

Quarter Ending June 30, 2020

24590-LAW-PCN-ENV-19-008

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**Hanford Facility RCRA Permit Modification Notification Form**  
**Part III, Operating Unit 10**  
**Waste Treatment and Immobilization Plant**

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## Index

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Modification to the Hanford Site RCRA / WTP Dangerous Waste Permit consisting of updates to Piping and Instrumentation Diagrams for the LAW Melter Feed Process System (LFP), LAW Secondary Offgas / Vessel Vent Process System (LVP), and Radioactive Liquid Waste Disposal System (RLD). Updates performed are in accordance to WAC 173-303-830, Appendix I Modification citation number: A.3., equipment replacement or upgrading with functionality equivalent components (e.g., pipes, valves, pumps, conveyors, controls).

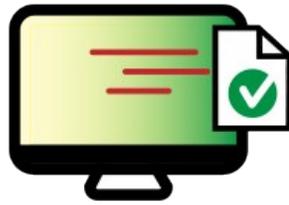
Submitted by Co-Operator:

Reviewed by ORP Program Office:

*Robert Haggard*      4/22/2020  
 Robert Haggard      Date

*Thomas W. Fletcher*      06/09/2020  
 Thomas W. Fletcher      Date

Digitally signed by Thomas W. Fletcher  
 Date: 2020.06.09 12:54:01 -07'00'



This document has been digitally signed using the ElectroSign process.

### Document for Signature

**Document Number:** 24590-LAW-PCN-ENV-19-008 **Rev:** 0

Participants	Signature	Completed	Status	Result	Comments
<b>Final Approver</b>	<b>4/22/2020 2:37 PM</b>				
Haggard, Robert		4/22/2020 2:44 PM	Completed	Approve	

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### Hanford Facility RCRA Permit Modification Notification Form

Unit: <b>Waste Treatment and Immobilization Plant</b>	Permit Part: <b>Part III, Operating Unit 10</b>
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**Description of Modification:**

The purpose of this Class <sup>1</sup> modification is to provide Piping and Instrumentation Diagrams (P&IDs) for the LAW Melter Feed Process System (LFP), LAW Secondary Offgas/Vessel Vent Process System (LVP), and Radioactive Liquid Waste Disposal System (RLD) for incorporation into Appendix 9.2 of the WTP RCRA permit:

LFP				
1	Replace:	24590-LAW-M6-LFP-00001004, Rev. 1	With:	24590-LAW-M6-LFP-00001004, Rev. 3
2	Replace:	24590-LAW-M6-LFP-00003001, Rev. 0	With:	24590-LAW-M6-LFP-00003001, Rev. 1
3	Replace:	24590-LAW-M6-LFP-00003002, Rev. 0	With:	24590-LAW-M6-LFP-00003002, Rev. 1
4	Replace:	24590-LAW-M6-LFP-00003003, Rev. 0	With:	24590-LAW-M6-LFP-00003003, Rev. 1
5	Replace:	24590-LAW-M6-LFP-00003004, Rev. 1	With:	24590-LAW-M6-LFP-00003004, Rev. 3
6	Replace:	24590-LAW-M6-LFP-00003005, Rev. 0	With:	24590-LAW-M6-LFP-00003005, Rev. 1
7	Replace:	24590-LAW-M6-LFP-00003006, Rev. 1	With:	24590-LAW-M6-LFP-00003006, Rev. 2
LVP				
8	Replace:	24590-LAW-M6-LVP-00001003, Rev. 1	With:	24590-LAW-M6-LVP-00001003, Rev. 2
9	Replace:	24590-LAW-M6-LVP-00002001, Rev. 1	With:	24590-LAW-M6-LVP-00002001, Rev. 2
10	Replace:	24590-LAW-M6-LVP-00002002, Rev. 1	With:	24590-LAW-M6-LVP-00002002, Rev. 2
11	Replace:	24590-LAW-M6-LVP-00002005, Rev. 0	With:	24590-LAW-M6-LVP-00002005, Rev. 1
12	Delete LAW-M6N-LVP-00138 from Appendix 9.2			
13	Replace:	24590-LAW-M6-LVP-00002007, Rev. 0	With:	24590-LAW-M6-LVP-00002007, Rev. 1
14	Replace:	24590-LAW-M6-LVP-00004001, Rev. 2	With:	24590-LAW-M6-LVP-00004001, Rev. 3
15	Replace:	24590-LAW-M6-LVP-00004002, Rev. 3	With:	24590-LAW-M6-LVP-00004002, Rev. 4
16	Replace:	24590-LAW-M6-LVP-00005002, Rev. 4	With:	24590-LAW-M6-LVP-00005002, Rev. 5
RLD				
17	Replace:	24590-LAW-M6-RLD-00001005, Rev. 0	With:	24590-LAW-M6-RLD-00001005, Rev. 1
18	Replace:	24590-LAW-M6-RLD-00002005, Rev. 0	With:	24590-LAW-M6-RLD-00002005, Rev. 1

1. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LFP-00001004, Rev. 3) for Melter 1 Feed Vessel LFP-VSL-00002 of the LAW Melter Feed Process System are summarized below.
  - a. See 24590-LAW-M6-LFP-00001004, Rev. 2 for intervening revisions.
  - b. Addition of Note 19, Revision 2, incorporation of piping and instrumentation diagrams as well as revision to engineering impact evaluation to align with project requirements.
  - c. Addition of Note 20, Revision 3, Low-Low-Low alarm added onto instrument LI-1146A.
  
2. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LFP-00003001, Rev. 1) for Melter 2 Feed Vessel LFP-VSL-00003 of the LAW Melter Feed Process System are summarized below.
  - a. Addition to Note 3, quality level and seismic category of vessel, nozzles, spare nozzles and manways is specified.
  - b. Note 11 updated, unnecessary worded comparison of required seismic category of LFP-VSL-00003 to that of anchorage is removed.
  - c. Addition of Note 13, stating the minimum distance between restriction orifices is 2 feet.
  - d. Addition of Note 14, Revision 1, listing of incorporated changed documents, deleted references, and revisions to references.
  - e. Reference 1 updated, inclusion of LAW concentrate receipt process (LCP) system and LAW melter feed process (LFP) system design descriptions.
  - f. Deletion of Reference 2, purchase order agreement of vendor-supplied skid.

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3. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LFP-00003002, Rev. 1) for Melter 2 Feed Preparation Vessel LFP-VSL-00003 of the LAW Melter Feed Process System are summarized below.
  - a. Addition to Note 3, quality level and seismic category of vessel, nozzles, spare nozzles and manways is specified.
  - b. Addition of Note 16, Revision 1, incorporated documentation and revised equipment functions to satisfy project requirements.
  - c. Addition of Reference 1, design description of both 24590-LAW-3ZD-LFP-00001 and concentrate receipt process (LCP).
4. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LFP-00003003, Rev. 1) for Melter 2 Feed Vessel LFP-VSL-00004 of the LAW Melter Feed Process System are summarized below.
  - a. Addition to Note 3, quality level and seismic category of vessel, nozzles, spare nozzles and manways is specified.
  - b. Note 9 updated, unnecessary worded comparison of required seismic category of LFP-VSL-00004 to that of anchorage is removed.
  - c. Addition of Note 11, Revision 1, incorporated documentation and revised references.
  - d. Addition of Reference 1, design description of both 24590-LAW-3ZD-LFP-00001 and concentrate receipt process (LCP).
5. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LFP-00003004, Rev. 3) for Melter 2 Feed Preparation Vessel LFP-VSL-00004 of the LAW Melter Feed Process System are summarized below.
  - a. Addition of Note 19, specifies function of HS-214E from E-stop to local stop, aligning with project requirements, added in Rev. 2 of 24590-LAW-M6-LFP-00003004.
  - b. Addition of Note 20, specifies the addition of Low-Low alarm on instrument LI02146A in response to 24590-WTP-GCA-MGT-19-00347 in Rev. 3 of 24590-LAW-M6-LFP-00003004.
6. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LFP-00003005, Rev. 1) for Melter 2 Feed Preparation and Feed Bulge LFP-BULGE-00002 of the LAW Melter Feed Process System are summarized below.
  - a. Addition of Note 14, Revision 1, incorporated documentation and revised references.
  - b. Addition of Reference 1, design description of both 24590-LAW-3ZD-LFP-00001 and concentrate receipt process (LCP).
7. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LFP-00003006, Rev. 2) for Melter 2 Feed Preparation and Feed Bulge LFP-BULGE-00002 of the LAW Melter Feed Process System are summarized below.
  - a. Addition to Note 3, pressure boundary for double containment piping outside of C5V ventilated rooms and secondary containment is specified as quality level Q and seismic category SC-III.
  - b. Addition of Note 11, Revision 2, incorporated change document 24590-LAW-M6N-LFP-00063.
8. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LVP-00001003, Rev. 2) for LAW Secondary Offgas/Vessel Vent Process System HEPA Filters are summarized below.
  - a. Addition of Note 13, pressure drop is to be minimized.
  - b. Deletion of Note 14.
  - c. Addition of Note 15, specified the quality level of the outside bird screen mesh may be CM.
  - d. Addition of Note 16, specified the LVP-V-72922 and -72923 pipe class and acceptance for use.
  - e. Addition of Note 17, Revision 2, incorporated documentation and revised references.
9. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LVP-00002001, Rev. 2) for LAW Secondary Offgas/Vessel Vent Process System Caustic Scrubber Bypass are summarized below.
  - a. Addition of Note 7, PCV control lines specified to be connected to a straight run of pipe 3 to 5 pipe diameters downstream of the nearest flow disturbance (E.G., Tee, Elbow).
  - b. Addition of Note 8, specified a pressure drop is to be minimized.

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- c. Deletion of Note 9.
  - d. Addition of Note 10, specified the quality level of the outside bird screen mesh may be CM.
  - e. Addition of Note 11, PCV pipe direction and arrangement as required by vendor in reference 2 are specified.
  - f. Addition of Note 12, Revision 2, incorporated documentation and equipment revised.
  - g. Addition of Reference 2, design descriptions/drawings of the Pressure Reducing Regulator, 24590-QL-POA-JV05-07-00001, Rev. 00B.
10. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LVP-00002002, Rev. 2) for LAW Secondary Offgas/Vessel Vent Process System Caustic Scrubber LVP-SCB-00001 are summarized below.
- a. Deletion of Note 11, pressure drop is to be minimized.
  - b. Deletion of Note 13.
  - c. Addition of Note 14, Revision 2, incorporated document 24590-LAW-M6N-LVP-00168 and updated ADR revision.
11. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LVP-00002005, Rev. 1) for LAW Secondary Offgas/Vessel Vent Process System Transfer Pumps LVP-PMP-00002A/B are summarized below.
- a. Addition of Note 9, incorporated documentation and revised references.
  - b. Addition of Reference 1, system description document changed to 24590-LAW-3ZD-LOP-00001.
  - c. Addition of Reference 2, 24590-LAW-ADR-M-02-023 Rev 5, LAW Secondary Offgas Vessel Vent process System (LVP).
  - d. Addition of Reference 3, 24590-WTP-ADR-M-16-0001 Rev 4, ALARA Design Review for BOF DEP System.
12. Delete LAW-M6N-LVP-00138 from Appendix 9.2, Design Change Notice has been incorporated into Rev 1 of P&ID 24590-LAW-M6-LVP-00002005.
13. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LVP-00002007, Rev. 1) for LAW Secondary Offgas/Vessel Vent Process System Stack Discharge Monitoring System are summarized below.
- a. Deletion of Note 10, connections to ISA to be confirmed by vendor design.
  - b. Deletion of Note 11, instrumentation by vendor.
  - c. Addition of Note 13, specified a section of tubing is to remain insulated and per thermal insulation guide 24590-WTP-GPG-M-021 is classified as "PG", adjustable to equipment requiring maintenance.
  - d. Addition of Note 14, specific tubing inside vendor box is specified as Bechtel supplied.
  - e. Addition of Note 15, Revision 1, incorporated documentation and revisions, as well as required energy act stamp.
14. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LVP-00004001, Rev. 3) for LAW Secondary Offgas/Vessel Vent Process System Mercury Mitigation Equipment Bypass are summarized below.
- a. Addition of Note 9, Revision 3, 24590-WTP-FC-IN-18-0042 and CCN 308167 are incorporated.
  - b. Reference 1 updated, LOP and LVP grammar is changed.
15. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LVP-00004002, Rev. 4) for LAW Secondary Offgas/Vessel Vent Process System Mercury Mitigation Equipment LVP-SKID-00001 are summarized below.
- a. Addition to Note 6, it is specified at least one continuous flow path shall have valves in open position to prevent blocking offgas system during operation.
  - b. Deletion to Note 11, instruments AE-0406 and -0425 are removed. The subject AEs were NO<sub>x</sub> monitors that were originally proposed (early in the project design) to be utilized as part of feed forward control for the ammonia dilution skid (associated with the Thermal Catalytic Oxidizer - TCO). These monitors added significant complexity to the ammonia control system. This complexity reduced the overall reliability of the ammonia control. In addition to the added complexity, it was determined that there was insufficient response time to effectively utilize a feedforward scheme (i.e., the offgas reached the TCO too quickly after passing these analyzers). When the sample and response times were factored in, a feedforward control

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- scheme was determined to not be viable. The favored control strategy was determined to be a straightforward feedback system based on ammonia slip.
- c. Deletion of Note 16, simulant injection port flange adapter
  - d. Addition of Note 22, direction to see associated vendor references for details on some vendor supplied items.
  - e. Addition of Note 23, warning that inadvertent closure of valve locked open during analyzer operation may cause equipment damage.
  - f. Addition of Note 24, Revision 4, incorporated documentation and revisions.
  - g. Addition of Reference 2, 24590-QL-POA-JA03-00008-08-00007 drawing – TDLS co system tubing detail.
  - h. Addition of Reference 3, 24590-QL-POA-JA03-00008-08-00008 drawing – TDLS co system master tag list.
  - i. Addition of Reference 4, 24590-QL-POA-JA03-00008-08-00001 drawing – TDLS co system cabinet layout.
  - j. Addition of Reference 5, 24590-QL-POA-JA03-00008-08-00002 drawing – TDLS co system cabinet layout.
  - k. Addition of Reference 6, 24590-CD-POA-JA03-00007-07-00019 drawing – Analyzer LVP-AT-0439 LVP-PNL-00012 / sample system tubing schematic diagram.
  - l. Addition of Reference 7, 24590-CD-POA-JA03-00007-07-00022 drawing – Analyzer LVP-AT-0439 LVP-PNL-00012 / analyzer enclosure general arrangement drawing (exterior).
16. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-LVP-00005002, Rev. 5) for LAW Secondary Offgas/Vessel Vent Process System SCO/SCR Skid are summarized below.
- a. Addition of Note 16, specification that the instrument was provided by Bechtel.
  - b. Addition of Note 17, instruction to see associated vendor references for details for some vendor supplied items.
  - c. Addition of Note 18, warning that inadvertent closure of valve locked open during analyzer operation may cause equipment damage.
  - d. Addition of Note 19, Revision 5, incorporated documentation.
  - e. Addition of Reference 2, 24590-CD-POA-JA03-00007-07-00013 drawing – Analyzer LVP-AT-0522 LVP-PNL-00028 / NH3 calibration gas distribution manifold tubing schematic diagram.
  - f. Addition of Reference 3, 24590-CD-POA-JA03-00007-07-00008 drawing – Analyzer LVP-AT-0523 LVP-PNL-00027 / sample system tubing schematic diagram.
17. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-RLD-00001005, Rev. 1) for LAW Radioactive Liquid Waste Disposal System Plant Wash & SBS Condensate Collection RLD-BULGE-00004 are summarized below.
- a. Addition of Note 11, specified the pipe blind is pipe class S12C.
  - b. Addition of Note 12, Revision 1, incorporated documentation and revisions.
  - c. Addition of Reference 1, LAW facility radioactive liquid waste disposal (RLD) system design description 24590-LAW-3ZD-RLD-00001 is specified. 24590-LAW-3ZD-RLD-00001 supersedes, and has replaced, 24590-LAW-3YD-RLD-00001.
  - d. Addition of Reference 2, 24590-LAW-ADR-M-01-001 Rev 3, ALARA design review of LAW RLD system.
  - e. Addition of Reference 3, 24590-WTP-ADR-M-16-0001 Rev 4, ALARA design review of BOF DEP system.
18. Significant changes incorporated into the Piping and Instrumentation Diagram (24590-LAW-M6-RLD-00002005, Rev. 1) for LAW Radioactive Liquid Waste Disposal System C3/C5 Sumps RLD-SUMP-00010/11/28 are summarized below.
- a. Note 8 updated, location of the pump discharge flanged connections is changed from “south end” to “end” of melter pour caves one and two.
  - b. Addition of Note 10, specified the function converts sump level in inches to gallons.
  - c. Addition of Note 11, incorporated documentation and revisions.
  - d. Addition of Reference 1, LAW facility radioactive liquid waste disposal (RLD) system design description 24590-LAW-3ZD-RLD-00001 is specified. 24590-LAW-3ZD-RLD-00001 supersedes, and has replaced, 24590-LAW-3YD-RLD-00001.
  - e. Addition of Reference 2, 24590-LAW-ADR-M-01-001, Rev 3, design review of P&IDs including ALARA considerations for RLD system.
  - f. Addition of Reference 3, 24590-WTP-ADR-J-06-0001, Rev 2, radar level instrumentation.
  - g. Addition of Reference 4, 24590-WTP-ADR-J-14-0001, Rev 0, thermal connectivity level instrumentation.

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WAC 173-303-830 Modification Class:	Class 1	Class 1 <sup>1</sup>	Class 2	Class 3
Please mark the Modification Class:		X		

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.3.  
 Enter wording of WAC 173-303-830, Appendix I Modification citation: Equipment replacement or upgrading with functionality equivalent components (e.g., pipes, valves, pumps, conveyors, controls).

Modification Approved/Concur: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Denied (state reason below) Reason for denial:	Reviewed by Ecology:  Digitally signed by <i>Stephanie Schleif</i> Schleif, Stephanie (ECY) <u>07/22/2020</u>
	S. Schleif <span style="float: right;">Date</span>

## Casey, Dianne

---

**From:** Quick, Mark  
**Sent:** Monday, April 20, 2020 12:50 PM  
**To:** Casey, Dianne  
**Subject:** RE: Request for Concurrence for CCN 317060 LAW-PCN-ENV-19-008

I CONCUR.

---

**From:** Casey, Dianne <decasey@bechtel.com>  
**Sent:** Monday, April 20, 2020 12:13 PM  
**To:** Quick, Mark <mtquick@bechtel.com>  
**Subject:** Request for Concurrence for CCN 317060 LAW-PCN-ENV-19-008

Attached is letter CCN 317060 for your review and concurrence. If you do not have any changes, simply reply to this email stating that you "CONCUR". If you do have comments or changes, please let me know.

Thank you.

Dianne Casey  
Bechtel National, Inc.  
Admin. Assistant –Environmental Protection  
(509) 371-2236

## Casey, Dianne

---

**From:** Davis, Sheila  
**Sent:** Monday, April 20, 2020 2:03 PM  
**To:** Casey, Dianne  
**Subject:** RE: Request Concurrence for CCN 317060 LAW-PCN-ENV-19-008

I concur.

Thanks,  
SD



Sheila Davis | Environmental Permitting Manager  
Bechtel National, Inc. (BNI) - WTP  
O: (509) 827-3185 | C: (571) 839-9533 | E: [sadavis@bechtel.com](mailto:sadavis@bechtel.com)

---

**From:** Casey, Dianne <[decasey@bechtel.com](mailto:decasey@bechtel.com)>  
**Sent:** Monday, April 20, 2020 1:15 PM  
**To:** Davis, Sheila <[sadavis@bechtel.com](mailto:sadavis@bechtel.com)>  
**Subject:** Request Concurrence for CCN 317060 LAW-PCN-ENV-19-008

Attached is letter CCN 317060 for your review and concurrence. If you do not have any changes, simply reply to this email stating that you "CONCUR". If you do have comments or changes, please let me know.

Thank you.

Dianne Casey  
Bechtel National, Inc.  
Admin. Assistant –Environmental Protection  
(509) 371-2236

**From:** [Bernier, Cheryl](#)  
**To:** [Casey, Dianne](#); [WTP Correspondence](#)  
**Cc:** [Haggard, Robert](#)  
**Subject:** RE: PCN Transmittal  
**Date:** Monday, May 04, 2020 10:05:49 AM

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Great, thanks. We'll get that into concurrence.

**Cheryl Bernier**  
**Prime Contract Correspondence Coordinator**  
**(509) 371-2936 (Office)**  
**(509) 554-4559 (Mobile)**  
[cabernie@bechtel.com](mailto:cabernie@bechtel.com)

---

**From:** Casey, Dianne <[decasey@bechtel.com](mailto:decasey@bechtel.com)>  
**Sent:** Monday, May 4, 2020 9:40 AM  
**To:** Bernier, Cheryl <[cabernie@Bechtel.com](mailto:cabernie@Bechtel.com)>; WTP Correspondence <[wtpcos@Bechtel.com](mailto:wtpcos@Bechtel.com)>  
**Cc:** Haggard, Robert <[rdhagggar@bechtel.com](mailto:rdhagggar@bechtel.com)>  
**Subject:** RE: PCN Transmittal

Ok, Cheryl. Here is the electro-sign paper for CCN 317060 PCN-ENV-19-008

Thank you  
Dianne Casey

---

**From:** Casey, Dianne  
**Sent:** Monday, May 4, 2020 9:23 AM  
**To:** Bernier, Cheryl <[cabernie@Bechtel.com](mailto:cabernie@Bechtel.com)>  
**Subject:** RE: PCN Transmittal

I should have had that paper. Let me look at it again, as I was having problems with adobe and email attachments. If it is still there, I will re-send.

Dianne Casey

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**From:** Bernier, Cheryl <[cabernie@Bechtel.com](mailto:cabernie@Bechtel.com)>  
**Sent:** Thursday, April 30, 2020 3:34 PM  
**To:** Casey, Dianne <[decasey@bechtel.com](mailto:decasey@bechtel.com)>; Haggard, Robert <[rdhagggar@bechtel.com](mailto:rdhagggar@bechtel.com)>; WTP Correspondence <[wtpcos@Bechtel.com](mailto:wtpcos@Bechtel.com)>  
**Subject:** RE: PCN Transmittal

Thanks Diane,

**From:** [Ponte, Brian](#)  
**To:** [WTP Correspondence](#)  
**Subject:** RE: EXPEDITE! CCN 317060 (Submittal of RCRA Permit Mod Notification -LAW-PCN-ENV-19-008) - for Concurrence  
**Date:** Tuesday, May 05, 2020 10:31:53 AM

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Concur

-

Thanks,

Brian D. Ponte  
Prime Contracts Manager  
Bechtel Corporation  
Tel: +1 509 371 2238 / Mob: +1 509 578 6675

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**From:** WTP Correspondence <wtocos@Bechtel.com>  
**Sent:** Tuesday, May 5, 2020 10:29 AM  
**To:** Ponte, Brian <bponte@Bechtel.com>  
**Subject:** FW: EXPEDITE! CCN 317060 (Submittal of RCRA Permit Mod Notification -LAW-PCN-ENV-19-008) - for Concurrence  
**Importance:** High

Resending for concurrence.

Thank-you,

*Lauren Brooks-Cannon*

Technical Document Specialist for  
Correspondence Coordinator  
Bechtel National, Inc. (WTP)  
Phone: (509) 371-2131  
Email: [lbrooksc@bechtel.com](mailto:lbrooksc@bechtel.com)

---

**From:** WTP Correspondence  
**Sent:** Monday, May 04, 2020 10:43 AM  
**To:** Ponte, Brian <[bponte@bechtel.com](mailto:bponte@bechtel.com)>  
**Subject:** EXPEDITE! CCN 317060 (Submittal of RCRA Permit Mod Notification -LAW-PCN-ENV-19-008) - for Concurrence  
**Importance:** High

Attached for review is External Correspondence CCN 317060, "Submittal of Hanford Facility Resource Conservation and Recovery Act Permit Modification Notification 24590-LAW-PCN-ENV-19-008."

**From:** [Taylor, Walter](#)  
**To:** [WTP Correspondence](#)  
**Subject:** RE: EXPEDITE! CCN 317060 (Submittal of RCRA Permit Mod Notification -LAW-PCN-ENV-19-008) - for Concurrence  
**Date:** Tuesday, May 05, 2020 11:14:49 AM

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Concur

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**From:** WTP Correspondence <wtocos@Bechtel.com>  
**Sent:** Tuesday, May 05, 2020 11:06 AM  
**To:** Taylor, Walter <wtaylor2@Bechtel.com>  
**Subject:** EXPEDITE! CCN 317060 (Submittal of RCRA Permit Mod Notification -LAW-PCN-ENV-19-008) - for Concurrence  
**Importance:** High

Attached for review is External Correspondence CCN 317060, "Submittal of Hanford Facility Resource Conservation and Recovery Act Permit Modification Notification 24590-LAW-PCN-ENV-19-008."

Please provide your concurrence and/or comments by responding to this email.

The author has requested that this be expedited; your prompt reply is appreciated.

Thank-you,

*Lauren Brooks-Cannon*

Technical Document Specialist for  
Correspondence Coordinator  
Bechtel National, Inc. (WTP)  
Phone: (509) 371-2131  
Email: [lbrooksc@bechtel.com](mailto:lbrooksc@bechtel.com)

## Casey, Dianne

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**From:** Haggard, Robert  
**Sent:** Tuesday, April 21, 2020 8:18 AM  
**To:** Casey, Dianne  
**Subject:** RE: Concurrence Requested for CCN 317060 LAW-PCN-ENV-19-008

I concur.

Thanks,



**Bob Haggard | Environmental Protection Manager**  
Bechtel National Inc. | WTP Project  
T: (509) 371-4496 | C: (509) 430-1094 | E: rdhaggard@bechtel.com

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**From:** Casey, Dianne <decasey@bechtel.com>  
**Sent:** Tuesday, April 21, 2020 7:58 AM  
**To:** Haggard, Robert <rdhaggard@bechtel.com>  
**Subject:** Concurrence Requested for CCN 317060 LAW-PCN-ENV-19-008

Attached is letter CCN 317060 for your review and concurrence. If you do not have any changes, simply reply to this email stating that you "CONCUR". If you do have comments or changes, please let me know.

Thank you.

Dianne Casey  
Bechtel National, Inc.  
Admin. Assistant –Environmental Protection  
(509) 371-2236

**From:** [Presti, Felice](#)  
**To:** [WTP Correspondence](#)  
**Cc:** [Clemetson, Terri Jo \(TJ\)](#)  
**Subject:** RE: EXPEDITE! CCN 317060 (Submittal of RCRA Permit Mod Notification -LAW-PCN-ENV-19-008) - for Concurrence  
**Date:** Tuesday, May 05, 2020 12:00:06 PM

---

I concur.

Thanks



**Felice Presti | Deputy Project Director**  
Bechtel National Inc. | WTP Project  
T: (509) 371 8681 | C: (509) 392 2556 | E: [fpresti@bechtel.com](mailto:fpresti@bechtel.com)

---

**From:** WTP Correspondence <[wtpcos@Bechtel.com](mailto:wtpcos@Bechtel.com)>  
**Sent:** Tuesday, May 5, 2020 11:55 AM  
**To:** Presti, Felice <[fpresti@bechtel.com](mailto:fpresti@bechtel.com)>  
**Cc:** Clemetson, Terri Jo (TJ) <[tjclemet@Bechtel.com](mailto:tjclemet@Bechtel.com)>  
**Subject:** EXPEDITE! CCN 317060 (Submittal of RCRA Permit Mod Notification -LAW-PCN-ENV-19-008) - for Concurrence  
**Importance:** High

Attached for review is External Correspondence CCN 317060, "Submittal of Hanford Facility Resource Conservation and Recovery Act Permit Modification Notification 24590-LAW-PCN-ENV-19-008."

Please provide your concurrence and/or comments by responding to this email.

The author has requested that this be expedited; your prompt reply is appreciated.

Concurrences Received: Haggard, Ponte, and Taylor

Thank-you,

*Lauren Brooks-Cannon*

Technical Document Specialist for  
Correspondence Coordinator  
Bechtel National, Inc. (WTP)  
Phone: (509) 371-2131  
Email: [lbrooksc@bechtel.com](mailto:lbrooksc@bechtel.com)

**From:** [Bernier, Cheryl](#)  
**To:** [Brooks-Cannon, Lauren](#)  
**Subject:** RE: CCN 317060 - Ready for Final Review  
**Date:** Wednesday, May 06, 2020 8:07:48 AM

---

I concur and have updated the concurrence sheet.

**Cheryl Bernier**  
**Prime Contract Correspondence Coordinator**  
**(509) 371-2936 (Office)**  
**(509) 554-4559 (Mobile)**  
[cabernie@bechtel.com](mailto:cabernie@bechtel.com)

---

**From:** Brooks-Cannon, Lauren <[lbrooksc@bechtel.com](mailto:lbrooksc@bechtel.com)>  
**Sent:** Wednesday, May 6, 2020 8:01 AM  
**To:** Bernier, Cheryl <[cabernie@Bechtel.com](mailto:cabernie@Bechtel.com)>  
**Subject:** CCN 317060 - Ready for Final Review

CCN 317060 has been signed and is ready for final review and PAIL information.

Thank-you,

*Lauren Brooks-Cannon*

Technical Document Specialist for  
Correspondence Coordinator  
Bechtel National, Inc. (WTP)  
Phone: (509) 371-2131  
Email: [lbrooksc@bechtel.com](mailto:lbrooksc@bechtel.com)

Attachment 2  
20-ECD-0029

P&IDs

24590-LAW-M6-LFP-00001004 Rev 3  
24590-LAW-M6-LFP-00003001 Rev 1  
24590-LAW-M6-LFP-00003002 Rev 1  
24590-LAW-M6-LFP-00003003 Rev 1  
24590-LAW-M6-LFP-00003004 Rev 3  
24590-LAW-M6-LFP-00003005 Rev 1  
24590-LAW-M6-LFP-00003006 Rev 2

24590-LAW-M6-LVP-00001003 Rev 2  
24590-LAW-M6-LVP-00002001 Rev 2  
24590-LAW-M6-LVP-00002002 Rev 2  
24590-LAW-M6-LVP-00002005 Rev 1

24590-LAW-M6-LVP-00002007 Rev 1  
24590-LAW-M6-LVP-00004001 Rev 3  
24590-LAW-M6-LVP-00004002 Rev 4  
24590-LAW-M6-LVP-00005002 Rev 5

24590-LAW-M6-RLD-00001005 Rev 1  
24590-LAW-M6-RLD-00002005 Rev 1

(18 Pages Including Cover Sheet)

H  
G  
F  
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A

LFP-PMP-00002 MELTER J FEED VESSEL 30HP 50 GPM @ 98 FT TDH 30 HP

LFP-AGT-00002 MELTER J FEED VESSEL AGITATOR 40 HP 14'2" L x 2'9" DIA 40 HP

LFP-PMP-00007 MELTER J FEED VESSEL ADS PUMP 1 GAL/CYCLE

LFP-PMP-00008 MELTER J FEED VESSEL ADS PUMP 1 GAL/CYCLE

LFP-PMP-00009 MELTER J FEED VESSEL ADS PUMP 1 GAL/CYCLE

LFP-PMP-00010 MELTER J FEED VESSEL ADS PUMP 1 GAL/CYCLE

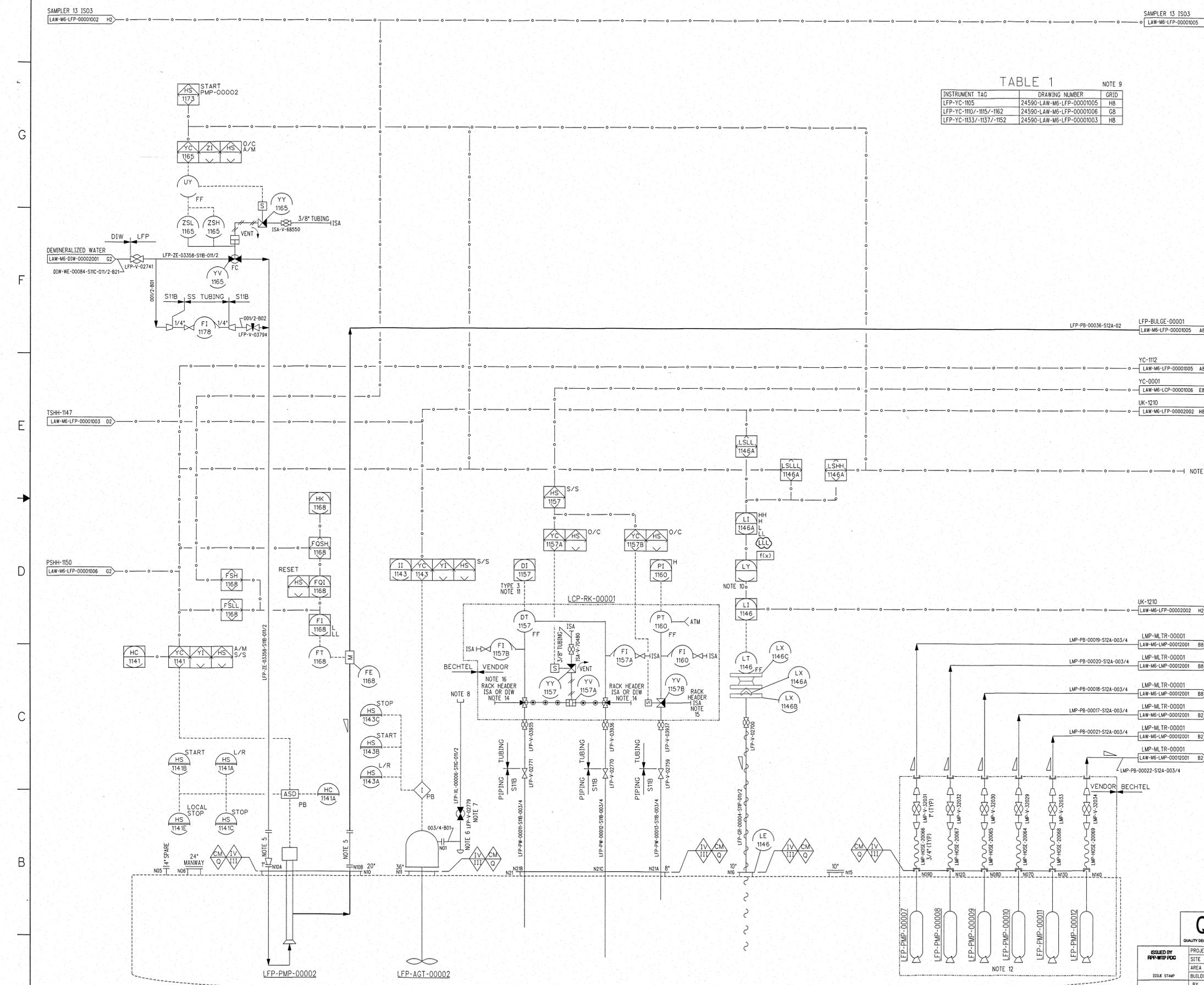
LFP-PMP-00011 MELTER J FEED VESSEL ADS PUMP 1 GAL/CYCLE

LFP-PMP-00012 MELTER J FEED VESSEL ADS PUMP 1 GAL/CYCLE

- NOTES:**
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
  - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
  - THE PRESSURE BOUNDARY (VESSEL AND NOZZLES, INCLUDING SPARE NOZZLES AND MANWAYS) IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III. ALL OTHER COMPONENTS SHOWN ON THIS DRAWING ARE QUALITY LEVEL CM AND SEISMIC CATEGORY SC-IV, UNLESS OTHERWISE NOTED.
  - ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
  - REMOVABLE SPOOL TO FACILITATE PUMP REMOVAL.
  - OIL COLLECTION LEG EXTENDS MIN 3 IN BELOW DRAIN/REFILL NOZZLE.
  - LOCATE VALVE, FOR ACCESS, ABOVE ELEVATION 28'-0".
  - THIS CONNECTION ALLOWS MAINTENANCE ACCESS FROM 28 FT FLOOR ELEVATION FOR AGITATOR OIL CHANGE.
  - ICN INTERLOCK ON LFP-VSL-00002 LVL HIHI WILL CLOSE VALVES ASSOCIATED WITH CONTROLLERS LISTED IN TABLE 1.
  - FUNCTION CONVERTS TANK LEVEL IN INCHES TO GALLONS.
  - DENSITY TRANSMITTER SENDS A DIFFERENTIAL PRESSURE VALUE. A CALCULATION IS USED TO DETERMINE DENSITY.
  - FOR ADS PUMP CONTROLS AND ADDITIONAL VESSEL INSTRUMENTATION, SEE DRAWINGS 24590-LAW-M6-LFP-00002002, -00002003, -00002004, -00002005, -00002006, AND -00002007.
  - DELETED
  - FOR ISA AND DIW SUPPLY SEE 24590-LAW-M6-LCP-00001006 COORDINATE C6.
  - FOR ISA SUPPLY SEE 24590-LAW-M6-LCP-00001006 COORDINATE D7.
  - ROUTING OF VENDOR SUPPLIED TUBING WILL BE IDENTIFIED BY C&I PER 24590-WTP-GPG-ENG-0142.
  - THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTI-SHEET DRAWINGS AND, IN PART, SUPERSEDES 24590-LAW-M6-LFP-00001, REV 5. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-20-00001, 24590-LAW-M6N-LFP-00023, -00033 AND 24590-LAW-M6PR-LFP-00001.
  - REVISION 1: INCORPORATED AND FURTHER REVISED 24590-LAW-M6N-20-00024, 24590-LAW-M6N-LFP-00042, 24590-LAW-M6N-M80T-00016, -00055, 24590-WTP-M6N-50-00073, 24590-WTP-EJE-J-16-0001 (REV 0), -0008 (REV 0), AND 24590-LAW-EJE-NS-17-0001 (REV 0). ADDED VALVES, PIPE/TUBING BREAKS, BOND FLANGE TO NIS, AND NEW LINE SECTION. REVISED QUALITY DESIGNATOR OF THIS DRAWING FROM Q TO CM. REFERENCE 1, AND ADR REVISION NUMBER ON THE TITLE BLOCK. REMOVED SAFETY RADAR. UPDATED NOTES 9 AND 13. HOSE CONNECTIONS TO HOSE COUPLERS, OFF SHEET CONNECTORS, AND TABLE 1 CHANGED ELECTRICAL SIGNAL TO A DATA LINK BETWEEN FQI-1168 AND FOSH-1168. ADDED REDUCERS AND 1/4" TUBING. MOVED OFF SHEET CONNECTOR FROM G8 TO D8. UPDATED DATA LINK ROUTES.
  - REVISION 2: INCORPORATED 24590-LAW-M6N-LFP-00063, 24590-LAW-M6N-20-00027, AND 24590-LAW-EJE-SYSE-17-0009 REV 0. REVISED FUNCTION OF HS-1141E FROM E-STOP TO LOCAL STOP TO ALIGN WITH PROJECT REQUIREMENTS.
  - REVISION 3: ADDED LOW-LOW-LOW ALARM ON INSTRUMENT LI-1146A IN RESPONSE TO 24590-WTP-GCA-MGT-19-00347.

**TABLE 1** NOTE 9

INSTRUMENT TAG	DRAWING NUMBER	GRID
LFP-YC-1105	24590-LAW-M6-LFP-00001005	H8
LFP-YC-1110/-1115/-1162	24590-LAW-M6-LFP-00001006	G8
LFP-YC-1133/-1137/-1152	24590-LAW-M6-LFP-00001003	H8



**HOLD/OPEN ITEMS:**

NONE

**REFERENCES:**

- 24590-LAW-3ZD-LFP-00001, LAW MELTER FEED PROCESS (LFP) AND CONCENTRATE RECEIPT PROCESS (LCP) SYSTEM DESIGN DESCRIPTION.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
3	REVISED PER NOTE 20	JB	BJT	AS	TRV	6/5/11
2	REVISED PER NOTE 19	OK	JF	N/A	AL/ON/TW	6/3/11
1	REVISED PER NOTE 18	TH	TV	NK	INJ/SS/LW	7/27/11
0	ISSUED FOR CONSTRUCTION, SEE NOTE 17	R/R	APP	SK/SS	RS/TH	2/15/11

**REVISION HISTORY**

ISSUED BY: RFP-WTP-PDG  
 ISSUE STAMP: [Stamp]  
 ORIGINATOR: RIDER, ROBERT 2/9/11  
 CHECKER: PINTO, PAT 2/9/11  
 APPROVER: STEVENS, RAUGHES, T 2/15/11  
 REVIEWER: KRETZSCHMAR, S/SMITH, S 2/14/11

PROJECT No: 24590  
 SITE: HANFORD  
 AREA: 200E  
 BUILDING No: 20

CONTRACT No: DE-AC27-09RV14136

**RIVER PROTECTION PROJECT  
 WASTE TREATMENT PLANT  
 2435 STEVENS CENTER PLACE  
 RICHLAND, WA 99354**

**P&ID - LAW  
 LAW MELTER FEED  
 PROCESS SYSTEM  
 MELTER 1 FEED VESSEL  
 LFP-VSL-00002**

SCALE: NONE  
 24590-LAW-M6-LFP-00001004  
 REV 3

FORM E\_SSDN.DGN 02/2009  
 E' SIZE - 44x34  
 COMPUTER GENERATED - MANUAL  
 DESIGN CHANGES NOT PERMITTED  
 6/3/2010 12:30:23 PM  
 PLOTTED BY: RESONIC

LFP-VSL-00003  
MELTER 2  
FEED PREPARATION  
VESSEL  
7689 GAL MAX OPER VOL  
11 FT ID x 10 FT x 30 FT

LFP-HX-00003  
LFP-VSL-00003  
COOLING JACKET  
92,000 BTU/HR

PLANT SERVICE AIR  
LAW-M6-PSA-00003001 03

LSHH-2124A NOTE 9  
LAW-M6-LFP-00003002 02

DEMINEALIZED WATER  
LAW-M6-DIW-00002002 02

DEMINEALIZED WATER  
LAW-M6-DIW-00002002 02

ISA DISTRIBUTION HEADER  
LAW-M6-GFR-00004001 A3

GLASS FORMER  
GFR-TK-00023  
LAW-M6-GFR-00004001 A3

LFP-BULGE-00002  
LAW-M6-LFP-00003005 A3

LCP-BULGE-00003  
LAW-M6-LCP-00002001 02

LCP-BULGE-00002  
LAW-M6-LCP-00001004 02

LFP-BULGE-00001  
LAW-M6-LFP-00001005 A3

LFP-BULGE-00002  
LAW-M6-LFP-00003006 02

DEMINEALIZED WATER  
LAW-M6-DIW-00002002 02

CHW SUPPLY  
LAW-M6-CHW-00002001 02

NOTES:

- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
- CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
- THE PRESSURE BOUNDARY (VESSEL AND NOZZLES, INCLUDING SPARE NOZZLES AND MANWAYS) IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III. ALL OTHER COMPONENTS SHOWN ON THIS DRAWING ARE QUALITY LEVEL CM AND SEISMIC CATEGORY SC-IV, UNLESS OTHERWISE NOTED.
- ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
- MINIMUM ANGLE OF PIPE IS 60 DEGREES FROM HORIZONTAL.
- A CROSS PIPE FITTING WILL BE USED. REMOVABLE SPOOL PIECE IS TO FACILITATE INSPECTION OF OVERFLOW DOWNCOMER.
- FOR VESSEL LFP-VSL-00003, MAXIMUM HORIZONTAL DISTANCE BETWEEN DOWNCOMER PIPE AND VESSEL SHALL NOT BE MORE THAN FIVE PIPE DIAMETERS. CONNECT DEMINERALIZED WATER LINE AT THE TOP FLANGE CONNECTION OF THE CROSS FITTING. STRAIGHT VERTICAL DOWNCOMER RUN SHALL BE A MINIMUM OF SIX FEET.
- REMOVABLE SPOOL PIECE TO FACILITATE SPRAY NOZZLE REMOVAL.
- ION INTERLOCK ON FRP-VSL-00003 LVL HI WILL CLOSE VALVES LCP-YC-2117, -2132, GFR-YC-2002, AND STOP INFLOW TO LFP-VSL-00003.
- FULL PORT BALL VALVE IS REQUIRED FOR GLASS FORMERS.
- SEISMIC CATEGORY SC-III ANCHORAGE IS REQUIRED. ANCHORAGE SHALL PREVENT VESSEL MOVEMENT THAT COULD DAMAGE CO-LOCATED SAFETY SIGNIFICANT COMPONENTS.
- THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTI-SHEET DRAWINGS AND, IN PART, SUPERSEDES 24590-LAW-M6-LFP-00003, REV 5. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-20-00002, -00004, 24590-LAW-M6LN-LFP-00002, 24590-LAW-M6N-LFP-00015, -00025, -00027, -00031, -00035, AND 24590-WTP-FC-F-07-0362.
- MINIMUM DISTANCE BETWEEN RESTRICTION ORIFICES IS 2 FEET.
- REVISION 1: INCORPORATED CHANGE DOCUMENTS 24590-LAW-M6N-LCP-00048, 24590-LAW-M6N-LFP-00044, -00047, -00063, 24590-LAW-M6N-M80T-00016, -00032, -00044 AND 24590-WTP-FC-M-17-0165. DELETED SUPERSEDED REFERENCE 2. REVISED SDO REFERENCE AND ADR REVISION. ADDED CM/O BOUNDARY AT LFP-VSL-00003 AND LFP-HX-00003 INTERFACE.

HOLD/OPEN ITEMS:

NONE

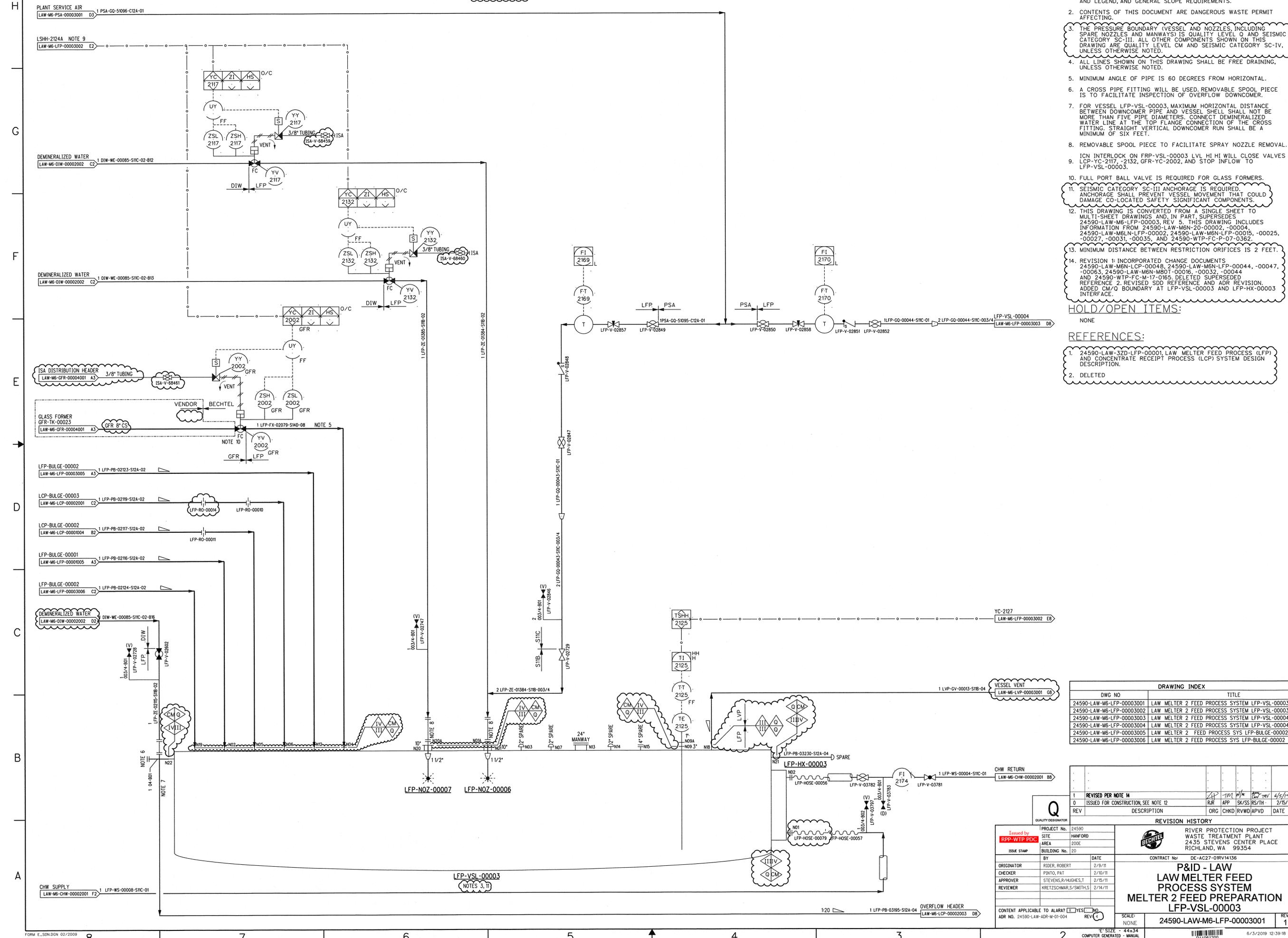
REFERENCES:

- 24590-LAW-370-LFP-00001, LAW MELTER FEED PROCESS (LFP) AND CONCENTRATE RECEIPT PROCESS (LCP) SYSTEM DESIGN DESCRIPTION.
- DELETED

DWG NO	TITLE
24590-LAW-M6-LFP-00003001	LAW MELTER 2 FEED PROCESS SYSTEM LFP-VSL-00003
24590-LAW-M6-LFP-00003002	LAW MELTER 2 FEED PROCESS SYSTEM LFP-VSL-00003
24590-LAW-M6-LFP-00003003	LAW MELTER 2 FEED PROCESS SYSTEM LFP-VSL-00004
24590-LAW-M6-LFP-00003004	LAW MELTER 2 FEED PROCESS SYSTEM LFP-VSL-00004
24590-LAW-M6-LFP-00003005	LAW MELTER 2 FEED PROCESS SYS LFP-BULGE-00002
24590-LAW-M6-LFP-00003006	LAW MELTER 2 FEED PROCESS SYS LFP-BULGE-00002

REV	DESCRIPTION	ORG	CHKD	RWVD	APVD	DATE
1	REVISED PER NOTE 14					6/5/19
0	ISSUED FOR CONSTRUCTION SEE NOTE 12					2/15/11

PROJECT		REVISION HISTORY	
PROJECT No.	24590	CONTRACT No.	DE-AC27-01RV14136
SITE	HANFORD	PROJECT	RIVER PROTECTION PROJECT
AREA	200E	LOCATION	WASTE TREATMENT PLANT
BUILDING No.	20	ADDRESS	2435 STEVENS CENTER PLACE
ISSUE STAMP		CITY	RICHLAND, WA
ORIGINATOR	RIDER, ROBERT	DATE	2/9/11
CHECKER	PINTO, PAT	DATE	2/10/11
APPROVER	STEVENS, R/HUGHES, T	DATE	2/15/11
REVIEWER	KRETZSCHMAR, S/SMITH, S	DATE	2/14/11
CONTENT APPLICABLE TO ALARA? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		SCALE: NONE	
ADR NO. 24590-LAW-ADR-W-01-004		COMPUTER GENERATED - MANUAL DESIGN CHANGES NOT PERMITTED	
PROJECT No. 24590		DATE 6/3/2019 12:39:18 PM	
SITE HANFORD		PROJECT RIVER PROTECTION PROJECT	
AREA 200E		LOCATION WASTE TREATMENT PLANT	
BUILDING No. 20		ADDRESS 2435 STEVENS CENTER PLACE	
ISSUE STAMP		CITY RICHLAND, WA	
ORIGINATOR RIDER, ROBERT		DATE 2/9/11	
CHECKER PINTO, PAT		DATE 2/10/11	
APPROVER STEVENS, R/HUGHES, T		DATE 2/15/11	
REVIEWER KRETZSCHMAR, S/SMITH, S		DATE 2/14/11	
CONTENT APPLICABLE TO ALARA? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		SCALE: NONE	
ADR NO. 24590-LAW-ADR-W-01-004		COMPUTER GENERATED - MANUAL DESIGN CHANGES NOT PERMITTED	
PROJECT No. 24590		DATE 6/3/2019 12:39:18 PM	
SITE HANFORD		PROJECT RIVER PROTECTION PROJECT	
AREA 200E		LOCATION WASTE TREATMENT PLANT	
BUILDING No. 20		ADDRESS 2435 STEVENS CENTER PLACE	
ISSUE STAMP		CITY RICHLAND, WA	
ORIGINATOR RIDER, ROBERT		DATE 2/9/11	
CHECKER PINTO, PAT		DATE 2/10/11	
APPROVER STEVENS, R/HUGHES, T		DATE 2/15/11	
REVIEWER KRETZSCHMAR, S/SMITH, S		DATE 2/14/11	
CONTENT APPLICABLE TO ALARA? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		SCALE: NONE	
ADR NO. 24590-LAW-ADR-W-01-004		COMPUTER GENERATED - MANUAL DESIGN CHANGES NOT PERMITTED	



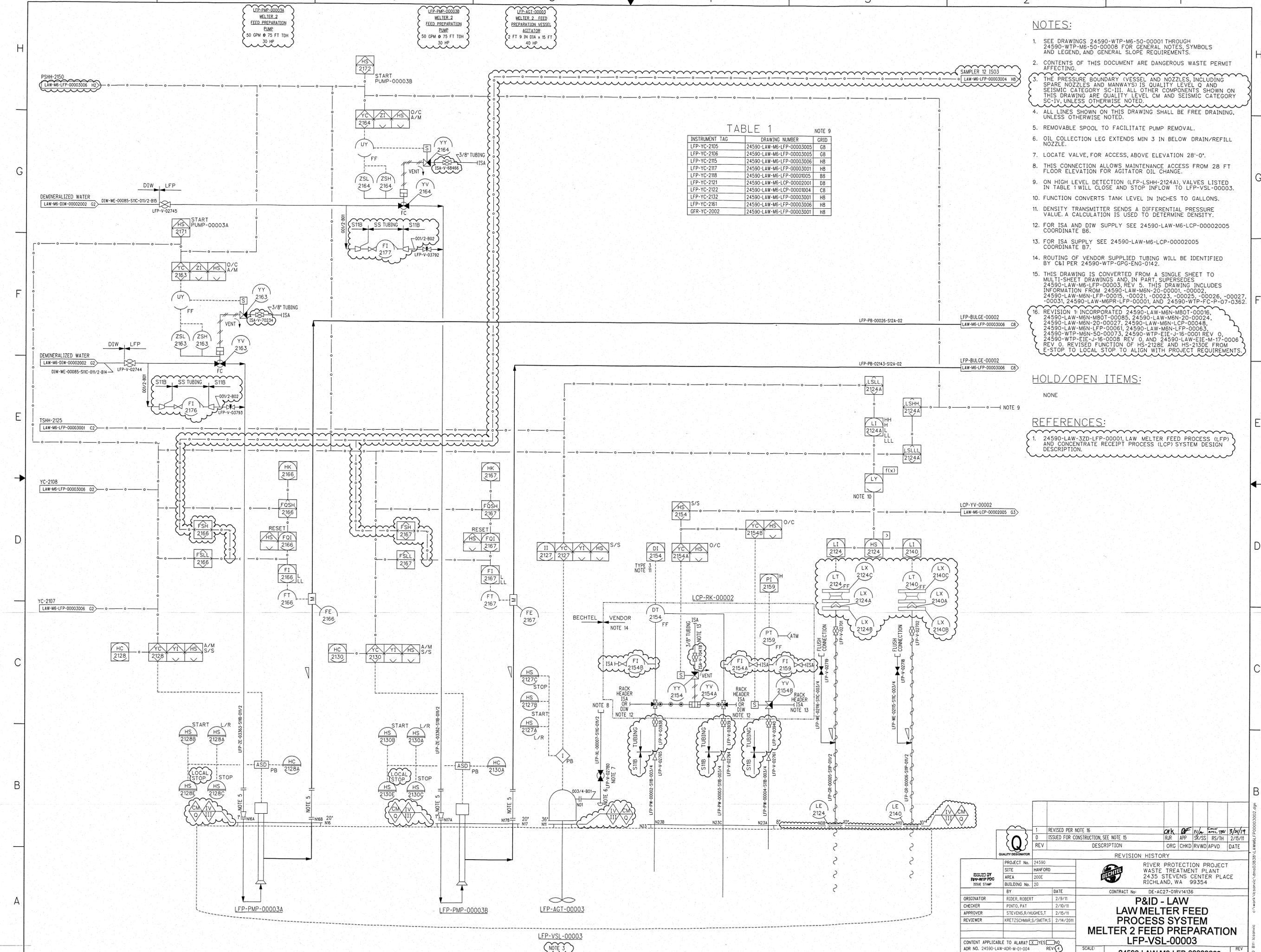


TABLE 1

INSTRUMENT TAG	DRAWING NUMBER	GRID
LFP-YC-2105	24590-LAW-M6-LFP-00003005	G8
LFP-YC-2106	24590-LAW-M6-LFP-00003005	G8
LFP-YC-2115	24590-LAW-M6-LFP-00003006	H8
LFP-YC-2117	24590-LAW-M6-LFP-00003001	H8
LFP-YC-2118	24590-LAW-M6-LFP-00001005	B8
LFP-YC-2121	24590-LAW-M6-LCP-00002001	D8
LFP-YC-2122	24590-LAW-M6-LCP-00001004	C8
LFP-YC-2132	24590-LAW-M6-LFP-00003001	H8
LFP-YC-2161	24590-LAW-M6-LFP-00003006	H8
GFR-YC-2002	24590-LAW-M6-LFP-00003001	H8

NOTE 9

- NOTES:
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
  - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
  - THE PRESSURE BOUNDARY (VESSEL AND NOZZLES, INCLUDING SPARE NOZZLES AND MANWAYS) IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III. ALL OTHER COMPONENTS SHOWN ON THIS DRAWING ARE QUALITY LEVEL CM AND SEISMIC CATEGORY SC-IV, UNLESS OTHERWISE NOTED.
  - ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
  - REMOVABLE SPOOL TO FACILITATE PUMP REMOVAL.
  - OIL COLLECTION LEG EXTENDS MIN 3 IN BELOW DRAIN/REFILL NOZZLE.
  - LOCATE VALVE, FOR ACCESS, ABOVE ELEVATION 28'-0".
  - THIS CONNECTION ALLOWS MAINTENANCE ACCESS FROM 28 FT FLOOR ELEVATION FOR AGITATOR OIL CHANGE.
  - ON HIGH LEVEL DETECTION (LFP-LSHH-2124A), VALVES LISTED IN TABLE 1 WILL CLOSE AND STOP INFLOW TO LFP-VSL-00003.
  - FUNCTION CONVERTS TANK LEVEL IN INCHES TO GALLONS.
  - DENSITY TRANSMITTER SENDS A DIFFERENTIAL PRESSURE VALUE. A CALCULATION IS USED TO DETERMINE DENSITY.
  - FOR ISA AND DIW SUPPLY SEE 24590-LAW-M6-LCP-00002005 COORDINATE B6.
  - FOR ISA SUPPLY SEE 24590-LAW-M6-LCP-00002005 COORDINATE B7.
  - ROUTING OF VENDOR SUPPLIED TUBING WILL BE IDENTIFIED BY C&I PER 24590-WTP-GPG-ENG-0142.
  - THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTI-SHEET DRAWINGS AND, IN PART, SUPERSEDES 24590-LAW-M6-LFP-00003, REV 5. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-20-00001, -00002, 24590-LAW-M6N-LFP-00015, -00021, -00023, -00025, -00026, -00027, -00031, 24590-LAW-M6PR-LFP-00001, AND 24590-WTP-F-C-P-07-0362.
  - REVISION 1: INCORPORATED 24590-LAW-M6N-M80T-00016, 24590-LAW-M6N-M80T-00085, 24590-LAW-M6N-20-00024, 24590-LAW-M6N-20-00027, 24590-LAW-M6N-LCP-00048, 24590-LAW-M6N-LFP-00061, 24590-LAW-M6N-LFP-00063, 24590-WTP-M6N-50-00073, 24590-WTP-EIE-J-16-0001 REV 0, 24590-WTP-EIE-J-16-0008 REV 0, AND 24590-LAW-EIE-M-17-0006 REV 0. REVISED FUNCTION OF HS-2128E AND HS-2130E FROM E-STOP TO LOCAL STOP TO ALIGN WITH PROJECT REQUIREMENTS.

- HOLD/OPEN ITEMS:
- NONE
- REFERENCES:
- 24590-LAW-32D-LFP-00001, LAW MELTER FEED PROCESS (LFP) AND CONCENTRATE RECEIPT PROCESS (LCP) SYSTEM DESIGN DESCRIPTION.

	1	REVISED PER NOTE 16	CNK	AP	RS/TH	3/2/19	
	0	ISSUED FOR CONSTRUCTION, SEE NOTE 15	R/R	APP	SK/SS	RS/TH	2/15/11
REV		DESCRIPTION	ORG	CHKD	RWD	APVD	DATE
PROJECT No. 24590 SITE HANFORD AREA 200E BUILDING No. 20			RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 2435 STEVENS CENTER PLACE RICHLAND, WA 99354				
BY RIDER, ROBERT CHECKER PINTO, PAT APPROVER STEVENS, R/HUGHES, T REVIEWER KRETZSCHMAR, S/SMITH, S			CONTRACT No. DE-AC27-01RV14136 DATE 2/9/11 2/10/11 2/15/11 2/14/2011				
P&ID - LAW LAW MELTER FEED PROCESS SYSTEM MELTER 2 FEED PREPARATION LFP-VSL-00003			SCALE: NONE 24590-LAW-M6-LFP-00003002 REV 1				
CONTENT APPLICABLE TO ALARA? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ADR NO. 24590-LAW-ADR-M-01-004 REV 1			3/19/2019 9:37:06 AM R11924273				

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LFP-VSL-00004  
MELTER 2  
FEED VESSEL  
7689 GAL MAX OPER VOL  
11 FT ID x 18 FT 6 IN L x 11'

LFP-HX-00004  
LFP-VSL-00004  
COOLING JACKET  
92,000 BTU/HR

NOTES:

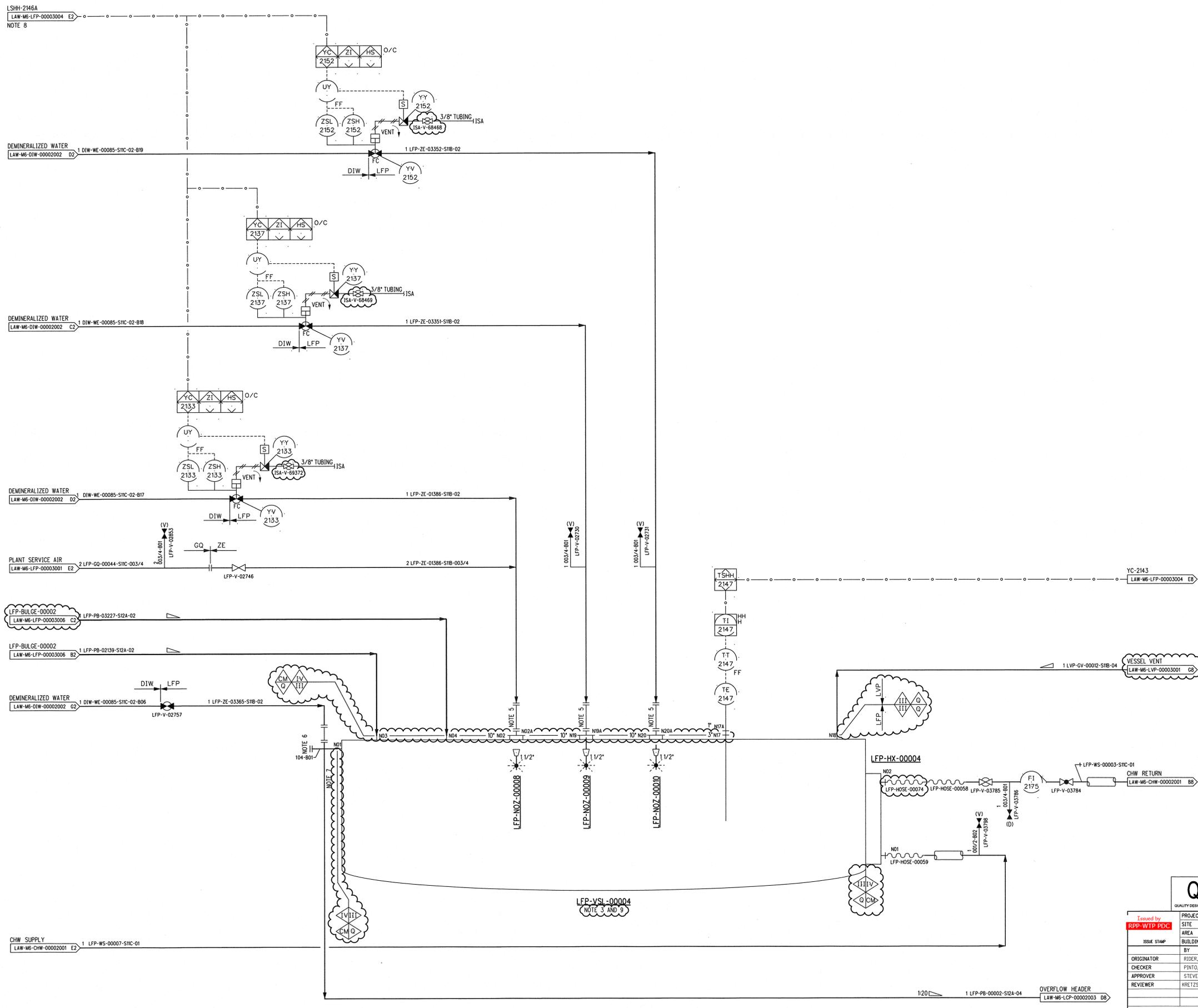
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
- CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
- THE PRESSURE BOUNDARY (VESSEL AND NOZZLES, INCLUDING SPARE NOZZLES AND MANWAYS) IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III. ALL OTHER COMPONENTS SHOWN ON THIS DRAWING ARE QUALITY LEVEL CM AND SEISMIC CATEGORY SC-IV, UNLESS OTHERWISE NOTED.
- ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
- REMOVABLE SPOOL PIECE TO FACILITATE SPRAY NOZZLE REMOVAL.
- A CROSS PIPE FITTING WILL BE USED. REMOVABLE PIECE IS TO FACILITATE INSPECTION OF OVERFLOW DOWNCOMER.
- FOR VESSEL LFP-VSL-00002, HORIZONTAL DISTANCE BETWEEN DOWNCOMER PIPE AND VESSEL SHELL SHALL BE AS SHORT AS POSSIBLE, NOT EXCEEDING SIX PIPE DIAMETERS. CONNECT DEMINERALIZED WATER LINE AT THE TOP FLANGE CONNECTION OF THE CROSS FITTING. STRAIGHT VERTICAL DOWNCOMER RUN SHALL BE A MINIMUM OF SIX FEET. SLOPE IS NOT REQUIRED AT VESSEL NOZZLE CONNECTION.
- ION INTERLOCK ON LFP-VSL-00004 LEVEL HI HI WILL CLOSE VALVES YC-2152, -2137, -2133.
- SEISMIC CATEGORY SC-III ANCHORAGE IS REQUIRED. ANCHORAGE SHALL PREVENT VESSEL MOVEMENT THAT COULD DAMAGE CO-LOCATED SAFETY SIGNIFICANT COMPONENTS.
- THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTI-SHEET DRAWINGS AND, IN PART, SUPERSEDES 24590-LAW-M6-LFP-00003, REV 5. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-20-00004, 24590-LAW-M6N-LFP-00005, AND -000035.
- REVISION 1: INCORPORATED CHANGE DOCUMENTS 24590-LAW-M6N-LCP-00048, 24590-LAW-M6N-LFP-00044, -00063, 24590-LAW-M6N-N80T-00016 AND 24590-WTP-FC-M-17-0165. REVISED SDD REFERENCE AND ADR REVISION, ADDED CM/Q BOUNDARY AT LFP-VSL-00004 AND LFP-HX-00004 INTERFACE.

HOLD/OPEN ITEMS:

NONE

REFERENCES:

- 24590-LAW-32D-LFP-00001, LAW MELTER FEED PROCESS (LFP) AND CONCENTRATE RECEIPT PROCESS (LCP) SYSTEM DESIGN DESCRIPTION



1	REVISED PER NOTE 11								
0	ISSUED FOR CONSTRUCTION, SEE NOTE 10								
REV	DESCRIPTION	ORG	CHKD	RWD	APVD	DATE			

Issued by	PROJECT No.	24590
ISSUE STAMP	SITE	HANFORD
	AREA	200E
	BUILDING No.	20
ORIGINATOR	DATE	
CHECKER	DATE	
APPROVER	DATE	
REVIEWER	DATE	
CONTENT APPLICABLE TO ALARA? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
ADR NO. 24590-LAW-ADR-M-01-004		

REVISION HISTORY	
CONTRACT No.	DE-AC27-01RV14136
RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 2435 STEVENS CENTER PLACE RICHLAND, WA 99354	
P&ID - LAW LAW MELTER FEED PROCESS SYSTEM MELTER 2 FEED VESSEL LFP-VSL-00004	
SCALE:	24590-LAW-M6-LFP-00003003
REV	1

LFP-PMP-00004  
MELTER 2  
FEED\_VESSEL  
PUMP  
50 GPM @ 98 FT TDH  
30 HP

LFP-AGT-00004  
MELTER 2  
FEED\_VESSEL  
AGITATOR  
14' 2" L x 2' 9" DIA  
40 HP

LFP-PMP-00013  
MELTER 2  
FEED\_VESSEL  
ADS\_PUMP  
1 GAL/CYCLE

LFP-PMP-00014  
MELTER 2  
FEED\_VESSEL  
ADS\_PUMP  
1 GAL/CYCLE

LFP-PMP-00015  
MELTER 2  
FEED\_VESSEL  
ADS\_PUMP  
1 GAL/CYCLE

LFP-PMP-00016  
MELTER 2  
FEED\_VESSEL  
ADS\_PUMP  
1 GAL/CYCLE

LFP-PMP-00017  
MELTER 2  
FEED\_VESSEL  
ADS\_PUMP  
1 GAL/CYCLE

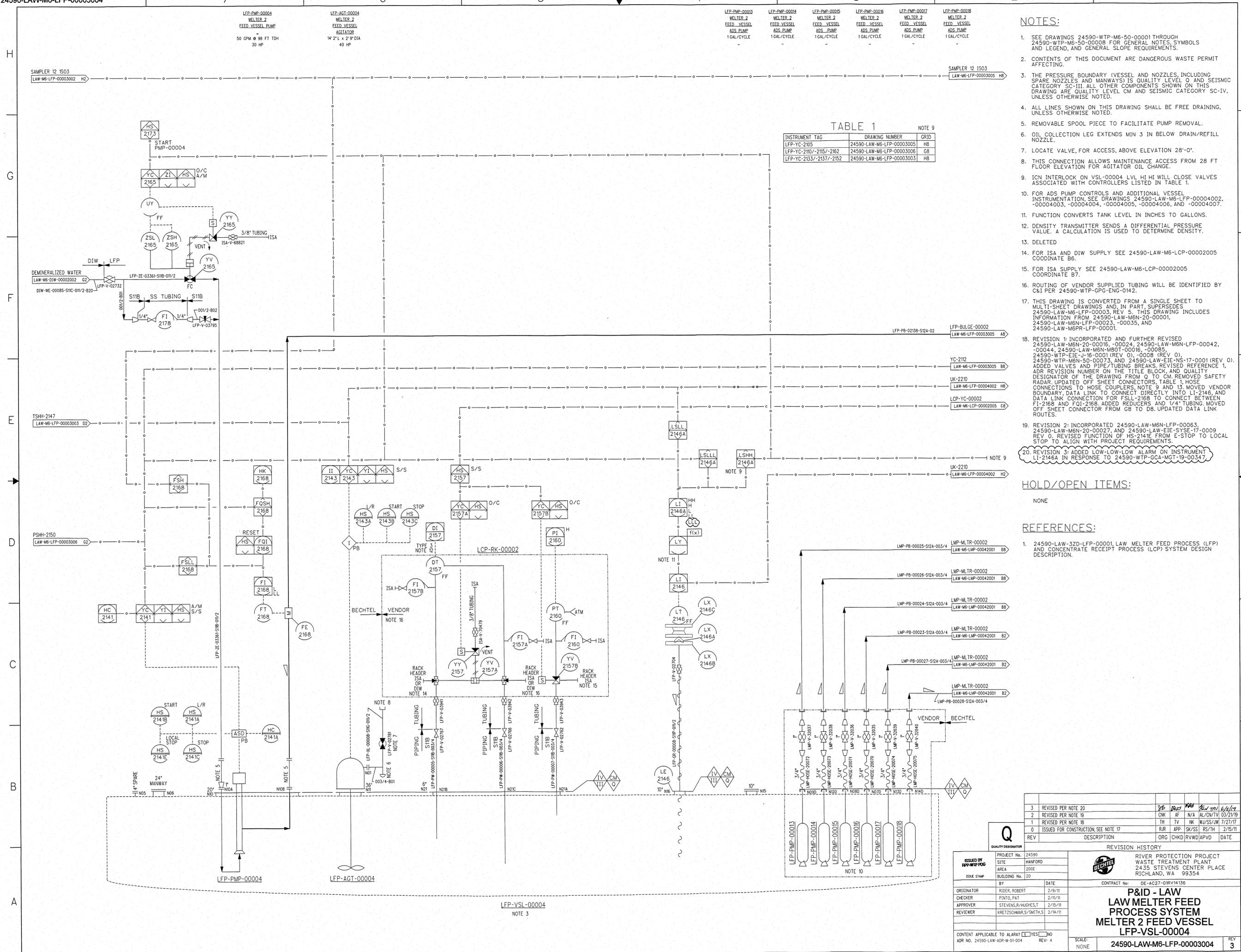
LFP-PMP-00018  
MELTER 2  
FEED\_VESSEL  
ADS\_PUMP  
1 GAL/CYCLE

NOTES:

- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
- CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
- THE PRESSURE BOUNDARY (VESSEL AND NOZZLES, INCLUDING SPARE NOZZLES AND MANWAYS) IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III. ALL OTHER COMPONENTS SHOWN ON THIS DRAWING ARE QUALITY LEVEL CM AND SEISMIC CATEGORY SC-IV, UNLESS OTHERWISE NOTED.
- ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
- REMOVABLE SPOOL PIECE TO FACILITATE PUMP REMOVAL.
- OIL COLLECTION LEG EXTENDS MIN 3 IN BELOW DRAIN/REFILL NOZZLE.
- LOCATE VALVE, FOR ACCESS, ABOVE ELEVATION 28'-0".
- THIS CONNECTION ALLOWS MAINTENANCE ACCESS FROM 28 FT FLOOR ELEVATION FOR AGITATOR OIL CHANGE.
- ICN INTERLOCK ON VSL-00004 LVL HI HI WILL CLOSE VALVES ASSOCIATED WITH CONTROLLERS LISTED IN TABLE 1.
- FOR ADS PUMP CONTROLS AND ADDITIONAL VESSEL INSTRUMENTATION, SEE DRAWINGS 24590-LAW-M6-LFP-00004002, -00004003, -00004004, -00004005, -00004006, AND -00004007.
- FUNCTION CONVERTS TANK LEVEL IN INCHES TO GALLONS.
- DENSITY TRANSMITTER SENDS A DIFFERENTIAL PRESSURE VALUE. A CALCULATION IS USED TO DETERMINE DENSITY.
- DELETED
- FOR ISA AND DIW SUPPLY SEE 24590-LAW-M6-LCP-00002005 COORDINATE B6.
- FOR ISA SUPPLY SEE 24590-LAW-M6-LCP-00002005 COORDINATE B7.
- ROUTING OF VENDOR SUPPLIED TUBING WILL BE IDENTIFIED BY C&I PER 24590-WTP-GPG-ENG-0142.
- THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTI-SHEET DRAWINGS AND, IN PART, SUPERSEDES 24590-LAW-M6-LFP-00003, REV 5. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-20-00001, 24590-LAW-M6N-LFP-00023, -00035, AND 24590-LAW-M6PR-LFP-00001.
- REVISION 1: INCORPORATED AND FURTHER REVISED 24590-LAW-M6N-20-00016, -00024, 24590-LAW-M6N-LFP-00042, -00044, 24590-LAW-M6N-M80T-00016, -00085, 24590-WTP-EIE-J-16-0001 (REV 0), -0008 (REV 0), 24590-WTP-M6N-50-00073, AND 24590-LAW-EIE-NS-17-0001 (REV 0). ADDED VALVES AND PIPE/TUBING BREAKS, REVISED REFERENCE 1, ADR REVISION NUMBER ON THE TITLE BLOCK, AND QUALITY DESIGNATOR OF THE DRAWING FROM 0 TO CM. REMOVED SAFETY RADAR, UPDATED OFF SHEET CONNECTORS, TABLE 1, HOSE CONNECTIONS TO HOSE COUPLERS, NOTE 9 AND 13, MOVED VENDOR BOUNDARY, DATA LINK TO CONNECT DIRECTLY INTO LI-2146, AND DATA LINK CONNECTION FOR FSL-2168 TO CONNECT BETWEEN FI-2168 AND FOI-2168. ADDED REDUCERS AND 1/4" TUBING, MOVED OFF SHEET CONNECTOR FROM G8 TO D8. UPDATED DATA LINK ROUTES.
- REVISION 2: INCORPORATED 24590-LAW-M6N-LFP-00063, 24590-LAW-M6N-20-00027, AND 24590-LAW-EIE-SYSE-17-0009 REV 0. REVISED FUNCTION OF HS-2141E FROM E-STOP TO LOCAL STOP TO ALIGN WITH PROJECT REQUIREMENTS.
- REVISION 3: ADDED LOW-LOW-LOW ALARM ON INSTRUMENT LI-2146A IN RESPONSE TO 24590-WTP-GCA-MGT-19-00347.

TABLE 1

INSTRUMENT TAG	DRAWING NUMBER	GRID
LFP-YC-2105	24590-LAW-M6-LFP-00003005	H8
LFP-YC-2107/2115/2162	24590-LAW-M6-LFP-00003006	G8
LFP-YC-2133/2137/2152	24590-LAW-M6-LFP-00003003	H8



HOLD/OPEN ITEMS:

NONE

REFERENCES:

- 24590-LAW-3ZD-LFP-00001, LAW MELTER FEED PROCESS (LFP) AND CONCENTRATE RECEIPT PROCESS (LCP) SYSTEM DESIGN DESCRIPTION.

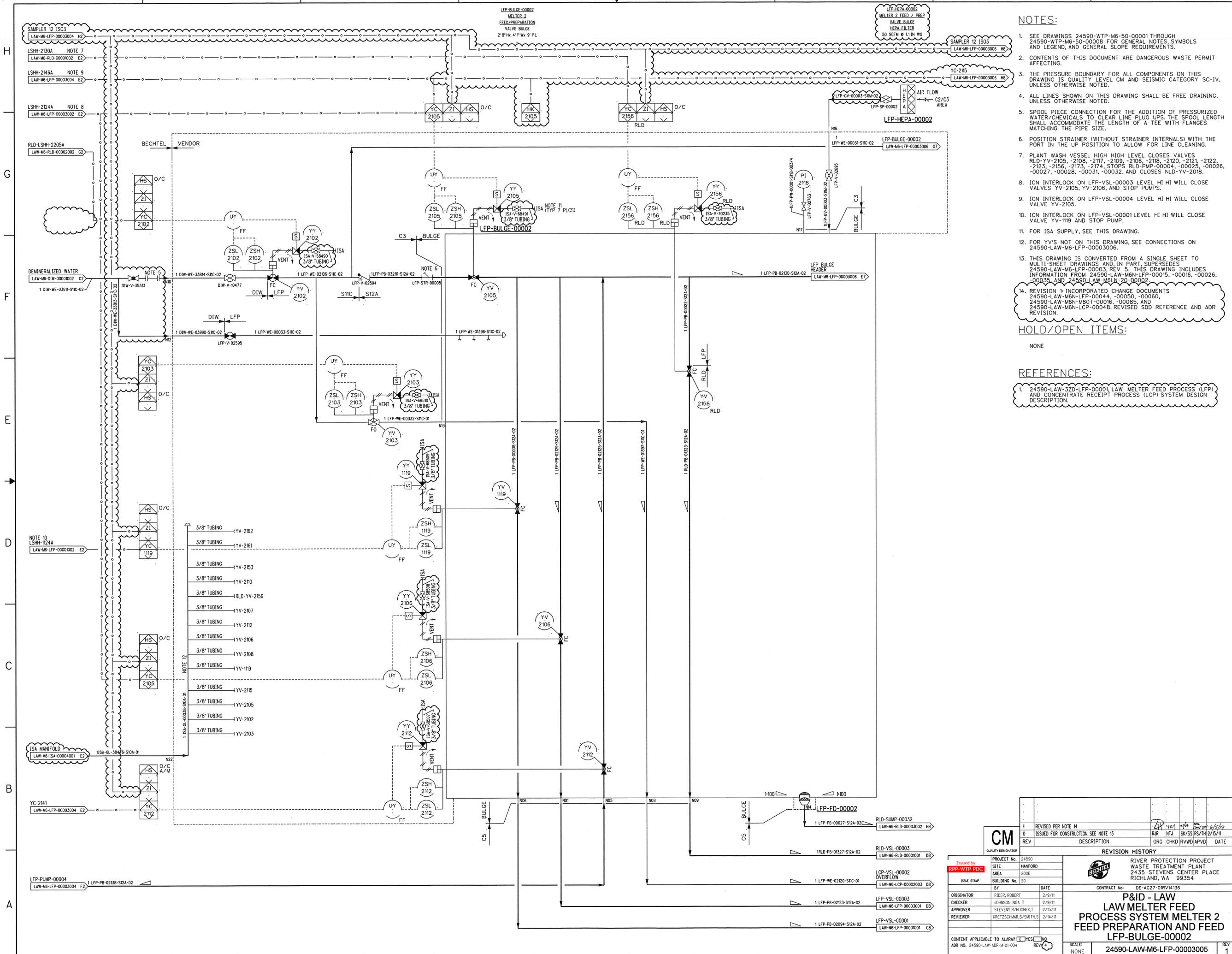
REV	DESCRIPTION	ORG	CHKD	RWD	APVD	DATE
3	REVISED PER NOTE 20	CMK	AF	N/A	AL/ON/VI	03/21/19
2	REVISED PER NOTE 19	TH	TV	NK	WJ/SS/JW	7/27/17
1	ISSUED FOR CONSTRUCTION, SEE NOTE 17	RJR	APP.	SK/SS	RS/TH	2/15/11
0	ISSUED FOR CONSTRUCTION, SEE NOTE 17	ORG	CHKD	RWD	APVD	DATE

ISSUED BY: RFP-WTP-PDC  
 PROJECT No.: 24590  
 SITE: HANFORD  
 AREA: 200E  
 BUILDING No.: 120

CONTRACT No.: DE-AC27-01R14136  
**P&ID - LAW  
 LAW MELTER FEED  
 PROCESS SYSTEM  
 MELTER 2 FEED VESSEL  
 LFP-VSL-00004**  
 24590-LAW-M6-LFP-00003004

SCALE: NONE  
 REV: 4

FORM E... 02/2009  
 8 7 6 5 4 3 2 1



- NOTES:**
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
  - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
  - THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-IV, UNLESS OTHERWISE NOTED.
  - ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
  - SPOOL PIECE CONNECTION FOR THE ADDITION OF PRESSURIZED WATER/CHEMICALS TO CLEAR LINE PLUG UPS, THE SPOOL LENGTH SHALL ACCOMMODATE THE LENGTH OF A TEE WITH FLANGES MATCHING THE PIPE SIZE.
  - POSITION STRAINER (WITHOUT STRAINER INTERNALS) WITH THE PORT IN THE UP POSITION TO ALLOW FOR LINE CLEANING.
  - PLANT WASH VESSEL HIGH HIGH LEVEL CLOSES VALVES RLD-VV-2105, -2108, -2117, -2109, -2106, -2118, -2120, -2121, -2122, -2123, -2156, -2173, -2174, STOPS RLD-FWP-00004, -00025, -00026, -00027, -00028, -00031, -00032, AND CLOSES RLD-VV-2018.
  - ICN INTERLOCK ON LFP-VSL-00003 LEVEL HI HI WILL CLOSE VALVES YV-2105, YV-2106, AND STOP PUMPS.
  - ICN INTERLOCK ON LFP-VSL-00004 LEVEL HI HI WILL CLOSE VALVE YV-2105.
  - FOR ISA SUPPLY, SEE THIS DRAWING.
  - FOR YV'S NOT ON THIS DRAWING, SEE CONNECTIONS ON 24590-LAW-M6-LFP-00003006.
  - THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTI-SHEET DRAWINGS AND, IN PART, SUPERSEDES 24590-LAW-M6-LFP-00003, REV 5. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-LFP-00015, -00016, -00026, -00035, AND 24590-LAW-M6LN-20-00002.
  - REVISION 1 INCORPORATED CHANGE DOCUMENTS 24590-LAW-M6N-LFP-00044, -00050, -00060, 24590-LAW-M6N-M80T-00016, -00085, AND 24590-LAW-M6N-LCP-00048. REVISED SDD REFERENCE AND ADR REVISION.

**HOLD/OPEN ITEMS:**  
NONE

- REFERENCES:**
- 24590-LAW-32D-LFP-00001, LAW MELTER FEED PROCESS (LFP) AND CONCENTRATE RECEIPT PROCESS (LCP) SYSTEM DESIGN DESCRIPTION.

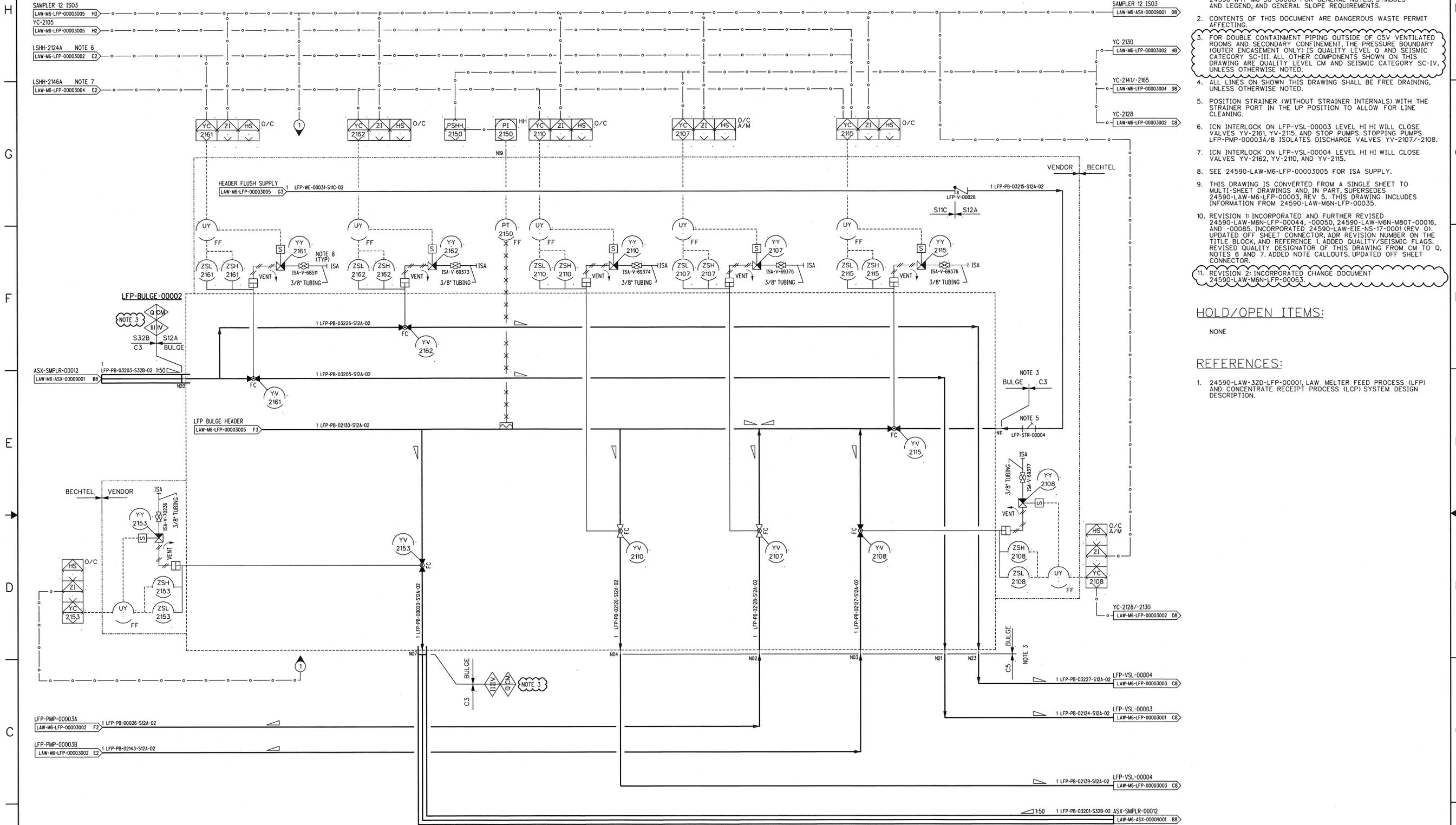
CM		QUALITY DESIGNATOR				
1	REVISED PER NOTE 14	AP	HM			
0	ISSUED FOR CONSTRUCTION, SEE NOTE 13	RJR	NTJ			
REV	DESCRIPTION	ORG	CHKD	RWVD	APVD	DATE
1	REVISED PER NOTE 14	AP	HM	4/14/19	6/5/19	
0	ISSUED FOR CONSTRUCTION, SEE NOTE 13	RJR	NTJ	SK/SS	RS/TH	2/15/11

Issued by		PROJECT No.		REVISION HISTORY	
RPP-WTP PDC		24590		RIVER PROTECTION PROJECT WASTE TREATMENT PLANT	
		AREA		2435 STEVENS CENTER PLACE	
		BUILDING No.		RICHLAND, WA 99354	
ORIGINATOR	BY	DATE	CONTRACT No.	DE-AC27-01RV14136	
CHECKER	JOHNSON, NGA T	2/9/11		<b>P&amp;ID - LAW</b>	
APPROVER	STEVENS, R/M/GHES, T	2/15/11		<b>PROCESS SYSTEM MELTER 2</b>	
REVIEWER	KRETZSCHMAR, S/SMITHS	2/14/11		<b>FEED PREPARATION AND FEED</b>	
				<b>LFP-BULGE-00002</b>	

CONTENT APPLICABLE TO ALARA? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	SCALE: NONE	REV 1
ADR NO. 24590-LAW-ADR-M-01-004	COMPUTER GENERATED - MANUAL DESIGN CHANGES NOT PERMITTED	6/4/2019 8:49:26 AM



- NOTES:**
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
  - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
  - FOR DOUBLE CONTAINMENT PIPING OUTSIDE OF CSV VENTILATED ROOMS AND SECONDARY CONFINEMENT, THE PRESSURE BOUNDARY (OUTER ENCASUREMENT ONLY) IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III. ALL OTHER COMPONENTS SHOWN ON THIS DRAWING ARE QUALITY LEVEL CM AND SEISMIC CATEGORY SC-IV, UNLESS OTHERWISE NOTED.
  - ALL LINES ON SHOWN THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
  - POSITION STRAINER (WITHOUT STRAINER INTERNALS) WITH THE STRAINER PORT IN THE UP POSITION TO ALLOW FOR LINE CLEANING.
  - ICN INTERLOCK ON LFP-VSL-00003 LEVEL HI HI WILL CLOSE VALVES YV-2161, YV-2115, AND STOP PUMPS, STOPPING PUMPS LFP-PMP-00003A/B ISOLATES DISCHARGE VALVES YV-2107/-2108.
  - ICN INTERLOCK ON LFP-VSL-00004 LEVEL HI HI WILL CLOSE VALVES YV-2162, YV-2110, AND YV-2115.
  - SEE 24590-LAW-M6-LFP-00003005 FOR ISA SUPPLY.
  - THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTI-SHEET DRAWINGS AND, IN PART, SUPERSEDES 24590-LAW-M6-LFP-00003, REV 5. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-LFP-00035.
  - REVISION 1: INCORPORATED AND FURTHER REVISED 24590-LAW-M6N-LFP-00044, 00050, 24590-LAW-M6N-M80T-00016, AND -00085, INCORPORATED 24590-LAW-EIE-NS-17-0001 (REV 0), UPDATED OFF SHEET CONNECTOR, ADR REVISION NUMBER ON THE TITLE BLOCK, AND REFERENCE 1. ADDED QUALITY/SEISMIC FLAGS. REVISED QUALITY DESIGNATOR OF THIS DRAWING FROM CM TO Q, NOTES 6 AND 7. ADDED NOTE CALLOUTS, UPDATED OFF SHEET CONNECTOR.
  - REVISION 2: INCORPORATED CHANGE DOCUMENT 24590-LAW-M6N-LFP-00063.

**HOLD/OPEN ITEMS:**

NONE

- REFERENCES:**
- 24590-LAW-32D-LFP-00001, LAW MELTER FEED PROCESS (LFP) AND CONCENTRATE RECEIPT PROCESS (LCP) SYSTEM DESIGN DESCRIPTION.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
-2	REVISED PER NOTE 11					6/5/19
-1	REVISED PER NOTE 10	NAS	JWS	WTD	GR/PSA/WH	08/21/17
0	ISSUED FOR CONSTRUCTION, SEE NOTE 9	RJR	NTJ	SK/SS	RS/TH	2/16/11

<b>Issued by</b> RPP-WTP-PDC		<b>PROJECT No.</b> 24590 <b>SITE</b> HANFORD		<b>REVISION HISTORY</b> RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 2435 STEVENS CENTER PLACE RICHLAND, WA 99354	
<b>ISSUE STAMP</b> BUILDING No. 20		<b>AREA</b> 200E <b>CONTRACT No.</b> DE-AC27-01RV14136		<b>DATE</b> 2/16/11	
<b>ORIGINATOR</b> RIDER, ROBERT		<b>CHECKER</b> JOHNSON, NGA T		<b>APPROVER</b> STEVENS, R/HIGHEST, T	
<b>REVIEWER</b> KRETZSCHMAR, S/SMITHS		<b>DATE</b> 2/16/11		<b>DATE</b> 2/16/11	

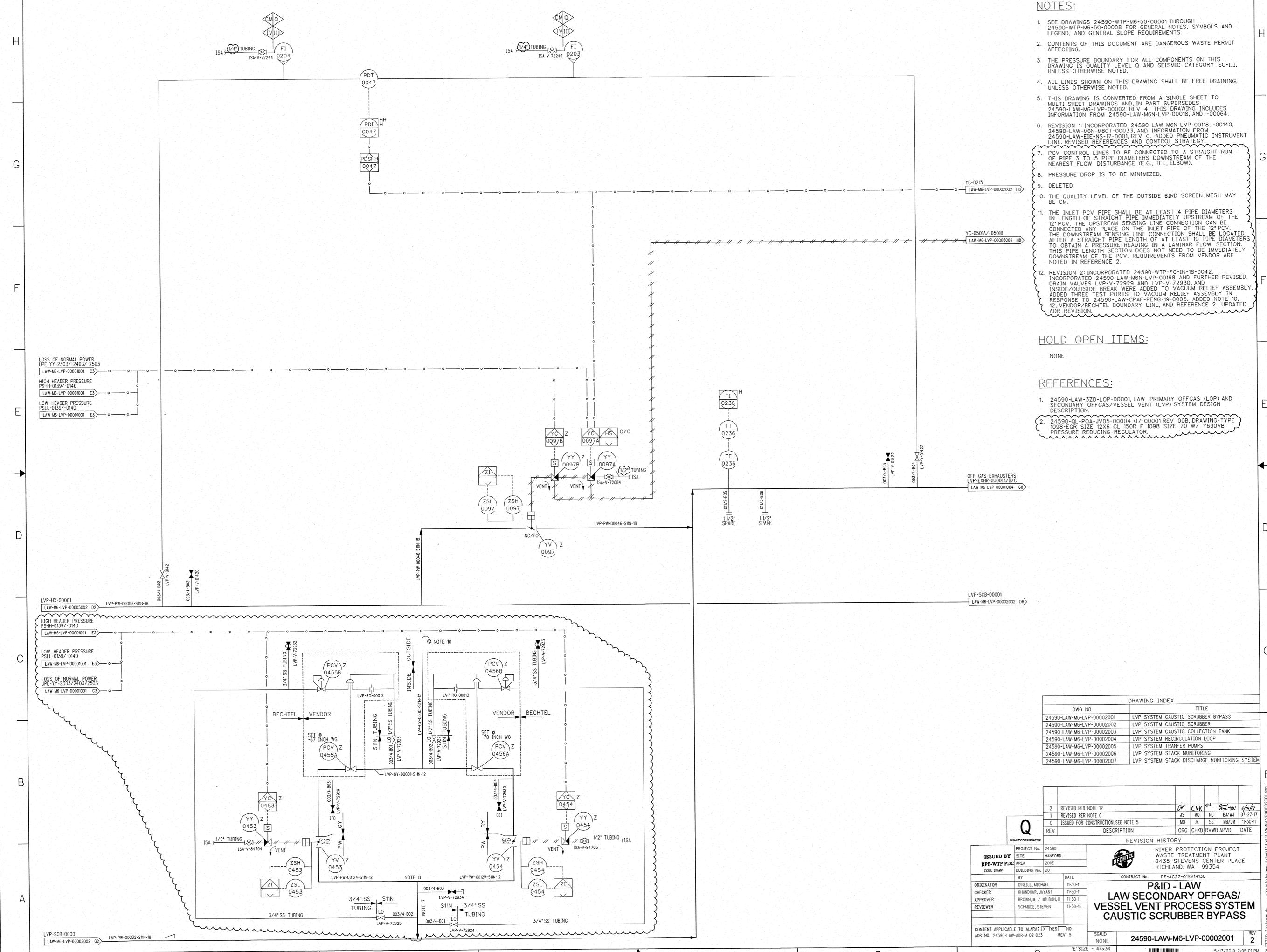
**P&ID - LAW**  
**LAW MELTER FEED**  
**PROCESS SYSTEM MELTER 2**  
**FEED PREPARATION AND FEED**  
**LFP-BULGE-00002**

CONTENT APPLICABLE TO ALARA?  YES  NO  
 ADR NO. 24590-LAW-ADR-M-01-004 REV: 4

SCALE: NONE  
 24590-LAW-M6-LFP-00003006 REV 2

SIZE - 44x34  
 COMPUTER GENERATED - MANUAL DESIGN CHANGES NOT PERMITTED  
 6/3/2019 12:45:41 PM





- NOTES:**
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
  - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
  - THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
  - ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
  - THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTI-SHEET DRAWINGS AND, IN PART, SUPERSEDES 24590-LAW-M6-LVP-00002 REV 4. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-LVP-00018, AND -00064.
  - REVISION 1: INCORPORATED 24590-LAW-M6N-LVP-00118, -00140, 24590-LAW-M6N-MB01-00033, AND INFORMATION FROM 24590-LAW-EIE-NS-17-0001, REV 0. ADDED PNEUMATIC INSTRUMENT LINE, REVISED REFERENCES AND CONTROL STRATEGY.
  - PCV CONTROL LINES TO BE CONNECTED TO A STRAIGHT RUN OF PIPE 3 TO 5 PIPE DIAMETERS DOWNSTREAM OF THE NEAREST FLOW DISTURBANCE (E.G., TEE, ELBOW).
  - PRESSURE DROP IS TO BE MINIMIZED.
  - DELETED
  - THE QUALITY LEVEL OF THE OUTSIDE BIRD SCREEN MESH MAY BE CM.
  - THE INLET PCV PIPE SHALL BE AT LEAST 4 PIPE DIAMETERS IN LENGTH OF STRAIGHT PIPE IMMEDIATELY UPSTREAM OF THE 12\"/>

**HOLD OPEN ITEMS:**  
NONE

- REFERENCES:**
- 24590-LAW-3ZD-LOP-00001, LAW PRIMARY OFFGAS (LOP) AND SECONDARY OFFGAS/VESSEL VENT (LVP) SYSTEM DESIGN DESCRIPTION.
  - 24590-QL-POA-JV05-00004-07-00001 REV 008, DRAWING-TYPE 1098-EGR SIZE 12X6 CL 150R F 1098 SIZE 70 W/ Y690VB PRESSURE REDUCING REGULATOR.

DWG NO	TITLE
24590-LAW-M6-LVP-00002001	LVP SYSTEM CAUSTIC SCRUBBER BYPASS
24590-LAW-M6-LVP-00002002	LVP SYSTEM CAUSTIC SCRUBBER
24590-LAW-M6-LVP-00002003	LVP SYSTEM CAUSTIC COLLECTION TANK
24590-LAW-M6-LVP-00002004	LVP SYSTEM RECIRCULATION LOOP
24590-LAW-M6-LVP-00002005	LVP SYSTEM TRANSFER PUMPS
24590-LAW-M6-LVP-00002006	LVP SYSTEM STACK MONITORING
24590-LAW-M6-LVP-00002007	LVP SYSTEM STACK DISCHARGE MONITORING SYSTEM

REV	DESCRIPTION	ORG	CHKD	RVND	APVD	DATE
2	REVISED PER NOTE 12					
1	REVISED PER NOTE 6	JS	MO	NC	BL/WJ	07-27-17
0	ISSUED FOR CONSTRUCTION, SEE NOTE 5	MO	JK	SS	MB/DM	11-30-11

<b>ISSUED BY</b> RPP-WTP PDC	PROJECT No. 24590 SITE HANFORD AREA 2006 BUILDING No. 20
<b>ORIGINATOR</b> O'NEILL, MICHAEL	DATE 11-30-11
<b>CHECKER</b> KHANSHAR, JAYANT	DATE 11-30-11
<b>APPROVER</b> BROWN, M / MILDON, D	DATE 11-30-11
<b>REVIEWER</b> SCHAUDE, STEVEN	DATE 11-30-11

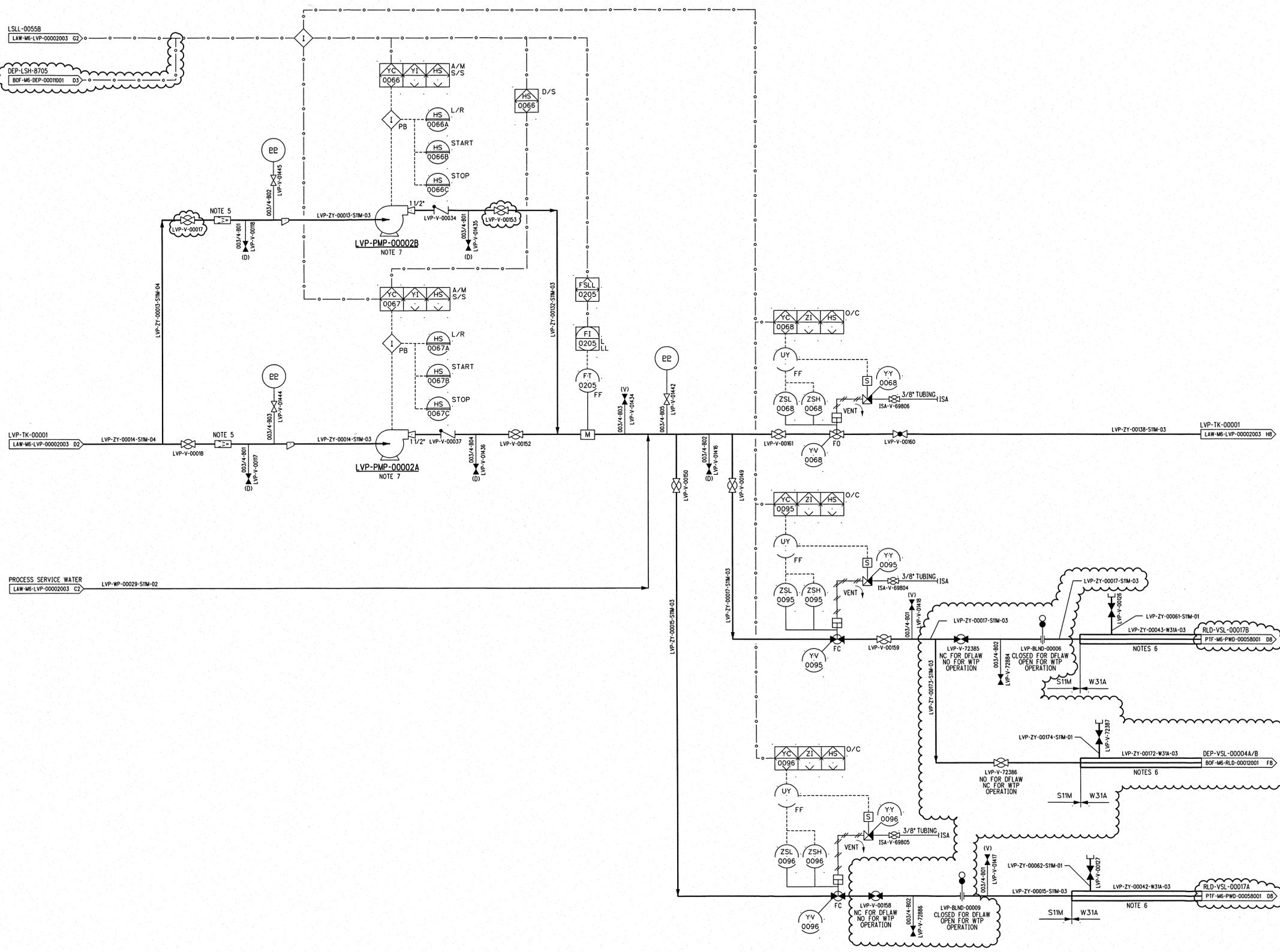
<p><b>REVISION HISTORY</b></p> <p>CONTRACT No. DE-AC27-01RV14136</p> <p><b>P&amp;ID - LAW LAW SECONDARY OFFGAS/ VESSEL VENT PROCESS SYSTEM CAUSTIC SCRUBBER BYPASS</b></p>	<p>RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 2435 STEVENS CENTER PLACE RICHLAND, WA 99354</p>
<p>CONTENT APPLICABLE TO ALARA? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ADR No. 24590-LAW-ADR-M-02-023 REV: 5</p>	<p>SCALE: NONE</p> <p>24590-LAW-M6-LVP-00002001</p> <p>REV 2</p>



H  
G  
F  
E  
D  
C  
B  
A

LVP-PMP-00002A  
CAUSTIC  
BLOWDOWN  
120 GPM, 66 FT TDH  
5 HP

LVP-PMP-00002B  
CAUSTIC  
BLOWDOWN  
120 GPM, 66 FT TDH  
5 HP



- NOTES:**
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
  - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
  - THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-IV, UNLESS OTHERWISE NOTED.
  - ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
  - PROVIDE A REMOVABLE SPOOL PIECE FOR STARTUP STRAINER.
  - THERE SHALL BE NO POCKETS IN THE LINE WITHIN LAW AND PAST HOSE CONNECTIONS TO PRETREATMENT. MINIMUM SLOPE AS REQUIRED BY PERMIT P&ID 24590-PTF-M6-PWD-P0058.
  - ACCESSIBLE AREAS OF EQUIPMENT SHALL HAVE 1/2 INCHES OF INSULATION FOR PERSONNEL PROTECTION OR HAVE GUARDS, BARRIERS, AND OR SHIELDS WHERE INSULATION IS NOT FEASIBLE OR APPROPRIATE.
  - THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTI-SHEET DRAWINGS AND, IN PART SUPERSEDES 24590-LAW-M6-LVP-00002 REV 4. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-LVP-00038, -00062, AND -00064.
  - THIS REVISION INCORPORATES 24590-LAW-M6N-LVP-00122, -00138, 24590-WTP-M6N-J211-00001, 24590-BOF-EIE-J-19-0003, REVISION 0, 24590-BOF-EIE-J-19-0006, REVISION 0, 24590-BOF-EIE-M-15-0123, REVISION 0, 24590-BOF-EIE-MS-17-0021, REVISION 0, AND 24590-WTP-EIE-SYSE-16-0082, REVISION 0. UPDATED REFERENCES.

**HOLD OPEN ITEMS:**

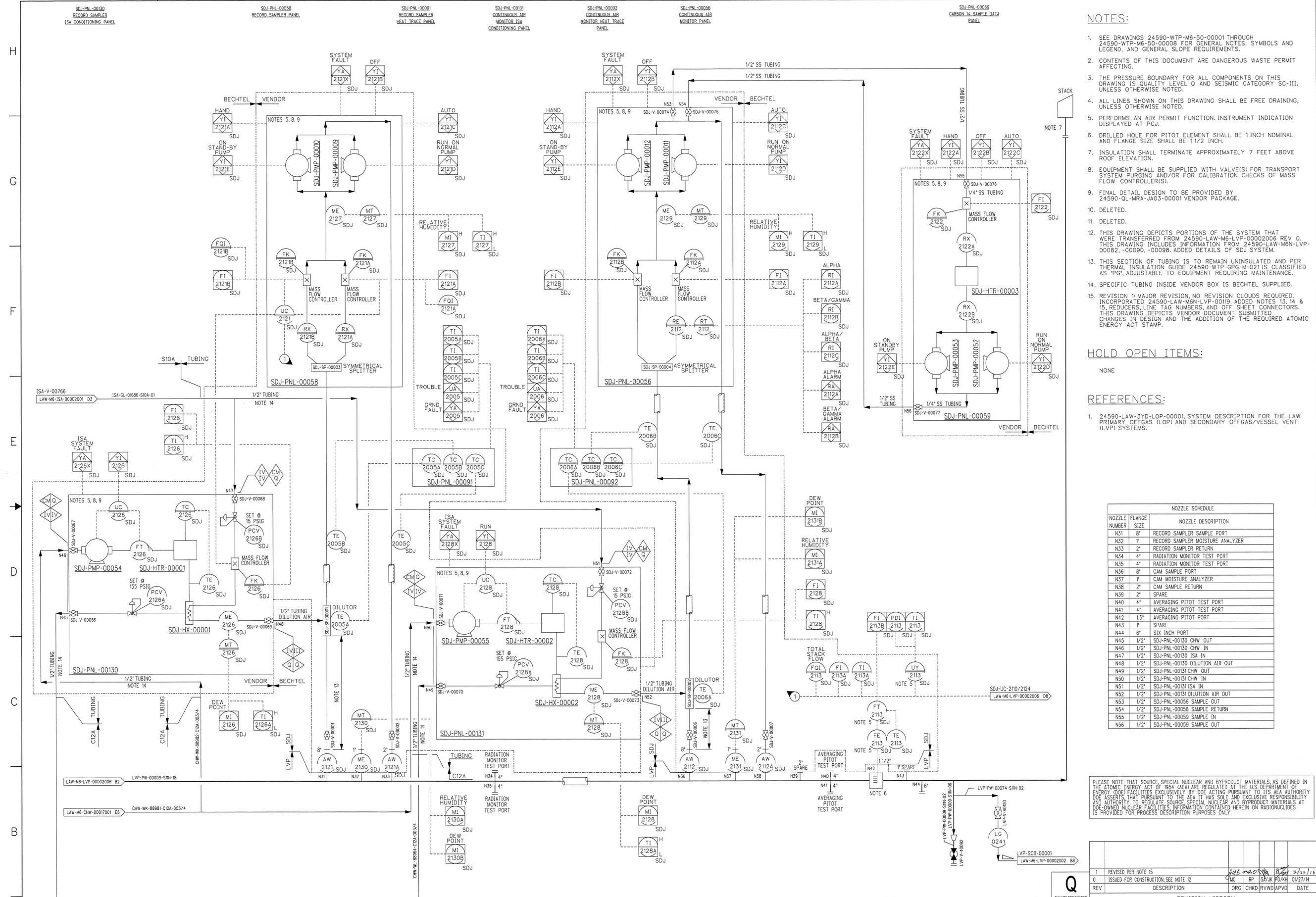
NONE

- REFERENCES:**
- 24590-LAW-3ZD-LQP-00001, LAW PRIMARY OFFGAS (LQP) AND SECONDARY OFFGAS/VESSEL VENT (LVP) SYSTEMS.
  - 24590-LAW-ADR-M-02-023 REV 5, LAW SECONDARY OFFGAS VESSEL VENT PROCESS SYSTEM (LVP).
  - 24590-WTP-ADR-M-16-0001 REV 4, ALARA DESIGN REVIEW FOR BOF DEP. SYSTEM.

PLEASE NOTE THAT SOURCE, SPECIAL NUCLEAR AND BYPRODUCT MATERIALS, AS DEFINED IN THE ATOMIC ENERGY ACT OF 1954 (AEA) ARE REGULATED AT THE U.S. DEPARTMENT OF ENERGY (DOE) FACILITIES EXCLUSIVELY BY DOE ACTING PURSUANT TO ITS AEA AUTHORITY. DOE ASSERTS THAT PURSUANT TO THE AEA IT HAS SOLE AND EXCLUSIVE RESPONSIBILITY AND AUTHORITY TO REGULATE SOURCE, SPECIAL NUCLEAR AND BYPRODUCT MATERIALS AT DOE-OWNED NUCLEAR FACILITIES. INFORMATION CONTAINED HEREIN ON RADIONUCLIDES IS PROVIDED FOR PROCESS DESCRIPTION PURPOSES ONLY.

CM	QUALITY DESIGNATOR
1	REVISED PER NOTE 9
0	ISSUED FOR CONSTRUCTION SEE NOTE 8
REV	DESCRIPTION
ORG	CHKD/RVMD/APVD
DATE	DATE

ISSUED BY RPP-WTP PDC		PROJECT No. 24590	RIVER PROTECTION PROJECT WASTE TREATMENT PLANT	
ISSUE STAMP		SITE HANFORD	2435 STEVENS CENTER PLACE RICHLAND, WA 99354	
BY DATE		BUILDING No.	CONTRACT No. DE-AC27-01RV14136	
ORIGINATOR	O'NEIL, MICHAEL	11/30/11	P&ID - LAW	
CHECKER	KHANDAR, JAYANT	11/30/11	LAW SECONDARY OFFGAS/VESSEL VENT PROCESS SYSTEM	
APPROVER	BROWN, M/MILTON, D	11/30/11	TRANSFER PUMPS	
REVIEWER	SCHMUE, STEVEN	11/30/11	LVP-PMP-00002A/B	
CONTENT APPLICABLE TO ALARAs		YES <input type="checkbox"/> NO <input type="checkbox"/>	SCALE: NONE	
ADR NO. SEE REFERENCES 2 AND 3		REV: 1	24590-LAW-M6-LVP-00002005	



- NOTES:**
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
  - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
  - THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL 0 AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
  - ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
  - PERFORMS AN AIR PERMIT FUNCTION. INSTRUMENT INDICATION DISPLAYED AT PCJ.
  - DRILLED HOLE FOR PITOT ELEMENT SHALL BE 1 INCH NOMINAL AND FLANGE SIZE SHALL BE 1 1/2 INCH.
  - INSULATION SHALL TERMINATE APPROXIMATELY 7 FEET ABOVE ROOF ELEVATION.
  - EQUIPMENT SHALL BE SUPPLIED WITH VALVE(S) FOR TRANSPORT SYSTEM PURGING AND/OR FOR CALIBRATION CHECKS OF MASS FLOW CONTROLLER(S).
  - FINAL DETAIL DESIGN TO BE PROVIDED BY 24590-QL-MRA-JA03-00001 VENDOR PACKAGE.
  - DELETED.
  - DELETED.
  - THIS DRAWING DEPICTS PORTIONS OF THE SYSTEM THAT WERE TRANSFERRED FROM 24590-LAW-M6-LVP-00002006 REV. 0. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-LVP-00082, -00090, -00098. ADDED DETAILS OF SDJ SYSTEM.
  - THIS SECTION OF TUBING IS TO REMAIN UNINSULATED AND PER THERMAL INSULATION GUIDE 24590-WTP-GPG-M-02115 CLASSIFIED AS "FG", ADJUSTABLE TO EQUIPMENT REQUIRING MAINTENANCE.
  - SPECIFIC TUBING INSIDE VENDOR BOX IS BECHTEL SUPPLIED.
  - REVISION 1: MAJOR REVISION, NO REVISION CLOUDS REQUIRED. INCORPORATED 24590-LAW-M6N-LVP-0019. ADDED NOTES 13, 14 & THIS DRAWING DEPICTS VENDOR DOCUMENT SUBMITTED. CHANGES IN DESIGN AND THE ADDITION OF THE REQUIRED ATOMIC ENERGY ACT STAMP.

**HOLD OPEN ITEMS:**  
NONE

- REFERENCES:**
- 24590-LAW-3YD-LOP-00001, SYSTEM DESCRIPTION FOR THE LAW PRIMARY OFFGAS (LOP) AND SECONDARY OFFGAS/VESSEL VENT (LVP) SYSTEMS.

NOZZLE NUMBER	FLANGE SIZE	NOZZLE DESCRIPTION
N31	8"	RECORD SAMPLER SAMPLE PORT
N32	1"	RECORD SAMPLER MOISTURE ANALYZER
N33	2"	RECORD SAMPLER RETURN
N34	4"	RADIATION MONITOR TEST PORT
N35	4"	RADIATION MONITOR TEST PORT
N36	8"	CAM SAMPLE PORT
N37	1"	CAM MOISTURE ANALYZER
N38	2"	CAM SAMPLE RETURN
N39	2"	SPARE
N40	4"	AVERAGING PITOT TEST PORT
N41	4"	AVERAGING PITOT TEST PORT
N42	1.5"	AVERAGING PITOT PORT
N43	1"	SPARE
N44	6"	SIX INCH PORT
N45	1/2"	SDJ-PNL-00130 CHW OUT
N46	1/2"	SDJ-PNL-00130 CHW IN
N47	1/2"	SDJ-PNL-00130 ISA IN
N48	1/2"	SDJ-PNL-00130 DILUTION AIR OUT
N49	1/2"	SDJ-PNL-00131 CHW OUT
N50	1/2"	SDJ-PNL-00131 CHW IN
N51	1/2"	SDJ-PNL-00131 ISA IN
N52	1/2"	SDJ-PNL-00131 DILUTION AIR OUT
N53	1/2"	SDJ-PNL-00056 SAMPLE OUT
N54	1/2"	SDJ-PNL-00056 SAMPLE RETURN
N55	1/2"	SDJ-PNL-00059 SAMPLE IN
N56	1/2"	SDJ-PNL-00059 SAMPLE OUT

PLEASE NOTE THAT SOURCE, SPECIAL NUCLEAR AND BYPRODUCT MATERIALS, AS DEFINED IN THE ATOMIC ENERGY ACT OF 1954 (AEA) ARE REGULATED AT THE U.S. DEPARTMENT OF ENERGY (DOE) FACILITIES EXCLUSIVELY BY DOE ACTING PURSUANT TO ITS AEA AUTHORITY AND ASSETS THAT PURSUANT TO THE AEA IT HAS SOLE AND EXCLUSIVE RESPONSIBILITY AND AUTHORITY TO REGULATE SOURCE, SPECIAL NUCLEAR AND BYPRODUCT MATERIALS AT DOE-OWNED NUCLEAR FACILITIES. INFORMATION CONTAINED HEREIN ON RADIONUCLIDES IS PROVIDED FOR PROCESS DESCRIPTION PURPOSES ONLY.

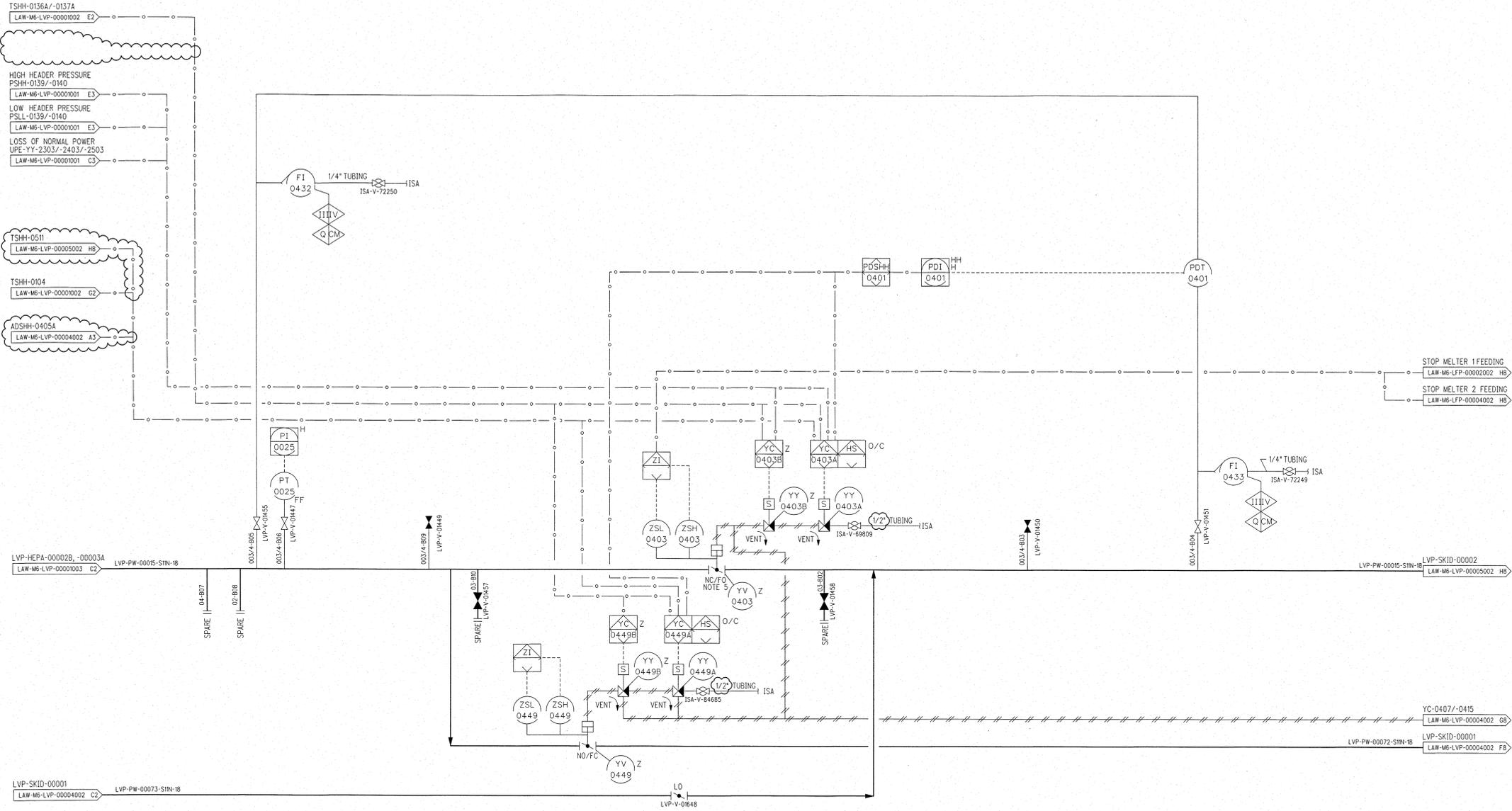
1	REVISED PER NOTE 15	08/24/14	08/24/14
0	ISSUED FOR CONSTRUCTION, SEE NOTE 12	08/24/14	08/24/14
REV	DESCRIPTION	ORG	CHKD/RVWD/APVD

**ISSUED BY** RPP-WTP PIDC  
**ISSUE STAMP** BUILDING No. 20  
**ORIGINATOR** O'NEILL, MICHAEL 01/24/14  
**CHECKER** PETERS, RICHARD D 01/24/14  
**APPROVER** HUBER, KEITH A 01/27/14  
**REVIEWER** AUSTEN, B/KULBECK, J 01/27/14

**REVISION HISTORY**  
 CONTRACT No. DE-AC27-01RV14136  
**P&ID - LAW SECONDARY OFFGAS/VESSEL VENT PROCESS SYSTEM STACK DISCHARGE MONITORING SYSTEM**  
 24590-LAW-M6-LVP-00002007

SCALE: NONE  
 E' SIZE - 44x34  
 COMPUTER GENERATED - MANUAL DESIGN CHANGES NOT PERMITTED

H  
G  
F  
E  
D  
C  
B  
A



- NOTES:**
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
  - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
  - THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
  - ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
  - THE BYPASS VALVE, YV-0403 SHALL OPEN FIRST BEFORE CLOSING THE INLET ISOLATION VALVES.
  - THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTI-SHEET DRAWINGS AND IN PART SUPERSEDES 24590-LAW-M6-LVP-00004 REV 2. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-LVP-00018, AND -00065.
  - REVISION 1: INCORPORATED 24590-LAW-M6N-LVP-00084, -00089, -00115 AND -00125. ADDED/REVISED/DELETED NOTES, VALVES, TUBING SIZES, QUALITY BREAKS, AND INSTRUMENTS.
  - REVISION 2: INCORPORATED INFORMATION FROM 24590-LAW-EIE-NS-17-0001, REV 0. REVISED REFERENCE 1, INTERLOCK CONTROL STRATEGY, AND NOTE 5. ADDED REDUNDANT INLET ISOLATION VALVE.
  - REVISION 3: INCORPORATED 24590-WTP-FC-IN-18-0042 AND CCN 308167.

**HOLD/OPEN ITEMS:**

NONE

- REFERENCES:**
- 24590-LAW-3ZD-LOP-00001, LAW PRIMARY OFFGAS PROCESS (LOP) AND LAW SECONDARY OFFGAS/VESSEL VENT PROCESS (LVP) SYSTEM DESIGN DESCRIPTION.

DRAWING INDEX	
DWG NO	TITLE
24590-LAW-M6-LVP-00004001	LVP SYS Hg MITIGATION EQUIPMENT BYPASS
24590-LAW-M6-LVP-00004002	LVP SYS Hg MITIGATION EQUIP LVP-SKID-00001
24590-LAW-M6-LVP-00004003	LVP SYS Hg MITIGATION EQUIP LVP-ADBR-00001A/B

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
3	REVISED PER NOTE 9					5/17/19
2	REVISED PER NOTE 8	JWS	NK	N/A	JWS/WJ/JW	07/27/17
1	REVISED PER NOTE 7	DWH	MRO	BA/JK	SK/JK	11/17/14
0	ISSUED FOR CONSTRUCTION. SEE NOTE 6	MO	SJ	SS	TH/DW	11-22-11

**ISSUED BY**  
RPP-WTP POC

**ISSUE STAMP**

**ORIGINATOR**  
O'NEILL, MICHAEL 11-18-11

**CHECKER**  
JAIN, SATISH 11-18-11

**APPROVER**  
BROWN, M / WILDON, D 11-22-11

**REVIEWER**  
SCHMUDE, STEVEN 11-18-11

**REVISION HISTORY**

PROJECT No. 24590  
SITE HANFORD  
AREA 200E  
BUILDING No. 20

BY DATE  
O'NEILL, MICHAEL 11-18-11  
JAIN, SATISH 11-18-11  
BROWN, M / WILDON, D 11-22-11  
SCHMUDE, STEVEN 11-18-11

CONTRACT No. DE-AC27-01RV14136

RIVER PROTECTION PROJECT  
WASTE TREATMENT PLANT  
2435 STEVENS CENTER PLACE  
RICHLAND, WA 99354

**P&ID - LAW  
LAW SECONDARY OFFGAS/VESSEL  
VENT PROCESS SYSTEM  
MERCURY MITIGATION EQUIPMENT  
BYPASS**

SCALE: NONE  
24590-LAW-M6-LVP-00004001  
REV 3

CONTENT APPLICABLE TO ALARA?  YES  NO  
ADR NO. 24590-LAW-ADR-M-02-023 REV: 5

SCALE: NONE  
24590-LAW-M6-LVP-00004001  
REV 3

7/23/2019 3:35:57 PM  
R11959160

PLOTTED BY: isabanc

LVP-SKID-00001  
MERCURY MITIGATION  
EQUIPMENT FOR LAW OFFGAS  
5700 ACFM @ 12 IN WG

LVP-BLWS-00062  
INLET PIPE EXPANSION  
5200 ACFM

NOTES:

- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
- CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
- THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
- ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
- CARBON ADSORBER ISOLATION VALVES YV-0407 AND YV-0415, SHALL MEET LEAKAGE REQUIREMENTS AS STATED IN THE PDSA.
- ADSORBERS ARE NORMALLY RUN IN LEAD/LAG MODE. BUTTERFLY VALVES ARE SHOWN NO/NC (OR LO) FOR LVP-ADBR-00001A IN LEAD MODE. VALVES WOULD BE REVERSED TO PUT LVP-ADBR-00001B INTO LEAD MODE. AT LEAST ONE CONTINUOUS FLOW PATH SHALL HAVE VALVES IN OPEN POSITION (OR LO FOR LVP-V-01537/-01540) TO PREVENT BLOCKING OFFGAS SYSTEM DURING OPERATION.
- SUPPLIED BY BECTHEL.
- THIS INSTRUMENT PERFORMS AN AIR PERMIT FUNCTION. INDICATION IS DISPLAYED AT PCJ.
- DELETED
- THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTI-SHEET DRAWINGS AND, IN PART, SUPERSEDES 24590-LAW-M6-LVP-00004 REV 2. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-LVP-000046, -00052, -00053, -00055, -00065, AND -00068. ADDED/REVISED/DELETED VALVES, INSTRUMENTS AND LINE NUMBERS.
- INSTRUMENTS AE-0405 AND -0424 MEASURE CO LEVELS.
- INSTRUMENT AT-0439A INDICATES HF LEVELS AND INSTRUMENT AT-0439B INDICATES HCL LEVELS.
- CONSTRUCTION SHALL FIELD ROUTE TUBING FROM ISOLATION VALVE TO SAMPLE CONNECTION. SEE DRAWING 24590-WTP-M6-50-00072 (FUTURE) FOR ROUTING DETAILS.
- REVISION 1: INCORPORATED 24590-LAW-M6N-LVP-00091, -00101, AND -00107. ADDED/REVISED/DELETED VALVES, INSTRUMENTS, EQUIPMENT, IN-LINE COMPONENTS, NOTES AND HOLD. THIS DRAWING ALSO INCLUDED CHANGES TO ALIGN THE BECTHEL P&IDs WITH THE VENDOR P&IDs.
- SAMPLE EXTRACTION NOZZLES EXTEND INTO MAIN PROCESS LINE IN ORDER TO OBTAIN REPRESENTATIVE SAMPLE.
- DELETED
- LVP-TW-0404 AND LVP-TW-0434 ARE USED AS 1/2" SPARE AT N09 AND N11 RESPECTIVELY.
- REVISION 2: INCORPORATED 24590-LAW-M6N-LVP-00136, 24590-WTP-SDDR-J-14-00112, AND 24590-WTP-SDDR-J-15-00068. DELETED TAGS FOR LVP-TW-0404, -0434 (TT-0404/0434, TE-0404/0434, TY/TI-0404/0434, TAHH-0404/0434, TSHH-0404/0434), NOZZLES N56, N57, 3/8" TUBING, NOTE 9 AND REMOVED HOLD NOTE. ADDED NOTE CALLOUT, TAGS FOR LVP-ENCL-00008, -00009, -00010, -00011, LVP-PNL-00012, LVP-TW-0136, -0137 (TAHH-0136B/0137B AND TSHH-0136B/0137B). RELOCATED VENDOR/BECTHEL BOUNDARY FOR LVP-V-01509 AND FOR THE CONNECTION OF LVP-SKID-00001 TO LVP-PW-00090/-00091. THIS DRAWING REVISION SUPERSEDED VENDOR DRAWING, 24590-QL-POA-MWKO-00001-05-00070, REV 00R.
- MANUAL 3-WAY BALL VALVES ARE LOCKABLE.
- SYSTEM BREAK FROM ISA TO LVP IS AT THE ISOLATION VALVE. IN LEAD LINES ARE CM AND SC III. IN MAINT/ CALIBRATION MODE THE LINES ARE Q AND SC III.
- REVISION 3: REMOVED TSHH-0136B/0137B (PREHEATER OUTLET) AND THEIR INTERLOCK. REVISED YV-0407/-0415 CONTROLS. NOTES 5, 11 AND 12. ADDED NEW NOTES 19 AND 20. ISA AND RLD DRAIN LINES TO THE LVP ENCLOSURES AND PANELS. REMOVED YV-0449/0450 ON THE OUTLET OF LVP-SKID-00001 AND ADDED LOCKED-OPEN MANUAL ISOLATION VALVES IN THEIR PLACES. DELETED CO CONTROLS. REMOVED OFF-SHEET CONNECTORS TO STOP MELTER FEED AND DIW ADDITION. CHANGED CO PANEL INDICATORS INTERCONNECTION FROM ELECTRICAL TO INTERNAL SYSTEM LINKS. INCLUDES INFORMATION FROM 24590-LAW-EIE-NS-17-0001 (REV 0).
- FOR SOME VENDOR SUPPLIED ITEMS, SEE ASSOCIATED VENDOR REFERENCES FOR DETAILS.
- VALVE LOCKED OPEN DURING ANALYZER OPERATION. INADVERTANT CLOSURE MAY CAUSE EQUIPMENT DAMAGE.
- REVISION 4: MAJOR REVISION. NO REVISION CLOUDS REQUIRED. INCORPORATED 24590-LAW-M6N-LVP-00160/-00165, 24590-WTP-SDDR-J-18-00014, AND CCN 308167. INCORPORATED 24590-LAW-EIE-MS-14-0007 REV 0 WITH NO IMPACT.

HOLD/OPEN ITEMS:

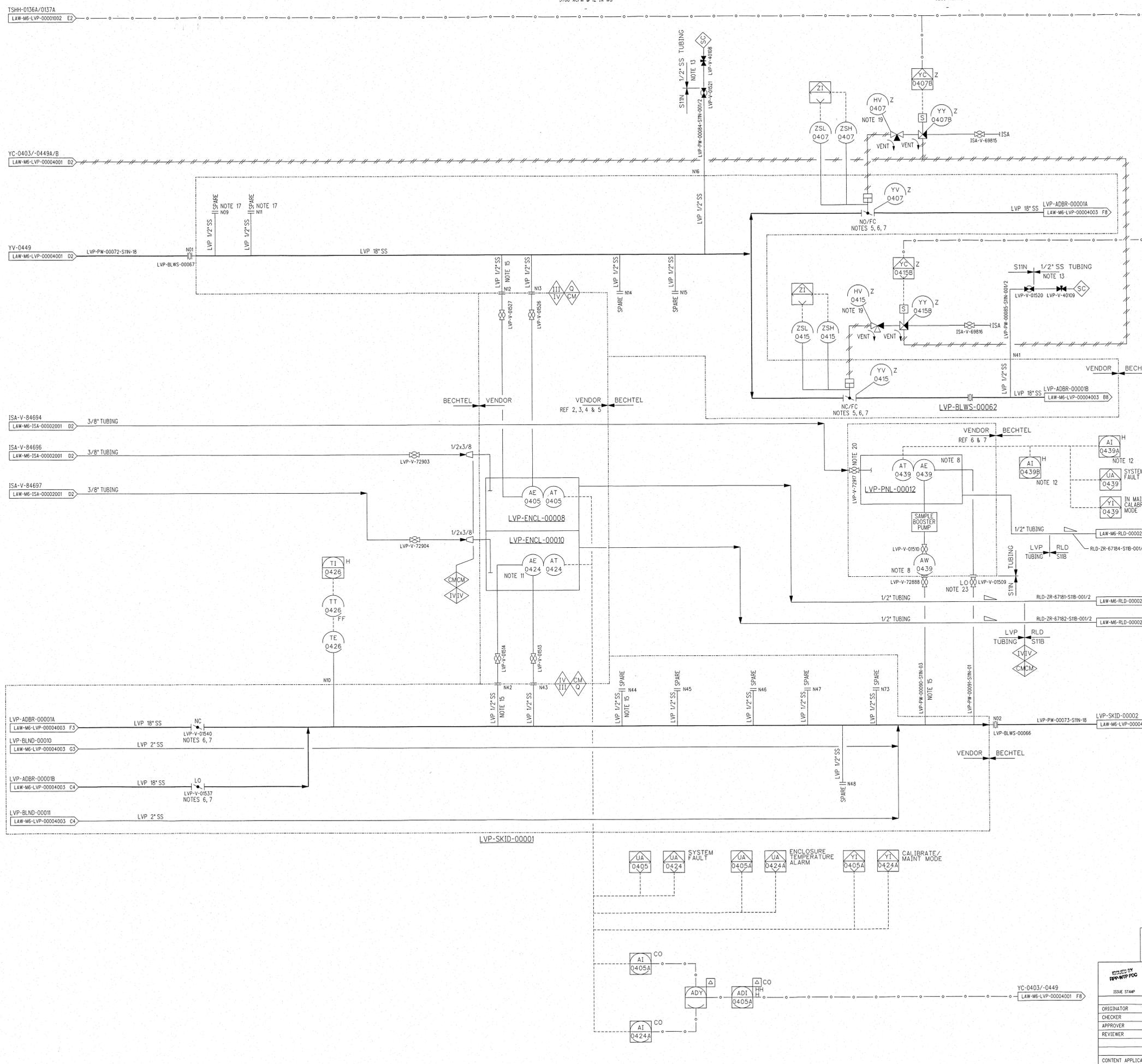
NONE

REFERENCES:

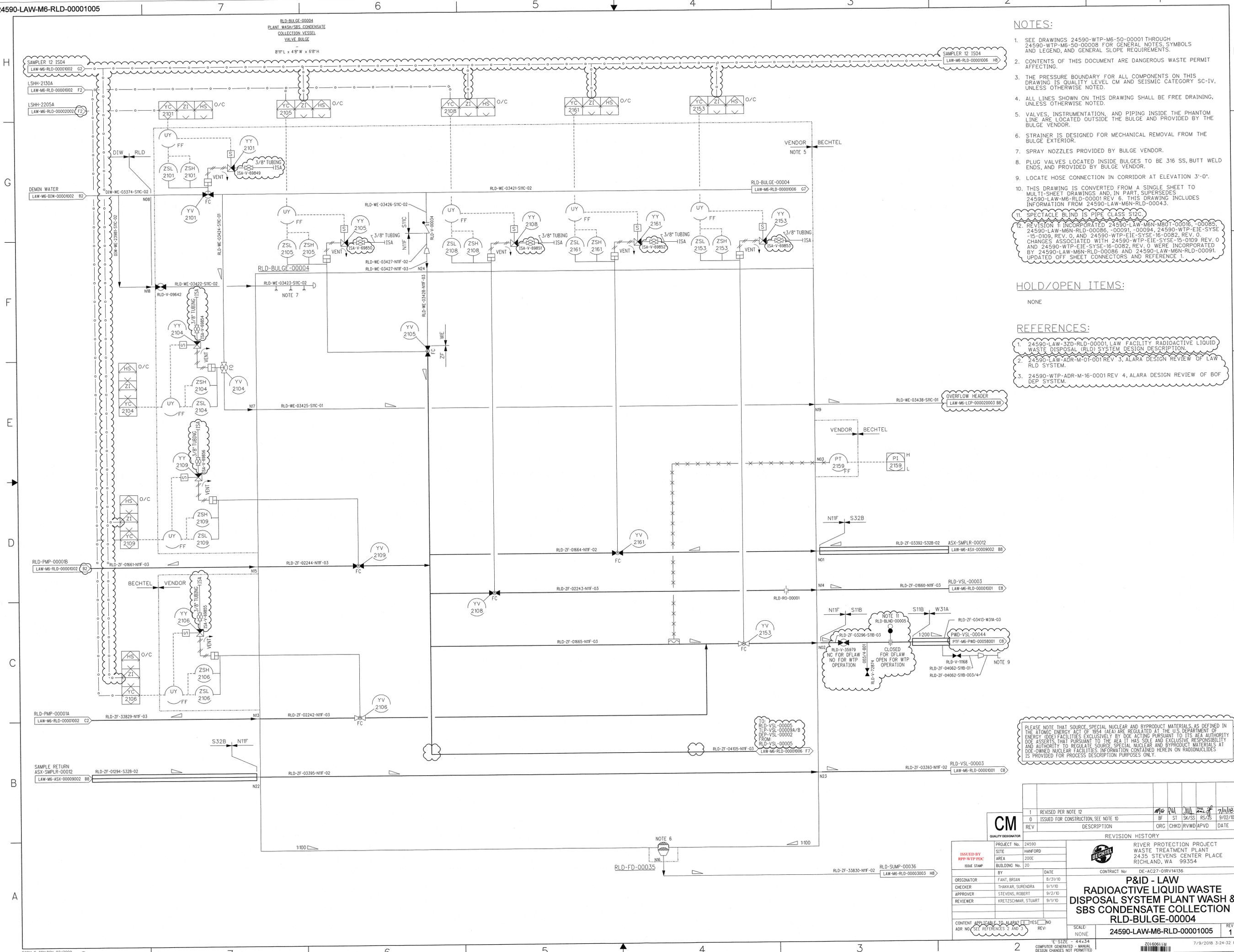
- 24590-LAW-3ZD-LOP-00001, LAW PRIMARY OFFGAS PROCESS (LOP) AND LAW SECONDARY OFFGAS/VESSEL VENT PROCESS (LVP) SYSTEM DESIGN DESCRIPTION.
- 24590-QL-POA-JA03-00008-08-00007 DRAWING - TDLs CO SYSTEM TUBING DETAIL.
- 24590-QL-POA-JA03-00008-08-00008 DRAWING - TDLs CO SYSTEM MASTER TAG LIST.
- 24590-QL-POA-JA03-00008-08-00001 DRAWING - TDLs CO SYSTEM CABINET LAYOUT.
- 24590-QL-POA-JA03-00008-08-00002 DRAWING - TDLs CO SYSTEM CABINET LAYOUT.
- 24590-CD-POA-JA03-00007-07-00019 DRAWING - ANALYZER LVP-AT-0439 LVP-PNL-00012 / SAMPLE SYSTEM TUBING SCHEMATIC DIAGRAM.
- 24590-CD-POA-JA03-00007-07-00022 DRAWING - ANALYZER LVP-AT-0439 LVP-PNL-00012 / ANALYZER ENCLOSURE GENERAL ARRANGEMENT DRAWING (EXTERIOR).

REV	DESCRIPTION	ORG	CHKD	RWVD	APVD	DATE
4	REVISED PER NOTE 24					
3	REVISED PER NOTE 21	JWS	NK	N/A	MJJ/JS/JW	7/27/17
2	REVISED PER NOTE 18	CTT	TJV	NK	PR/DY/JW	08/22/16
1	REVISED PER NOTE 14	DMH	MRO	BA/IK	SK/JW	11/17/14
0	ISSUED FOR CONSTRUCTION, SEE NOTE 10	MO	SJ	SS	TH/DM	11/22/11

QUALITY DESIGNATOR		REVISION HISTORY	
PROJECT No.	24590	PROJECT	RIVER PROTECTION PROJECT
SITE	HANFORD	WASTE TREATMENT PLANT	
AREA	200E	2435 STEVENS CENTER PLACE	
BUILDING No.	20	RICHLAND, WA 99354	
BY		CONTRACT No.	DE-AC27-09RV14136
DATE			
ORIGINATOR	O'NEILL, MICHAEL 11/18/11	<b>P&amp;ID - LAW LAW SECONDARY OFFGAS/VESSEL VENT PROCESS SYSTEM MERCURY MITIGATION EQUIPMENT LVP-SKID-00001</b>	
CHECKER	JAIN, SATISH 11/18/11		
APPROVER	HUGHES, T / WILSON, D 11/22/11		
REVIEWER	SCHMUDE, STEVEN 11/18/11		
CONTENT APPLICABLE TO ALARMS	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	SCALE:	24590-LAW-M6-LVP-00004002
ADR No.	24590-LAW-ADR-M-02-023	REV:	4







NOTES:

- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
- CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
- THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-IV, UNLESS OTHERWISE NOTED.
- ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
- VALVES, INSTRUMENTATION, AND PIPING INSIDE THE PHANTOM LINE ARE LOCATED OUTSIDE THE BULGE AND PROVIDED BY THE BULGE VENDOR.
- STRAINER IS DESIGNED FOR MECHANICAL REMOVAL FROM THE BULGE EXTERIOR.
- SPRAY NOZZLES PROVIDED BY BULGE VENDOR.
- PLUG VALVES LOCATED INSIDE BULGES TO BE 316 SS, BUTT WELD ENDS, AND PROVIDED BY BULGE VENDOR.
- LOCATE HOSE CONNECTION IN CORRIDOR AT ELEVATION 3'-0\"/>

HOLD/OPEN ITEMS:

NONE

REFERENCES:

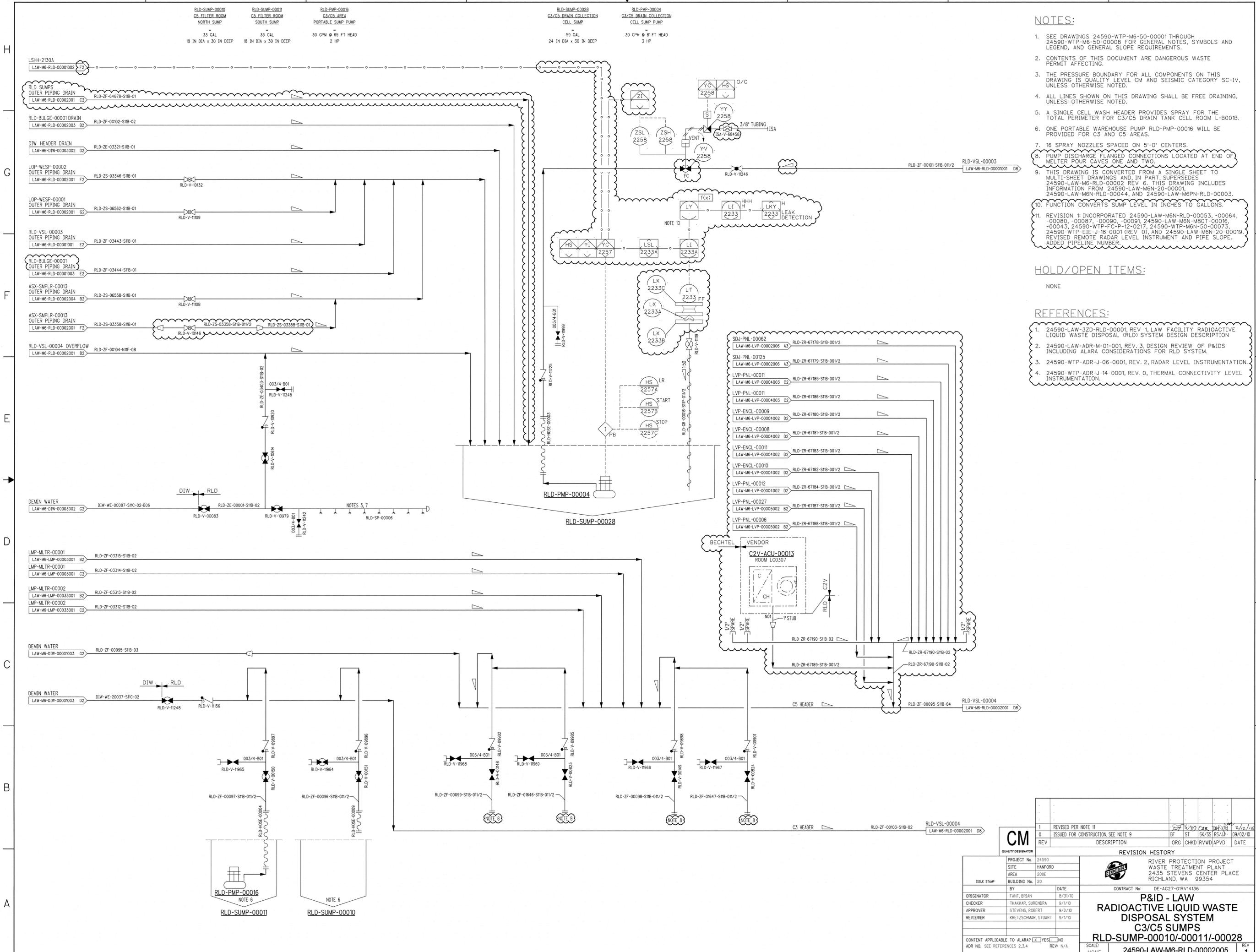
- 24590-LAW-320-RLD-00001 LAW FACILITY RADIOACTIVE LIQUID WASTE DISPOSAL (RLD) SYSTEM DESIGN DESCRIPTION.
- 24590-LAW-ADR-M-01-001 REV 3, ALARA DESIGN REVIEW OF LAW RLD SYSTEM.
- 24590-WTP-ADR-M-16-0001 REV 4, ALARA DESIGN REVIEW OF BOF DEP SYSTEM.

PLEASE NOTE THAT SOURCE, SPECIAL NUCLEAR AND BYPRODUCT MATERIALS, AS DEFINED IN THE ATOMIC ENERGY ACT OF 1954 (AEA) ARE REGULATED AT THE U.S. DEPARTMENT OF ENERGY (DOE) FACILITIES EXCLUSIVELY BY DOE ACTING PURSUANT TO ITS AEA AUTHORITY. DOE ASSERTS THAT PURSUANT TO THE AEA IT HAS SOLE AND EXCLUSIVE RESPONSIBILITY AND AUTHORITY TO REGULATE SOURCE, SPECIAL NUCLEAR AND BYPRODUCT MATERIALS AT DOE-OWNED NUCLEAR FACILITIES. INFORMATION CONTAINED HEREIN ON RADIONUCLIDES IS PROVIDED FOR PROCESS DESCRIPTION PURPOSES ONLY.

REV	DESCRIPTION	ORG	CHKD	RVMD	APVD	DATE
1	REVISED PER NOTE 12	ME	VA	CA	RS	7/10/10
0	ISSUED FOR CONSTRUCTION. SEE NOTE 10	BF	ST	SK/SS	RS/S	9/02/10

ISSUED BY RPP-WTP-PDC		PROJECT No.	24590
ISSUE STAMP		SITE	HANFORD
		AREA	200E
		BUILDING No.	2D
ORIGINATOR	FANT, BRIAN	DATE	8/31/10
CHECKER	THAKKAR, SURENDRA	DATE	9/1/10
APPROVER	STEVENS, ROBERT	DATE	9/27/10
REVIEWER	KREITZSCHMAR, STUART	DATE	9/1/10

RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 2435 STEVENS CENTER PLACE RICHLAND, WA 99354	
CONTRACT No.	DE-AC27-09W14136
<b>P&amp;ID - LAW DISPOSAL SYSTEM PLANT WASH &amp; SBS CONDENSATE COLLECTION RLD-BULGE-00004</b>	
SCALE:	NONE
24590-LAW-M6-RLD-00001005	REV 1

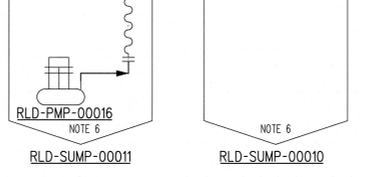
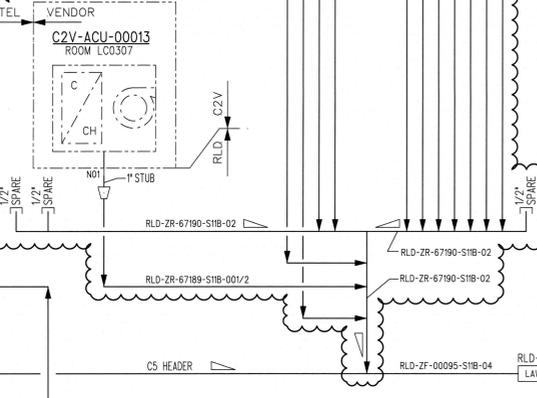


- NOTES:**
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
  - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
  - THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-IV, UNLESS OTHERWISE NOTED.
  - ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
  - A SINGLE CELL WASH HEADER PROVIDES SPRAY FOR THE TOTAL PERIMETER FOR C3/C5 DRAIN TANK CELL ROOM L-8001B.
  - ONE PORTABLE WAREHOUSE PUMP RLD-PMP-00016 WILL BE PROVIDED FOR C3 AND C5 AREAS.
  - 16 SPRAY NOZZLES SPACED ON 5'-0" CENTERS.
  - PUMP DISCHARGE FLANGED CONNECTIONS LOCATED AT END OF MELTER POUR CAVES ONE AND TWO.
  - THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTI-SHEET DRAWINGS AND IN PART SUPERSEDES 24590-LAW-M6-RLD-00002 REV 6. THIS DRAWING INCLUDES INFORMATION FROM 24590-LAW-M6N-20-00001, 24590-LAW-M6N-RLD-00044, AND 24590-LAW-M6PN-RLD-00003.
  - FUNCTION CONVERTS SUMP LEVEL IN INCHES TO GALLONS.
  - REVISION 1 INCORPORATED 24590-LAW-M6N-RLD-00053-00064, -00080, -00087, -00090, -00091, 24590-LAW-M6N-MBT-00016, -00043, 24590-WTP-FC-P-12-0217, 24590-WTP-M6N-50-00073, 24590-WTP-EIE-J-16-0001 (REV 0), AND 24590-LAW-M6N-20-00019. REVISED REMOTE RADAR LEVEL INSTRUMENT AND PIPE SLOPE. ADDED PIPELINE NUMBER.

**HOLD/OPEN ITEMS:**  
NONE

- REFERENCES:**
- 24590-LAW-3ZD-RD-00001, REV 1, LAW FACILITY RADIOACTIVE LIQUID WASTE DISPOSAL (RLD) SYSTEM DESIGN DESCRIPTION
  - 24590-LAW-ADR-M-01-001, REV. 3, DESIGN REVIEW OF P&IDS INCLUDING ALARA CONSIDERATIONS FOR RLD SYSTEM.
  - 24590-WTP-ADR-J-06-0001, REV. 2, RADAR LEVEL INSTRUMENTATION
  - 24590-WTP-ADR-J-14-0001, REV. 0, THERMAL CONNECTIVITY LEVEL INSTRUMENTATION.

SDJ-PNL-00082 LAW-M6-LVP-00002006 A3	RLD-ZR-6778-S1B-001/2
SDJ-PNL-00125 LAW-M6-LVP-00002006 A3	RLD-ZR-6779-S1B-001/2
LVP-PNL-00011 LAW-M6-LVP-00004003 C2	RLD-ZR-6785-S1B-001/2
LVP-PNL-00011 LAW-M6-LVP-00004003 C2	RLD-ZR-6786-S1B-001/2
LVP-ENCL-00009 LAW-M6-LVP-00004002 D2	RLD-ZR-6780-S1B-001/2
LVP-ENCL-00008 LAW-M6-LVP-00004002 D2	RLD-ZR-6781-S1B-001/2
LVP-ENCL-00011 LAW-M6-LVP-00004002 D2	RLD-ZR-6783-S1B-001/2
LVP-ENCL-00010 LAW-M6-LVP-00004002 D2	RLD-ZR-6782-S1B-001/2
LVP-PNL-00012 LAW-M6-LVP-00004002 D2	RLD-ZR-6784-S1B-001/2
LVP-PNL-00027 LAW-M6-LVP-00005002 B2	RLD-ZR-6787-S1B-001/2
LVP-PNL-00006 LAW-M6-LVP-00005002 B2	RLD-ZR-6788-S1B-001/2



CM QUALITY DESIGNATOR	1	REVISED PER NOTE 11	BF	ST	SK/SS	RS/D	09/02/10
	0	ISSUED FOR CONSTRUCTION, SEE NOTE 9					
PROJECT No. 24590		RIVER PROTECTION PROJECT					
SITE HANFORD		WASTE TREATMENT PLANT					
AREA 200E		2435 STEVENS CENTER PLACE					
BUILDING No. 2D		RICHLAND, WA 99354					
ISSUE STAMP		CONTRACT No. DE-AC27-01RV14136					
ORIGINATOR	FANT, BRIAN	DATE	8/31/10				
CHECKER	THAKKAR, SURENDRA	DATE	9/1/10				
APPROVER	STEVENS, ROBERT	DATE	9/2/10				
REVIEWER	KRETZSCHMAR, STUART	DATE	9/1/10				
CONTENT APPLICABLE TO ALARA? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		SCALE: NONE		24590-LAW-M6-RLD-00002005		REV 1	
ADR NO. SEE REFERENCES 2,3,4		REV: N/A		169999113		1/22/2018 4:27:25 PM	