CPMORA PROJECT CONTROLS

Schedule Health Check

North Valley Water Treatment Plant

DEMO-SHC-001 | Revision 03 | October 2026

Fictional demonstration. All 173 activities, project names, records and assumptions are invented. No client data is used.

Executive summary

Resolve the electrical handover logic before accepting the forecast. The submitted scenario omits electrical turnover as a commissioning prerequisite. Restore the interface, validate duration assumptions and reconcile the forecast narrative.

Scenario	Completion	Comparison
Reference plan	WD 236	Common origin: WD 0
Submitted scenario	WD 232	Missing NV-420 predecessor
Corrected scenario	WD 256	+20 WD vs reference; +24 WD vs submitted

The 20-day and 24-day figures compare the same corrected finish against different starting scenarios. They are not additive.

Recommended disposition: return the example forecast for targeted revision. Assign owners, confirm supporting records and review the recalculated schedule.

Review basis

Uniform working-day calendar; finish-to-start links with zero lag; integer remaining durations; no actual dates, constraints, costs or resource limits. This model is a reproducible illustration, not a P6 export or contractual baseline.

Milestone comparison

Milestone	Reference	Submitted	Corrected
Equipment received	79	89	89
Electrical turnover	188	208	208
Commissioning ready	188	184	208
Substantial completion	236	232	256

Values are working days from WD 0. Only the submitted scenario omits NV-420 as a predecessor of NV-430.

Detailed findings and actions

F-01 | High | Commissioning can start before electrical turnover

Activity: NV-420 to NV-430 | Evidence: M-01 | submitted dependency list

Observation: The submitted scenario links commissioning readiness only to equipment installation. Electrical turnover is a separate required handover in the example execution plan.

Consequence: Restoring the electrical predecessor moves readiness from WD 184 to WD 208 and completion from WD 232 to WD 256. The isolated logic correction adds 24 working days to this scenario.

Action: Confirm the physical handover criteria with construction and commissioning; add the agreed finish-to-start link and recalculate.

Owner: Scheduler + commissioning lead

Review gate: Before forecast acceptance

Close when: Accepted handover checklist; corrected logic; recalculated schedule and narrative.

F-02 | Medium | Equipment delivery depends on an unconfirmed allowance

Activity: NV-210 | Evidence: M-01 + A-01 | procurement assumption

Observation: The current model uses 30 working days for fabrication and delivery versus 20 in the reference plan. The sample assumption register contains no vendor commitment supporting the 30-day allowance.

Consequence: Equipment receipt moves from WD 79 to WD 89. The equipment branch has 90 working days of total float after the logic correction; a sufficiently longer delivery duration could become controlling. Float is scenario-specific, not permission to defer procurement.

Action: Obtain a dated vendor manufacturing and shipping commitment. Reconcile transit, receipt and inspection allowances before updating the forecast.

Owner: Procurement lead

Review gate: Before next schedule update

Close when: Vendor record tied to NV-210; revised allowance and sensitivity review.

F-03 | High | Electrical testing duration needs a documented basis

Activity: NV-410 | Evidence: M-01 + A-02 | duration assumption

Observation: Electrical and control readiness verification increases from 15 to 35 working days. The model records the revised allowance, but the example input package does not include quantities, crew assumptions or a test sequence.

Consequence: The electrical/control readiness branch controls the corrected scenario. Its duration therefore directly affects commissioning readiness while it remains the longest branch.

Action: Validate quantities, production rates, test packages, staffing and access with the electrical lead. Retain the basis with the update.

Owner: Electrical lead

Review gate: Before forecast acceptance

Close when: Agreed remaining-work estimate and test sequence supporting the duration.

F-04 | Medium | Site-access allowance changed without a release plan

Activity: NV-320 | Evidence: M-01 + A-03 | access assumption

Observation: Access and pad work increase from 5 to 8 working days. The example assumes the work area can be released as shown, without a supporting staged-access plan.

Consequence: The current branch finishes at WD 117 and carries 53 working days of total float. This change does not move completion in the model, but the release assumption still needs validation.

Action: Confirm the access sequence, work fronts and remaining quantities; update durations and interfaces if the release plan differs.

Owner: Construction lead

Review gate: Before next schedule update

Close when: Agreed work-area release plan and supported remaining duration.

F-05 | Medium | The forecast narrative needs a change reconciliation

Activity: NV-510 | completion milestone | Evidence: M-01 + N-01 | example narrative gap

Observation: The submitted scenario omits a required interface and therefore shows an artificially early commissioning handover. The example narrative does not reconcile the duration changes and the logic correction.

Consequence: Management would see -4 working days of movement in the submitted scenario, while the corrected model shows 20. The 24-day difference must be explained separately from the duration changes.

Action: Prepare a concise bridge from reference to submitted to corrected completion, identifying assumptions, supporting records and unresolved decisions.

Owner: Project manager + scheduler

Review gate: With revised review package

Close when: Narrative reconciles the milestone table and lists open assumptions.

Evidence register and limitations

M-01: model input register in the appendix. A-01: 30-day procurement allowance, vendor confirmation unresolved. A-02: 35-day electrical readiness allowance, production basis unresolved. A-03: 8-day access allowance, release plan unresolved. N-01: narrative reconciliation required. All records are fictional.

No legal entitlement, responsibility, calendar completion date, cost impact or resource feasibility has been determined. A real engagement requires verified schedule versions, calendars, milestones, progress records, procurement commitments and approved changes.

Work packages

WBS	Package	Tasks	Start WD	Finish WD
D	Engineering & coordination	10	0	32
P	Permits & work planning	10	32	52
Q	Equipment procurement preparation	10	32	52
E	Enabling works & mobilization	10	52	75
F	Foundations & equipment bases	10	78	109
S	Treatment structures & enclosure	10	109	146
Y	Yard utilities & tie-ins	10	78	109
R	Process piping & supports	10	146	174
L	Electrical distribution installation	10	78	114
I	Instrumentation & controls	10	146	173

WBS	Package	Tasks	Start WD	Finish WD
U	Pumping system installation	10	146	165
H	Chemical treatment system	10	146	165
T	Filtration system installation	10	146	168
V	Site restoration & permanent access	10	146	171
C	Integrated commissioning	10	208	228
O	Handover & closeout	10	236	256

Appendix | Complete 173-activity register

Predecessors show the corrected/reference logic. Durations are reference/current working days. ES, EF and TF are corrected early start, early finish and total float.

Activity / description	Dur. ref / curr.	Predecessors	ES	EF	TF
D-01 | Confirm treatment capacity and operating criteria	3 / 3	WD 0	0	3	0
D-02 | Verify existing-utility information	3 / 3	D-01	3	6	0
D-03 | Complete process flow diagrams	4 / 4	D-02	6	10	0
D-04 | Complete hydraulic profile	3 / 3	D-03	10	13	0
D-05 | Coordinate equipment arrangement	4 / 4	D-04	13	17	0
D-06 | Complete civil and structural interfaces	4 / 4	D-05	17	21	0
D-07 | Coordinate electrical load list	3 / 3	D-06	21	24	0
D-08 | Complete instrument and control philosophy	4 / 4	D-07	24	28	0
D-09 | Hold interdisciplinary constructability review	2 / 2	D-08	28	30	0
D-10 | Issue coordinated construction package	2 / 2	D-09	30	32	0
P-01 | Prepare construction permit package	3 / 3	D-10	32	35	0
P-02 | Review excavation and utility permit needs	2 / 2	P-01	35	37	0
P-03 | Coordinate outage and tie-in windows	3 / 3	P-02	37	40	0
P-04 | Develop temporary drainage plan	2 / 2	P-03	40	42	0
P-05 | Develop traffic and access plan	2 / 2	P-04	42	44	0
P-06 | Review lifting and delivery routes	2 / 2	P-05	44	46	0
P-07 | Coordinate inspection hold points	2 / 2	P-06	46	48	0
P-08 | Complete preconstruction coordination meeting	1 / 1	P-07	48	49	0
P-09 | Confirm work authorizations in example plan	2 / 2	P-08	49	51	0
P-10 | Release enabling work package	1 / 1	P-09	51	52	0
Q-01 | Prepare main equipment requisition	2 / 2	D-10	32	34	90
Q-02 | Issue vendor technical requirements	2 / 2	Q-01	34	36	90
Q-03 | Review vendor arrangement drawings	3 / 3	Q-02	36	39	90
Q-04 | Resolve equipment nozzle interfaces	2 / 2	Q-03	39	41	90

Activity / description	Dur. ref / curr.	Predecessors	ES	EF	TF
Q-05 | Review power and control interfaces	2 / 2	Q-04	41	43	90
Q-06 | Review factory-test procedure	2 / 2	Q-05	43	45	90
Q-07 | Confirm spare-parts and tool list	1 / 1	Q-06	45	46	90
Q-08 | Review delivery and lifting requirements	2 / 2	Q-07	46	48	90
Q-09 | Close technical submittal comments	3 / 3	Q-08	48	51	90
Q-10 | Release procurement submittal for acceptance	1 / 1	Q-09	51	52	90
E-01 | Establish survey control points	2 / 2	P-10	52	54	0
E-02 | Mobilize field offices and welfare facilities	2 / 2	E-01	54	56	0
E-03 | Install temporary fencing and access gates	2 / 2	E-02	56	58	0
E-04 | Establish temporary power and water	3 / 3	E-03	58	61	0
E-05 | Install erosion and sediment controls	2 / 2	E-04	61	63	0
E-06 | Locate and mark existing utilities	3 / 3	E-05	63	66	0
E-07 | Perform trial potholes at crossings	3 / 3	E-06	66	69	0
E-08 | Set out treatment-plant work areas	2 / 2	E-07	69	71	0
E-09 | Establish construction haul route	3 / 3	E-08	71	74	0
E-10 | Inspect enabling works before area release	1 / 1	E-09	74	75	0
NV-100 | Accept main equipment submittal	5 / 5	Q-10	52	57	90
NV-210 | Fabricate and deliver main equipment	20 / 30	NV-100	57	87	90
NV-220 | Receive and release main equipment	2 / 2	NV-210	87	89	90
NV-300 | Release work area	3 / 3	E-10	75	78	0
F-01 | Set out foundation excavation limits	2 / 2	NV-300	78	80	0
F-02 | Excavate treatment-building footings	5 / 5	F-01	80	85	0
F-03 | Prepare and inspect bearing surfaces	2 / 2	F-02	85	87	0
F-04 | Place blinding concrete	2 / 2	F-03	87	89	0
F-05 | Fix footing reinforcement	4 / 4	F-04	89	93	0
F-06 | Install sleeves and embedded services	3 / 3	F-05	93	96	0
F-07 | Set anchor-bolt templates	2 / 2	F-06	96	98	0
F-08 | Complete pre-pour inspection	1 / 1	F-07	98	99	0

Activity / description	Dur. ref / curr.	Predecessors	ES	EF	TF
F-09 | Place footing and grade-beam concrete	3 / 3	F-08	99	102	0
F-10 | Cure concrete and verify foundation release	7 / 7	F-09	102	109	0
Y-01 | Set out yard pipe alignments	2 / 2	NV-300	78	80	89
Y-02 | Excavate raw-water pipe trenches	4 / 4	Y-01	80	84	89
Y-03 | Prepare trench bedding	2 / 2	Y-02	84	86	89
Y-04 | Install raw-water yard mains	5 / 5	Y-03	86	91	89
Y-05 | Install treated-water yard mains	5 / 5	Y-04	91	96	89
Y-06 | Install yard isolation valves	3 / 3	Y-05	96	99	89
Y-07 | Complete thrust restraint and anchors	3 / 3	Y-06	99	102	89
Y-08 | Hydrostatically test yard piping	2 / 2	Y-07	102	104	89
Y-09 | Backfill and compact pipe trenches	4 / 4	Y-08	104	108	89
Y-10 | Inspect yard utility connections	1 / 1	Y-09	108	109	89
L-01 | Set out electrical duct-bank routes	2 / 2	NV-300, D-10	78	80	20
L-02 | Excavate and inspect duct-bank trenches	4 / 4	L-01	80	84	20
L-03 | Install electrical conduits and spacers	4 / 4	L-02	84	88	20
L-04 | Place duct-bank concrete and backfill	4 / 4	L-03	88	92	20
L-05 | Construct electrical equipment pads	5 / 5	L-04	92	97	20
L-06 | Install grounding grid and test points	3 / 3	L-05	97	100	20
L-07 | Set switchgear and distribution panels	3 / 3	L-06	100	103	20
L-08 | Install cable trays and supports	4 / 4	L-07	103	107	20
L-09 | Pull feeder and distribution cables	5 / 5	L-08	107	112	20
L-10 | Inspect electrical installation before wiring	2 / 2	L-09	112	114	20
NV-310 | Foundation acceptance	0 / 0	F-10	109	109	0
S-01 | Set wall and column reinforcement	5 / 5	NV-310	109	114	0
S-02 | Install wall forms and embeds	4 / 4	S-01	114	118	0
S-03 | Inspect structural concrete preparation	1 / 1	S-02	118	119	0
S-04 | Place treatment-structure walls	3 / 3	S-03	119	122	0
S-05 | Cure walls and remove forms	7 / 7	S-04	122	129	0

Activity / description	Dur. ref / curr.	Predecessors	ES	EF	TF
S-06 | Erect building structural frame	5 / 5	S-05	129	134	0
S-07 | Install roof framing and deck	4 / 4	S-06	134	138	0
S-08 | Install roof weatherproofing	3 / 3	S-07	138	141	0
S-09 | Install exterior wall panels and doors	4 / 4	S-08	141	145	0
S-10 | Inspect enclosure and release internal work	1 / 1	S-09	145	146	0
V-01 | Remove temporary utility crossings	2 / 2	Y-10, S-10	146	148	65
V-02 | Grade permanent access roads	3 / 3	V-01	148	151	65
V-03 | Install subbase and compact road sections	3 / 3	V-02	151	154	65
V-04 | Install curbs and drainage inlets	3 / 3	V-03	154	157	65
V-05 | Place permanent access-road surfacing	3 / 3	V-04	157	160	65
V-06 | Construct operating walkways	3 / 3	V-05	160	163	65
V-07 | Install permanent fencing and gates	2 / 2	V-06	163	165	65
V-08 | Install exterior identification and safety signs	2 / 2	V-07	165	167	65
V-09 | Restore disturbed site areas	3 / 3	V-08	167	170	65
V-10 | Inspect permanent operating access	1 / 1	V-09	170	171	65
NV-320 | Complete access and equipment pads	5 / 8	NV-310	109	117	53
R-01 | Verify process piping spool dimensions	2 / 2	S-10, NV-320	146	148	24
R-02 | Install equipment-area pipe supports	4 / 4	R-01	148	152	24
R-03 | Receive and inspect fabricated pipe spools	2 / 2	R-02	152	154	24
R-04 | Install process inlet headers	4 / 4	R-03	154	158	24
R-05 | Install process discharge headers	4 / 4	R-04	158	162	24
R-06 | Install bypass and drain piping	3 / 3	R-05	162	165	24
R-07 | Install process isolation valves	3 / 3	R-06	165	168	24
R-08 | Complete weld and joint inspections	2 / 2	R-07	168	170	24
R-09 | Pressure-test process piping sections	3 / 3	R-08	170	173	24
R-10 | Release piping for final equipment connections	1 / 1	R-09	173	174	24
U-01 | Inspect pump packages on receipt	1 / 1	NV-220, S-10, NV-320	146	147	33
U-02 | Verify pump baseplate elevations	2 / 2	U-01	147	149	33

Activity / description	Dur. ref / curr.	Predecessors	ES	EF	TF
U-03 | Set pump baseplates	2 / 2	U-02	149	151	33
U-04 | Grout pump baseplates	3 / 3	U-03	151	154	33
U-05 | Set pumps and driver assemblies	2 / 2	U-04	154	156	33
U-06 | Complete shaft alignment	2 / 2	U-05	156	158	33
U-07 | Install suction and discharge accessories	3 / 3	U-06	158	161	33
U-08 | Install pump lubrication and seals	2 / 2	U-07	161	163	33
U-09 | Verify rotation and mechanical clearances	1 / 1	U-08	163	164	33
U-10 | Accept pump mechanical installation	1 / 1	U-09	164	165	33
H-01 | Inspect chemical-feed skid shipment	1 / 1	S-10, NV-320, Q-10	146	147	33
H-02 | Install chemical skid support bases	2 / 2	H-01	147	149	33
H-03 | Set chemical-feed skids	2 / 2	H-02	149	151	33
H-04 | Install chemical storage connections	3 / 3	H-03	151	154	33
H-05 | Install dosing lines and isolation valves	3 / 3	H-04	154	157	33
H-06 | Install containment and drainage connections	2 / 2	H-05	157	159	33
H-07 | Install chemical safety fixtures	2 / 2	H-06	159	161	33
H-08 | Inspect chemical pipe joints	1 / 1	H-07	161	162	33
H-09 | Flush and leak-test dosing circuits	2 / 2	H-08	162	164	33
H-10 | Accept chemical-system mechanical installation	1 / 1	H-09	164	165	33
T-01 | Inspect filtration equipment shipment	1 / 1	S-10, NV-320, Q-10	146	147	30
T-02 | Set filter vessels and support frames	3 / 3	T-01	147	150	30
T-03 | Install filter inlet and outlet manifolds	3 / 3	T-02	150	153	30
T-04 | Install backwash piping	3 / 3	T-03	153	156	30
T-05 | Install backwash valves and actuators	2 / 2	T-04	156	158	30
T-06 | Install filter drain and air connections	2 / 2	T-05	158	160	30
T-07 | Complete internal filter inspections	2 / 2	T-06	160	162	30
T-08 | Install filtration media	3 / 3	T-07	162	165	30
T-09 | Flush filtration and backwash circuits	2 / 2	T-08	165	167	30

Activity / description	Dur. ref / curr.	Predecessors	ES	EF	TF
T-10 | Accept filtration mechanical installation	1 / 1	T-09	167	168	30
NV-400 | Complete MCC and field wiring	12 / 12	L-10	114	126	20
I-01 | Verify instrument index and tag list	2 / 2	S-10, NV-400	146	148	0
I-02 | Install field instrument mounting brackets	2 / 2	I-01	148	150	0
I-03 | Install pressure and flow instruments	3 / 3	I-02	150	153	0
I-04 | Install level and water-quality instruments	3 / 3	I-03	153	156	0
I-05 | Install instrument junction boxes	2 / 2	I-04	156	158	0
I-06 | Pull instrument and control cables	4 / 4	I-05	158	162	0
I-07 | Terminate instrument signal circuits	3 / 3	I-06	162	165	0
I-08 | Install PLC and network hardware	3 / 3	I-07	165	168	0
I-09 | Load example control configuration	2 / 2	I-08	168	170	0
I-10 | Complete cabinet and point-to-point checks	3 / 3	I-09	170	173	0
NV-410 | Verify electrical and control readiness	15 / 35	NV-400, I-10	173	208	0
NV-420 | Electrical turnover accepted	0 / 0	NV-410	208	208	0
NV-230 | Complete final equipment connections	10 / 10	NV-220, R-10, U-10, H-10, T-10, Y-10	174	184	24
NV-430 | Commissioning ready	0 / 0	NV-230, NV-420	208	208	0
C-01 | Approve example commissioning check sheets	1 / 1	NV-430	208	209	0
C-02 | Verify water and utility availability	1 / 1	C-01	209	210	0
C-03 | Complete cold functional checks	2 / 2	C-02	210	212	0
C-04 | Verify motor start and stop commands	2 / 2	C-03	212	214	0
C-05 | Test process alarm functions	2 / 2	C-04	214	216	0
C-06 | Test permissives and safety interlocks	2 / 2	C-05	216	218	0
C-07 | Run automatic control sequences	3 / 3	C-06	218	221	0
C-08 | Perform wet process startup	3 / 3	C-07	221	224	0
C-09 | Balance process flows and chemical dosing	3 / 3	C-08	224	227	0
C-10 | Release plant for performance demonstration	1 / 1	C-09	227	228	0
NV-440 | Demonstrate plant performance	8 / 8	C-10	228	236	0

Activity / description	Dur. ref / curr.	Predecessors	ES	EF	TF
O-01 | Compile signed commissioning records	2 / 2	NV-440, V-10	236	238	0
O-02 | Prepare operating and maintenance manuals	3 / 3	O-01	238	241	0
O-03 | Verify spare-parts turnover inventory	1 / 1	O-02	241	242	0
O-04 | Prepare redline record drawings	3 / 3	O-03	242	245	0
O-05 | Conduct operator classroom training	2 / 2	O-04	245	247	0
O-06 | Conduct operator field training	2 / 2	O-05	247	249	0
O-07 | Complete joint pre-handover walkdown	1 / 1	O-06	249	250	0
O-08 | Close example critical punch-list items	3 / 3	O-07	250	253	0
O-09 | Submit final handover record package	2 / 2	O-08	253	255	0
O-10 | Confirm handover package acceptance	1 / 1	O-09	255	256	0
NV-510 | Substantial completion	0 / 0	O-10	256	256	0

Next steps

Confirm inputs, agree corrections, recalculate, reconcile the milestone table and narrative, then review with the project manager. Close actions only after checking the supporting evidence.

Online model and downloadable JSON: https://cpmora.com/sample-report

Discuss a review: azam@cpmora.com | https://cpmora.com