

CLIENT

**CONFIDENTIAL**

LOCATION:

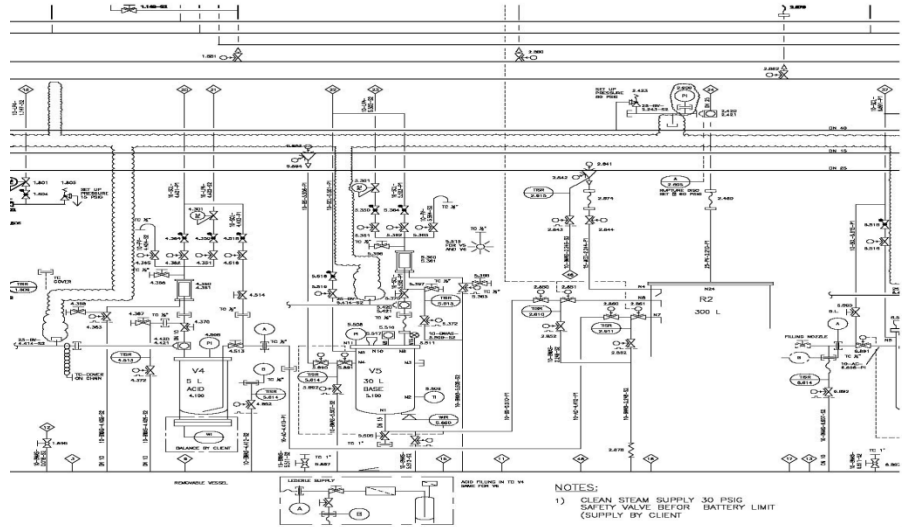
New York

PROJECT START:

2007

PROJECT COMPLETE:

2008



Piping Modifications to v5 Vessel in Fermentation Skid

### **SCOPE OF WORK**

Installation Qualification (IQ) & Operation Qualification (OQ) of Piping Modification to Fermentation Skid

### **PROJECT DESCRIPTION**

A&J Consulting performed the Installation and Operational Qualification of Piping Modifications to V5 and V7 Vessels in Fermentation Skid.

V5 and V7 vessels on the Fermentation Skid hold 20% Sodium Carbonate which is used to maintain the pH of the fermentation broth in fermentor R2 and R3 respectively throughout the fermentation process.

**The Piping Modifications to V5 Vessel in Fermentation Skid included the following:**

- Length of the hoses was increased from 3” to 10”
- Piping was modified to horizontal from the original vertical plane
- Objective was to ensure that condensate was effectively removed in the modified hoses by verifying the temperature within the modified hoses with respect to SIP

The system was successfully validated by A&J and no condensate accumulation was found during SIP. The Clients Production department is currently using the Fermentation Skid to maintain the pH of the fermentation broth.