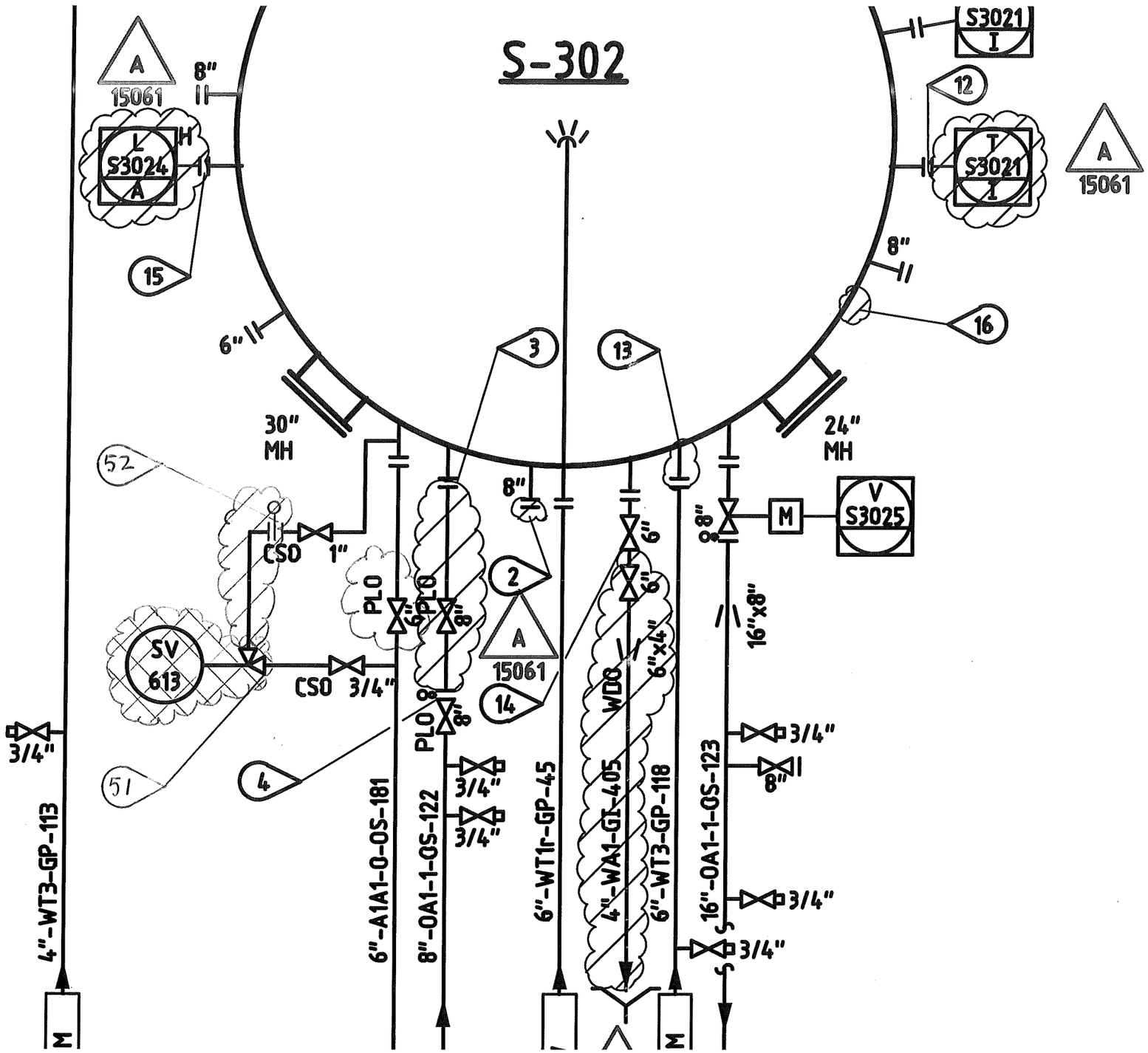
1.1. Additional Location Requirements for Emergency Shutdown and Isolation Valves (EBV)

1) **[S]** Valve handwheels shall be directly accessible and positioned to be within normal reach for operation. For elevated locations, platforms with ladders for direct access from grade shall be provided.

1) **[S]** Limitations governing the installation of EBVs designated Type A, B, or C are given below:
   a) Type A EBV: Type A is a manually operated valve located at the equipment nozzle. There are no additional restrictions on valve location.
   a) Type B and Type C EBV: Type B is a manually operated valve located in the piping system. Type C is a power-operated valve located in the piping system with the actuator button mounted on the actuator. Restrictions for these valves are listed below:
      i) There are no elevation restrictions for EBVs identified as Battery Limit (BL) block valves. Battery Limit block valves shall be labeled and shall be at least 30 ft (9 m) from any equipment handling flammable materials and shall be 15 ft (4.6 m) from any other equipment.
      ii) Personnel access to valve handwheel (or actuator button for Type C)—Piping and accessway layout shall ensure that personnel have a direct access route to the valve without having to pass within 30 ft (9 m) of the equipment being protected (i.e., the source of potential leak). For fired heaters, this distance shall be 40 ft (12 m); and for marine pier facilities, this distance shall be 100 ft (30 m).
      iii) Elevation above grade—If location is within 75 ft (22.5 m) of the source of potential leak, then the valve shall not be positioned more than 15 ft (4.6 m) above grade. If a Type C EBV is specified and it is not practicable to meet this 15 ft limitation, then the valve operation shall be changed to the requirements of a Type D EBV.
      iv) Proximity to catch basins—Valves shall not be located within 30 ft (9 m) of a catch basin that will drain a potential leak from the equipment being protected.

2) **[S]** Limitations governing the installation of power-operated EBVs and their remotely located actuator buttons, designated Type D, are as follows:
   a) Actuator buttons shall be located at grade near an accessway and positioned to be at least 40 ft (12 m) from the nearest source of a potential leak from the equipment served. For marine pier facilities, this distance shall be 100 ft (30 m). In addition:
      i) **[O]** Actuator buttons shall be grouped to the extent practicable.
      ii) **[O]** Actuator buttons shall be mounted at an elevation of about 4 ft 6 in. (1.4 m).
      iii) Actuator button stations shall be identical across the plant (refinery, chemical plant, etc.) and shall be provided with indicating lights to show valve position and nameplates to identify each valve service.
      iv) **[A]** Actuator button stations shall be equipped with an emergency action button (or Company-approved equivalent device) that when activated sends the valve to its emergency position.
   b) Each EBV installation in compressor or fired heater service, or in any depressuring service, shall have an additional actuator button located in the manned control house.
   c) If the EBV is normally closed, then the installation shall consist of the following devices:
      i) A CSO block valve upstream of the EBV to permit checking controls and valve removal with the plant in service.
      i) A CSO block valve in the downstream piping if the valve discharges to a closed system.

3) **[S]** Actuator buttons for Type C and D EBV operation shall be consistent in action type (pushbutton or lever), orientation, layout, and color code across the plant.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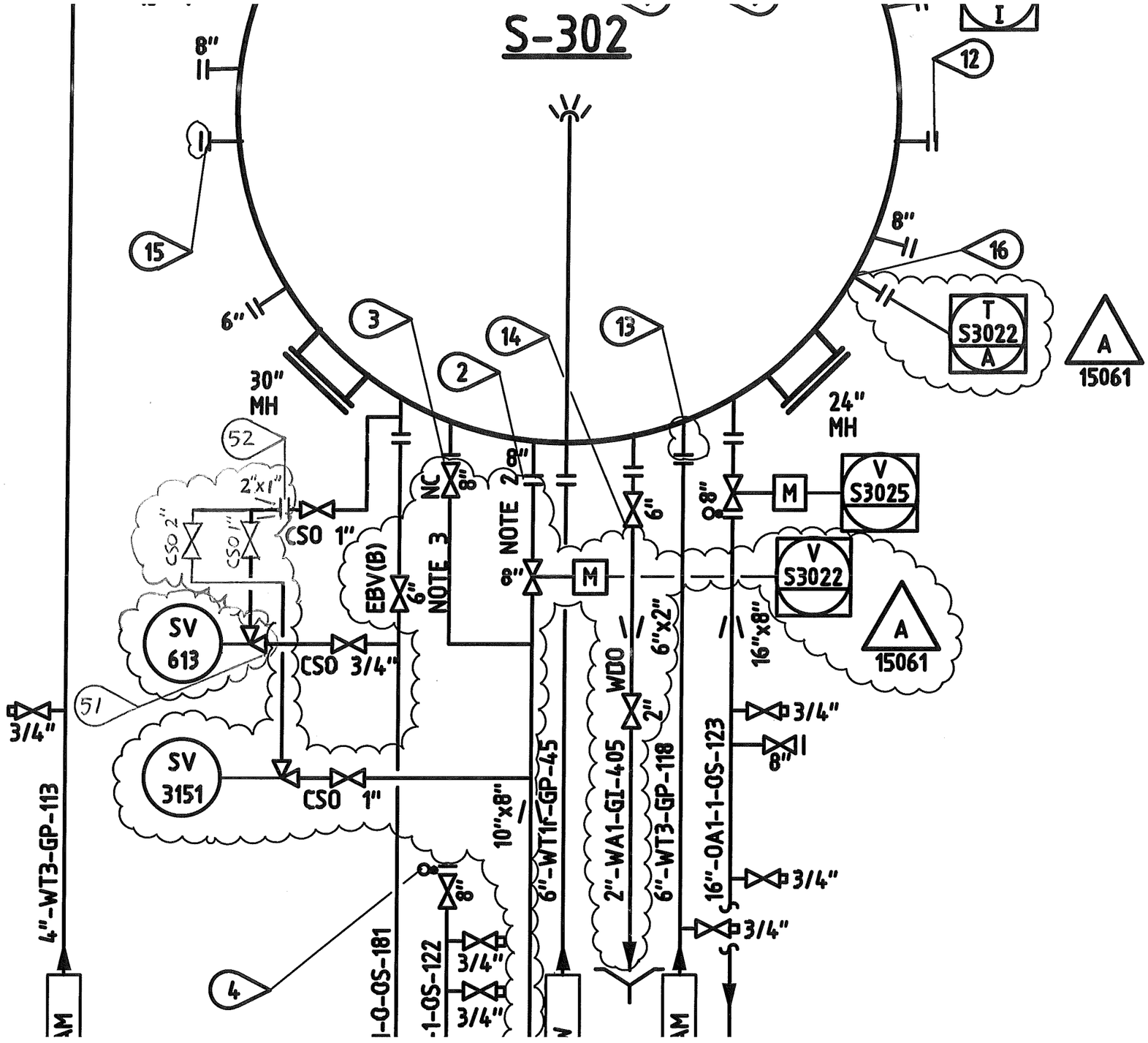

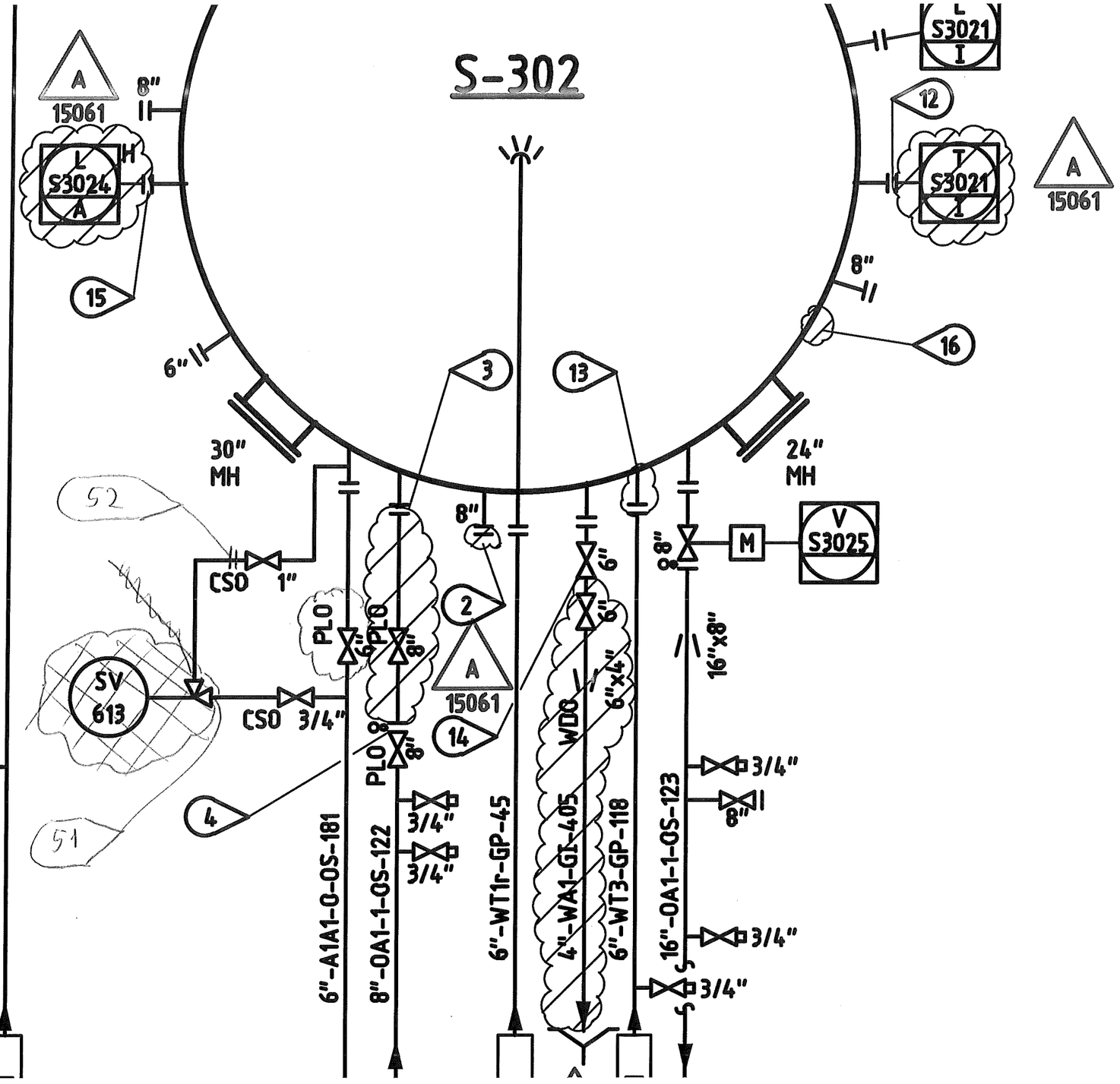
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16"-OA1-1-OS-123

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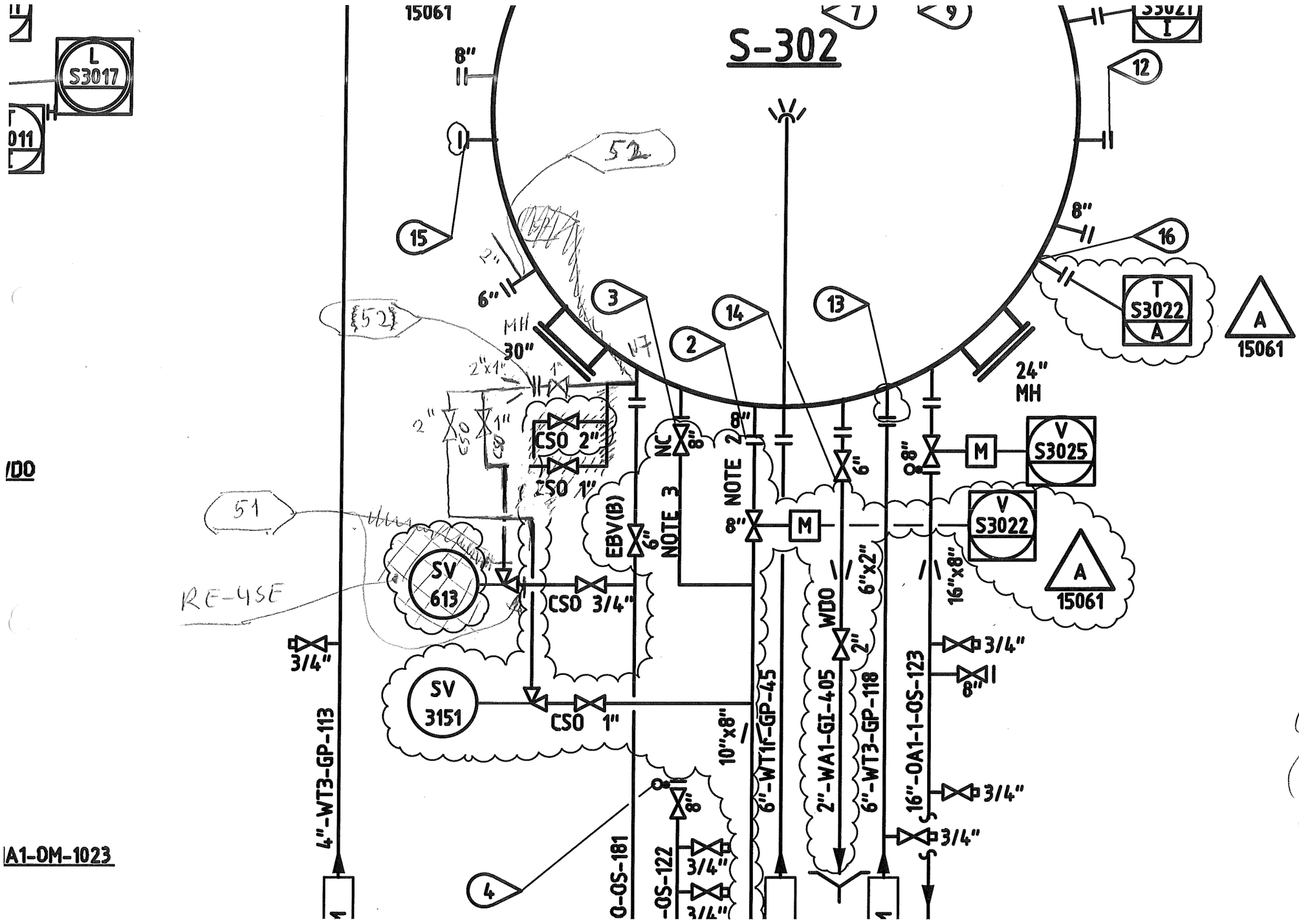

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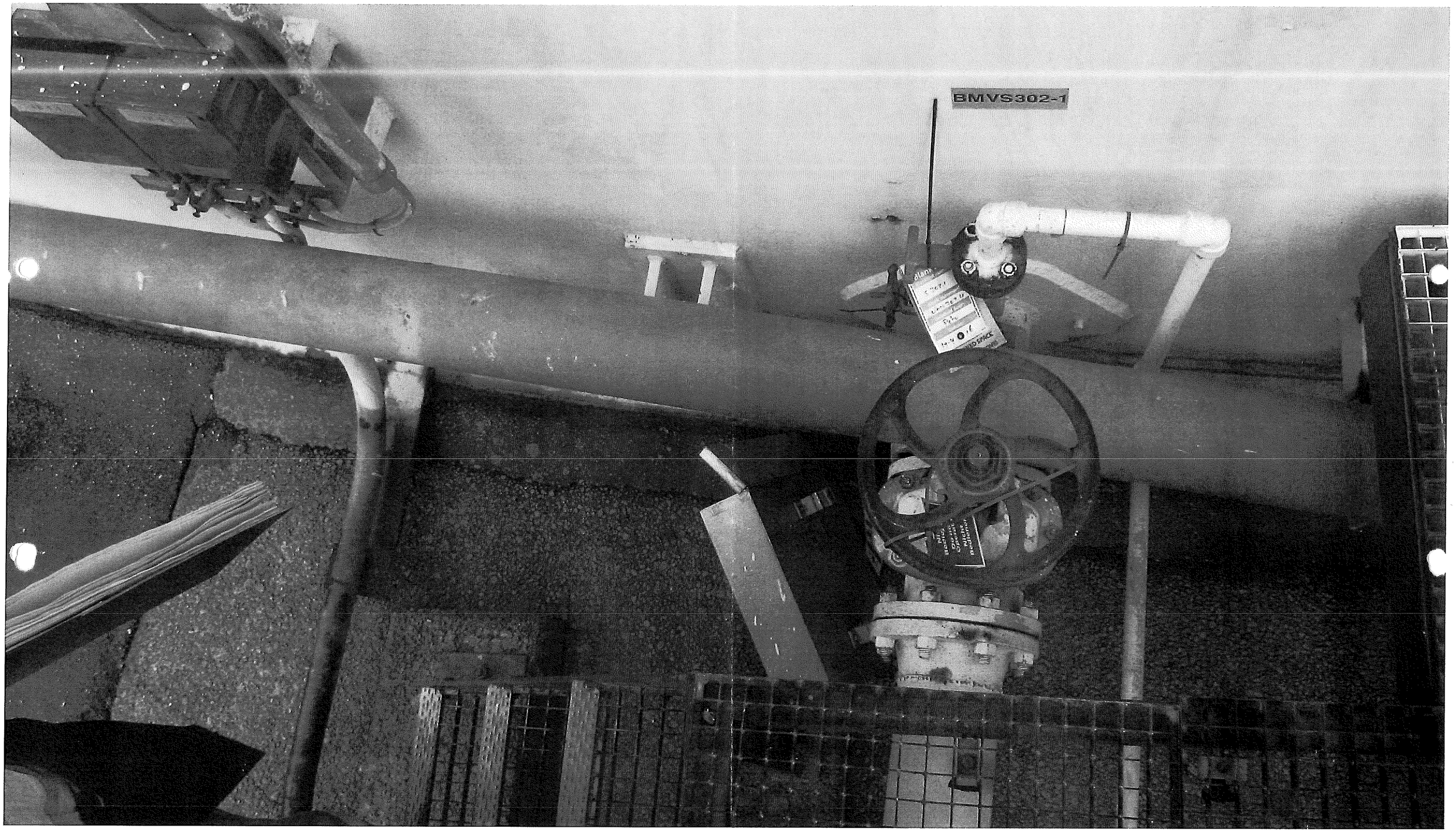
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