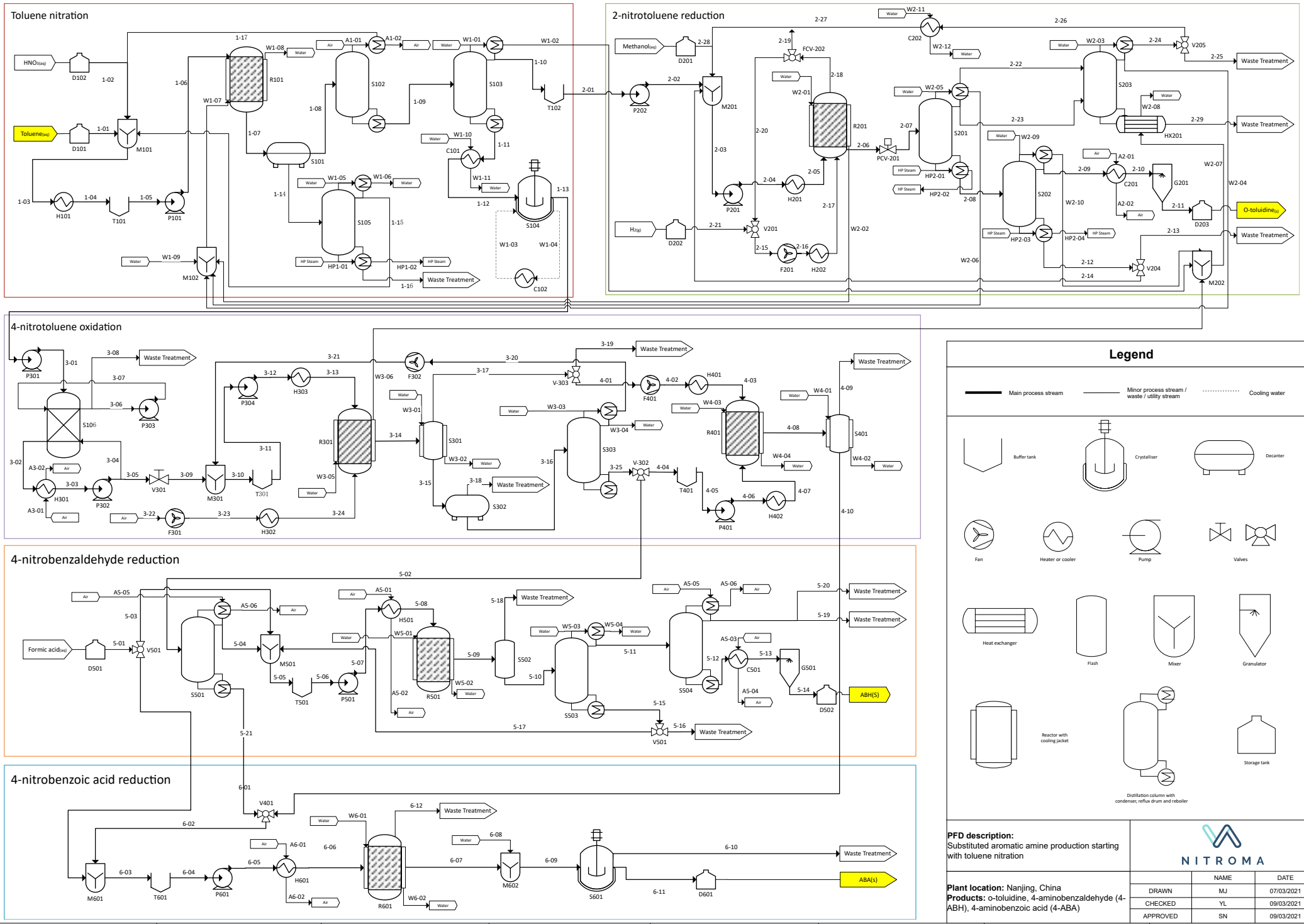
Toluene nitration
2-nitrotoluene reduction
4-nitrotoluene oxidation
4-nitrobenzaldehyde reduction
4-nitrobenzoic acid reduction
Legend
Main process stream
Minor process stream / waste / utility stream
Cooling water
Buffer tank
Crystalliser
Decanter
Fan
Heater or cooler
Pump
Valves
Heat exchanger
Flash
Mixer
Granulator
Reactor with cooling jacket
Distillation column with condenser, reflux drum and reboiler
Storage tank
PFD description:
Substituted aromatic amine production starting with toluene nitration
Plant location: Nanjing, China
Products: o-toluidine, 4-aminobenzaldehyde (4-ABH), 4-aminobenzoic acid (4-ABA)
NITROMA
NAME
DATE
DRAWN
MJ
07/03/2021
CHECKED
YL
09/03/2021
APPROVED
SN
09/03/2021