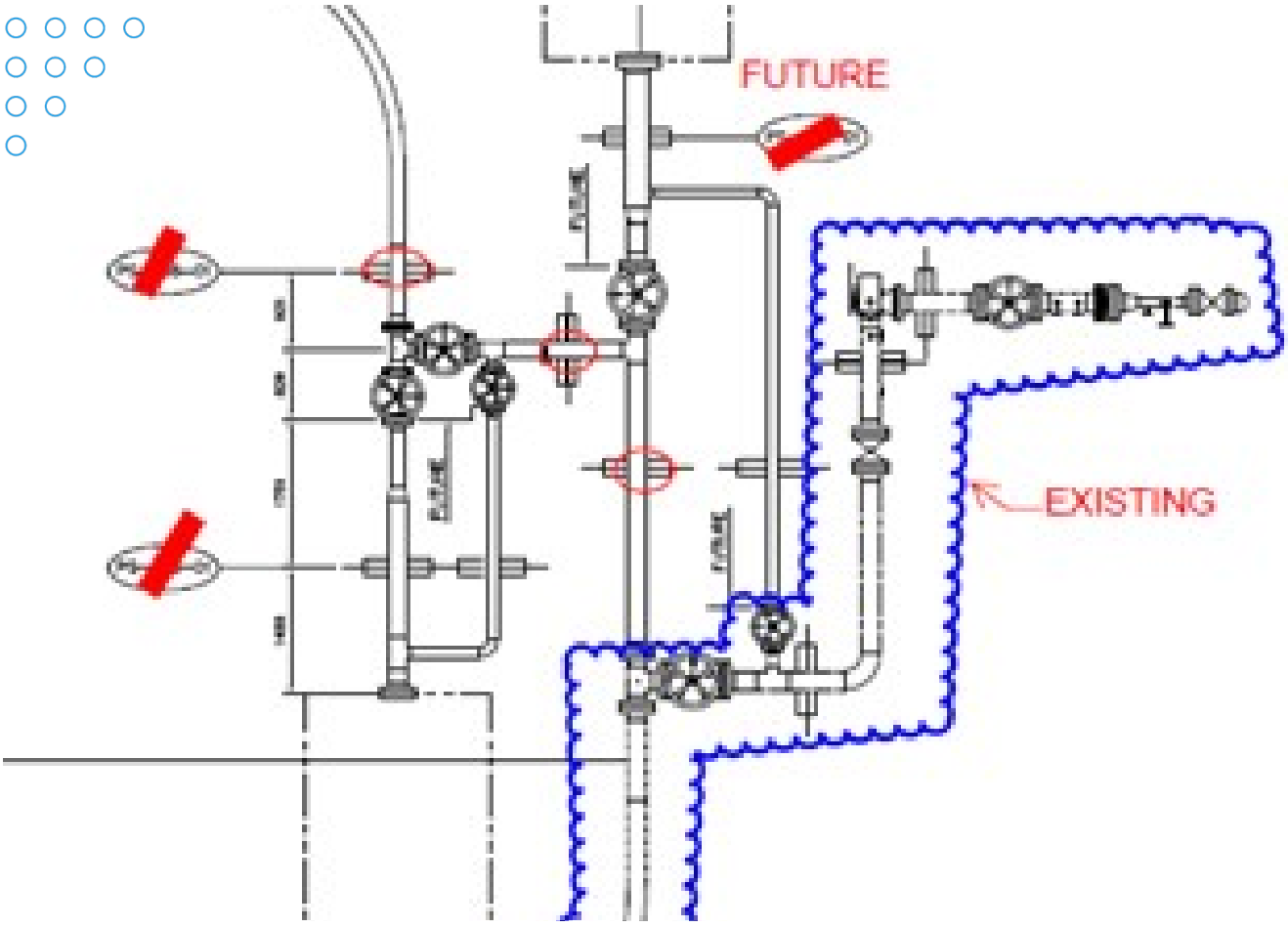
Disposal Well Conversion

The client's existing disposal water (DW) system was limited to an injection volume of approximately 3000 m3 / day. This represents only 4% of the water returned to the plant, as opposed to the 10% allowable in the Alberta Energy Regulator's (AER) approval for the project. The existing system delivers DW to three wells within the in-situ facility. The client engaged Rally to assess the potential to convert an existing observation well into a disposal well by installing an underground pipeline from one of the existing well locations. Rally completed a scoping study to assess the possible options to utilize this well, and then completed a design basis memorandum (DBM) to further refine the selected design basis.



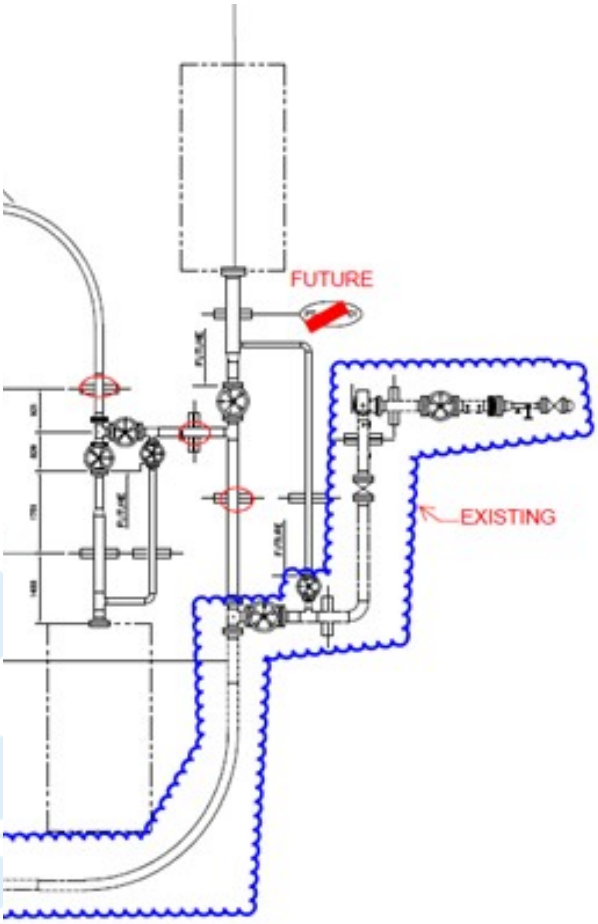
Rally

Disposal Well Conversion

Alberta

Oil Sands & SAGD

$4.8M TIC



SCOPE

Rally completed hydraulics on the options to determine the optimal flow path to the observation well. Process calculations confirmed that additional cooling was required to ensure the disposal water stayed below the maximum temperature allowed on the existing piping section. The mechanical team assessed what was necessary to meet CSA Z662 requirements. Freeze protection, buoyancy, and cathodic protection were considered in the pipeline design. Impacts to the existing electrical infrastructure were assessed, and necessary modifications were added to the scope. The scope also included assessments to ensure the existing control systems could accommodate the new automation and instrumentation requirements.

DELIVERABLES

A Scoping Study report and DBM report, complete with capital cost estimates, were completed prior. As part of the DBM scope, a project risk register was developed and maintained. A project milestone schedule was developed as part of the DBM. Value engineering was utilized to consider methods to save on capital and operating costs.