with a keyed rebate and a hydrophilic strip; kicker joint at the base of lift 1
Date and hours	18 Nov 2026, 06:00 to 13:00
Haul time	35 min
Discharge points	Boom, start corner at 1.5 m along, 0.2 m across; Boom, far side at 8 m along, 7.8 m across
Placing temperature cases	15 °C at 1.5 m/h intended; 25 °C at 1.5 m/h intended; 30 °C at 1.5 m/h intended; the designer states the permitted rate of rise for each

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
K1 Valve pit. Plan and elevations

Drawing number
TW 090-SK-27

Rev
A

Scale at A3
1:100

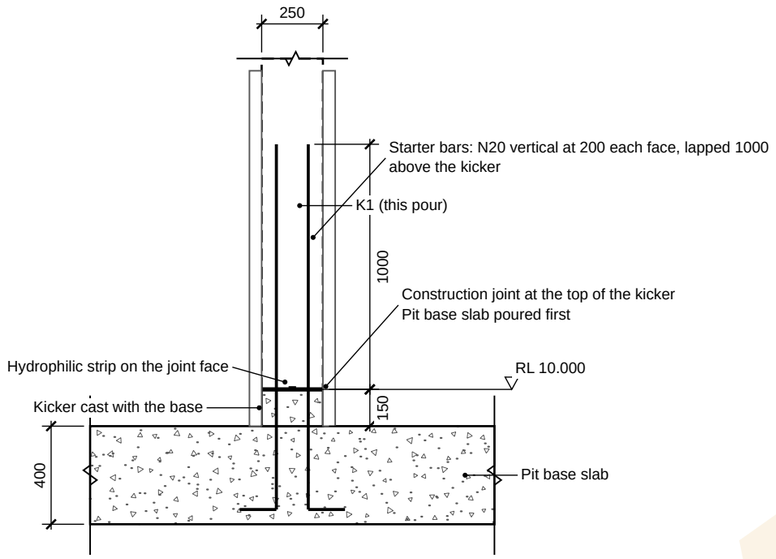
Date
29 Sept 2026

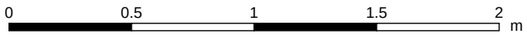
Sheet
27 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

J1 base joint: Pit base slab poured first, kicker 150, bars across the joint



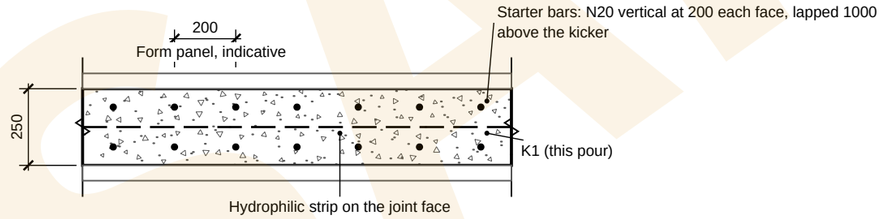


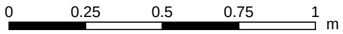
K1 J1 Section through the base joint

With Pit base slab

Scale 1:25 at A3
Dimensions in millimetres, levels to the project datum

J1 base joint: plan at the joint





K1 J1 Plan at the joint

With Pit base slab

Scale 1:20 at A3
Dimensions in millimetres

Notes

J1 section through the base joint with Pit base slab

1. The forms are drawn indicatively at nominal sizes; the design sets them
2. Bars drawn at a nominal cover of 50 mm; the drawings set the cover, the size and the spacing
3. Joint face: scabbled or water blasted to expose the aggregate
4. Detail on the permanent works drawings: EX 402 detail 1
5. Pit base slab drawn running on both sides; its extent is on the drawings

J1 plan at the joint with the bars with Pit base slab

6. Kicker 150 high, the width of the wall above
7. Bars drawn at the spacing entered on both faces; the drawings set them
8. The forms are drawn indicatively; the design sets them

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Junction J1

Mark	**K1 J1**
Junction	Base joint with Pit base slab, base slab (400 mm)
Pour order and joint	Pit base slab poured first, kicker 150 mm
Bars across the joint	N20 vertical at 200 each face, lapped 1000 above the kicker
How the joint is formed	Kicker cast with the base, the kicker form suspended from the base forms
Waterstop, key and face	Hydrophilic strip on the joint face; face scabbled or water blasted to expose the aggregate
Detail	EX 402 detail 1

Where each pour meets another member or stops at a joint within itself, the pour order and the construction joint it puts there, and the bars that cross the joint as the drawings give them. The design details the forming at each junction and the stop end, form face, kicker or head at each joint. Two views of each are drawn on the drawings in Part 2.

Loads other than concrete

Deck live load the site controls to	Not set; the designer states it
Materials craned onto the deck	Yes
Wind region and terrain (AS/NZS 1170.2)	region A, terrain category 2
Days the forms stand before the pour	3
Screens or shade cloth on the forms	No
Water, flood or scour at the founding	No
Stacked materials	None entered
Other loads	Pump line on the pour platform; access scaffold tied to the cast lifts (separate scaffold brief)

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
K1 Valve pit. Junction J1

Drawing number
TW 090-SK-28

Rev
A

Scale at A3
1:20, 1:25

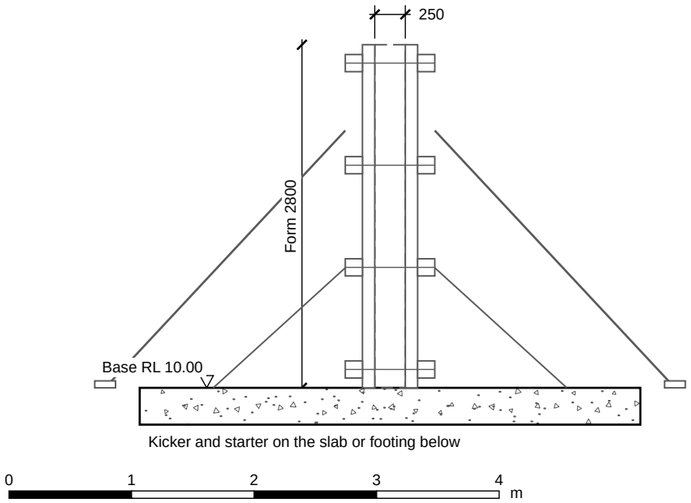
Date
29 Sept 2026

Sheet
28 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, double sided, proprietary panel system (Example Panel 240)

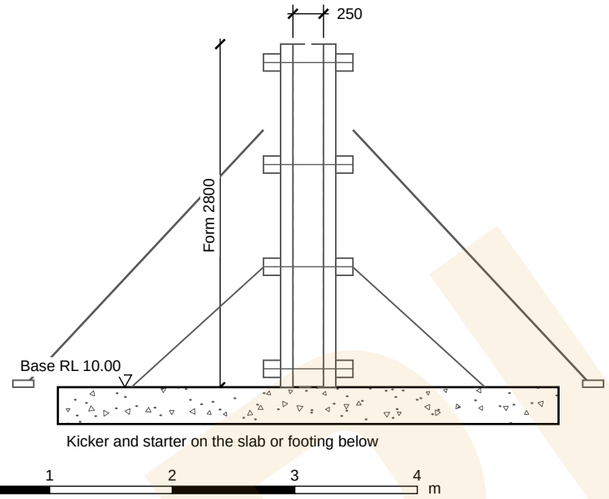


K1 Stage 1 of 7

Set out, fix the kicker and starter, erect and align the forms, fix ties and bracing

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Wall, double sided, proprietary panel system (Example Panel 240)



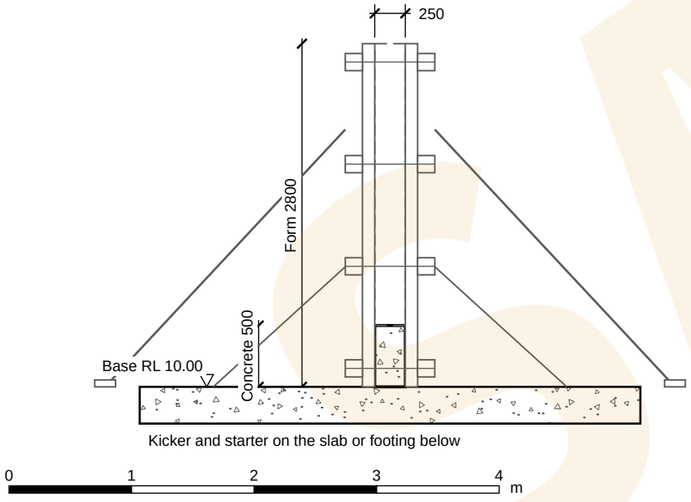
Hold point: Pre pour inspection
Ties, walers, strongbacks, bracing and anchors as designed; rated pressure and rate of rise stated on the permit. Released by Example Constructions.

K1 Stage 2 of 7

Pre pour inspection and certificate

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Wall, double sided, proprietary panel system (Example Panel 240)



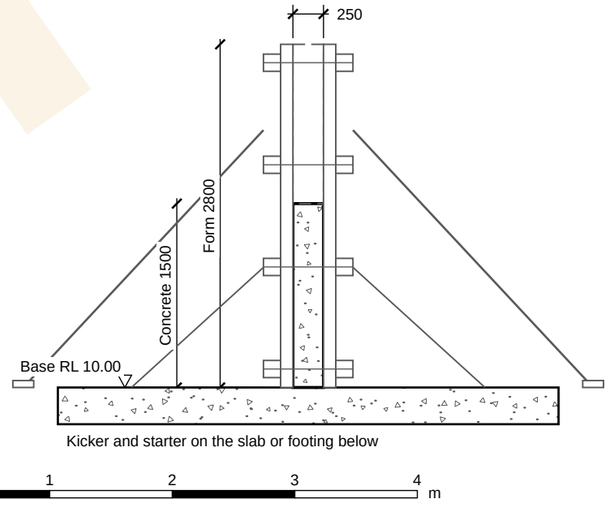
Hold point: Permit to load
Permit to pour issued against the pre pour certificate; rate of rise and placing temperature recorded. Released by Example Constructions.

K1 Stage 3 of 7

Pour lift 1 to 0.5 m above the base at the controlled rate of rise

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Wall, double sided, proprietary panel system (Example Panel 240)



K1 Stage 4 of 7

Continue lifts 2 to 5 in 0.5 m lifts, each within the stated time of the last, to 1.5 m at the mid point of the pour

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Notes

Stage 1 of 7
1. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 2 of 7
2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 3 of 7
3. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 4 of 7
4. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Design sensitivities and how each is verified

Pour	Sensitivity	How it is verified
K1	Rate of rise not more than 1.5 m/h at every placing temperature	Lift levels and times recorded on the pour record every 30 minutes
K1	Concrete strength of the lift below at or above the anchor's requirement before the props are loaded	Cylinder result or maturity reading recorded on the permit to load

Features where a small departure on site would invalidate the design. The designer is to confirm or amend them and the hold points in the design; they carry into the permit conditions for the pour.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
K1 Valve pit. Stages 1 to 4

Drawing number
TW 090-SK-29

Rev
A

Scale at A3
1:50

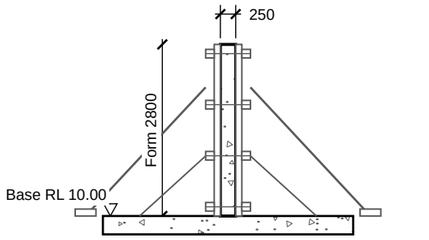
Date
29 Sept 2026

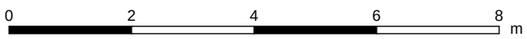
Sheet
29 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Wall, double sided, proprietary panel system (Example Panel 240)



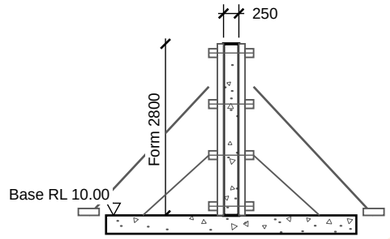


K1 Stage 5 of 7

Pour lift 6 to the top of the pour at 2.8 m

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Wall, double sided, proprietary panel system (Example Panel 240)



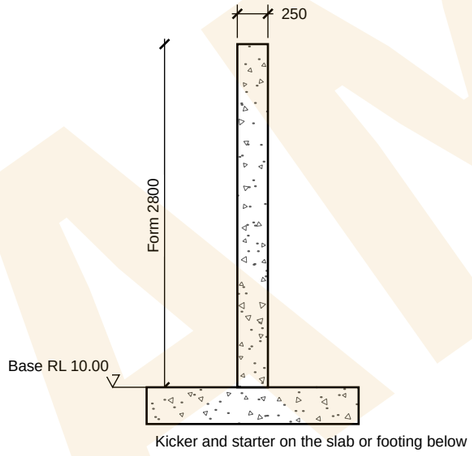
Hold point: Strength verification before strike
In situ strength verified at the stripping strength stated. Released by Example Constructions.

K1 Stage 6 of 7

Cure; verify the strength before striking

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Wall, double sided, proprietary panel system (Example Panel 240)



Hold point: Permit to strike
Permit to strike issued against the strength verification. Released by Example Constructions.

K1 Stage 7 of 7

Strike the forms in the stated order; keep bracing to the cast element until it can stand on its own against wind and impact

Scale 1:50 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Notes on the data

The full hydrostatic head of the fresh concrete at the base is 67.3 kPa, an upper bound and a check value set out with its formula and inputs in Appendix E. The design pressure is the designer's, returned in the pressure statement in Appendix C; the site's rate of rise limit is written from it.

Notes

Stage 5 of 7

1. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 6 of 7

2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 7 of 7

3. Forms struck; bracing to the cast element as the design requires until it stands on its own

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
K1 Valve pit. Stages 5 to 7

Drawing number
TW 090-SK-30

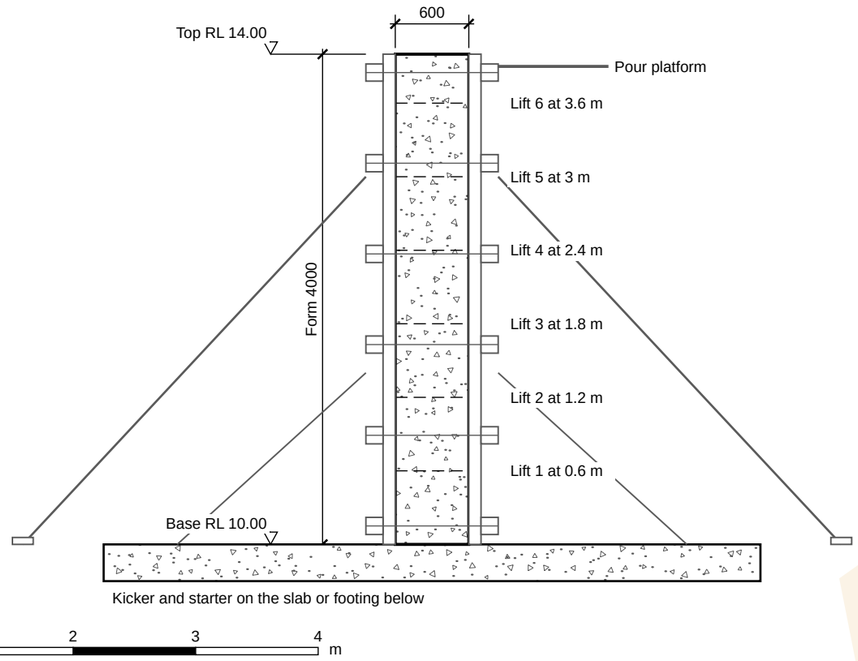
Rev
A

Scale at A3	Date	Sheet
1:50, 1:100	29 Sept 2026	30 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

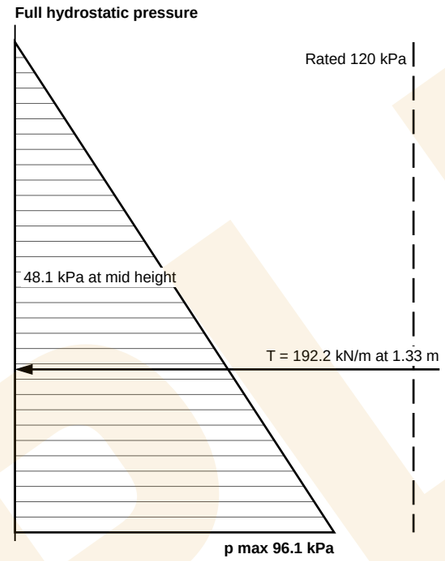
SAMPLE

Column, double sided, steel form (Example Column Form 600)



C1 Section A-A through the form

Pump station column



ρ 2450 kg/m³, H 4 m, rate of rise 5.56 m/h. Upper bound; the design pressure is the designer's

Scale 1:50 at A3

Dimensions in millimetres, heights from the base of the form (RL 10.00)

Element and geometry

Element type	Column	**Drawing**	EX 903 rev A
Plan length	0.6 m	**Plan dimensions**	0.6 by 0.6 m
Form height	4 m	**Pour height**	4 m
Sided	Double sided	**Plan area**	0.36 m²
Base RL and top RL	Base RL 10.00, top RL 14.00	**Element and lift**	Not part of a multi lift element
Plan shape	Not stated	**Length of wall poured and perimeter**	0.6 m of wall
Top of the forms above ground	4 m	**Penetrations**	None, confirmed against the drawings
Ties	External strongbacks without ties	**Ties restricted by the specification**	No
On the project grid	Start corner at grid 3/A, 4.7 m along x and 0.2 m along y from it, its length along the grid's x axis	**Cast order**	Pour 2 in the project's cast order
Form type	Steel form	**Proprietary system**	Example Column Form 600, Example Formwork Supplies; rated 120 kPa; for bolted steel column form 600 by 600 in two 2.5 m sections, four adjustable braces to the ground; from Example Formwork Supplies column form data sheet CF 600 rev 3, 2026
Surface finish class	Class 2 (AS 3610.1)	**Architectural constraints**	Chamfers on all corners as drawing EX 610
Repeated pour and reuse	Yes; 8 reuse cycles expected	**Left in place**	No

Loads other than concrete

Deck live load the site controls to	Not set; the designer states it	**Materials craned onto the deck**	No
Wind region and terrain (AS/NZS 1170.2)	region C, terrain category 2	**Days the forms stand before the pour**	1
Screens or shade cloth on the forms	No	**Water, flood or scour at the founding**	No
Stacked materials	None entered	**Other loads**	None stated

Notes on the data

The full hydrostatic head of the fresh concrete at the base is 96.1 kPa, an upper bound and a check value set out with its formula and inputs in Appendix E. The design pressure is the designer's, returned in the pressure statement in Appendix C; the site's rate of rise limit is written from it.

Notes

Section A-A through the form with the pressure diagram

1. Column 600 by 600 in plan; the section is through the 600 dimension
2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Concrete and placement

Mix	S50 14 mm, MD 4402
Specified strength	50 MPa
Wet density	2450 kg/m³
Density source	Mix design MD 4402, Example Concrete
Slump or slump flow	slump 160 mm
Self compacting	No
Cement and SCM	GB (blended), Fly ash
Admixtures	Superplasticiser or high range water reducer
Initial set (supplier)	3.5 h
Maximum aggregate	14 mm
Placement method	Boom pump
Placement rate	2 m³/h
Rate of rise from the data	5.56 m/h (2 m³/h over 0.36 m²)
Controlled rate of rise (site limit)	3 m/h
Lifts	0.6 m lifts, 10 min between lifts, revibrated: no
Pour volume and duration	1.4 m³, 0.7 h at the placement rate, 6 h window
Placing temperature	28 °C
Ambient range and measures	20 to 34 °C; Chilled water in the mix above 30 °C ambient; the pour is deferred above 35 °C
Vibration	Internal poker vibrator, immersion 150 mm
Free drop height	2 m
Pour direction and sequence	Full height in 600 mm lifts through the top of the form with the tremie hose lowered into the form, at not more than 3 m/h
Mandatory joints	Kicker joint at the base only
Date and hours	25 Nov 2026, 06:00 to 12:00
Haul time	25 min
Discharge points	Boom with a tremie hose at 0.3 m along, 0.3 m across
Placing temperature cases	20 °C at 3 m/h intended; 28 °C at 3 m/h intended; 34 °C at 3 m/h intended; the designer states the permitted rate of rise for each

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
C1 Pump station column. Sections

Drawing number
TW 090-SK-31

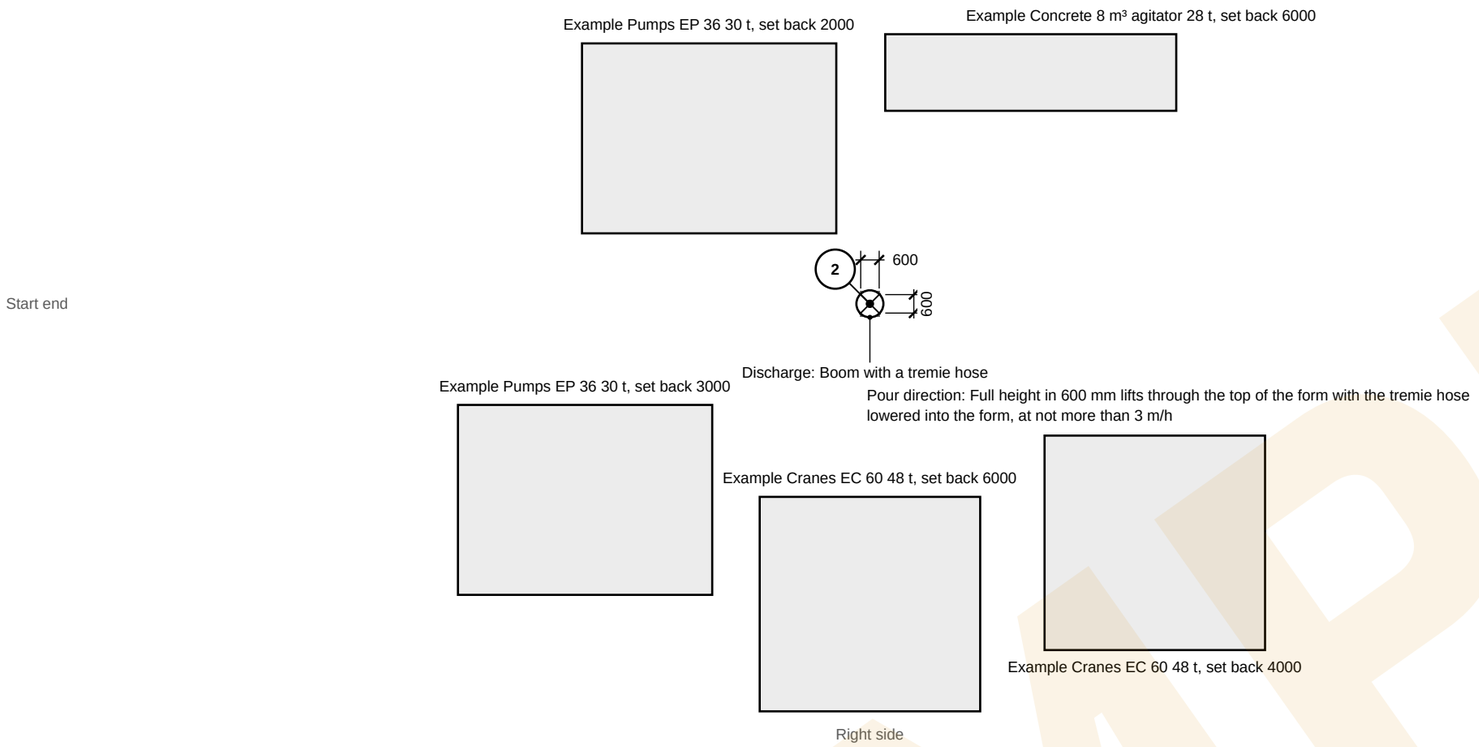
Rev
A

Scale at A3
1:50

Date
29 Sept 2026

Sheet
31 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

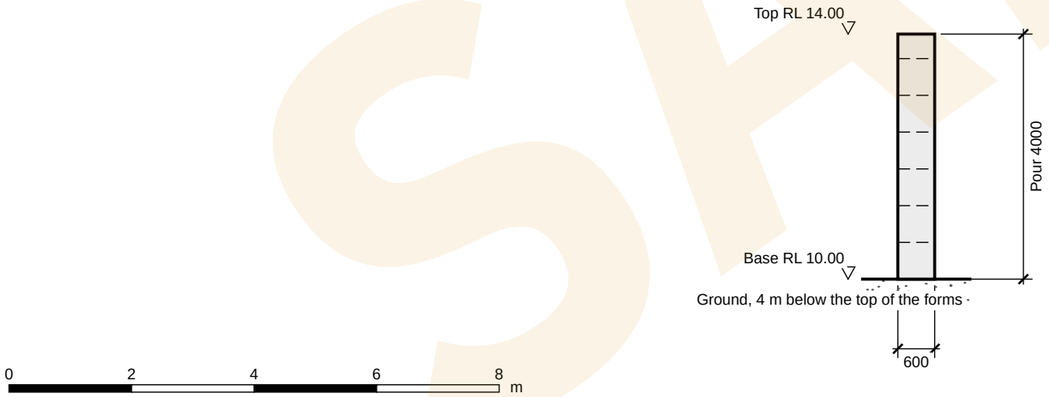


C1 Plan of the pour

Pump station column

Scale 1:200 at A3
Dimensions in millimetres

Column, 4000 high; 0 penetrations



C1 Elevation B of the outer face

Pump station column

Scale 1:100 at A3
Dimensions in millimetres, levels to the project datum

Notes

Plan of the pour

1. Wall 600 thick, 600 long
2. Junctions J1, J2 do not show in plan, or their position is not entered; each is detailed separately

Elevation B of the outer face with the lifts and the penetrations

3. Placement lifts of 0.6 m drawn dashed
4. No penetrations in this pour, confirmed against the drawings

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Designer to verify

No	Item	What is needed
2	Advisory FWR018. A high drop adds impact to the pressure and mounds the concrete on decks. (Good construction practice. See also AS 3610.2 (Int))	Reduce the drop height with a tremie or a hose extension, or tell the designer the drop height.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
C1 Pump station column. Plan and elevations

Drawing number
TW 090-SK-32

Rev
A

Scale at A3
1:100, 1:200

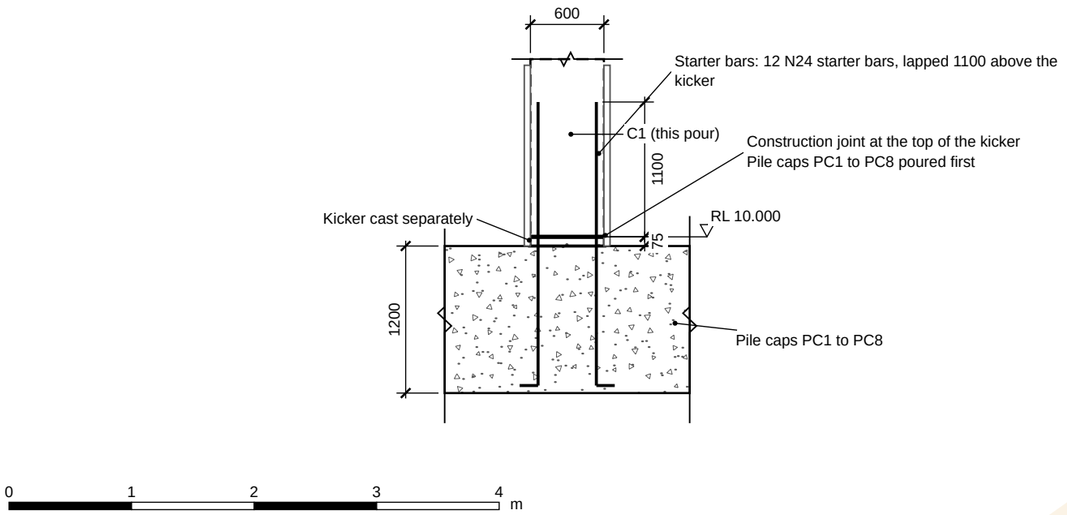
Date
29 Sept 2026

Sheet
32 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

J1 base joint: Pile caps PC1 to PC8 poured first, kicker 75, bars across the joint

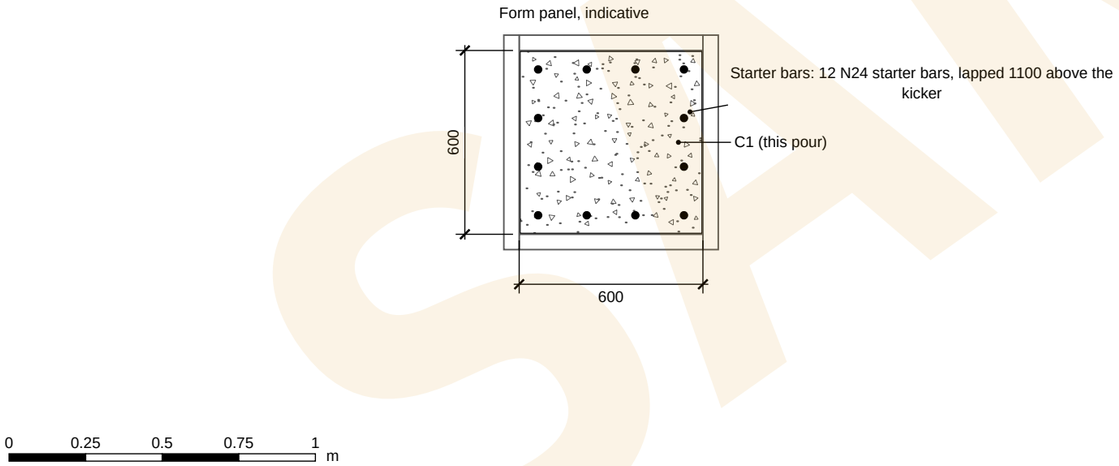


C1 J1 Section through the base joint

With Pile caps PC1 to PC8

Scale 1:50 at A3
Dimensions in millimetres, levels to the project datum

J1 base joint: plan at the joint, 600 by 600



C1 J1 Plan at the joint

With Pile caps PC1 to PC8

Scale 1:20 at A3
Dimensions in millimetres

Notes

J1 section through the base joint with Pile caps PC1 to PC8

1. The forms are drawn indicatively at nominal sizes; the design sets them
2. Bars drawn at a nominal cover of 50 mm; the drawings set the cover, the size and the spacing
3. Joint face: scabbled or water blasted to expose the aggregate
4. Detail on the permanent works drawings: EX 610 detail 1
5. Pile caps PC1 to PC8 drawn running on both sides; its extent is on the drawings

J1 plan at the joint with the bars with Pile caps PC1 to PC8

6. Kicker 75 high, the width of the column above
7. Bars drawn at the spacing entered around the column; the drawings set their number and positions
8. The forms are drawn indicatively; the design sets them

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Junction J1

Mark	**C1 J1**
Junction	Base joint with Pile caps PC1 to PC8, pile cap (1200 mm)
Pour order and joint	Pile caps PC1 to PC8 poured first, kicker 75 mm
Bars across the joint	12 N24 starter bars, lapped 1100 above the kicker
How the joint is formed	Kicker cast separately before the forms are set
Waterstop, key and face	No waterstop; face scabbled or water blasted to expose the aggregate
Detail	EX 610 detail 1

Where each pour meets another member or stops at a joint within itself, the pour order and the construction joint it puts there, and the bars that cross the joint as the drawings give them. The design details the forming at each junction and the stop end, form face, kicker or head at each joint. Two views of each are drawn on the drawings in Part 2.

Rev	**Date**	**Description**	**By**
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
C1 Pump station column. Junction J1

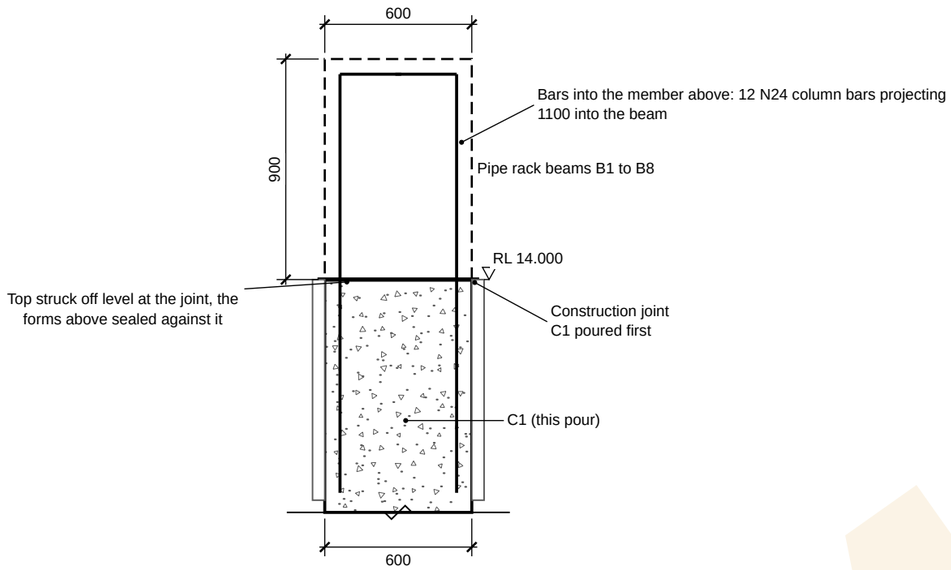
Drawing number	Rev
TW 090-SK-33	**A**

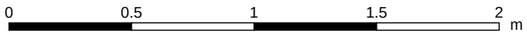
Scale at A3	Date	Sheet
1:20, 1:50	29 Sept 2026	33 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

J2 joint at the top: C1 poured first, bars across the joint



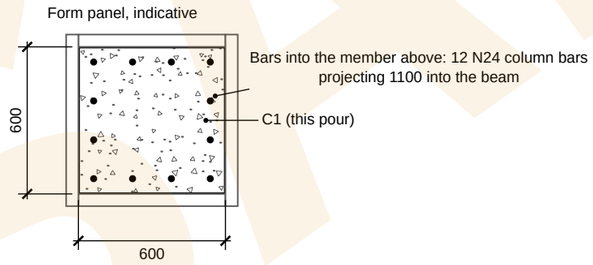


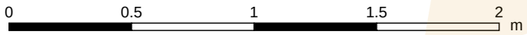
C1 J2 Section through the joint at the top

With Pipe rack beams B1 to B8

Scale 1:25 at A3
Dimensions in millimetres, levels to the project datum

J2 joint at the top: plan at the joint, 600 by 600





C1 J2 Plan at the joint

With Pipe rack beams B1 to B8

Scale 1:25 at A3
Dimensions in millimetres

Notes

J2 section through the joint at the top with Pipe rack beams B1 to B8

1. The forms are drawn indicatively at nominal sizes; the design sets them
2. Bars drawn at a nominal cover of 50 mm; the drawings set the cover, the size and the spacing
3. Joint face: scabbled or water blasted to expose the aggregate
4. Detail on the permanent works drawings: EX 610 detail 3

J2 plan at the joint with the bars with Pipe rack beams B1 to B8

5. Bars drawn at the spacing entered around the column; the drawings set their number and positions
6. The forms are drawn indicatively; the design sets them

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Junction J2

Mark	**C1 J2**
Junction	Joint at the top with Pipe rack beams B1 to B8, beam (900 by 600 mm)
Pour order and joint	C1 poured first
Bars across the joint	12 N24 column bars projecting 1100 into the beam
How the joint is formed	Top struck off level at the joint, the forms above sealed against it
Waterstop, key and face	No waterstop; face scabbled or water blasted to expose the aggregate
Detail	EX 610 detail 3

Where each pour meets another member or stops at a joint within itself, the pour order and the construction joint it puts there, and the bars that cross the joint as the drawings give them. The design details the forming at each junction and the stop end, form face, kicker or head at each joint. Two views of each are drawn on the drawings in Part 2.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
C1 Pump station column. Junction J2

Drawing number
TW 090-SK-34

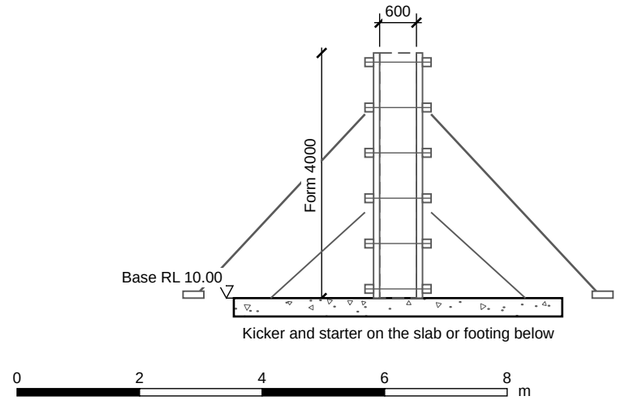
Rev
A

Scale at A3	Date	Sheet
1:25	29 Sept 2026	34 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Column, double sided, steel form (Example Column Form 600)

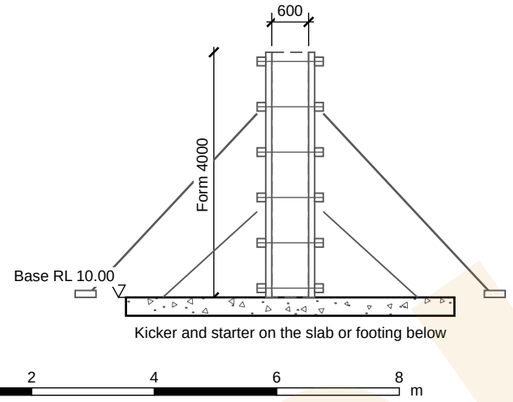


C1 Stage 1 of 7

Set out, fix the kicker and starter, erect and align the forms, fix ties and bracing

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Column, double sided, steel form (Example Column Form 600)



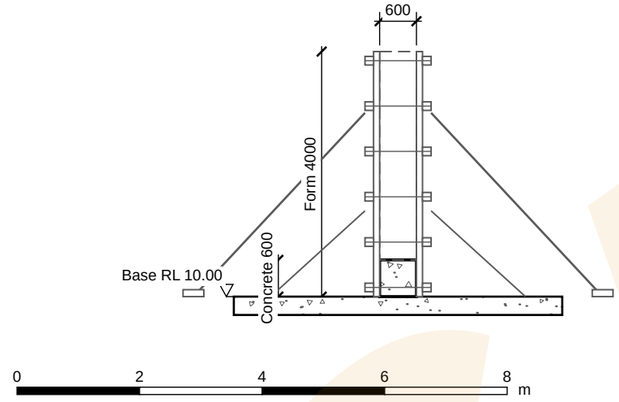
Hold point: Pre pour inspection
Ties, walers, strongbacks, bracing and anchors as designed; rated pressure and rate of rise stated on the permit. Released by Example Constructions.

C1 Stage 2 of 7

Pre pour inspection and certificate

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Column, double sided, steel form (Example Column Form 600)



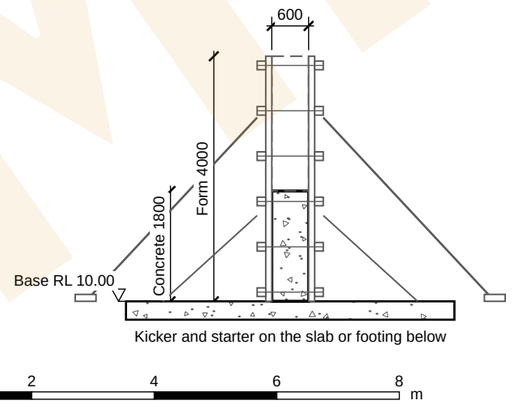
Hold point: Permit to load
Permit to pour issued against the pre pour certificate; rate of rise and placing temperature recorded. Released by Example Constructions.

C1 Stage 3 of 7

Pour lift 1 to 0.6 m above the base at the controlled rate of rise

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Column, double sided, steel form (Example Column Form 600)



C1 Stage 4 of 7

Continue lifts 2 to 6 in 0.6 m lifts, each within the stated time of the last, to 1.8 m at the mid point of the pour

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Design sensitivities and how each is verified

Pour	Sensitivity	How it is verified
C1	Rate of rise not more than 3 m/h with the placing temperature recorded	Lift levels and times recorded every 10 minutes on the pour record
C1	All four braces anchored to the ground anchors before the crane releases the form	Checked at the pre pour inspection on each column

Features where a small departure on site would invalidate the design. The designer is to confirm or amend them and the hold points in the design; they carry into the permit conditions for the pour.

Notes

Stage 1 of 7
1. Column 600 by 600 in plan; the section is through the 600 dimension
2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 2 of 7
3. Column 600 by 600 in plan; the section is through the 600 dimension
4. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 3 of 7
5. Column 600 by 600 in plan; the section is through the 600 dimension
6. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 4 of 7
7. Column 600 by 600 in plan; the section is through the 600 dimension
8. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
C1 Pump station column. Stages 1 to 4

Drawing number
TW 090-SK-35

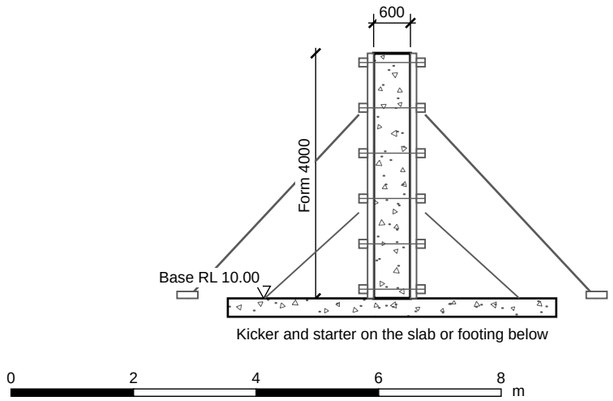
Rev
A

Scale at A3	Date	Sheet
1:100	29 Sept 2026	35 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Column, double sided, steel form (Example Column Form 600)

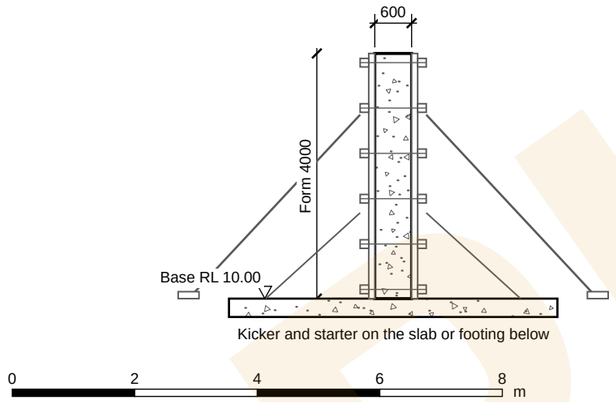


C1 Stage 5 of 7

Pour lift 7 to the top of the pour at 4 m

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Column, double sided, steel form (Example Column Form 600)



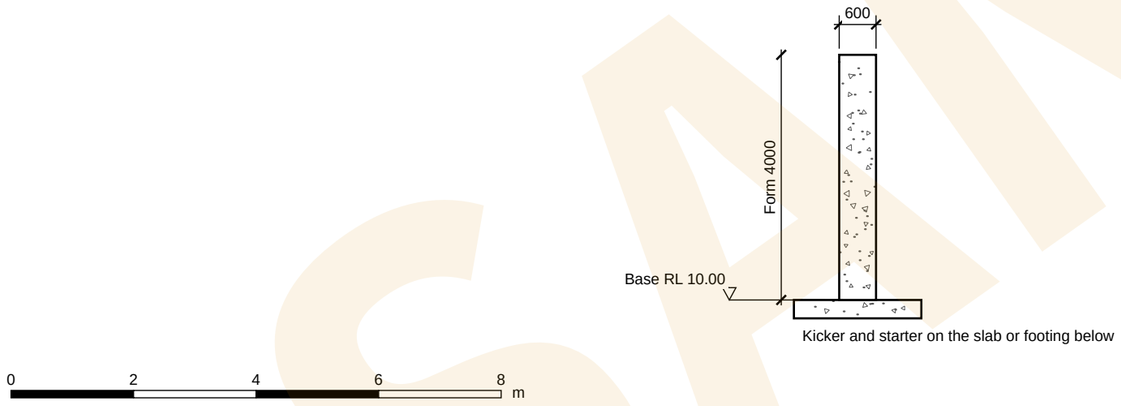
Hold point: Strength verification before strike
In situ strength verified at the stripping strength stated. Released by Example Constructions.

C1 Stage 6 of 7

Cure; verify the strength before striking

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Column, double sided, steel form (Example Column Form 600)



Hold point: Permit to strike
Permit to strike issued against the strength verification. Released by Example Constructions.

C1 Stage 7 of 7

Strike the forms in the stated order; keep bracing to the cast element until it can stand on its own against wind and impact

Scale 1:100 at A3
Dimensions in millimetres, heights from the base of the form (RL 10.00)

Notes

Stage 5 of 7

1. Column 600 by 600 in plan; the section is through the 600 dimension
2. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 6 of 7

3. Column 600 by 600 in plan; the section is through the 600 dimension
4. Panels, walers, ties and rakers are drawn indicatively at nominal sizes; the design sets their type, size and spacing

Stage 7 of 7

5. Column 600 by 600 in plan; the section is through the 600 dimension
6. Forms struck; bracing to the cast element as the design requires until it stands on its own

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
C1 Pump station column. Stages 5 to 7

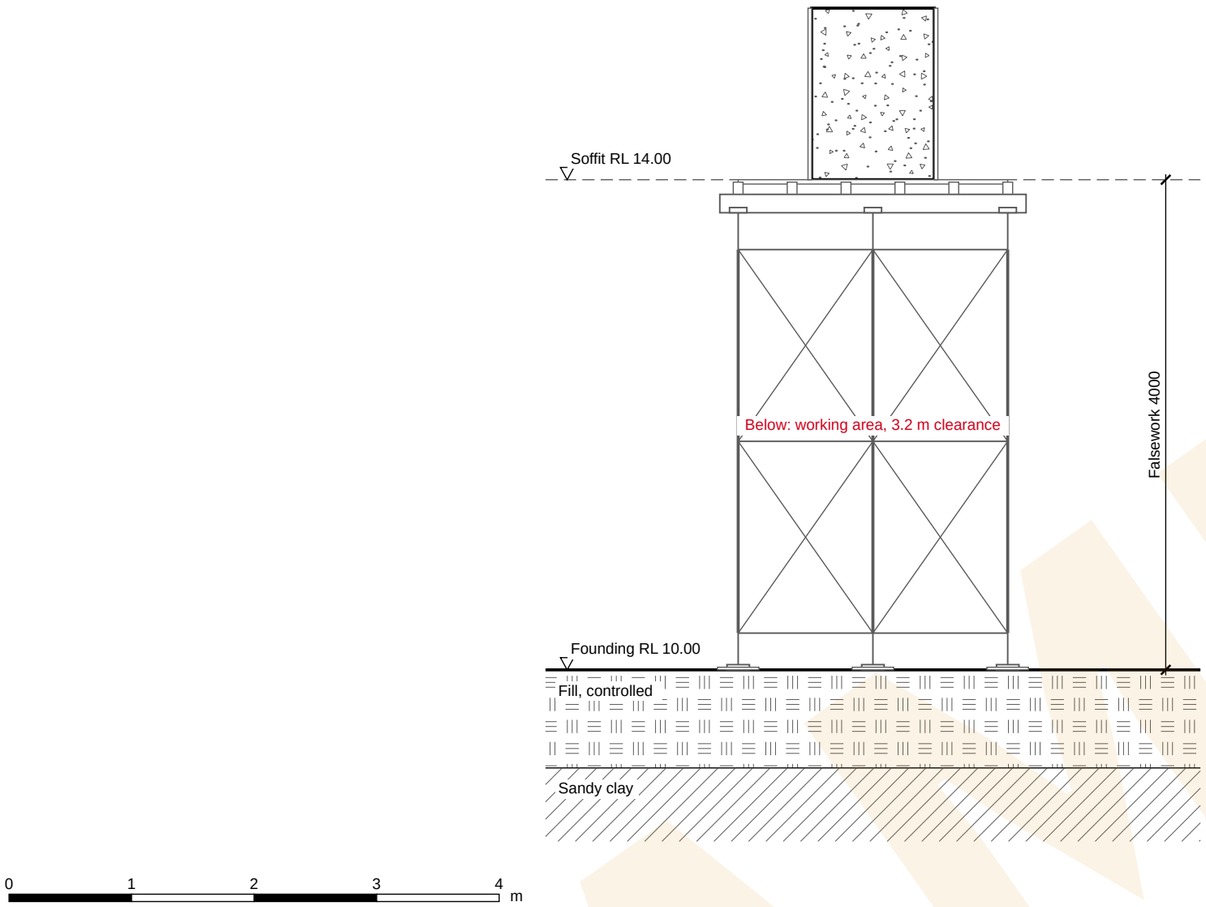
Drawing number	Rev
TW 090-SK-36	**A**

Scale at A3	Date	Sheet
1:100	29 Sept 2026	36 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Headstock (1000 by 1400 beam), shore towers on compacted fill

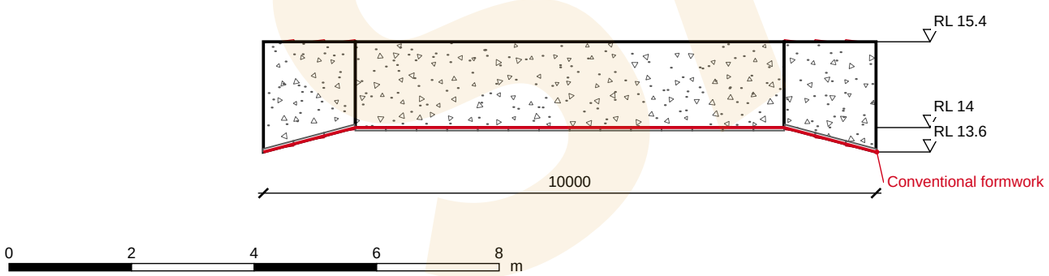


H1 Section through the falsework

Pump station headstock

Scale 1:50 at A3
Dimensions in millimetres, levels in metres (AHD)

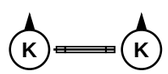
Section K-K, Profile along the beam



H1 Section K-K, Profile along the beam

Pump station headstock

Key plan



Scale 1:100 at A3
Dimensions in millimetres

Notes

Section through the falsework

1. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Section K-K, Profile along the beam

2. Section looking to the left of the line of the cut walked from its start to its end; what lies beyond the plane is drawn fine.
3. Amber marks are places that need conventional formwork detailing, as the 3D formwork model marks them.
4. The cut is a view of the brief data for the designer's information; nothing on it is sized.

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Element and geometry

Element type	Headstock
Drawing	EX 903 rev A
Plan length	10 m
Plan width	*Not provided*
Slab thickness	None
Beam	1400 mm deep, 1 m wide
Soffit RL	14.00
Founding RL	10.00
Falsework height	4 m
Span between supports	Not stated; a nominal span is drawn
On the project grid	Start corner at grid 3/A, its length along the grid's x axis
Cast order	Pour 3 in the project's cast order
Form type	Custom timber and ply
Proprietary system	Example Frame 40 falsework, Example Formwork Supplies; rated leg load 40 kN; for frame towers 1.2 by 1.8 m at 2.4 m along and 3.0 m across the slab, jacks within their ranges, braced as the supplier's guide; from Example Formwork Supplies Frame 40 technical manual rev 6, 2025
Surface finish class	Class 3 (AS 3610.1)
Architectural constraints	None stated
Repeated pour and reuse	No; 1 reuse cycles expected
Left in place	No

Notes on the data

The full hydrostatic head of the fresh concrete at the base is 33 kPa, an upper bound and a check value set out with its formula and inputs in Appendix E. The design pressure is the designer's, returned in the pressure statement in Appendix C; the site's rate of rise limit is written from it.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
H1 Pump station headstock. Sections

Drawing number
TW 090-SK-37

Rev
A

Scale at A3	Date	Sheet
1:50, 1:100	29 Sept 2026	37 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Falsework and founding

Falsework type	Shore towers	**Jack extension**	300 mm
Founding surface	Compacted fill	**Lateral restraint**	By bracing within the falsework
Falsework height	4 m	**Founding RL**	10.00
Ground profile	2 layers, tabulated below	**Bearing pressure the site states**	150 kPa (Example Geotechnical Consultants report G 014, allowable bearing on the compacted hardstand; the designer confirms it); the designer confirms it
Sole boards or spreaders	Yes	**Drainage of the founding**	Hardstand graded to the perimeter drain; no water allowed to pond under the sole boards
Settlement limit	5 mm	**Water, flood or scour**	No
Under the falsework	Working area	**Clearance under it**	3.2 m
Camber and deflection limit	camber 10 mm, Span/360 of the soffit under the wet concrete, from the structural drawings general notes	**Monitoring during the pour**	Yes: Soffit levels at the beam centres read before and during the pour; alert at 3 mm settlement, stop at 5 mm

Loads other than concrete

Deck live load the site controls to	2.5 kPa	**Materials craned onto the deck**	Yes
Wind region and terrain (AS/NZS 1170.2)	region A, terrain category 2	**Days the forms stand before the pour**	6
Screens or shade cloth on the forms	No	**Water, flood or scour at the founding**	No
Stacked materials	None entered	**Other loads**	Screed rails and the pump line on the deck
How the deck is finished	Hand screeded on screed rails chaired off the deck; power floated after the initial set	**Site features that raise the wind**	None stated

Ground profile under the falsework of H1

No	Material	Description	Top RL	Bottom RL	Source
1	Fill, controlled	Compacted crushed rock hardstand, 300 mm, on engineered fill	10.20	9.20	Example Geotechnical Consultants report G 014, TP7, and the hardstand compaction records
2	Sandy clay	Stiff sandy clay	9.20	6.50	Example Geotechnical Consultants report G 014, BH4

The layers from the founding down, with the document each comes from.

Notes

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
H1 Pump station headstock. Sections. Data

Drawing number
TW 090-SK-38

Rev
A

Scale at A3
Not applicable

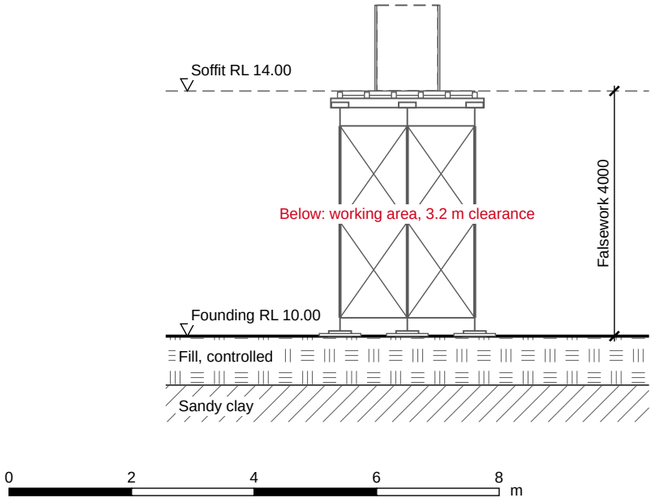
Date
29 Sept 2026

Sheet
38 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Headstock (1000 by 1400 beam), shore towers on compacted fill



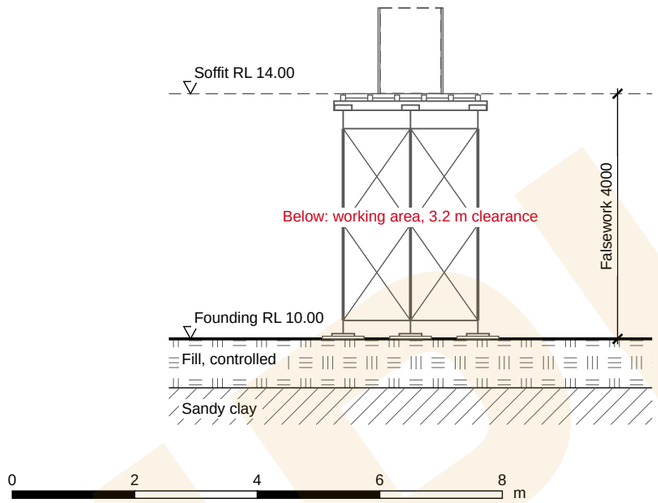
Hold point: Founding verification
Founding surface prepared, drained and verified before the falsework is loaded. Released by Example Constructions.

H1 Stage 1 of 7

Prepare and verify the founding surface, place sole boards and spreaders

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Headstock (1000 by 1400 beam), shore towers on compacted fill

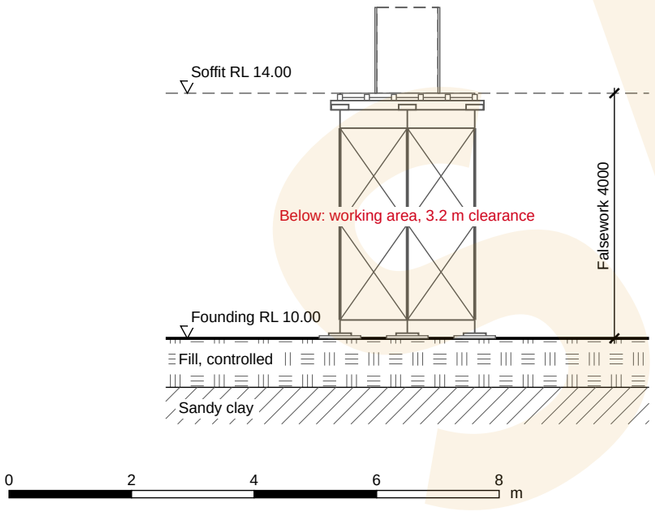


H1 Stage 2 of 7

Erect the falsework, bracing progressively, with a false deck where erection is more than two metres above the level below

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Headstock (1000 by 1400 beam), shore towers on compacted fill

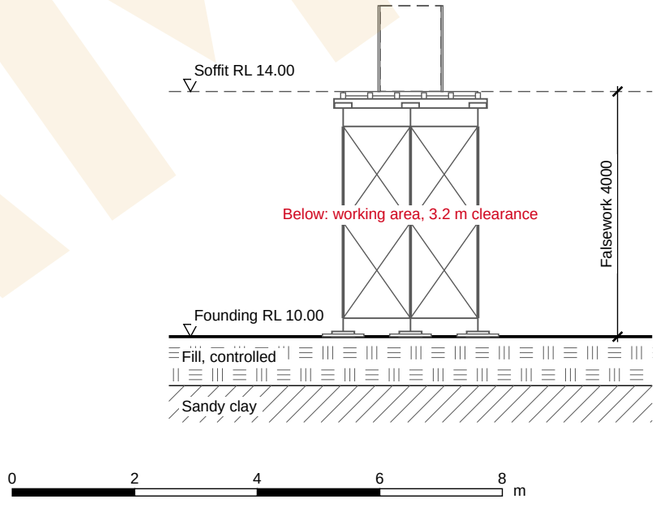


H1 Stage 3 of 7

Place bearers, joists and the deck; install edge protection and penetration covers

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Headstock (1000 by 1400 beam), shore towers on compacted fill



Hold point: Pre pour inspection
Frames, props, bearers and joists at the design spacing, jack extensions, bracing and backpropping checked and certified. Released by Example Constructions.

H1 Stage 4 of 7

Fix reinforcement and cast in items; pre pour inspection and certificate

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Notes

Stage 1 of 7
1. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Stage 2 of 7
2. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Stage 3 of 7
3. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Stage 4 of 7
4. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Design sensitivities and how each is verified

Pour	Sensitivity	How it is verified
H1	Jack extensions not more than 300 mm at the base and the U head	Measured at the pre pour inspection
H1	Frames plumb within the supplier's tolerance and every brace pinned	Checked progressively during erection and at the pre pour inspection
H1	Sole boards continuous under every leg on the compacted hardstand	Checked at the founding verification hold point

Features where a small departure on site would invalidate the design. The designer is to confirm or amend them and the hold points in the design; they carry into the permit conditions for the pour.

Concrete and placement

Mix	S40 20 mm, MD 3101
Specified strength	40 MPa
Wet density	2400 kg/m³
Density source	Mix design MD 3101, Example Concrete
Slump or slump flow	slump 100 mm
Self compacting	No
Cement and SCM	GP
Admixtures	Water reducer
Initial set (supplier)	4 h
Maximum aggregate	20 mm
Placement method	Boom pump
Placement rate	15 m³/h

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
H1 Pump station headstock. Stages 1 to 4

Drawing number
TW 090-SK-39

Rev
A

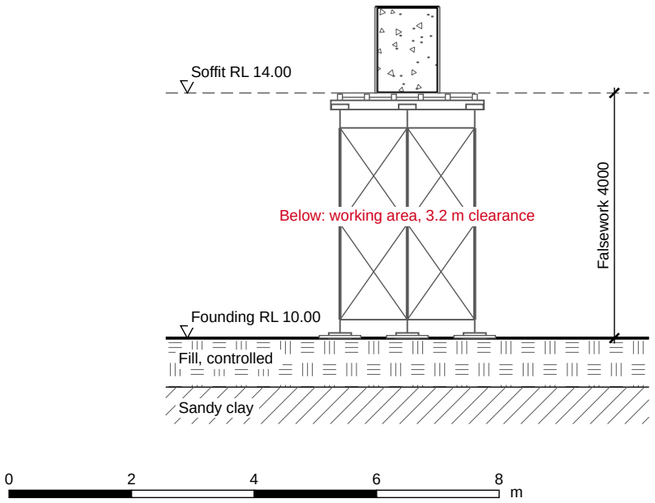
Scale at A3
1:100

Date
29 Sept 2026

Sheet
39 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

Headstock (1000 by 1400 beam), shore towers on compacted fill



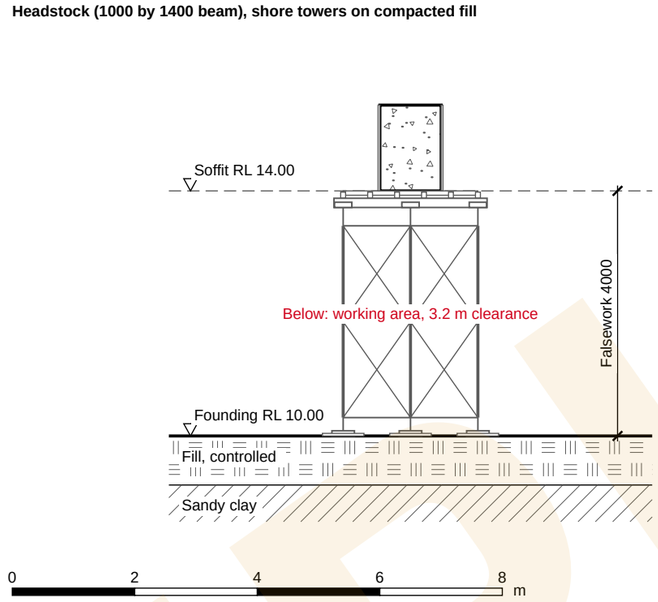
Hold point: Permit to load
Permit to load the falsework with the pour issued against the pre pour certificate. Released by Example Constructions.

H1 Stage 5 of 7

Place the concrete in the stated sequence at the stated rate

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Headstock (1000 by 1400 beam), shore towers on compacted fill



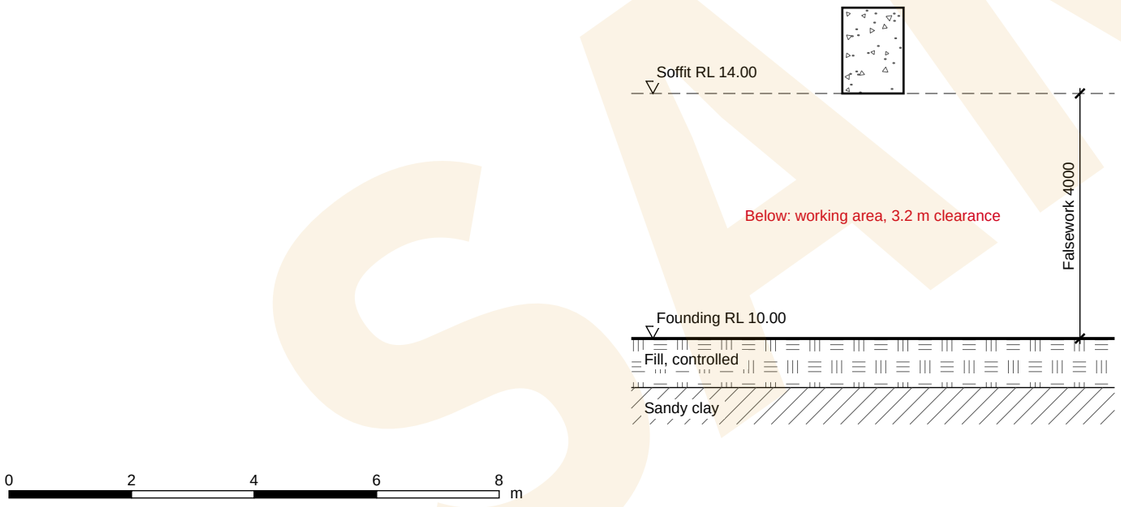
Hold point: Strength verification before strike
In situ strength verified at the stripping strength stated. Released by Example Constructions.

H1 Stage 6 of 7

Cure; verify the strength before striking

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Headstock (1000 by 1400 beam), shore towers on compacted fill



Hold point: Permit to strike
Permit to strike issued against the strength verification and the backpropping plan. Released by Example Constructions.

H1 Stage 7 of 7

Strike in the stated order, with backpropping in place before the supports are removed

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Notes

Stage 5 of 7
1. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Stage 6 of 7
2. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Stage 7 of 7

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Concrete and placement, continued

Rate of rise from the data	Not available
Controlled rate of rise (site limit)	Not applicable to a soffit
Lifts	revibrated: no
Pour volume and duration	14.6 m³, 1 h at the placement rate, 7 h window
Placing temperature	21 °C
Ambient range and measures	8 to 24 °C; Pour deferred if the forecast minimum is below 5 °C
Vibration	Internal poker vibrator, immersion 100 mm
Free drop height	0.8 m
Pour direction and sequence	Beams first from grid 1 towards grid 4, then the slab in strips from grid 1, screeded behind the pour
Mandatory joints	No construction joint within the pour; the pour stops at grid 4 as the drawings show
Date and hours	04 Feb 2027, 06:00 to 13:00
Haul time	35 min
Discharge points	Boom at 6 m along, 4.5 m across
Placing temperature cases	Not applicable to a soffit

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
H1 Pump station headstock. Stages 5 to 7

Drawing number
TW 090-SK-40

Rev
A

Scale at A3
1:100

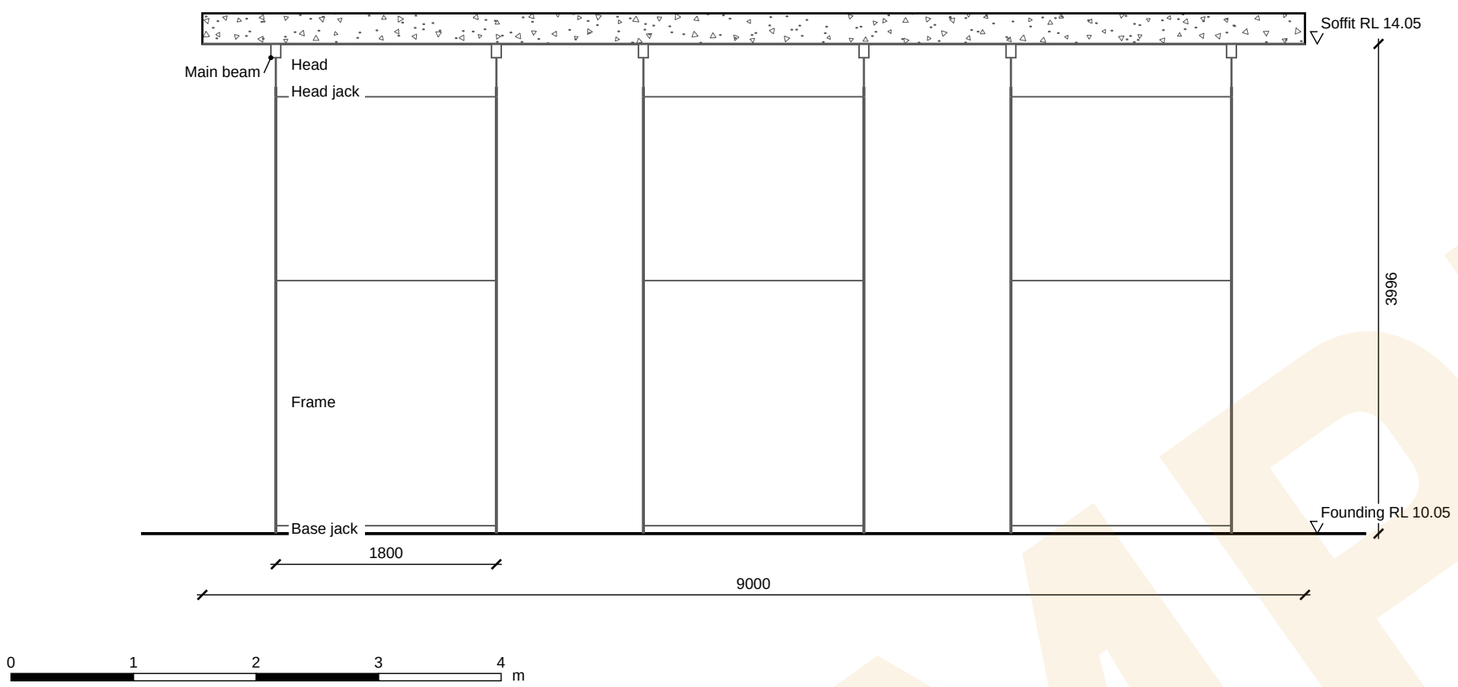
Date
29 Sept 2026

Sheet
40 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Section through the falsework of S1, beam deck on fork heads on shoring towers



S1 Section through the falsework

Pump station roof slab

Scale 1:50 at A3
Dimensions in millimetres, levels in metres

Element and geometry

Element type	Suspended slab	**Drawing**	EX 904 rev A
Plan length	21 m	**Plan width**	9 m
Slab thickness	250 mm	**Beam**	650 mm deep, 0.4 m wide
Soffit RL	14.05	**Founding RL**	10.20
Falsework height	3.85 m	**Span between supports**	7 m
On the project grid	Start corner at grid 1/B, 4 m along y from it, its length along the grid's x axis	**Cast order**	Pour 4 in the project's cast order
Form type	Custom timber and ply	**Proprietary system**	Example Frame 40 falsework, Example Formwork Supplies; rated leg load 40 kN; for frame towers 1.2 by 1.8 m at 2.4 m along and 3.0 m across the slab, jacks within their ranges, braced as the supplier's guide; from Example Formwork Supplies Frame 40 technical manual rev 6, 2025
Surface finish class	Class 3 (AS 3610.1)	**Architectural constraints**	None stated
Repeated pour and reuse	No; 1 reuse cycles expected	**Left in place**	No

Ground profile under the falsework

No	Material	Description	Top RL	Bottom RL	Source
1	Fill, controlled	Compacted crushed rock hardstand, 300 mm, on engineered fill	10.20	9.20	Example Geotechnical Consultants report G 014, TP7, and the hardstand compaction records
2	Sandy clay	Stiff sandy clay	9.20	6.50	Example Geotechnical Consultants report G 014, BH4

The layers from the founding down, with the document each comes from.

Notes on the data

The full hydrostatic head of the fresh concrete at the base is 15.3 kPa, an upper bound and a check value set out with its formula and inputs in Appendix E. The design pressure is the designer's, returned in the pressure statement in Appendix C; the site's rate of rise limit is written from it.

Notes

Section through the falsework

1. Section across the pour through the line of supports 10.2 m from its start, the line nearest its middle, drawn from the node model.
2. Every member is drawn indicatively from the node model at the sizes, ranges and spacings the author entered with the system; the designer sets them. Nothing is sized.

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Concrete and placement

Mix	S40 20 mm, MD 3101
Specified strength	40 MPa
Wet density	2400 kg/m³
Density source	Mix design MD 3101, Example Concrete
Slump or slump flow	slump 100 mm
Self compacting	No
Cement and SCM	GP
Admixtures	Water reducer
Initial set (supplier)	4 h
Maximum aggregate	20 mm
Placement method	Boom pump
Placement rate	30 m³/h
Rate of rise from the data	0.16 m/h (30 m³/h over 189 m²)
Controlled rate of rise (site limit)	Not applicable to a soffit
Lifts	revibrated: no
Pour volume and duration	47.3 m³, 1.6 h at the placement rate, 7 h window
Placing temperature	21 °C
Ambient range and measures	8 to 24 °C; Pour deferred if the forecast minimum is below 5 °C
Vibration	Internal poker vibrator, immersion 100 mm
Free drop height	0.8 m
Pour direction and sequence	Beams first from grid 1 towards grid 4, then the slab in strips from grid 1, screeded behind the pour
Mandatory joints	No construction joint within the pour; the pour stops at grid 4 as the drawings show
Date and hours	04 Feb 2027, 06:00 to 13:00
Haul time	35 min
Discharge points	Boom at 6 m along, 4.5 m across
Placing temperature cases	Not applicable to a soffit

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
S1 Pump station roof slab. Sections

Drawing number
TW 090-SK-41

Rev
A

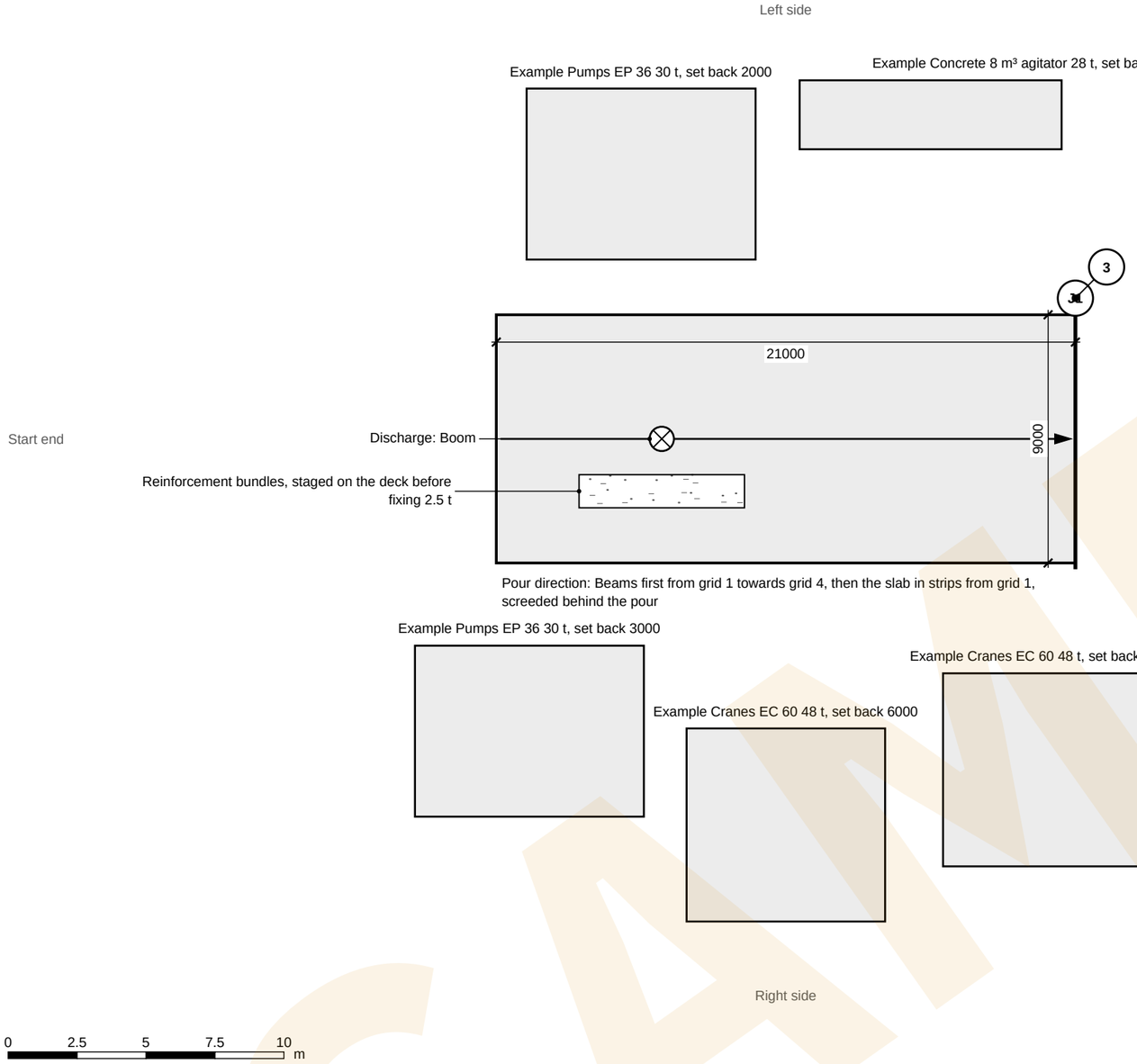
Scale at A3
1:50

Date
29 Sept 2026

Sheet
41 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE



S1 Soffit plan

Pump station roof slab

Scale 1:200 at A3
Dimensions in millimetres

Loads other than concrete

Deck live load the site controls to	2.5 kPa	**Materials craned onto the deck**	Yes
Wind region and terrain (AS/NZS 1170.2)	region A, terrain category 2	**Days the forms stand before the pour**	6
Screens or shade cloth on the forms	No	**Water, flood or scour at the founding**	No
Stacked materials	Reinforcement bundles, staged on the deck before fixing 2.5 t over 6 by 1.2 m at 3 m along, 2 m across	**Other loads**	Screed rails and the pump line on the deck
How the deck is finished	Hand screeded on screed rails chaired off the deck; power floated after the initial set	**Site features that raise the wind**	None stated

Notes

Soffit plan

1. Junctions J1 marked, the other members drawn dashed; each is detailed in two views
2. Junctions J2, J3 do not show in plan, or their position is not entered; each is detailed separately

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Falsework and founding

Falsework type	Shore towers
Jack extension	300 mm
Founding surface	Compacted fill
Lateral restraint	By bracing within the falsework
Falsework height	3.85 m
Founding RL	10.20
Ground profile	2 layers, tabulated below
Bearing pressure the site states	150 kPa (Example Geotechnical Consultants report G 014, allowable bearing on the compacted hardstand; the designer confirms it); the designer confirms it
Sole boards or spreaders	Yes
Drainage of the founding	Hardstand graded to the perimeter drain; no water allowed to pond under the sole boards
Settlement limit	5 mm
Water, flood or scour	No
Under the falsework	Working area
Clearance under it	3.2 m
Camber and deflection limit	camber 10 mm, Span/360 of the soffit under the wet concrete, from the structural drawings general notes
Monitoring during the pour	Yes: Soffit levels at the beam centres read before and during the pour; alert at 3 mm settlement, stop at 5 mm

Designer to verify

No	Item	What is needed
3	Advisory FWR106. A construction joint in a water retaining element is a leakage path; the specification normally sets the waterstop and how it is held at the stop end or the kicker. (Project specification)	State the waterstop at the joint from the specification and the drawings, or confirm that none is required.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
S1 Pump station roof slab. Soffit plan

Drawing number
TW 090-SK-42

Rev
A

Scale at A3
1:200

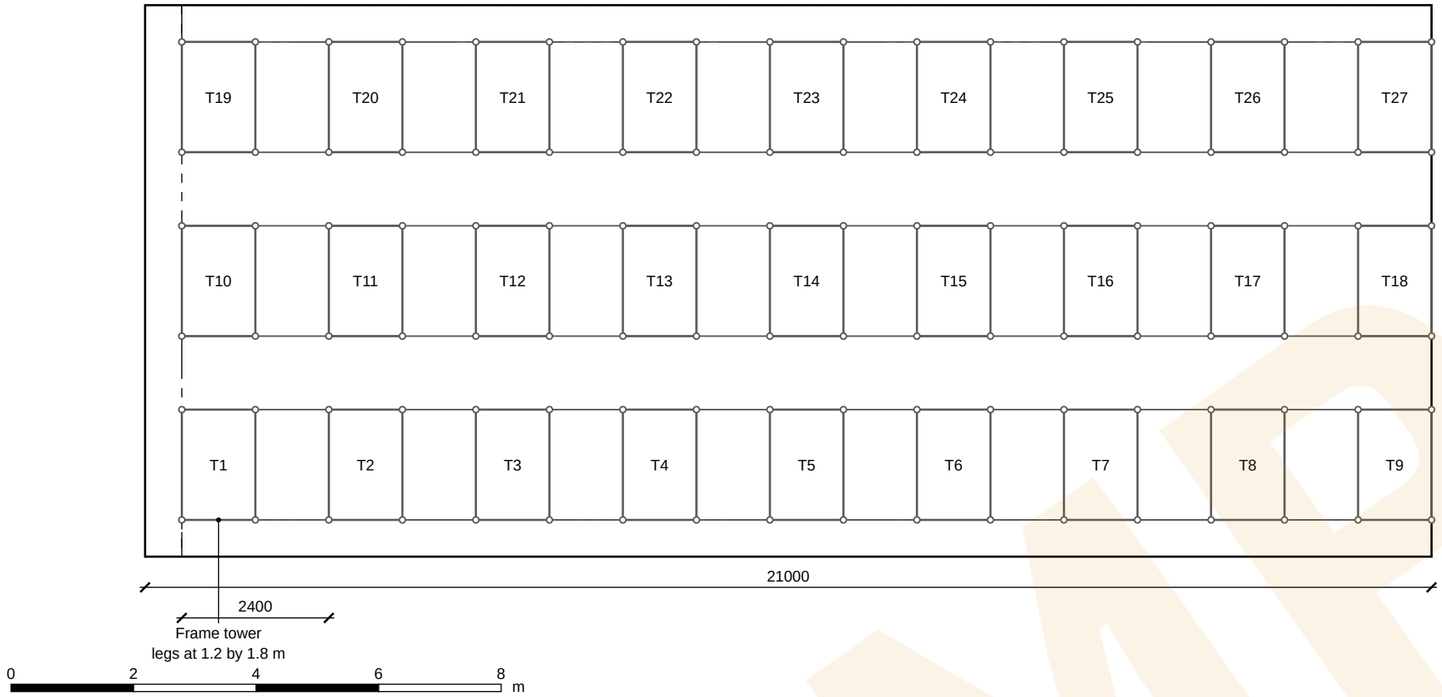
Date
29 Sept 2026

Sheet
42 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Plan of the 27 shoring towers under S1, Example frame tower

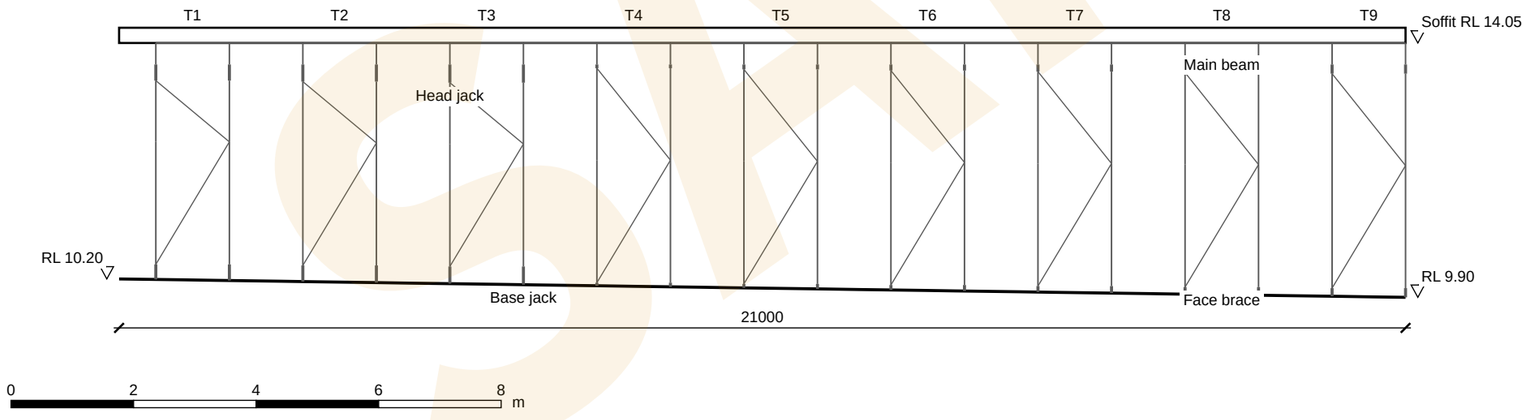


S1 Plan of the shoring towers

Pump station roof slab

Scale 1:100 at A3
Dimensions in millimetres

Elevation of the first row of shoring towers under S1



S1 Elevation of the shoring towers

Pump station roof slab

Scale 1:100 at A3
Dimensions in millimetres

Notes

Plan of the shoring towers

1. The strips the towers leave at the edges of the slab are outlined and listed in the node model; the designer details them.
2. Towers, legs and main beams are drawn indicatively at the sizes and spacings the author entered with the tower system; the designer sets them. Nothing is sized.

Elevation of the first row of shoring towers

3. The first row of towers along the pour, seen on its face nearest the side, 600 mm in from it.
4. T1: frames of 2000, 1000 mm from the bottom, base jacks 246, 263, 263, 246 mm, head jacks 263 mm.
5. T2: frames of 2000, 1000 mm from the bottom, base jacks 263, 280, 280, 263 mm, head jacks 280 mm.
6. T3: frames of 2000, 1000 mm from the bottom, base jacks 280, 297, 297, 280 mm, head jacks 297 mm.
7. T4: frames of 2000, 1500 mm from the bottom, base jacks 50, 68, 68, 50 mm, head jacks 61 mm.
8. T5: frames of 2000, 1500 mm from the bottom, base jacks 65, 82, 82, 65 mm, head jacks 81 mm.
9. T6: frames of 2000, 1500 mm from the bottom, base jacks 81, 98, 98, 81 mm, head jacks 99 mm.
10. T7: frames of 2000, 1500 mm from the bottom, base jacks 98, 115, 115, 98 mm, head jacks 116 mm.
11. T8: frames of 2000, 1500 mm from the bottom, base jacks 116, 133, 133, 116 mm, head jacks 133 mm.
12. T9: frames of 2000, 1500 mm from the bottom, base jacks 133, 150, 150, 133 mm, head jacks 150 mm.
13. Jacks, frames, standards, ledgers and braces are drawn indicatively at the sizes, ranges and pattern the author entered with the tower system; the designer sets them. Nothing is sized.

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
S1 Pump station roof slab. Plan and elevations

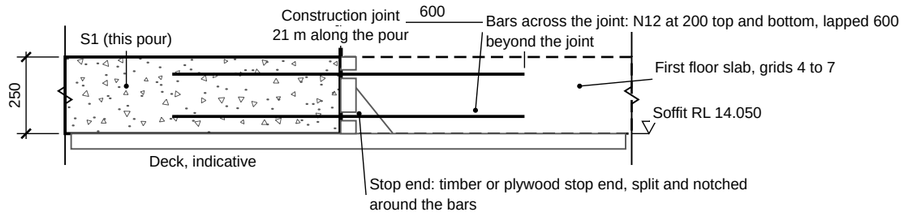
Drawing number	Rev
TW 090-SK-43	**A**

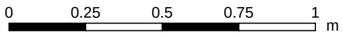
Scale at A3	Date	Sheet
1:100	29 Sept 2026	43 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

J1 construction joint 21 m along the pour, across the pour: S1 poured first, bars across it



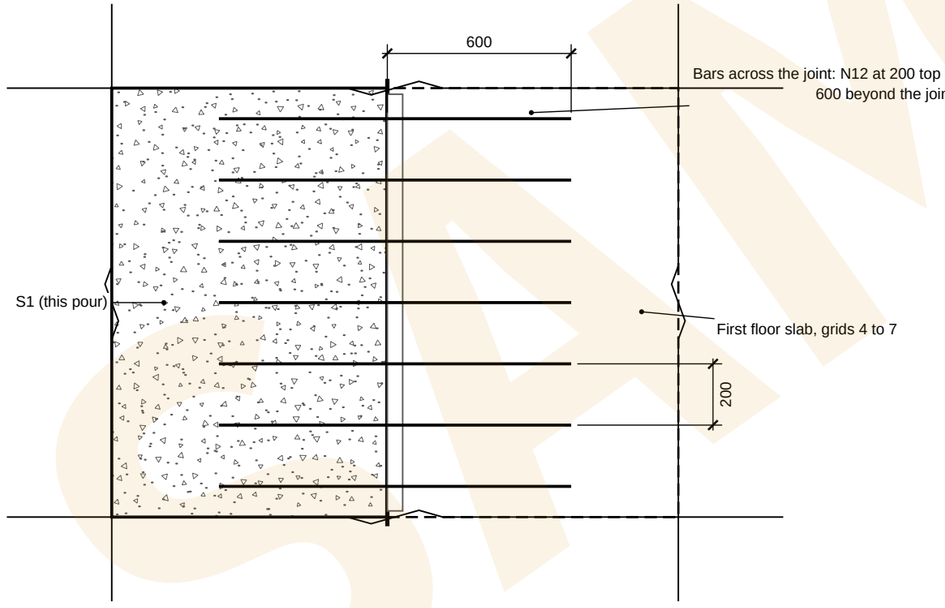


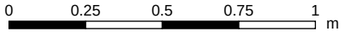
S1 J1 Section through the joint

With First floor slab, grids 4 to 7

Scale 1:20 at A3
Dimensions in millimetres, levels to the project datum

J1 plan of the construction joint 21 m along the pour





S1 J1 Plan of the joint

With First floor slab, grids 4 to 7

Scale 1:20 at A3
Dimensions in millimetres

Notes

J1 section through the construction joint

1. Top and bottom bars drawn at a nominal cover of 50 mm; the drawings set the cover, the size and the spacing
2. Joint face: scabbled or water blasted to expose the aggregate
3. Detail on the permanent works drawings: EX 521 detail 4
4. The deck and the falsework at the joint carry the first pour and then the second; they are struck only as the designer states
5. The stop end and the deck are drawn indicatively; the design sets them

J1 plan of the construction joint

6. The top and bottom bars lie one over the other in plan
7. Construction joint, across the pour (not labelled on the plan)
8. A strip of the pour either side of the joint; the stop end drawn indicatively

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Junction J1

Mark	**S1 J1**
Junction	Construction joint, 21 m along the pour, across the pour
Pour order and joint	S1 poured first, position on the drawings or accepted by the permanent works designer
Bars across the joint	N12 at 200 top and bottom, lapped 600 beyond the joint
How the joint is formed	Timber or plywood stop end, split and notched around the bars
Waterstop, key and face	No waterstop; face scabbled or water blasted to expose the aggregate
Detail	EX 521 detail 4

Where each pour meets another member or stops at a joint within itself, the pour order and the construction joint it puts there, and the bars that cross the joint as the drawings give them. The design details the forming at each junction and the stop end, form face, kicker or head at each joint. Two views of each are drawn on the drawings in Part 2.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
S1 Pump station roof slab. Junction J1

Drawing number
TW 090-SK-44

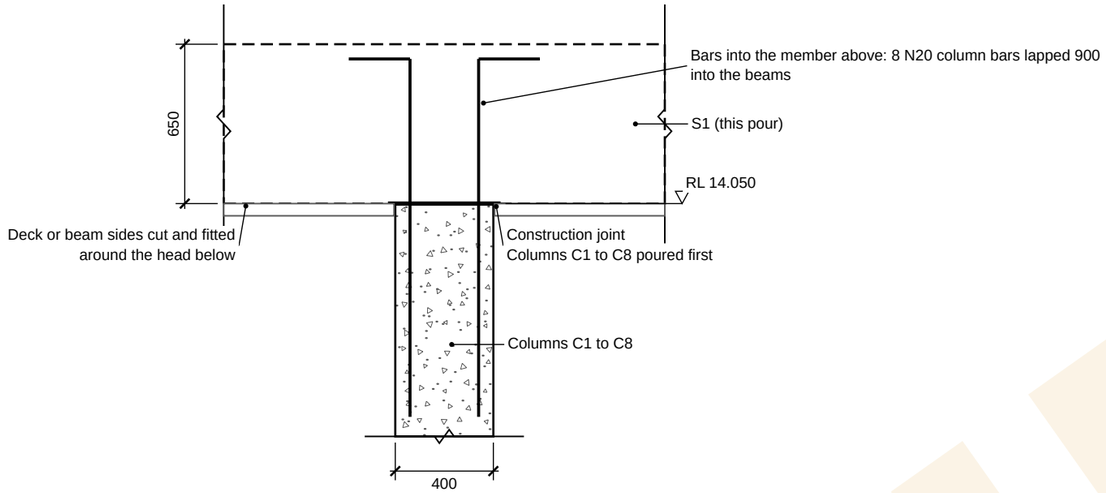
Rev
A

Scale at A3	Date	Sheet
1:20	29 Sept 2026	44 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

J2 junction over a column or wall: Columns C1 to C8 poured first, bars across the joint

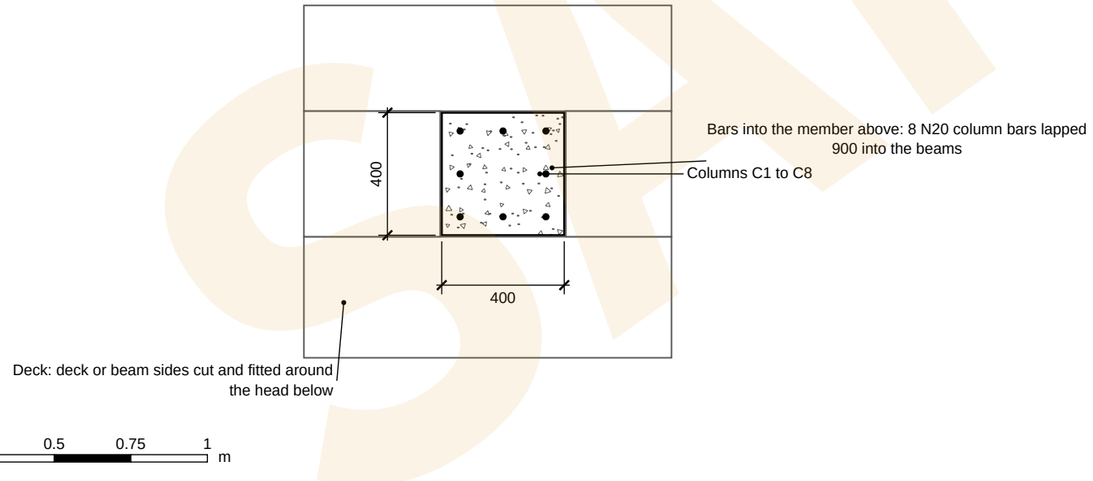


S1 J2 Section through the junction over a column or wall

With Columns C1 to C8

Scale 1:25 at A3
Dimensions in millimetres, levels to the project datum

J2 junction over a column or wall: plan at the joint, 400 by 400



S1 J2 Plan at the joint

With Columns C1 to C8

Scale 1:20 at A3
Dimensions in millimetres

Notes

J2 section through the junction over a column or wall with Columns C1 to C8

1. The forms are drawn indicatively at nominal sizes; the design sets them
2. Bars drawn at a nominal cover of 50 mm; the drawings set the cover, the size and the spacing
3. Detail on the permanent works drawings: EX 521 detail 1
4. S1 (this pour) drawn running on both sides; its extent is on the drawings

J2 plan at the joint with the bars with Columns C1 to C8

5. Bars drawn at the spacing entered around the column; the drawings set their number and positions
6. The forms are drawn indicatively; the design sets them

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Junction J2

Mark	**S1 J2**
Junction	Junction over a column or wall with Columns C1 to C8, column (400 by 400 mm)
Pour order and joint	Columns C1 to C8 poured first
Bars across the joint	8 N20 column bars lapped 900 into the beams
How the joint is formed	Deck or beam sides cut and fitted around the head below
Waterstop, key and face	No waterstop
Detail	EX 521 detail 1

Where each pour meets another member or stops at a joint within itself, the pour order and the construction joint it puts there, and the bars that cross the joint as the drawings give them. The design details the forming at each junction and the stop end, form face, kicker or head at each joint. Two views of each are drawn on the drawings in Part 2.

Design sensitivities and how each is verified

Pour	Sensitivity	How it is verified
S1	Jack extensions not more than 300 mm at the base and the U head	Measured at the pre pour inspection
S1	Frames plumb within the supplier's tolerance and every brace pinned	Checked progressively during erection and at the pre pour inspection
S1	Sole boards continuous under every leg on the compacted hardstand	Checked at the founding verification hold point

Features where a small departure on site would invalidate the design. The designer is to confirm or amend them and the hold points in the design; they carry into the permit conditions for the pour.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
S1 Pump station roof slab. Junction J2

Drawing number
TW 090-SK-45

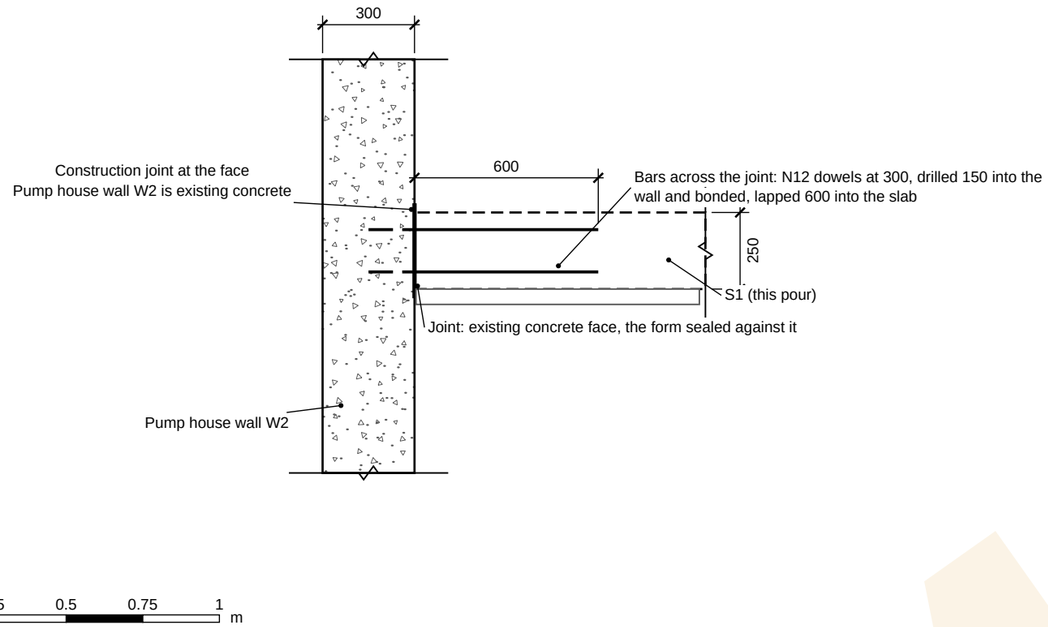
Rev
A

Scale at A3	Date	Sheet
1:20, 1:25	29 Sept 2026	45 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

J3 suspended slab against Pump house wall W2: existing concrete, bars across the joint

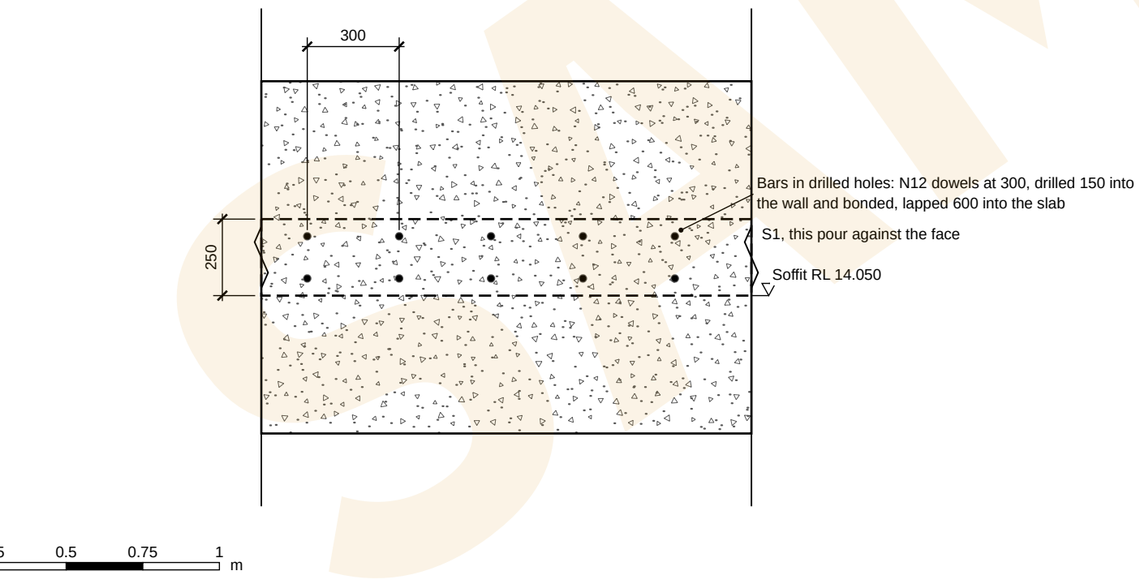


S1 J3 Section through the edge against a wall or column

With Pump house wall W2

Scale 1:20 at A3
Dimensions in millimetres, levels to the project datum

J3 elevation of the face of Pump house wall W2 at the joint



S1 J3 Elevation of the face at the joint

With Pump house wall W2

Scale 1:20 at A3
Dimensions in millimetres, levels to the project datum

Notes

J3 section through the edge against a wall or column with Pump house wall W2

1. The forms are drawn indicatively at nominal sizes; the design sets them
2. Bars drawn at a nominal cover of 50 mm, top and bottom of the member; the drawings set the cover, the size, the spacing and the anchorage in the wall
3. Bars drilled and fixed into the existing concrete of Pump house wall W2, drawn dashed in it; the bar, the embedment and the adhesive are the permanent works designer's
4. Soffit of the member at RL 14.050
5. Joint face: scabbled or water blasted to expose the aggregate
6. Detail on the permanent works drawings: EX 521 detail 6

J3 elevation of the face at the joint with Pump house wall W2

7. The face is the concrete of the member cast before

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Junction J3

Mark	**S1 J3**
Junction	Edge against a wall or column with Pump house wall W2, wall (300 mm)
Pour order and joint	Pump house wall W2 is existing concrete, joint at the face
Bars across the joint	N12 dowels at 300, drilled 150 into the wall and bonded, lapped 600 into the slab
How the joint is formed	Existing concrete face, the form sealed against it. Bars drilled and fixed into the existing concrete. Accepted by the permanent works designer
Waterstop, key and face	No waterstop; face scabbled or water blasted to expose the aggregate
Detail	EX 521 detail 6

Where each pour meets another member or stops at a joint within itself, the pour order and the construction joint it puts there, and the bars that cross the joint as the drawings give them. The design details the forming at each junction and the stop end, form face, kicker or head at each joint. Two views of each are drawn on the drawings in Part 2.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
S1 Pump station roof slab. Junction J3

Drawing number
TW 090-SK-46

Rev
A

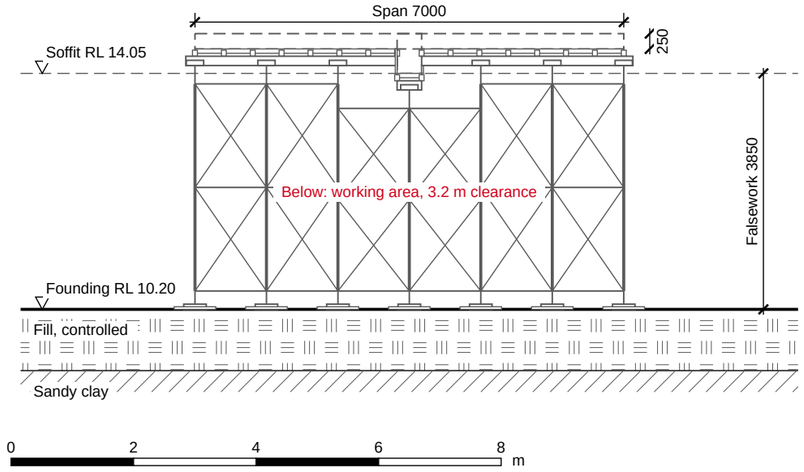
Scale at A3
1:20

Date
29 Sept 2026

Sheet
46 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

Suspended slab (250 slab and 400 by 650 beam), shore towers on compacted fill



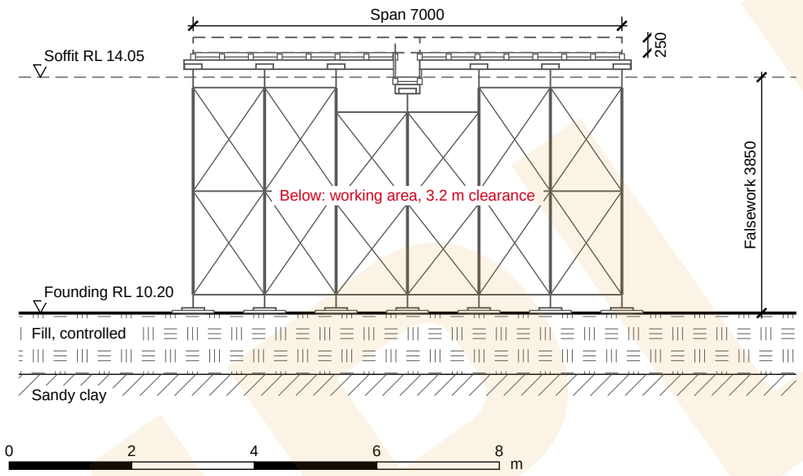
Hold point: Founding verification
Founding surface prepared, drained and verified before the falsework is loaded. Released by Example Constructions.

S1 Stage 1 of 7

Prepare and verify the founding surface, place sole boards and spreaders

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Suspended slab (250 slab and 400 by 650 beam), shore towers on compacted fill

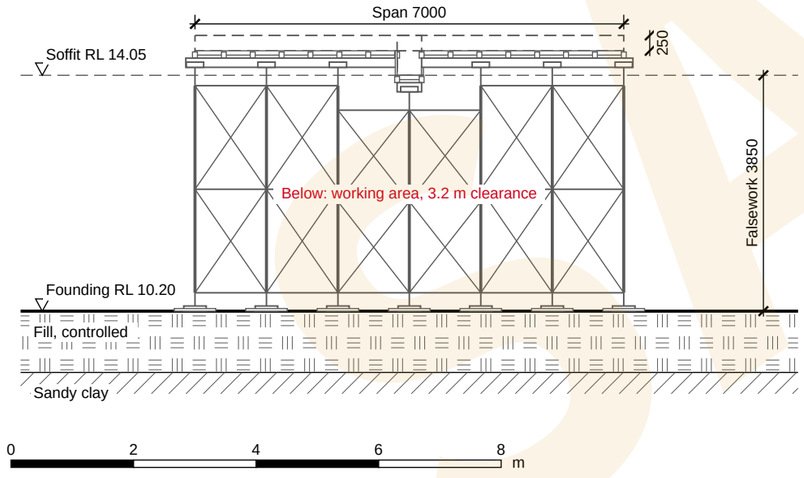


S1 Stage 2 of 7

Erect the falsework, bracing progressively, with a false deck where erection is more than two metres above the level below

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Suspended slab (250 slab and 400 by 650 beam), shore towers on compacted fill

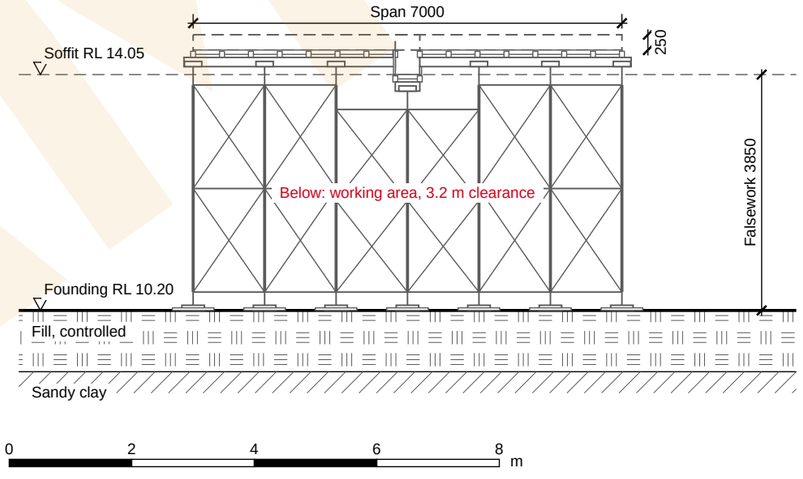


S1 Stage 3 of 7

Place bearers, joists and the deck; install edge protection and penetration covers

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Suspended slab (250 slab and 400 by 650 beam), shore towers on compacted fill



Hold point: Pre pour inspection
Frames, props, bearers and joists at the design spacing, jack extensions, bracing and backpropping checked and certified. Released by Example Constructions.

S1 Stage 4 of 7

Fix reinforcement and cast in items; pre pour inspection and certificate

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Notes

Stage 1 of 7
1. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Stage 2 of 7
2. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Stage 3 of 7
3. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Stage 4 of 7
4. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Stages and hold points

No	**1**
Kind	Erect
Work in the stage	Prepare and verify the founding surface, place sole boards and spreaders
Hold point and who releases it	Founding verification: Founding surface prepared, drained and verified before the falsework is loaded Released by the Temporary Works Coordinator
No	**2**
Kind	Erect
Work in the stage	Erect the falsework, bracing progressively, with a false deck where erection is more than two metres above the level below
No	**3**
Kind	Erect
Work in the stage	Place bearers, joists and the deck; install edge protection and penetration covers
No	**4**
Kind	Pre pour
Work in the stage	Fix reinforcement and cast in items; pre pour inspection and certificate
Hold point and who releases it	Pre pour inspection: Frames, props, bearers and joists at the design spacing, jack extensions, bracing and backpropping checked and certified Released by the Temporary Works Coordinator

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
S1 Pump station roof slab. Stages 1 to 4

Drawing number
TW 090-SK-47

Rev
A

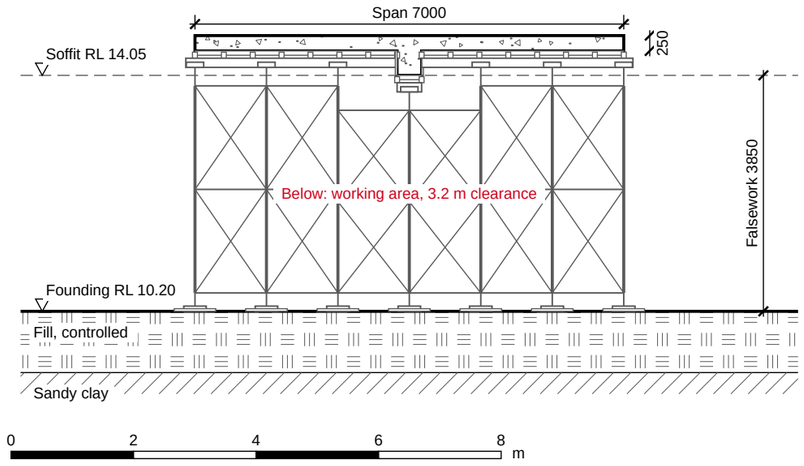
Scale at A3
1:100

Date
29 Sept 2026

Sheet
47 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

Suspended slab (250 slab and 400 by 650 beam), shore towers on compacted fill



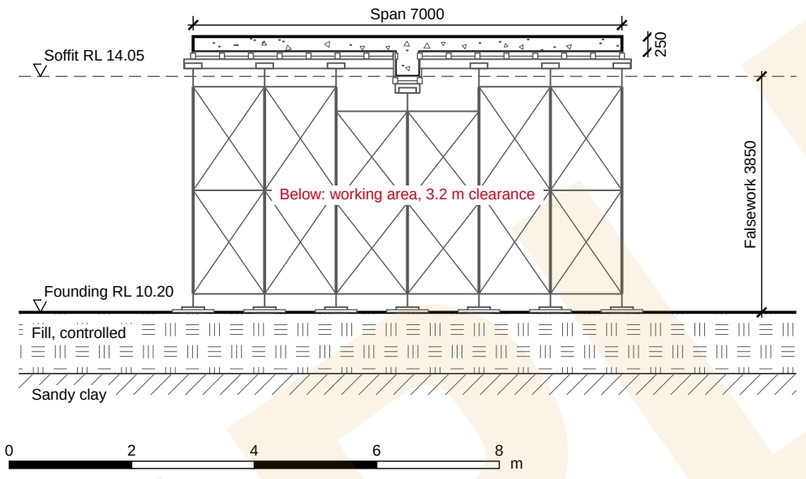
Hold point: Permit to load
Permit to load the falsework with the pour issued against the pre pour certificate. Released by Example Constructions.

S1 Stage 5 of 7

Place the concrete in the stated sequence at the stated rate

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Suspended slab (250 slab and 400 by 650 beam), shore towers on compacted fill



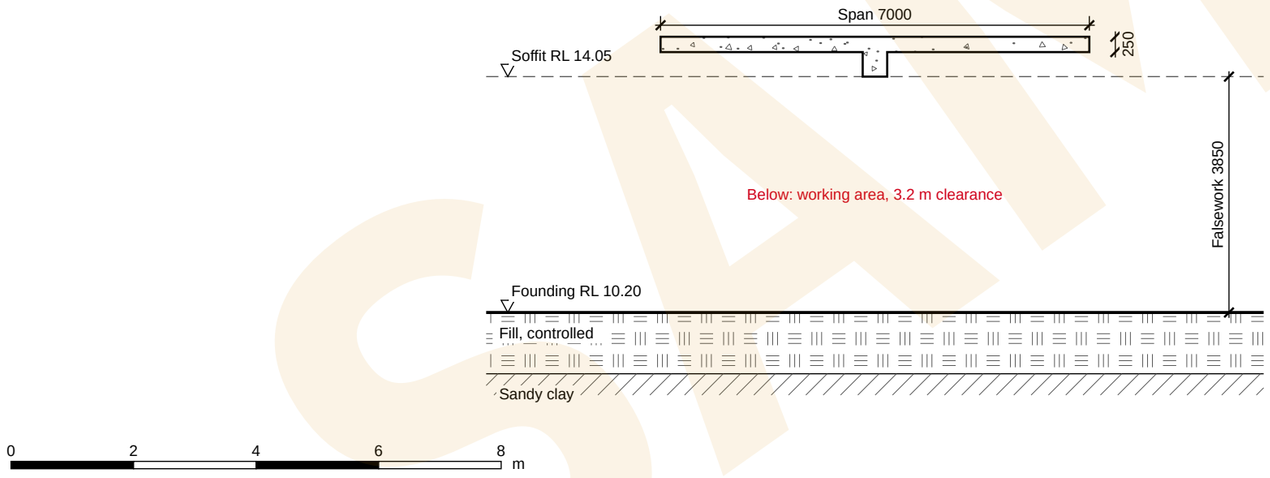
Hold point: Strength verification before strike
In situ strength verified at the stripping strength stated. Released by Example Constructions.

S1 Stage 6 of 7

Cure; verify the strength before striking

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Suspended slab (250 slab and 400 by 650 beam), shore towers on compacted fill



Hold point: Permit to strike
Permit to strike issued against the strength verification and the backpropping plan. Released by Example Constructions.

S1 Stage 7 of 7

Strike in the stated order, with backpropping in place before the supports are removed

Scale 1:100 at A3
Dimensions in millimetres, levels in metres (AHD)

Notes

Stage 5 of 7
1. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Stage 6 of 7
2. Falsework standards, bearers, joists and jacks drawn indicatively at nominal spacings; jack extension as entered (300 mm); the design sets the type, spacing and extensions

Stage 7 of 7

Legend and general notes: sheet TW 090-SK-04. Key information: sheet TW 090-SK-01.

Stages and hold points, continued

No	**5**
Kind	Pour
Work in the stage	Place the concrete in the stated sequence at the stated rate
Concrete level	Full
Hold point and who releases it	Permit to load: Permit to load the falsework with the pour issued against the pre pour certificate Released by the Temporary Works Coordinator
No	**6**
Kind	Cure
Work in the stage	Cure; verify the strength before striking
Concrete level	Full
Hold point and who releases it	Strength verification before strike: In situ strength verified at the stripping strength stated Released by the Temporary Works Coordinator
No	**7**
Kind	Strike
Work in the stage	Strike in the stated order, with backpropping in place before the supports are removed
Concrete level	Full
Hold point and who releases it	Permit to strike: Permit to strike issued against the strength verification and the backpropping plan Released by the Temporary Works Coordinator

7 stages with 5 hold points.

Rev	Date	Description	By
A	29 Sept 2026	Issued for design	AE

Prepared by A. Example, Project Engineer, 0400 000 001
Reviewed by F. Example
Generated by TworkX from the brief data for Example Constructions

Project
Example Pump Station, 2468

Brief
TW 090 Pump station formwork and falsework

Title
S1 Pump station roof slab. Stages 5 to 7

Drawing number	Rev
TW 090-SK-48	**A**

Scale at A3	Date	Sheet
1:100	29 Sept 2026	48 of 48

Design brief information. Not for construction
Issued 29 Sept 2026

SAMPLE

Part 3. Appendices

This is the designer brief. Appendices A, D, E and F (the question and answer record; the categorisation, responsibilities and permits; the indicative arithmetic and supporting tables; the answers marked not applicable) are in the site record of the same brief, TW 090, revision A, which the site team holds and sends on request. The appendices keep the same letters in both documents.

Appendix B Requirements of the designer

The requirements below follow the TWfAU guide and are scaled for design complexity DCR3.

1. Confirm receipt of this brief and raise any query or additional information requirement in writing before commencing design.
2. Provide a design statement responding to each section of this brief, confirming the site specific information and performance requirements adopted and stating the technical basis of the design.
3. Carry out the concept design activities for design complexity DCR3: Work up and record initial concepts; Review the concepts with the site team and shortlist them; Review the shortlist with the permanent works designer; Select the preferred concept; Sign off the chosen concept with the permanent works designer; Sign off the chosen concept with the site team.
4. Provide a structural system diagram at the start of the design documents showing where the concrete pressure and the deck loads are applied, the load paths through the ties, walers, strongbacks, bearers, joists and falsework to the founding, fixity and continuity assumptions, how stability is achieved against wind and impact, any reliance on the permanent works or the previous lift, key assumptions such as the rate of rise and the strength at striking, the founding characteristics and any critical sequence.
5. State in the design output every assumption made where the brief is silent or an item is open, including the design pressure adopted with the method used and the rate of rise, placing temperature and mix it assumes against the data tables of the drawing sheets, and the founding assumptions against the data tables of the drawing sheets, and list them so they can be verified on site.
6. Provide calculations that justify every component and connection for the most onerous case, including handling, staged and interim conditions, with the codes and any software stated and order of magnitude hand checks where computer calculations are used.
7. Provide drawings that communicate the general arrangement and all details without ambiguity, state the acceptable tolerances, and highlight significant residual risks such as the founding, the maximum jack extension, the tie spacing and torque, the rate of rise and the strength at striking.
8. Show on the drawings the design pressure and the maximum rate of rise, the stacked load areas and their limits, the plant exclusion zones, the maximum jack extensions and the bracing for wind assumed.
9. Provide an erection, pour, striking and backpropping sequence that matches the stage sheets, showing the hold points, or state the departures.
10. Provide a specification, or notes on the drawings for a simple scheme, covering the workmanship requirements of each significant component and the inspection and maintenance regime while the works are in place.
11. State the pre pour inspection regime and any monitoring during the pour, with the stop levels for form movement, leakage and founding settlement and the action to take at each level.
12. Confirm or amend the design conditions, sensitivities and hold points anticipated on the stage sheets, and identify the assumptions that must be verified on site before the forms are loaded and before they are struck.

13. Record the hazard elimination and risk reduction carried out during design, given the constraints set by the permanent works and the site.
14. Communicate the significant residual risks and the sensitivities of the design to the site team in the drawings, specification and design statement, so the safe system of work can control them.
15. Where the temporary works interact with the permanent works, obtain confirmation from the permanent works designer that the temporary works as designed suit the permanent works.
16. Plan the removal in the design: any mechanism needed to release load safely, lifting and handling arrangements that differ from installation, the conformance criteria the permanent works must meet before removal (the concrete strength and the backpropping in place), and any element left in place for others with its service life and the records to hand over.
17. Write the residual risks and the limits of the design on the drawings so they transfer to the permit, the safe work method statement and the site team, and state that the temporary works are not to be altered or used outside their intended purpose without the coordinator's written acceptance and, where the design is affected, a revised design and check.
18. Provide the deliverables marked on the key information sheet in the format stated, with a design certificate and QA records under the design organisation's procedures.
19. Attend site at the critical stages named in the sequence, and respond to changes and queries through the full design process without loss of rigour.
20. Assist the site team to release hold points, and advise the author immediately if site conditions reported during construction differ from the basis of the design.
21. State in the design statement the edition of each document the design is to.

Concept design activities for DCR3

- Work up and record initial concepts.
- Review the concepts with the site team and shortlist them.
- Review the shortlist with the permanent works designer.
- Select the preferred concept.
- Sign off the chosen concept with the permanent works designer.
- Sign off the chosen concept with the site team.

Appendix C Return brief and the designer's statements

This is the single return schedule for the brief. The designer confirms each item or states what is queried, and returns this table with the design statement. Items marked minimum are the TWfAU guide's minimum content of a brief.

Table C.1 Return brief

The items of the TWfAU brief template, where this brief covers each, and a column for the designer's response.

No	Item	Minimum	Covered in this brief	Designer response
1	**Project**	Yes	Cover page	
2	**Brief reference**	Yes	Cover page	
3	**Description**	Yes	the cover brief and the key information sheet (the works) and the data tables of the drawing sheets (the design basis data), with the drawings in Part 2	
4	**Discipline**		Cover page (formwork and falsework)	
5	**Scope**		the cover brief and the key information sheet (scope of the design); the data tables of the drawing sheets and the cover brief	

No	Item	Minimum	Covered in this brief	Designer response
6	**Potential to impact public safety**		the cover brief (monitoring, public safety and the environment)	
7	**Risk and uncertainty assessment**	Yes	Categorisation with reasoning and the height tier on the key information sheet; the full head conditions in Appendix E; sensitivities on the stage sheets	
8	**Constraints and hazards**		the data tables of the drawing sheets (loads, interfaces) and 4	
9	**Preferred strategy, construction methodology, staging, preferred and non preferred solutions**		the cover brief, the key information sheet and the stage sheets with the stage sketches in Part 2; concept screening in the cover brief	
10	**Design life**	Yes	the cover brief (FWQ106, FWQ021)	
11	**Requiring lifting**		the cover brief (FWQ097 to FWQ099) and the plant register in the data tables of the drawing sheets	
12	**Proposed method of decommission or removal**		the cover brief (FWQ094 to FWQ096)	
13	**Proposed loading**	Yes	the data tables of the drawing sheets: the concrete and placement data, live loads, stacked materials, plant register and wind; the full hydrostatic pressure and thrust with every input in Appendix E	
14	**Interfaces**	Yes	the data tables of the drawing sheets (penetrations, anchors, junctions and construction joints); split design in the cover brief and the key information sheet	
15	**Program dates**		Design required by date on the cover page and the brief at a glance, where given; pour date in the data tables of the drawing sheets; the programme dates in the cover brief and the key information sheet where the author includes them	
16	**Specification and design standards**		the key information sheet; each document is cited by reference where the brief names it	
17	**Functional requirements**	Yes	the data tables of the drawing sheets, the stage sheets and the key information sheet	
18	**Design deliverables**		the key information sheet, and the requirements of the designer in Appendix B	
19	**Sketch**	Yes	Part 2: generated sections with the pressure diagram, plan, elevation, junction views and stage sketches on A3 sheets; attached markups	
20	**Environmental**		the cover brief (monitoring, public safety and the environment)	
21	**Risk**		Categorisation on the key information sheet, open items in the designer actions of the cover brief and concept screening in the cover brief	

SAMPLE

Table C.2 Drawing completeness review at return

The coordinator reviews the returned design against each item before it is accepted, and marks it met, not met, or not applicable with the reason.

Item	Reviewer's finding
Drawing index complete: general arrangement, sections, details, notes and interfaces with other works	
Issued for construction, and the revision on the drawings matches the certificate	
Assumptions stated, including every item by others and who those others are	
Assumed ground conditions or the assumed capacity of the supporting structure stated and verified	
Limits of the design stated: loads, rate of rise where concrete is placed, wind speed, jack extensions, tie spacing	
Residual risks written on the drawings and the verification testing named (ground, anchors, concrete strength)	
Load limits and exclusion zones shown where the site has to control them	
Maximum jack extensions shown where they occur, with the prop sizes and their maximum extensions	
Form face material (formply or other sheathing) and its thickness	
Loading areas and the live loads specified on the deck	
Crane lifting points for wall forms, columns, screens and tables	
Perimeter screens and how they are fixed	

Table C.3 Designer's pressure statement

Completed by the designer and returned with the design statement. The site's rate of rise limit on the permit to pour is written from it.

Design pressure adopted (kPa) and where it acts	
Method or document used to derive it	
Rate of rise it assumes (m/h) and the placing temperature it applies to	
Wet density adopted (kg/m³) and the pour heights the pressure applies to	
Permitted rate of rise at a placing temperature of 15 °C (m/h)	
Permitted rate of rise at a placing temperature of 20 °C (m/h)	
Permitted rate of rise at a placing temperature of 25 °C (m/h)	
Permitted rate of rise at a placing temperature of 28 °C (m/h)	
Permitted rate of rise at a placing temperature of 30 °C (m/h)	
Permitted rate of rise at a placing temperature of 34 °C (m/h)	
Mix conditions it assumes (slump or flow, admixtures, set)	
Rated capacity of the system or configuration used	
Site control limit to be written on the permit (rate of rise, temperature)	

SAMPLE

Table C.4 Designer's statement of the wind and standing form parameters

Completed by the designer and returned with the design statement. The wind limits are written on the permit to pour.

Wind region, terrain category and the design wind speed (m/s) and pressure (kPa) adopted, with the standard and clauses used	
Height above ground and exposed length the wind pressure was derived for	
Maximum wind speed the forms may stand in before the pour, and may be poured in, to be written on the permit	
Tie and prop spacing and the permissible width of influence of each prop	
Bracing and anchorage of the standing forms, and what the anchors bear on	

Table C.5 Designer's statement of the anchors into previously cast concrete

Completed by the designer and returned with the design statement.

Anchor type, embedment and spacing adopted for each purpose	
Concrete strength required when each anchor is loaded, and how it is verified before the permit to load	
Loads on the anchors and the permanent works designer's acceptance referenced	

Appendix G Documents and attachments

Table G.1 Documents provided with this brief

The documents the designer is to work from, and whether each comes with this brief or within it.

Document	Provided	How it is provided	Comment
Design brief	Yes	Within this brief	
Permanent works drawings	Yes	Provided with the issue of this brief	EX 520 and EX 521 rev D, issued for construction
Concept or method sketches and markups	Yes	Within this brief	Section through the falsework, plan and stage sketches generated from the brief data
Existing and permanent utilities	N/A	Not provided	No service under the hardstand within the influence of the falsework
Survey	Yes	Provided with the issue of this brief	Survey of the hardstand levels and the soffit setting out
Geotechnical information	Yes	Provided with the issue of this brief	Example Geotechnical Consultants report G 014 with TP7 and BH4, and the hardstand compaction records
Methodology and sequencing	Yes	Within this brief	Stages and hold points in the designer actions of the cover brief
Traffic plans	N/A	Not provided	No public road beside the works

SAMPLE

Document	Provided	How it is provided	Comment
Plant data sheets	Yes	Provided with the issue of this brief	Example Pumps EP 36 data sheet and the Example Cranes EC 60 lift study LS 22
Concrete mix designs	Yes	Provided with the issue of this brief	Example Concrete mix design MD 3101
Formwork and falsework system supplier data	Yes	Provided with the issue of this brief	Example Formwork Supplies Frame 40 technical manual rev 6
Other	N/A	Not provided	

The documents that go with this brief:

- The brief data export from TworkX, including the pour data, every response with its source, the pressure figures, the gap check results and the responsibility matrix.
- The reference drawings listed in the cover brief and the key information sheet.
- The mix designs and supplier data referred to in the data tables of the drawing sheets.
- The plant data sheets and system supplier documents for the plant and systems in the data tables of the drawing sheets.

SAMPLE