



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Richland Field Office

3100 Port of Benton Blvd., Richland, WA 99354 • 509-372-7950

June 18, 2025

25-NWP-095

Anders J. Wiborg, Director
Tank Farms Programs Division
Hanford Field Office
United States Department of Energy
PO Box 550
Richland, WA 99352

Re: Transmittal of the Department of Ecology's Response to the U.S. Department of Energy Letter
25-TWO-0052

References: See page 2

Dear Anders J. Wiborg:

The Department of Ecology (Ecology) is transmitting comments for the T-Tank Farm Interim Surface Barrier Design and *Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program*, RPP-RPT-61684, Rev. 4A and the *Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program*, RPP-RPT-61684, Rev. 5A (Reference 1). Ecology acknowledges that we required an extension to complete our review. Ecology transmitted a letter to ensure the United States Department of Energy was informed appropriately (Reference 2).

Enclosed is the Review Comment Record (RCR) with Ecology's comments.

We appreciate your review of these comments and look forward to resolving them at your earliest convenience.

If you have any questions, please contact Cathrene Glick, Lead Hydrogeologist, at (509) 209-7444 or cathrene.glick@ecy.wa.gov or Luissa Johnston, SST Coordinator, at (509) 975-1285 or luissa.johnston@ecy.wa.gov.

Sincerely,

Digitally signed by Rochette,
Beth (ECY)
Date: 2025.06.17 17:19:50
-07'00'

Elizabeth A. Rochette
Cleanup Section Manager
Nuclear Waste Program

lj/bp
Enclosure

cc: See page 2

References:

1. Letter 25-TWO-0052, dated April 10, 2025, "The U.S. Department of Energy, Hanford Field Office Response to Letter 25-NWP-028 from the Washington State Department of Ecology and Transmittal of RPP-RPT-61684, 'Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program,' Rev. 5A"
2. Letter 25-NWP-071, dated May 8, 2025, "Extension of the Department of Ecology's Response to the United States Department of Energy Letter 25-TWO-0052"

cc electronic w/enc:

Laura Buelow, EPA	Alyssa Buck, Wanapum
Michelle Mullin, EPA	Laurene Contreras, YN
Ricky Bang, USDOE	ERWM Staff, YN
Mandy Jones, BNI	Susan Coleman, HAB
Kevin McCallum, BNI	David Reeploeg, Hanford Communities
Scott Anderson, H2C	Max Woods, ODOE
Jeremy Belsher, H2C	Suzanne Dahl, Ecology
Deanna Klages, H2C	Jackson Davis, Ecology
Mark Knight, H2C	Cathrene Glick, Ecology
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Gene Roosendaal, H2C	Jonathan Rogers, Ecology
Rose Russell, H2C	Stephanie Schleif, Ecology
Tom Sackett, H2C	John Temple, Ecology
Karthik Subramanian, H2C	Environmental Portal
Frank Sullivan, H2C	Hanford Administrative Record
Jason Wunneburger, H2C	Hanford Facility Operating Record
Stephanie Brasher, HMIS	BNI Correspondence Control
Jon Perry, HMIS	H2C Correspondence Control
Michael Turner, HMIS	HAB Correspondence Control
Mason Murphy, CTUIR	HMIS Correspondence Control
Anthony Smith, NPT	USDOE Correspondence Control

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Document Title(s)/Number(s): *T Tank Farm Interim Surface Barrier Design Package and RPP-RPT-61684 Rev. 4A "Maintenance and Performance Monitoring Plan for the Interim Surface Barrier Program"*

Document Manager		Telephone Number	Project Manager		Telephone Number	Facility Site ID	Cleanup Site ID	
Cathrene Glick			Luissa Johnston					
Item No.	Pg. # Sec. # Para./Sent.	Comment or Question	Modification Needed	Basis/Justification	Permittee Response	Ecology Response	Open/Close	Reviewer Initials
1.	24-TWO-0167 Attachment_1 Plan Sheet 1 and Sheet 29	Callout for New Vehicle Crossing Ramp references "Detail 27" without identifying which sheet Detail 27 is depicted.	Include reference sheet for detail.	Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.	Acknowledged. No change to design documents necessary, since there is one Detail 27 and comprehension of the plan set is not compromised.	Accept	Close	CG
2.	24-TWO-0167 Attachment_1 Plan Sheet 1 and Sheet 7	Callout for Existing Rip Rap Abandonment references "Section S" without identifying which sheet Section S is depicted.	Include reference sheet for section.	Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.	Acknowledged. No change to design documents is necessary, since there is one Section S and comprehension of the plan set is not compromised.	Accept	Close	CG
3.	24-TWO-0167 Attachment_1 Plan Sheet 1 and Sheet 7	Callout for Existing Rip Rap Abandonment to be covered with soil and references "Section S" however there are no notes or explanation as to how the new soil is to be placed and compacted around/over the rip rap and there are no specifications in the Earthwork Specifications to address how new fill soil is to be "keyed into" the existing rip rap slope for compaction and stability.	Include clear details and earthwork specifications to address how new fill soil is to be "keyed into" the existing rip rap slope compaction and stability.	Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.	Not accepted. Specification RPP-SPEC-65909 Section 3.2 adequately address backfill placement.	Accept	Close	CG
4.	24-TWO-0167 Attachment_1 Plan Sheet 1 and Sheet 7	Callout for East Side Surface Water Control Berm references "Section S" without identifying which sheet Section S is depicted and there are no notes or explanation as to how the new soil is to be placed and compacted around/over the rip rap and there are no specifications in the Earthwork Specifications to address how new fill soil is to be "keyed into" the existing rip rap slope for compaction and stability.	Include clear details and earthwork specifications to address how new fill soil is to be "keyed into" the existing earth berm soils for compaction and stability.	Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.	Not accepted. Specification RPP-SPEC-65909 Section 3.2 adequately address backfill placement.	Accept	Close	CG
5.	24-TWO-0167 Attachment_1 Plan Sheet 6	Plan Sheet for Evapotranspiration Basin identifies four (4) existing groundwater monitoring wells within the footprint of the basin without clear indication/evidence that these wells have been properly decommissioned/destroyed in accordance with WAC 173-160-381 or 173-160-990 or how contractor is to assure that the wells are properly decommissioned/destroyed in	Address and include details and specifications on how contractor is to assure that the existing groundwater monitoring wells within the footprint of the basin are properly decommissioned/ destroyed in accordance with WAC 173-160-381 or 173-160-990 following earthwork excavation and grading work.	Construction documents must clearly identify entity responsible to assure well decommissioning in accordance with WAC and the means/methods to achieve this verification or means/methods to accomplish decommissioning of wells.	Not Accept. The subject well and boreholes have been decommissioned. According to the decommissioning well reports the casing for well 299-W10-175 was filled with bentonite crumbles to 41-feet bgs, and the other wells were boreholes that were decommissioned by being filled with bentonite crumbles when back-pulling the tubing. WELL_NAME WELL_ID STATUS	Not accepted. Clarification of the means and method to build the retention basin over the monitoring wells and how they intend to continue to meet	Open	CG

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		accordance with WAC 173-160-381 or 173-160-990 following earthwork excavation.			299-W10-175 C5651 DECOMMISSIONED-V C5689 C5689 DECOMMISSIONED-V C5690 C5690 DECOMMISSIONED-V C5691 C5691 DECOMMISSIONED-V C5692 C5692 DECOMMISSIONED-V C5693 C5693 DECOMMISSIONED-V C5694 C5694 DECOMMISSIONED-V	WAC 173-160-460 for wells that have been decommissioned and will be buried under the retention basin.		
6.	24-TWO-0167 Attachment_1 Plan Sheet 6	Plan Sheet for Evapotranspiration Basin identifies three (3) existing groundwater monitoring wells (299-W10-10, 299-W10-15, and 299-W10-23) adjacent to the perimeter of the basin excavation without clear indication as to what is to happen to these wells or what protection is to be provided for these wells.	Include note to address how these three (3) groundwater monitoring wells are to be protected in-place during earthwork activities.	Construction documents must clearly identify requirements and/or means/methods to protect groundwater monitoring wells which could be impacted during construction.	Not accepted. Well 299-W10-10 was decommissioned, and the other two wells are features that will be protected per Sections 311000 and 312000 of RPP-SPEC-65909. WELL_NAME WELL_ID STATUS 299-W10-10 A4887 DECOMMISSIONED-V 299-W10-15 A4892 CANDIDATE FOR DECOMMISSIONING 299-W10-23 B8545 IN-USE	Not accepted. Clarification of the means and method to build the retention basin over the monitoring wells and how they intend to continue to meet WAC 173-160-460 for wells that have been decommissioned and will be buried under the retention basin.	Open	CG
7.	24-TWO-0167 Attachment_1 Plan Sheet 6	Plan Sheet for Evapotranspiration Basin identifies three (3) existing groundwater monitoring wells (299-W10-9, 299-W10-12, and 299-W10-11) within the general area of earthwork for the evapotranspiration basin and earthwork/paving for the ISB without clear indication as to what is to happen to these wells or what protection is to be provided for these wells.	Include note to address how these three (3) groundwater monitoring wells are to be protected in-place during earthwork and paving activities.	Construction documents must clearly identify requirements and/or means/methods to protect groundwater monitoring wells which could be impacted during construction.	Not accepted. All three wells have been decommissioned. WELL_NAME WELL_ID STATUS 299-W10-9 A4900 DECOMMISSIONED-V 299-W10-11 A4888 DECOMMISSIONED-V 299-W10-12 A4889 DECOMMISSIONED-V	Not accepted. Clarification of the means and method to build the retention basin over the monitoring wells and how they intend to continue to meet WAC 173-160-460 for wells that have been decommissioned and will be buried under the retention basin.	Open	CG
8.	24-TWO-0167 Attachment_1 Plan Sheet 6	Plan Sheet for Evapotranspiration Basin identifies "hatched area for unknown buried anomalies" without clarification if such anomaly/debris will be encountered and/or exposed during excavation for the basin or how this is anomaly/debris is to be addressed if exposed/encountered during basin excavation.	Provide clarification if the anomaly/debris is located beneath the proposed earthwork grades or if such anomaly/debris will be unexpectedly encountered during excavation.	Construction documents must clearly identify any impediments to accomplishing the intended construction including clearly identifying the plans/details to address the consequences of encountering buried anomalies/debris and	Not accepted. Note 6 precludes excavation in this area. The hatched area simply highlights the area of concern. No change to design required.	Accept	Close	CG

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		Note 6 states “Do Not Excavate In This Area...” without clarification if the anomaly/debris is located beneath the proposed earthwork grades or if such anomaly/debris will be unexpectedly encountered during excavation.		provide direction to contractor to mitigate or implement changes to the design because of encountering these anomalies/debris.				
9.	24-TWO-0167 Attachment_1 Plan Sheet 7	Sections “K” and “Q” identify fill soil to be placed at top of cut slope to create Evapotranspiration Basin however there are no specifications in the Earthwork Specifications to address how new fill soil (often referred to as a “sliver fill”) is to be “benched/keyed into” the existing ground surface and cut slope for compaction and slope stability.	Include clear details and earthwork specifications to address how new “sliver fill” soil is to be “benched/keyed into” the existing ground surface and cut slope for compaction and slope stability.	Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.	Not accepted. Specification RPP-SPEC-65909 allows the vendor to submit their Backfill, Compaction, and Inspection Procedure. The project will review and approve this document prior to commencement of installation.	Accept	Close	CG
10.	24-TWO-0167 Attachment_1 Plan Sheet 7	Detail “M” identifies locking trench detail and identifies backfill of the trench following embedment of the 40-mil liner material however there are no specifications in the Earthwork Specifications to address how trench backfill soil is to be placed and compacted.	Include clear details and earthwork specifications to address how trench backfill soil is to be placed and compacted.	Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.	Not accepted. Anchor trench backfill is addressed in Section 312300, Subsection 3.2.E of RPP-SPEC-65909.	Accept	Close	CG
11.	24-TWO-0167 Attachment_1 Plan Sheet 6 and Sheet 7	Section “P” identified on Sheet 6 to be depicted on Sheet 7; however Detail on Sheet 7 is identified as “PA”.	Correct Section/Detail Identification.	Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.	Not Accepted. Detail P is identified on Sheet 7 (top right of sheet), and Detail PA is identified on Detail P of Sheet 7 and then Detail PA is shown on Sheet 7. Pictures from Sheet 7:	Accept	Close	CG

<p>12.</p>	<p>24-TWO-0167 Attachment_1 Plan Sheet 7</p>	<p>Section/Detail “PA” indicates that there is to be an “extrusion weld” for the Enviroliner overlap at the Pipe Boot; however, there are no specifications or details to clarify this weld to assure there is no leakage at boot/liner connection.</p>	<p>Clarify detail and add specifications for extrusion weld.</p>	<p>Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.</p>	<p>Not accepted. Seam qualification and test are addressed in Section 334713.13, Subsection 3.3 and 3.4 of RPP-SPEC-65909.</p>	<p>Accept</p>	<p>Close</p>	<p>CG</p>
<p>13.</p>	<p>24-TWO-0167 Attachment_1 Plan Sheet 10</p>	<p>Plan Sheet depicts “oval-shaped” lay back for Tanks T-201 thru T-204 rather than “rectangular shaped” lay back with 3:1 sloping access ramp as depicted in TOC-PRES-24-6406-VA-00 presented to Ecology on December 11, 2004. Provide clarification as to how the “rectangular shaped” lay back area for Tanks T-201 thru T-204 changed from the December 11th presentation (plans were submitted to Ecology on the next day) and more specifically how contractor is to grade an oval, non-dimensioned aspect of the ISB.</p>	<p>Clarify design.</p>	<p>Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.</p>	<p>Not accepted. The rectangular shaped lay back area depicted on slide 35 of TOC-PRES-24-6406-VA-00 was generated to show in 3-D, an approximate representation of the pits for Tanks T-201 through T-204. The oval shaped representations shown on sheets 23-26 provide an approximate pit lay back perimeter, with Detail 39 on sheet 30 providing the balance of direction for pit construction. As the four pits will all vary to some degree, and as gravel is not amenable to having sharp edges once graded, the construction notes for Detail 39 are intended to provide the construction contractor with sufficient guidance to meet the intent of the 3:1 and 1:1 slopes without detailing specific dimensions. Note 2 clarifies that the individual tank plan views on</p>	<p>Accept</p>	<p>Close</p>	<p>CG</p>

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					<p>sheets 23-26 provide “recommended” shapes of pit lay back areas. Note 3 further acknowledges the need for some latitude during installation by stating “The intent is that personnel access be on the low side of the pit, therefore the 3:1 slope location may be adjusted as needed.” It is well within the skill of construction subcontractors to use scale drawings to plan and place construction staking, including make field adjustments to catch the edges of excavation slopes, and, for skilled equipment operators to perform earthwork to that construction staking.</p>			
14.	24-TWO-0167 Attachment 1 Plan Sheet 13	<p>Plan Sheet identifies Nest Station Boreholes/Nest Data Station to be removed by ECN-718181 which incorporates “RPP-RPT-61684, “Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program,” Rev. 4A” however, the Rev 4 version of RPP-RPT-61684 was not submitted to Ecology and was not accepted/approved by Ecology and Rev 4A version of RPP-RPT-61684 has not been accepted/approved by Ecology at this time and revisions to the document may be revised during review/approval process.</p>	<p>Remove reference to ECN-718181 authorizing or approving removal of any ISB monitoring devices.</p>	<p>RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.</p>	<p>Not accepted. The ECN is necessary to document and gain approval for modification of the facility by removal of the above grade monitoring equipment in order to remove the polyurea barrier and install the new MatCon barrier. The boreholes will not be abandoned, removed, or decommissioned at this time. The underground equipment will remain in place and is not associated with the ECN. The boreholes are a feature that will be protected per Sections 311000, 312000, and 321216 of RPP-SPEC-65908. The above grade monitoring equipment will not be reinstalled nor connected to the underground equipment. This is consistent with the performance monitoring approach adopted for the two most recent approved ISB designs for TX Tank Farm and U Tank Farm, where no subsurface monitoring equipment was included. Therefore, no surface monitoring equipment will be reinstalled at the replacement ISB for the T Tank Farm, and subsurface monitoring at T Tank Farm will not be resumed. Regarding Revision 4 of RPP-RPT-61684, Ecology is correct that Revision 4 was not submitted to Ecology and Revision 3B is the current approved revision of the document. Revision 4 of RPP-RPT-61684 was generated, reviewed internally, and “issued” within the WRPS/H2C document management software system; however, the revision was not submitted to Ecology. Unfortunately, it is not possible to revise and reissue a document revision within the document management software system. We apologize for any confusion/frustration this might have caused. Will update next revision available of the plan to include in the change table a statement to address the different revisions and which have been submitted/approved/reviewed by ECY.</p>	<p>Not accepted. Clarification on future data monitoring per the Maintenance and Performance Monitoring Plan</p>	<p>Open</p>	<p>CG</p>

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15.	24-TWO-0167 Attachment_1 Plan Sheet 13	<p>Plan Sheet identifies Nest Station Boreholes/Nest Data Station to be removed by ECN-718181 “RPP-RPT-61684, “Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program,” Rev. 4A” however, the Rev 4A version of RPP-RPT-61684 has not been accepted/approved by Ecology at this time and revisions to the document may be revised during review/approval process.</p> <p>There are no specifications for how the boreholes are to be abandoned in accordance with WAC 173-160-381 or 173-160-990 or how contractor is to assure that the wells are properly decommissioned/destroyed in accordance with WAC 173-160-381 or 173-160-990 following earthwork excavation.</p>	<p>Clarify if removal of the Nest Station Boreholes/Nest Data Station is part of the contractor’s responsibility or if this is action to be performed “by others” should Rev 4A version of RPP-RPT-61684 be approved to agree to such equipment removal/borehole abandonment.</p> <p>Address and include details and specifications on how contractor is to assure that the boreholes are properly decommissioned/destroyed in accordance with WAC 173-160-381 or 173-160-990.</p>	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Not accepted. See the response for comment #14.	Not accepted. Clarification on future data monitoring per the Maintenance and Performance Monitoring Plan	Open	CG
16.	24-TWO-0167 Attachment_1 Plan Sheet 16	<p>Plan Sheet identifies Nest Station Boreholes/Nest Data Station to be removed by ECN-718181 which incorporates “RPP-RPT-61684, “Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program,” Rev. 4A” however, the Rev 4 version of RPP-RPT-61684 was not submitted to Ecology and was not accepted/approved by Ecology and Rev 4A version of RPP-RPT-61684 has not been accepted/approved by Ecology at this time and revisions to the document may be revised during review/approval process.</p> <p>RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.</p>	Remove reference to ECN-718181 authorizing or approving removal of any ISB monitoring devices.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Not accepted. See the response for comment #14.	Not accepted. Clarification on future data monitoring per the Maintenance and Performance Monitoring Plan	Open	CG
17.	24-TWO-0167 Attachment_1 Plan Sheet 16	<p>Plan Sheet identifies 24” CMP w/Lid for Nest Station Boreholes and Nest Data Station to be removed by ECN-718181 “RPP-RPT-61684, “Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program,” Rev. 4A” however, the Rev 4A version of RPP-RPT-61684 has not been accepted/approved by Ecology at this time and revisions to the document may be revised during review/approval process.</p> <p>There are no specifications for how the boreholes are to be abandoned in accordance</p>	<p>Clarify if removal of the Nest Station Boreholes/Nest Data Station is part of the contractor’s responsibility or if this is action to be performed “by others” should Rev 4A version of RPP-RPT-61684 be approved to agree to such equipment removal/borehole abandonment.</p> <p>Address and include details and specifications on how contractor is to assure that the boreholes are properly decommissioned/destroyed in accordance with WAC 173-160-381 or 173-160-990.</p>	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Not accepted. See the response for comment #14.	Not accepted. Clarification on future data monitoring per the Maintenance and Performance Monitoring Plan	Open	CG

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		with WAC 173-160-381 or 173-160-990 or how contractor is to assure that the wells are properly decommissioned/destroyed in accordance with WAC 173-160-381 or 173-160-990 following earthwork excavation.						
18.	24-TWO-0167 Attachment_1 Plan Sheet 19	Plan Sheet identifies Nest Station Boreholes/Nest Data Station to be removed by ECN-718181 which incorporates “RPP-RPT-61684, “Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program,” Rev. 4A” however, the Rev 4 version of RPP-RPT-61684 was not submitted to Ecology and was not accepted/approved by Ecology and Rev 4A version of RPP-RPT-61684 has not been accepted/approved by Ecology at this time and revisions to the document may be revised during review/approval process.	Remove reference to ECN-718181 authorizing or approving removal of any ISB monitoring devices.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Not accepted. See the response for comment #14.	Not accepted. Clarification on future data monitoring per the Maintenance and Performance Monitoring Plan	Open	CG
19.	24-TWO-0167 Attachment_1 Plan Sheet 19	Plan Sheet identifies 24” CMP w/Lid for Nest Station Boreholes and Nest Data Station to be removed by ECN-718181 “RPP-RPT-61684, “Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program,” Rev. 4A” however, the Rev 4A version of RPP-RPT-61684 has not been accepted/approved by Ecology at this time and revisions to the document may be revised during review/approval process. There are no specifications for how the boreholes are to be abandoned in accordance with WAC 173-160-381 or 173-160-990 or how contractor is to assure that the wells are properly decommissioned/destroyed in accordance with WAC 173-160-381 or 173-160-990 following earthwork excavation.	Clarify if removal of the Nest Station Boreholes/Nest Data Station is part of the contractor’s responsibility or if this is action to be performed “by others” should Rev 4A version of RPP-RPT-61684 be approved to agree to such equipment removal/borehole abandonment. Address and include details and specifications on how contractor is to assure that the boreholes are properly decommissioned/destroyed in accordance with WAC 173-160-381 or 173-160-990.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Not accepted. See the response for comment #14.	Not accepted. Clarification on future data monitoring per the Maintenance and Performance Monitoring Plan	Open	CG
20.	24-TWO-0167 Attachment_1 Plan Sheet 23	Plan Sheet depicts “oval-shaped” lay back for Tank T-201 rather than “rectangular shaped” lay back with 3:1 sloping access ramp as depicted in TOC-PRES-24-6406-VA-00 presented to Ecology on December 11, 2004. There are no specifics on how or where contractor is to grade a non-dimensioned oval aspect of the ISB. Also, the note on plan sheet indicates “Approx. Pit Lay Back Perimeter Per Detail 39, 3:1 Slope for Personnel Access (This Side), all other sides 1:1 Slope”. Provide clarification for the note that indicates “3:1	Clarify design and provide dimensions.	Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.	Not accepted. See the response for comment #13.	Accept	Close	CG

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		Slope for Personnel Access (This Side)” when an oval shape does not necessarily have “sides” and what the specific width of the 3:1 slope area is since there are no specific dimensions or details for transition from 1:1 to 3:1 slope condition.						
21.	24-TWO-0167 Attachment_1 Plan Sheet 24	<p>Plan Sheet depicts “oval-shaped” lay back for Tank T-202 rather than “rectangular shaped” lay back with 3:1 sloping access ramp as depicted in TOC-PRES-24-6406-VA-00 presented to Ecology on December 11, 2004. There are no specifics on how or where contractor is to grade a non-dimensioned oval aspect of the ISB.</p> <p>Also, the note on plan sheet indicates “Approx. Pit Lay Back Perimeter Per Detail 39, 3:1 Slope for Personnel Access (This Side), all other sides 1:1 Slope”. Provide clarification for the note that indicates “3:1 Slope for Personnel Access (This Side)” when an oval shape does not necessarily have “sides” and what the specific width of the 3:1 slope area is since there are no specific dimensions or details for transition from 1:1 to 3:1 slope condition.</p>	Clarify design and provide dimensions.	Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.	Not accepted. See the response for comment #13.	Accept	Close	CG
22.	24-TWO-0167 Attachment_1 Plan Sheet 25	<p>Plan Sheet depicts “oval-shaped” lay back for Tank T-203 rather than “rectangular shaped” lay back with 3:1 sloping access ramp as depicted in TOC-PRES-24-6406-VA-00 presented to Ecology on December 11, 2004. There are no specifics on how or where contractor is to grade a non-dimensioned oval aspect of the ISB.</p> <p>Also, the note on plan sheet indicates “Approx. Pit Lay Back Perimeter Per Detail 39, 3:1 Slope for Personnel Access (This Side), all other sides 1:1 Slope”. Provide clarification for the note that indicates “3:1 Slope for Personnel Access (This Side)” when an oval shape does not necessarily have “sides” and what the specific width of the 3:1 slope area is since there are no specific dimensions or details for transition from 1:1 to 3:1 slope condition.</p>	Clarify design and provide dimensions.	Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.	Not accepted. See the response for comment #13.	Accept	Close	CG
23.	24-TWO-0167 Attachment_1 Plan Sheet 26	Plan Sheet depicts “oval-shaped” lay back for Tank T-204 rather than “rectangular shaped” lay back with 3:1 sloping access ramp as depicted in TOC-PRES-24-6406-VA-00 presented to Ecology on December 11, 2004.	Clarify design and provide dimensions.	Construction documents are to include complete and precise construction requirements and clear detail references for	Not accepted. See the response for comment #13.	Accept	Close	CG

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		<p>There are no specifics on how or where contractor is to grade a non-dimensioned oval aspect of the ISB.</p> <p>Also, the note on plan sheet indicates “Approx. Pit Lay Back Perimeter Per Detail 39, 3:1 Slope for Personnel Access (This Side), all other sides 1:1 Slope”. Provide clarification for the note that indicates “3:1 Slope for Personnel Access (This Side)” when an oval shape does not necessarily have “sides” and what the specific width of the 3:1 slope area is since there are no specific dimensions or details for transition from 1:1 to 3:1 slope condition.</p>		contractor to accomplish the work.				
24.	24-TWO-0167 Attachment_1 Plan Sheet 30	<p>Section/Detail #37and #38 depict an unspecified vertical edge of MatCon Asphalt supporting a MatCon Curb without any lateral support/confinement to sustain the vertical edge of asphalt. Asphalt does not typically hold vertical edges over any period of time, particularly with a vertical load (curb) place immediately along edge. Provide engineering analysis supporting conclusion that a vertical edge of MatCon Asphalt with an overlying vertical load can be sustainable over time of ISB design life (25 years).</p>	Clarify design and provide dimensions.	Construction documents are to include complete and precise construction requirements and clear detail references for contractor to accomplish the work.	Not accepted. See Section 321216 subsection 3.6 of RPP-SPEC-65908.	Accept	Close	CG
25.	24-TWO-0167 Attachment_2 RPP-CALC-65907, Rev.0 Attachment C2	<p>Attachment C2 provides data from prior MatCon Material projects Ferndale, WA (1989) and Dover AFB, Dover, DE (Constructed 1999) without specific application/ construction differences between those sites and the UST sites at Hanford – specific compactive effort to achieve permeability criteria and equipment used. Attachment C2 also provides void content data for prior ISBs at Hanford but does not provide/include any specific information/criteria for the T-Farm ISB design and specified void content for construction purposes.</p>	Clarify design and provide design criteria for T-Farm ISB.	Construction documents need to provide clear methods to achieve the compactive effort necessary to meet and/or exceed the performance achieved at other MatCon application sites. Current documents do not provide contractor necessary information to achieve and verify the compaction necessary to achieve the required very low permeable conditions.	Not accepted. Specification RPP-SPEC-65908 states that the barrier vendor may utilize the methods described in RPP-SPEC-60023 (Previously approved WRPS Construction Specification for A and AX-Farm Waste Retrieval Projects), Division 31, Attachment 2 or 3 or may submit for approval their Backfill, Compaction, and Inspection Procedure. The specification Part 1, Section 1.1, Items 13-16 further requires submittal of information regarding voids for approval.	Not accepted. Clarify why you are not requiring compacting of the MatCon Asphalt per the manufacturer specification of 97% maximum dry density to achieve the permeability criteria? It is a manufacture criteria, not a construction option.	Open for discussion	CG
26.	24-TWO-0167 Attachment_2 RPP-CALC-65907, Rev.0 Attachment C	<p>Appendix C contains the analysis of the increase in soil cover height associated with construction of the barrier. But there is no equipment specific bearing pressure</p>	Clarify why bearing pressure calculations and supporting data similar to those in appendices of HNF-17862 are not needed for safety and to achieve adequate compaction with heavy equipment?	Request for clarification	Not accepted. Dome loading calculations were provided in RPP-CALC-65907. Work restrictions associated with heavy equipment are addressed in RPP-SPEC-65908 Section 1.2 and will be further detailed in Work Order instructions.	Accept	Close	JD

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		calculations to determine if heavy equipment can be safely used.						
27.	24-TWO-0167 Attachment_3 RPP-SPEC-65908, Rev. 0	There are no specifications for how the boreholes and/or monitoring wells are to be abandoned in accordance with WAC 173-160-381 or 173-160-990 or how contractor is to assure that the wells are properly decommissioned/destroyed in accordance with WAC 173-160-381 or 173-160-990 following earthwork excavation.	Address and include specifications on how contractor is to assure that the boreholes and monitoring wells are properly decommissioned/destroyed in accordance with WAC 173-160-381 or 173-160-990.	Construction documents must clearly identify requirements and/or means/methods to protect groundwater monitoring wells which could be impacted during construction.	Not accepted. See the response for comments #5, 6, and 7.	Not accepted. Clarification of the means and method to build the retention basin over the monitoring wells and how they intend to continue to meet WAC 173-160-460 for wells that have been decommissioned and will be buried under the retention basin.	Open	CG
28.	24-TWO-0167 Attachment_3 RPP-SPEC-65908, Rev. 0	SECTION 312000 - EXCAVATION AND FILL does not include any information on compaction requirements (90% or 95% of maximum dry density) for fill materials or trench backfill soils.	Include specifications.	Construction documents are to include complete and precise construction requirements and verification process to achieve the required compaction.	Not Accepted. RPP-SPEC-65908 Section 1.3 requires subcontractor to submit their quality control plan for approval at commencement of the project. This plan shall address compaction field density measurements.	Not accepted. Clarify why you are not requiring compacting of the MatCon Asphalt per the manufacturer specification of 97% maximum dry density to achieve the permeability criteria? It is a manufacture criteria, not a construction option.	Open for discussion	CG
29.	24-TWO-0167 Attachment_3 RPP-SPEC-65908, Rev. 0	SECTION 312000 - EXCAVATION AND FILL does not include requirement for frequency of soil compaction testing (eg. one test per X sq ft or per X sq. yd) of fill placement.	Include specifications.	Construction documents are to include complete and precise construction requirements and verification process to achieve the required compaction.	Not accepted. RPP-SPEC-65908 Section 1.3 requires subcontractor to submit their quality control plan for approval at commencement of the project. This plan shall address independent laboratory testing, sampling and testing, and compaction field density measurements.	Not accepted. Clarify why you are not requiring compacting of the MatCon Asphalt per the manufacturer specification of 97% maximum dry density to achieve the permeability criteria? It is a	Open for discussion	CG

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						manufacture criteria, not a construction option.		
30.	24-TWO-0167 Attachment_3 RPP-SPEC-65908, Rev. 0	SECTION 312000 - EXCAVATION AND FILL does not include any information on proof rolling/compaction of fill slope soils for slope stability.	Include specifications.	Construction documents are to include complete and precise construction and earthwork compaction requirements and verification process to achieve the required compaction.	Not accepted. Section 321216, subsection 3.1, A adequately address requirements for proof rolling.	Accept	Close	CG
31.	24-TWO-0167 Attachment_3 RPP-SPEC-65908, Rev. 0	SECTION 312000 - EXCAVATION AND FILL 3.2.F.2 states "Within 3 ft of risers, vaults, and other existing vertical features, compact using hand-held equipment using controlled method similar to that outlined in RPP-SPEC-60023". Where is RPP-SPEC-60023 found within the construction documents?	Include/Clarify specifications.	Construction documents to include complete specifications for contractor to accomplish work without reference to unknown or unavailable specifications cited to avoid conflict of interpretations of requirements.	Not Accepted. This specification is complete without the subject reference, which is offered for information to the subcontractor that the construction subcontractor backfill, compaction, and inspection means and methods are addressed through the submittal process identified in RPPSPEC-65908 Section 312000 1.1.B. The references to specification RPP-SPEC-60023 identify information to the subcontractor that may or may not use in preparation of that submittal.	Not accepted. Clarify why you are not requiring compacting of the MatCon Asphalt per the manufacturer specification of 97% maximum dry density to achieve the permeability criteria? It is a manufacture criteria, not a construction option.	Open for discussion	CG
32.	24-TWO-0167 Attachment_3 RPP-SPEC-65908, Rev. 0	SECTION 312000 - EXCAVATION AND FILL 3.2.G states "Bring subgrade to proper grade and cross-section and uniformly compact surface. Place backfill and fill in layers not more than 8 in. in loose depth at optimum moisture content. Compact each layer per approved backfill, compaction, and inspection procedure." Obtaining "optimum moisture content" during grading operations is generally unachievable and specifications should provide lower and upper limit relative to optimum moisture content (such as $\pm 2\%$) to allow for atmospheric conditions and soil variances during grading. Achieving "optimum moisture content" does not assure compaction is accomplished to the degree required for stability and support without including the specific compaction requirements (90% or 95% of maximum dry density).	Include/Clarify specifications.	Construction documents are to include complete and precise construction and earthwork compaction requirements and verification process to achieve the required compaction.	Not accepted. Section 31200, 1.1.4 states that moisture content requirements as well as inspection and surveillance requirements are to be included as a submittal for review and approval.	Not accepted. Clarification is needed for the barrier and ET basin criteria to achieve density relative to maximum dry density, not optimum moisture.	Open for discussion	CG

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33.	24-TWO-0167 Attachment_3 RPP-SPEC- 65908, Rev. 0 Section 312000, “Excavation and Fill”	Subsections 3.2, G and 3.2, I, reference optimum moisture content for the fill material and backfill material.	Specify the planned requirements for compaction of fill/backfill material. Additionally, how is the optimum moisture content going to be performed? What range of moisture content is defined for compaction and stability during grading?	Construction documents are to include complete and precise construction and earthwork compaction requirements and verification process to achieve the required compaction.	Not Accepted See the response for comment #32.	Not accepted. Close when comment 32 is resolved	Open	JR
34.	24-TWO-0167 Attachment_3 RPP-SPEC- 65908, Rev. 0	SECTION 312000 - EXCAVATION AND FILL 3.2.I states “Under pavements place base course material on prepared subgrades and compact at optimum moisture content to required grades, lines, cross sections, and thicknesses.” Obtaining “optimum moisture content” in base course material during grading operations is generally unachievable and specifications should provide lower and upper limit relative to optimum moisture content (such as + 2%) to allow for atmospheric conditions and soil/aggregate base variances during grading. Achieving “optimum moisture content” does not assure compaction is accomplished to the degree required for stability and support without including the specific compaction requirements (90% or 95% of maximum dry density).	Include/Clarify specifications.	Construction documents are to include complete and precise construction and earthwork compaction requirements and verification process to achieve the required compaction.	Not Accepted. See the response for comment #32.	Not accepted. Clarification is needed for the barrier and ET basin criteria to achieve density relative to maximum dry density, not optimum moisture.	Open for discussion	CG
35.	24-TWO-0167 Attachment_3 RPP-SPEC- 65908, Rev. 0	SECTION 312000 - EXCAVATION AND FILL 3.5.C states the requirement to use “non-nuclear density gauge” for compaction testing of MatCon Asphalt but this criteria is not addressed to other soil and aggregate base testing.	Clarify if nuclear gage testing apparatus is allowed for soil and aggregate base compaction testing or if all compaction testing must be with non-nuclear gage apparatus.	Construction documents are to include complete and clear information regarding compaction testing equipment necessary to achieve the required very low permeable conditions for each aspect of the project specifically when equipment is prohibited for use.	Not Accepted. There is no subsection 3.5.C in Section 31200 of RPP-SPEC-65908. Note: Construction subcontractor test methods are addressed through the means and methods provided for review and approval in the submittal process identified in RPP-SPEC-65908 Section 312000 1.1.B.	Accept	Close	CG
36.	24-TWO-0167 Attachment_3 RPP-SPEC- 65908, Rev. 0	SECTION 321216 - ASPHALT PAVING 2.1.B indicates a Hydraulic conductivity (maximum) $k < 1 \times 10^{-7}$ cm/sec but does not include stating the necessary compaction effort (97% of maximum dry density as specified on Manufacturer’s Website and Section 3.7.E) and there is no validation that restricted compaction equipment (vibrating plates) can achieve this level of compaction where asphalt material is hand placed.	Include/Clarify specifications.	Construction documents are to include complete and precise construction and MatCon Asphalt product compaction requirements and verification process to achieve the required compaction necessary to achieve the required very low permeable conditions..	Not Accepted. As stated in the sentence prior to the first bullet point citing the hydraulic conductivity value, the values are provided for information only. The compaction requirements are identified in subsection 3.5 of this section.	Not accepted. Clarify why you are not requiring compacting of the MatCon Asphalt per the manufacturer specification of 97% maximum dry density to	Open for discussion	CG

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						achieve the permeability criteria? It is a manufacture criteria, not a construction option		
37.	24-TWO-0167 Attachment_3 RPP-SPEC-65908, Rev. 0	SECTION 321216 - ASPHALT PAVING 3.7.E addresses required 97% of maximum dry density compaction for the "test section" but there is no indication of the type and range of equipment used to place/compact the test strip. If roller compactor equipment is used for the test section then there is no correspondence to the level of compaction that is achievable with vibrating plates or plate whackers to achieve the necessary density to achieve the necessary hydraulic conductivity.	Include/Clarify specifications to assure that 97% compaction efforts can be achievable in the test section and verify with field testing in areas where this is applied within the ISB.	Construction documents are to include complete and precise construction and MatCon Asphalt product compaction requirements and verification process to achieve the required compaction necessary to achieve the required very low permeable conditions achieved with the test strip.	Not Accepted. 97% criteria in subsection 3.7.E is a MatCon HMA mix acceptance criteria not a field placement criteria.	Not accepted. Clarify why you are not requiring compacting of the MatCon Asphalt per the manufacturer specification of 97% maximum dry density to achieve the permeability criteria? It is a manufacture criteria, not a construction option.	Open for discussion	CG
38.	RPP-SPEC-65908 Rev.00, Pg. 29, Sec. 2.2.D.3, 2 nd Para.	The text reads: "Acceptance of the aggregate gradation shall be based on samples taken from the final mix." I recommend taking a sample from each batch. I've seen mistakes happen and testing is relatively cheap.	Consider increasing test frequency of asphalt gradation.	To catch gradation errors sooner.	Not Accepted. The referenced sentence pertaining to HMA aggregate gradation acceptance testing and not the HMA quality control plan sampling and testing submittal requirements in subsection 1.3 of section 321216.	Clarification of response	Open	MM
39.	RPP-SPEC-65908 Rev.00 P 321216-18 Section 3.8	The specification allows tapered cold joint panels of 1 to 9 feet, which differs from the EPA-recommended 3 meters.	Either update drawings and specifications to require 3 meter wedge shaped panels at cold joints or provide studies demonstrating that 1 to 9 foot tapered panels will prevent cracking.	Requested edit per Item #75.	Not accepted. The project will follow the MatCon manufacturer's recommendations. MatCon asphalt material is significantly different from asphalt material the EPA recommendations are based upon.	Please review EPA/540/R-03/505, <i>Evaluation of Wilder Construction Company's MatCon Cover Technology</i> and prepare to discuss.	Open for discussion	JD
40.	RPP-SPEC-65908 P 312000-7 Section 3.2(D)(1)	RPP-SPEC-65908 states that backfill tolerance for "Final lines and grades" will be "within a tolerance of +/-0.1 ft unless dimensions or grades are shown or specified otherwise." But elsewhere a tolerance of +/- 1/2 inch is specified.	Clarify whether final subgrade lines/grades will meet a tolerance of ±0.5 inches and how compliance will be measured.	Request for clarification	Not accepted. The tolerance is written as intended, i.e., 0.1-foot tolerance is the default tolerance unless otherwise specified, such as the specific incidences where the 1/2 inch tolerance is specified.	Accept	Close	JD
41.	RPP-SPEC-65908		Ensure all documents referenced in RPP-SPEC-65908, Revision 0 have been shared	Document Request	Not accepted. TFC-ENG-FACSUP-C-10 is an internal procedure.	Review and discuss the	Open for discussion	JD

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	P 312000-2 and P 011000-3	Some reference documents are missing from Hanford AR.	with Ecology and are available for public review in the Hanford AR, including TFC-ENG-FAC SUP-C-10.			pertinence of this references as it applies to any contractor field applications		
42.	RPP-SPEC-65908 P 011000-2 Section 1.1(D)(2)	MatCon has slope limitations on subgrade. H-14-112217 specifies elevations of control points, but I do not see where these maximum and minimum subgrade slopes are implemented to prevent cracking.	Please update subgrade preparation requirements to ensure that prior to the installation of MatCon subgrade has slopes of less than 3:1 (height:volume) to ensure the safe use of compacting and paving equipment during installation, and a slope greater than 1.5 percent to facilitate drainage and minimize surface water ponding.	Requested edit	Not accepted. The final grading is depicted on sheet H-14-112217-2, additionally, East – West and North – South Grade profiles are depicted on sheets H-14-112217-4 and H-14-112217-5, respectively. The slopes are readily determined from these scale drawings.	Accept	Close	JD
43.	RPP-SPEC-65908 321216-5 Section 1.3 And 321216-19 Section 3.11	The specification requires development of a Quality Assurance plan, and there are a there are a number of sample events described (e.g. gradation, binder and compaction) with minimum or total number of samples and sample methods already specified, but no systematic planning or data quality objectives are mentioned.	Clarify how sampling was or is being planned for: <ul style="list-style-type: none"> • Gradation of final mix • Binder • Compaction Will each sampling activity achieve adequate confidence in results? Provide Quality Control Plan to Ecology before project begins, and Quality Assurance report after project is complete.	Request for clarification and document.	Not accepted. The requested information is provided by the paving construction subcontractor as a submittal after subcontract award. The submittal will be reviewed for conformance with the specification and referenced standards. The submittal is dependent upon the paving subcontractors means and methods and is approved by WRPS, now H2C, construction manager.	Accept	Close	JD
44.	24-TWO-0167 Attachment_4 RPP-SPEC-65909, Rev. 0	There are no specifications for how the monitoring wells and/or boreholes are to be abandoned in accordance with WAC 173-160-381 or 173-160-990 or how contractor is to assure that the wells are properly decommissioned/destroyed in accordance with WAC 173-160-381 or 173-160-990 following earthwork excavation.	Address and include details and specifications on how contractor is to assure that the monitoring wells and/or boreholes are properly decommissioned/destroyed in accordance with WAC 173-160-381 or 173-160-990.	Construction documents must clearly identify requirements and/or means/methods to protect groundwater monitoring wells which could be impacted during construction.	Not accepted. See comment #4, 5, and 6.	Not accepted. Clarification of the means and method to build the retention basin over the monitoring wells and how they intend to continue to meet WAC 173-160-460 for wells that have been decommissioned and will be buried under the retention basin.	Open	CG
45.	24-TWO-0167 Attachment_4 RPP-SPEC-65909, Rev. 0	Section 1.1.A.2 and 1.1.A.5 address “optional Backfill, Compaction, and Inspection Procedure” which is not defined/clarified as to how this is to meet and/or exceed the compaction and testing requirements specified elsewhere in the construction documents.	Provide minimum compaction effort requirements for all subgrade, fill soil, trench backfill, and aggregate base materials (per Section 3.2.E) for any “optional Backfill, Compaction, and Inspection Procedure”.	Construction documents are to include complete and precise construction and earthwork compaction requirements and verification process to achieve the required compaction.	Not accepted. Specification RPP-SPEC-65909 allows the vendor to submit their Backfill, Compaction, and Inspection Procedure. The project will review and approve this document prior to commencement of installation.	Accept	Close	CG

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46.	24-TWO-0167 Attachment_3 RPP-SPEC-65909, Rev. 0	SECTION 321216 - EXCAVATION AND FILL does not include requirement for frequency of MatCon asphalt compaction testing (eg. one test per X sq. ft. or per X sq. yd.) of asphalt placement.	Include specifications.	Construction documents are to include complete and precise construction and MatCon Asphalt product compaction requirements and verification/testing process to achieve the required compaction necessary to achieve the required very low permeable conditions achieved with the test strip..	Not accepted. The scope of specification RPPSPEC-65909 is Evapotranspiration Basin and Storm Utility Drainage. The MatCon HMA specifications are in Specification RPP-SPEC-65908.	Accept	Close	CG
47.	24-TWO-0167 Attachment_4 RPP-SPEC-65909, Rev. 0	RPP-SPEC-65908 Interim Surface Barrier Construction Specification designates the requirement to use “non-nuclear density gauge” for compaction testing of MatCon Asphalt but is non-specific on use of conventional nuclear density gage for subgrade preparation and compaction of fill soils/base course material. RPP-SPEC-65909 Rev.00 does not address if the criteria for use of “non-nuclear density gauge” for compaction testing is required or use of conventional nuclear density gage is acceptable for the evapotranspiration basin soil compaction testing.	Clarify if nuclear gage testing apparatus is allowed for soil and aggregate base compaction testing or if all compaction testing must be with non-nuclear gage apparatus.	Construction documents are to include complete and clear information regarding compaction testing equipment necessary to achieve the required very low permeable conditions for each aspect of the project specifically when equipment is prohibited for use.	Not Accepted. See the response for comment #35.	Not accepted. Clarify why you are not requiring compacting of the MatCon Asphalt per the manufacturer specification of 97% maximum dry density to achieve the permeability criteria? It is a manufacture criteria, not a construction option.	Open for discussion	CG
48.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A	Document title “RPP-RPT-61684, Rev. 4A” is inaccurate since there has not been a published “RPP-RPT-61684, Rev. 4” submitted to Ecology and Ecology has not agreed to or accepted any versions of “RPP-RPT-61684” since Rev. 3B dated 4/25/2023.	Revise document title since there is no approved and published RPP-RPT-61684, Rev. 4.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision.	Accept in principle. Regarding Revision 4 of RPP-RPT-61684, Ecology is correct that Revision 4 was not submitted to Ecology and Revision 3B is the current approved revision of the document. Revision 4 of RPP-RPT-61684 was generated, reviewed internally, and “issued” within the WRPS/H2C document management software system; however, the revision was not submitted to Ecology. Unfortunately, it is not possible to revise and reissue a document revision within the document management software system. We apologize for any confusion/frustration this might have caused. Will update next revision available of the plan to include in the change table a statement to address the different revisions and which have been submitted/approved/reviewed by ECY.	Accept in principle; Ecology has not approved revision Rev 4A or Rev 5A	Open	CG

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49.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A	Document Release and Change Form Section 1 cites RPP-RPT-61684, Rev. 4A. Rev. 4 was not submitted to Ecology for review and approval and therefore any reference to changes identified as having been made in Rev.4 and incorporated into Rev. 4A are not valid.	Revise document to remove reference to RPP-RPT-61684, Rev. 4 since no such document has been published and agreed to or accepted by Ecology.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision.	Accept in principle. See the response for comment #48.	Accept in principle; Ecology has not approved revision 4A or Rev 5A	Open	CG
50.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A	Document contains print out of an email from Kyle C Kneese to Carly J Nelson sent October 14, 2024, citing changes from RPP-RPT-61684 Rev. 4 and Rev. 4A which incorrectly acknowledges/validates that RPP-RPT-61684 Rev. 4 is a valid approved document for subsequent changes to be made. Email indicates an attached pdf copy of RPP-RPT-61684 Rev. 4. RPP-RPT-61684 Rev. 4 was not submitted to Ecology for review and approval and therefore any reference to changes identified as having been made in Rev. 4 and incorporated into Rev. 4A are not valid.	Revise/Correct.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision.	Accept in principle. See the response for comment #48 regarding the revision number. Accepted correction: Will delete the 10/14/24 email from Kyle Kneese to Carly Nelson.	Accept in principle; Ecology has not approved revision 4A or Rev 5A	Open	CG
51.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A	Information Clearance Review and Release Approval Form cites RPP-RPT-61684, Rev. 4A. Rev. 4 was not submitted to Ecology for review and approval and therefore any reference to changes identified as having been made in Rev.4 and incorporated into Rev. 4A are not valid.	Revise document to remove reference to RPP-RPT-61684, Rev. 4 since no such document has been published and agreed to or accepted by Ecology.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision.	Accept in principle. See the response to comment #48.	Accept in principle; Ecology has not approved revision 4A or Rev 5A	Open	CG
52.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A	Document Release and Change Form Section 8 cites: Rev 4: Incorporate new section for the completion of the U farm interim surface barrier and perform editorial updates. -Update instrument functionality. -Rearrange document to eliminate redundant sections. -Add language to remove subsurface monitoring from T Farm Barrier and remove T Farm subsurface monitoring sections. Rev. 4A: Add clarifying information to the inspection and maintenance sections. Add new section for roles and responsibilities. Rev. 4 was not submitted to Ecology for review and approval and therefore any reference to changes identified as having been made in Rev.4 and incorporated into Rev. 4A are not valid.	Revise document to remove reference to RPP-RPT-61684, Rev. 4 since no such document has been published and agreed to or accepted by Ecology. Rev. 3B dated 4/25/2023 is the current valid revision.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision.	Accept in principle. See the response to comment #48.	Accept in principle; Ecology has not approved revision 4A or Rev 5A	Open	CG
53.	24-TWO-0167 Attachment_5	Document title "RPP-RPT-61684, Rev. 4A" is inaccurate since there has not been a published "RPP-RPT-61684, Rev. 4"	Revise document title since there is no approved and published RPP-RPT-61684, Rev. 4.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision.	Accept in principle. See the response to comment #48.	Accept in principle; Ecology has not	Open	CG

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	RPP-RPT-61684, Rev. 4A	submitted to Ecology and Ecology has not agreed to or accepted any versions of "RPP-RPT-61684" since Rev. 3B dated 4/25/2023.				accepted revision 4A or Rev 5A		
54.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A	Version History identifies Rev. 4 issued in May 2024 removed subsurface monitoring from T-Farm Barrier; however, Rev. 4 was not submitted to Ecology for review and approval and therefore changes identified as having been made in Rev.4 and incorporated into Rev. 4A are not valid. Subsurface monitoring for T-Farm Barrier remains a requirement for current polyurea barrier and proposed new MatCon ISB per the current RPP-RPT-61684, Rev. 3B dated 4/25/2023. RPP-RPT-61684, Rev. 3B dated 4/25/2023 retains subsurface monitoring for T-Farm ISB and this requirement has not been rescinded and that changes alluded to in Rev. 4 removing subsurface monitoring from T-Farm Barrier are not valid.	Revise document to remove reference to RPP-RPT-61684, Rev. 4 since no such document has been published and agreed to or accepted by Ecology. Revise Version History table to reflect that RPP-RPT-61684, Rev. 3B dated 4/25/2023 is the current valid revision (which retains subsurface monitoring for T-Farm ISB and this requirement has not been rescinded) and that changes alluded to in Rev. 4 are not valid.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Accept in principle. See the response to comment #48.	Accept in principle; Ecology has not accepted revision 4A or Rev 5A	Open	CG
55.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Section 1.1	Section 1.1 text states "A limitation of ISBs is that the impact of an ISB in mitigating contaminant migration downward through the vadose zone diminishes with depth. The further below ground the contamination is located, the longer it will take for an ISB to impact that contaminant's migration. There exists a maximum depth at which ISBs are no longer effective at impacting the contaminant migration." This statement supports the necessity to incorporate and continue subsurface monitoring via neutron probe dry well logging, soil moisture logging, surface geophysical methods, or other applied vadose zone techniques.	Incorporate and continue subsurface monitoring via neutron probe dry well logging, soil moisture logging, surface geophysical methods, or other applied vadose zone techniques.	Address limitations of project design as performance criteria to accomplish the goal of the ISB to reduce infiltration into the subsurface soils/vadose zone and reduce migration of contaminants.	Not Accepted. Performance monitoring in the context of ISBs is the evaluation for maintenance of the physical surface barrier integrity as necessary for the surface barrier to continue to perform its intended propose, reducing surface infiltration of precipitation. While reducing surface infiltration is expected to slow migration of existing releases of mobile constituents directly under the barrier to great depths, the ISBs are not intended to function as final barriers. Consequently, ongoing comprehensive performance monitoring that might be applicable to final barriers is not appropriate for ISBs.	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	CG
56.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Section 1.1 "Interim Surface Barriers Background"	The text states "The ISBs slow migration of mobile contaminants and extends the migration to groundwater over a longer period of time. A limitation of ISBs is that the impact of an ISB in mitigating contaminant migration downward through the vadose zone diminishes with depth." This seems to suggest that it is important to monitor the full thickness of the vadose zone beneath the area (footprint) of the ISB using neutron probe + drywell logging and soil moisture data collection.	Recommend monitoring the vadose zone beneath the replacement ISB with neutron probe, drywell logging, and soil moisture data collection during the 25-year service life.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Not accepted. Ecology's request for deep monitoring of the vadose zone is beyond the scope of ISB performance monitoring. Performance monitoring in the context of ISBs is the evaluation for maintenance of the physical surface barrier integrity as necessary for the surface barrier to continue to perform its intended propose, reducing surface infiltration of precipitation. While reducing surface infiltration is expected to slow migration of existing releases of mobile constituents directly under the barrier to great depths, the ISBs are not intended to function as final barriers nor as a treatment for contaminated soils.	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	JR

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57.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Section 2.0	<p>Section 2.0 text states “To meet expectations stated within the HFFACO Milestone M-045-92, the list of activities discussed in this maintenance and performance monitoring plan includes guidance on performance of:</p> <ul style="list-style-type: none"> • ISB quarterly and annual field inspection and maintenance; • ISB performance monitoring through collection and analysis of geophysical data (e.g. soil moisture, drywell logging, etc.); and • Annual reporting on ISB inspection, maintenance, and performance monitoring data.” <p>This statement supports the necessity to incorporate and continue subsurface monitoring via neutron probe dry well logging, soil moisture logging, surface geophysical methods, or other applied vadose zone techniques.</p>	Incorporate and continue subsurface monitoring via neutron probe dry well logging, soil moisture logging, surface geophysical methods, or other applied vadose zone techniques.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Accept. Will modify language to be consistent with milestone language. The Maintenance and Performance Monitoring Plan will address: • Systematic inspections and maintenance of the interim barriers to ensure their performance over their 25-year service life.	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	CG
58.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Section 3.0	<p>Section 3.0 text states “To confirm ISBs are performing as expected, performance monitoring, which uses in-situ sensors and drywell holes or neutron logging tubes, is performed at T, TY, and SX Tank Farms.”</p> <p>Under the current approved RPP-RPT-61684, Rev. 3B dated 4/25/2023 subsurface monitoring for T-Farm ISB retains a requirement. RPP-RPT-61684, Rev. 4 was not submitted to Ecology for review and approval and therefore changes identified as having been made in Rev.4 and incorporated into Rev. 4A are not valid. Subsurface monitoring for T-Farm Barrier remains a requirement for current polyurea barrier and proposed new MatCon ISB per the current RPP-RPT-61684, Rev. 3B dated 4/25/2023.</p>	Incorporate and continue subsurface monitoring to extend during the 25-year service life via neutron probe dry well logging, soil moisture logging, surface geophysical methods, or other applied vadose zone techniques.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Accept. Will modify language to identify that T Farm subsurface monitoring will continue until above ground equipment removal is completed for the new barrier construction, throughout Section 3.0.	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	CG
59.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Section 3.0	<p>Section 3.0 text states “The monitoring systems have fulfilled their intended purpose and have provided substantial data that show that the ISBs effectively minimize rainfall and snowmelt from entering the soil beneath the ISBs.” However, Section 2.0 states “The maintenance and performance monitoring plan addresses the following requirements:</p> <ul style="list-style-type: none"> • Systematic inspections and maintenance of the ISBs to ensure their performance over their 25-year service life.” 	Incorporate and continue subsurface monitoring to extend during the 25-year service life via neutron probe dry well logging, soil moisture logging, surface geophysical methods, or other applied vadose zone techniques.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Not accepted. Systematic inspection and maintenance is accomplished through the continued quarterly inspection and maintenance program that occurs at all of the ISBs. Inspections and maintenance are performed to maintain the ISBs integrity and will continue.	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	CG

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		The monitoring is to extend during the 25-year service life and not terminate early and should be incorporated into each site with an ISB.						
60.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Pg. 5 Sec. 3.0 Para. 1/Last sentence	Text states that “the monitoring systems <u>have fulfilled</u> their intended purpose and have provided <u>substantial</u> data that show that the ISBs effectively minimize rainfall and snowmelt from entering the soil beneath the ISBs.” The past tense of "have fulfilled" insinuates that monitoring would no longer be needed. The word "substantial" feels like an overstatement.	Monitoring should be on-going to support the statement and the phrase should be changed to "the monitoring systems will be used to continue to provide data that show that the ISBs effectively minimize rainfall and snowmelt from entering the soil beneath the ISBs."	Reference could not be found where it is documented that that monitoring of the system was to only be needed for the purpose of showing the ISB was effective and would then be terminated. It is also not reasonable to assume that because one barrier that was monitored showed the ISB was effective that future monitoring at other barriers would not be needed.	Accept. Will update the language to remove the word substantial and insert sufficient.	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	LJ
61.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Pg. 5 Section 3.1 Section Title	Section title has a spelling error. It currently reads “Quarterly Inseptions and Maintenance.”	Correct title to “Quarterly Inspections and Maintenance.”	Spelling/Grammatical error.	Accepted. Will correct the word Inspections	Accept	Close	EP
62.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Pg. 5 Sec. 3.1 Para. 2	Calling the pooling of water a “nuisance” feels inadequate.	The plan should address pooling in a more active way rather than just referring to it as a “nuisance”.	Pooling of water or snow has the potential to infiltrate imperfections or tears in the barrier, potentially leading to intrusion. DOE needs to address what they will do when they observe pooling on the barrier.	Accepted. Will delete the word nuisance and replace with “minor pooling of water” in accordance with barrier design and function. Clarification: Design of the barrier surface involves several trade-offs and compromises involving the elevation difference between the basin and ISB surface vs. the need to cut/fill over the tank farm vs. the weight that the tanks can support. In some cases, it is not possible to ensure a slope that fully drains 100% of the rainfall, e.g. in small locations where slope is less than 2%. Therefore, all of the previously approved designs allow for short term pooling of rainfall on the barrier surface in areas with less than 2% slope. The very low permeability ISB surface barrier prevents infiltration and promotes evaporation no differently than the evapotranspiration barrier. Standing water does not impact the permeability of the MatCon material which is 4” thick.	Permeability is dependent on compaction. Saying pooling is acceptable is not a good criteria. Pooling around T-111 which has an intrusion problem.	Open for discussion	LJ
63.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A	As indicated in the Section 1.2, “Interim Surface Barriers Purpose and Design Function,” a core principle of the ISB’s function is to direct natural precipitation	Explain how the nuisance of “pooling water”: A) Fulfills the purpose of redirecting natural precipitation and;	A primary design function of ISBs is directing natural precipitation from tank farms. Leaving “pool[ed]	Clarification: Nuisance is an operational description and does not affect the design function of the barrier. The MatCon material allows for an operational amount of pooling	Close pending discussion on 62	Open for discussion	EP

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	Pg. 5 Sec. 3.1 Para. 2 Sentence 1	away from tank farms. Further below in Section 3.1, the noted paragraph includes “pooling of water” as an observed nuisance in past inspections.	B) Will be rectified in future cases, if they should arise.	water” on the surface should be considered inconsistent with the design function.	water. See response to Item 62.			
64.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Pg. 5 Sec. 3.1 Last Para./Sent. 1	"Quarterly inspection observations showing an anomaly that may have the potential to impact the ISBs intended purpose and design function shall be included in the annual ISB monitoring report with a documented path-forward" The FY2023 Annual ISB report noted pooling and cracks in the barrier that should have been identified as “anomalies that may have the potential to impact the ISBs intended purpose”, but this was not the case. There was no documented “Path-forward” for dealing with pooling or cracks. Observation is not a “path-forward”.	DOE needs to identify a “path-forward” for addressing issues like pooling and cracks that appear to be a constant issue and could impact the ISBs intended purpose.	Other barriers have had issues with pooling and cracks within their lifetime. It is an issue that should be addressed as it is likely to continue to be an issue as barriers age and settle.	Not accepted. In the FY2023 Annual Report, pooling water was not considered a potential anomaly that would impact the ISB integrity and therefore did not have a path-forward or corrective action. Cracks that were identified to have the potential to impact the ISB were noted as monitor/repair. Engineering judgement is utilized to determine urgency of those repairs based on information that is gathered during the quarterly inspections. Clarifying criteria was added for use with internal procedures to identify when actions are necessary for observations made during the quarterly inspections.	Close pending discussion on 62	Open for discussion	LJ
65.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Section 3.3	Section 3.3 text states “Performance monitoring is conducted in T, TY, and SX Tank Farms... At T and TY Tank Farms, the instruments are grouped into monitoring nest stations that include a neutron probe access tube, a group of capacitance probe (CP) sensors, and a group of heat dissipation units (HDUs).” Under the current approved RPP-RPT-61684, Rev. 3B dated 4/25/2023 subsurface monitoring for T-Farm ISB retains a requirement. RPP-RPT-61684, Rev. 4 was not submitted to Ecology for review and approval and therefore changes identified as having been made in Rev.4 and incorporated into Rev. 4A are not valid. Subsurface monitoring for T-Farm Barrier remains a requirement per the current RPP-RPT-61684, Rev. 3B.	Incorporate and continue subsurface monitoring to extend during the 25-year service life via neutron probe dry well logging, soil moisture logging, surface geophysical methods, or other applied vadose zone techniques.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Not accepted. Subsurface monitoring at T Farm Demonstration barrier will continue until the polyurea barrier is removed. Revision 3B of the Plan does not include the new T Tank Farm MatCon Barrier. Regarding Revision 4 of RPP-RPT-61684: Ecology is correct that Revision 4 was not submitted to Ecology and Revision 3B is the current approved revision of the document. Revision 4 of RPP-RPT-61684 was generated, reviewed internally, and “issued” within the WRPS/H2C document management software system; however, the revision was not submitted to Ecology. Unfortunately, it is not possible to revise and reissue a document revision within the document management software system. We apologize for any confusion/frustration this might have caused. Will update next revision available of the plan to include in the change table a statement to address the different revisions and which have been submitted/approved/reviewed by ECY. Regarding continuation of subsurface monitoring: It is necessary to remove the above grade monitoring equipment in order to remove the polyurea barrier and install the new MatCon barrier. The boreholes will not be abandoned, removed, or decommissioned at this time. The underground equipment will remain in place. The boreholes are a feature that will be protected per Sections 311000, 312000, and 321216 of RPPSPEC-65908. The above grade monitoring	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm. Ecology proposes to suspend/eliminate the data-intensive time consuming process of the capacitance probes, the thermistors, and the heat dissipation probe monitoring (a cost savings to DOE) and a change in the dry well logging regime that currently focus on one or two tank sites to a more site-wide spatial	Open	CG

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					<p>equipment will not be reinstalled nor connected to the underground equipment. This is consistent with the performance monitoring approach adopted for the two most recent approved ISB designs for TX Tank Farm and U Tank Farm, where no subsurface monitoring equipment was included. Therefore, no surface monitoring equipment will be reinstalled at the replacement ISB for the T Tank Farm, and subsurface monitoring at T Tank Farm will not be resumed.</p>	<p>monitoring array of the tank farm which could provide greater assurance that the ISB is performing. In addition Ecology proposes that the dry well logging could be reduced from quarterly/semi-annual to (1) annually for new ISBs for a period of 2 years – to document initial soil moisture changes and (2) then each existing tank farm could be monitoring on a 5-year cycle (would allow greater resolution of the variations in moisture over time). We could go from only 2-4 wells at a couple sites (currently focused in individual tanks) to more like 6-10 spatially distributed across the tank farms.</p>		
66.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Section 3.3 “Performance	The text describes performance monitoring instruments and mentions that capacitance probes will not be utilized. The text also states that when performance monitoring equipment fails, it will not be replaced.	Recommend that performance monitoring equipment that is installed to monitor the performance of the ISB be replaced or repaired if it is found to have failed or been broken during the 25-year service life.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or	Not accepted. Current approved RPP-RPT-61684, REV 3B states, “Because the monitoring systems have fulfilled their intended purpose and show that the ISBs effectively control moisture beneath the barriers, there is no need, nor are there plans to replace failed monitoring equipment.” – Page 7, and page 12.	Accept	Close	JR

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	Monitoring” and Table 1	What is the purpose of reducing or eliminating performance monitoring equipment over the 25-year service life of the ISB? Is this section of the document meant to imply that performance monitoring will become less important over the 25-year service life?		supporting/approving removal of any ISB monitoring devices.				
67.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A	Figure 4-1 is from another document but does not include the figure description (e.g. explanation of the different monitoring instrumentation nests, footprint, edge effect, control point etc.) from the other document.	The figure should include a legend or description of the TA, TB, TC, and TD instrumentation nest equipment that is installed.	Clarification.	Not accepted. The purpose of the figure, which includes nest labels, is to identify locations not the type of equipment.	Accept	Close	JR
68.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Pg. 9 Sec. 4.1 Para. 2/Sent.1	“During the removal of the T Tank Farm polyurea ISB and installation of the modified asphalt replacement ISB, all the historic monitoring equipment will be removed, and subsurface monitoring will be terminated.” Does Ecology approve of this?	If Ecology approved this, please provide a reference to this.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Accept. Will add clarifying language to state that above ground equipment will be removed, and inground equipment will remain, but in keeping with past approved designs, will not perform subsurface monitoring once construction is complete. Ecology approval is pending based on design and Revision 4A of RPP-RPT-61684 Revision 4A.	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	LJ
69.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Section 4.1 “Performance Monitoring at T Tank Farm”	The text states “During the removal of the T Farm polyurea ISB and installation of the modified asphalt replacement ISB, all historic monitoring equipment will be removed, and subsurface monitoring will be terminated.”	Recommend subsurface monitoring of the vadose zone beneath the replacement ISB should be performed during the 25-year service life period, in order to continue monitoring performance/assessment of performance.	Continue to provide subsurface monitoring of the vadose zone beneath the replacement ISB per RPP-RPT-61684 Rev. 3B dated 4/25/202.	See response to comment #68.	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	JR
70.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Section 4.1	Section 4.1 text states “During the removal of the T Tank Farm polyurea ISB and installation of the modified asphalt replacement ISB, all the historic monitoring equipment will be removed, and subsurface monitoring will be terminated. Consistent with Ecology approved ISB designs for TX Tank Farm and U Tank Farm, no subsurface monitoring equipment will be installed at the replacement ISB for T Tank Farm, and subsurface monitoring there will not be resumed.” Under the current approved RPP-RPT-61684, Rev. 3B dated 4/25/2023 subsurface monitoring for T-Farm ISB retains a requirement. RPP-RPT-61684, Rev. 4 was not submitted to Ecology for review and approval and therefore changes identified as having been made in Rev.4 and incorporated	Remove text indicating removal of subsurface monitoring equipment and termination of subsurface monitoring. Incorporate and continue subsurface monitoring to extend during the 25-year service life via neutron probe dry well logging, soil moisture logging, surface geophysical methods, or other applied vadose zone techniques.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Not accepted. Regarding Revision 4 of RPP-RPT-61684: Ecology is correct that Revision 4 was not submitted to Ecology and Revision 3B is the current approved revision of the document. Revision 4 of RPP-RPT-61684 was generated, reviewed internally, and “issued” within the WRPS/H2C document management software system; however, the revision was not submitted to Ecology. Unfortunately, it is not possible to revise and reissue a document revision within the document management software system. We apologize for any confusion/frustration this might have caused. Will update next revision available of the plan to include in the change table a statement to address the different revisions and which have been submitted/approved/reviewed by ECY. Regarding continuation of subsurface monitoring: It is necessary to remove the above grade	Accept in Principle. Subsequent versions of RPP-RPT-61684 have not been approved by Ecology. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	CG

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		<p>into Rev. 4A are not valid. Subsurface monitoring for T-Farm Barrier remains a requirement per the current RPP-RPT-61684, Rev. 3B.</p> <p>Any agreement/understanding which led to elimination of subsurface monitoring for TX-Tank Farm and U-Tank Farm is not unilaterally extended to the ISB for T-Tank Farm.</p>			<p>monitoring equipment in order to remove the polyurea barrier and install the new MatCon barrier. The boreholes will not be abandoned, removed, or decommissioned at this time. The underground equipment will remain in place. The boreholes are a feature that will be protected per Sections 311000, 312000, and 321216 of RPPSPEC-65908. The above grade monitoring equipment will not be reinstalled nor connected to the underground equipment. This is consistent with the performance monitoring approach adopted for the two most recent approved ISB designs for TX Tank Farm and U Tank Farm, where no subsurface monitoring equipment was included. Therefore, no surface monitoring equipment will be reinstalled at the replacement ISB for the T Tank Farm, and subsurface monitoring at T Tank Farm will not be resumed.</p>			
71.	<p>24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Pg. 10, Sec. 5.0, 1st Para</p>	<p>I'd like to see a more robust monitoring plan given the deterioration of the tanks. For example, looking at the TY Tank Farm, the text reads: "The ISB at TY Tank Farm was the second ISB constructed as part of the ISB demonstration project detailed in PNNL-19772. TY Tank Farm was prioritized for an ISB based on criteria listed in RPP-ENV-41309, and the discovery of Technetium-99 (Tc-99) and nitrate contamination near the southern end of the farm, about 95- to 100-ft below ground surface. Initial measurements of the Tc-99 indicated that the pore water concentration was one of the highest found at that time at Hanford. At TY Tank Farm, five out of the six tanks were designated as assumed leakers at the time RPP-ENV-41309 was prepared, and many of the contaminants from waste releases still resided within the vadose zone beneath the tank farm." As stated, there are 5 out of 6 assumed leakers, there are contaminant plumes at the southern end of the farm, and the documents PNNL-19772 and RPP-ENV-41309 are dated 2010 and 2009, respectively. Given the dates of PNNL-19772 and RPP-ENV-41309, there doesn't appear to be a current analysis of vadose zone contaminants or groundwater plume characterization.</p>	<p>Increase monitoring and data collection at the tank farms.</p>	<p>It will provide a more complete data set in order to determine effectiveness of the barrier as time goes on.</p>	<p>Not accepted. Comment and Ecology request is beyond the scope of the Interim Surface Barriers program. Vadose zone sampling and groundwater plumes characterization is not part of the Interim Surface Barriers program.</p>	<p>Accept</p>	<p>Close</p>	<p>MM</p>
72.	<p>24-TWO-0167 Attachment_5</p>	<p>"The T, TY and SX Tank Farm ISB monitoring instruments have provided substantial data to conclude that the ISBs are</p>	<p>DOE needs to rectify that their data does not support the conclusion that the ISBs are as effective as they claim to be considering the</p>	<p>Pooling on the ISBs and intrusion at TX-101 is basis enough to conclude the</p>	<p>Accept. Will modify language to remove the word "substantial" and change to "sufficient".</p>	<p>Accept</p>	<p>Close</p>	<p>LJ</p>

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	<p>RPP-RPT-61684, Rev. 4A Pg. 16 Sec. 7.1 Para. 1/Sent. 1</p> <p>And</p> <p>Pg. 17 Sec. 8.1 Para. 1/Sent. 1</p>	<p>effective at redirecting precipitation and runoff water away from the tank farms and contaminated soil within tank farm backfill.”</p> <p>The term “substantial” is inaccurate.</p>	<p>instances of pooling, especially over tank pits.</p> <p>There is already no monitoring being conducted at TX and U farm based off of this conclusion. At the very least new ISBs going forward should reconsider implementing some sort of monitoring ex-tank monitoring..</p>	<p>ISBs are not quite as effective as they claim, in which case continued monitoring and an appropriate “path-forward” needs to be included in order to take this into account.</p> <p>Few instances of monitoring data is not enough to approve a comment that states there is “substantial data” for their conclusion.</p>				
73.	<p>24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A P. 17, Section 9</p>	<p>Documents evaluating barrier materials are not in administrative record or Ecology Library.</p>	<p>Ensure all documents referenced in RPP-RPT-61684, Rev. 4a have been shared with Ecology and are available for public review in the Hanford AR, including RPP-RPT-47488, 241-SX Tank Farm Interim Surface Barrier Material Alternatives Study and in RPP-RPT-38323, Tank Farm Interim Surface Barrier Materials and Runoff Alternatives Study.</p>	<p>Records Request.</p>	<p>Accept. The reports have been added to the AR: RPP-RPT-47488, AR-34006 and RPP-RPT-38323, AR-34005.</p>	<p>Accept</p>	<p>Close</p>	<p>JD</p>
74.	<p>24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A P. 17, Section 9</p>	<p>MatCon Barrier:</p> <p>Document states MatCon was chosen as the barrier construction material. This material has several strengths and weaknesses according to EPA’s innovative technology evaluation report, EPA/540/R-03/505, <i>Evaluation of Wilder Construction Company's MatCon Cover Technology</i>:</p> <p>Mat con out performed conventional asphalt in UV degradation and permeability in accelerated aging tests, but permeability did increase by several orders of magnitude to 2.2 x 10-6 cm/sec, which exceeds the RCRA Subtitle C limit of 1x10-7 cm/s.</p>	<p>More information should be provided in this section about how the materials evaluated in the two different documents were compared to one another. This explanation should state whether any materials out performed Matcon for permeability, and whether they evaluated for accelerated aging with water spraying, how the test compared and what the performance was after that test. In that context, explain how it was determined that MatCon was the best material in the long term and whether any materials outperformed MatCon in accelerated aging tests for permeability.</p>	<p>Requested edit</p>	<p>Accepted. Per milestone requirement, information not required to be in RPP-RPT-61648, will modify plan to remove this Section.</p>	<p>Accept</p>	<p>Close</p>	<p>JD</p>
75.	<p>24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A P. 17, Section 9</p>	<p>MatCon Barrier:</p> <p>Document states MatCon was chosen as the barrier construction material. This material has several weaknesses according to EPA/540/R-03/505:</p> <p>At the TCL site, a crack at a cold joint appeared after a prolonged period of cold weather in January 2000. The edge of the</p>	<p>More information should be provided in this section about how the materials evaluated in the two different documents were compared to one another. This explanation should state whether any materials are better suited than MatCon for cracking along cold joints. In the context of that information, explain how it was determined that MatCon was the best material in the long term. DOE should</p>	<p>Requested edit and clarifying question.</p>	<p>Accepted. This is beyond the scope of the maintenance and performance monitoring plan and pertains to a component of the approved ISB design. Will modify plan to remove this Section.</p>	<p>Accept</p>	<p>Close</p>	<p>JD</p>

		<p>asphalt application is typically more difficult to compact because there is no lateral support for the roller. When the asphalt is hot, the edges weld together properly. However, an edge that is allowed to cool overnight is then very difficult to bond to the next day's first application of asphalt. In addition, it is especially difficult to increase density in the cold joint area. The result is a zone along the cold joint that may be poorly compacted. Raveling, or separation of aggregate particle fines from the surface or edges of the compacted asphalt, can occur in these zones. Although WCC has determined that poor quality workmanship was the cause, a better design has since been developed to overcome the raveling and reduce dependency on workmanship. A wedge-shaped cold joint panel (3-meters wide) proved to be a good design in terms of bonding and providing a good impermeable mat. The new design includes removal of some material and a heavy tack coating.</p> <p>The crack that appeared at the cold joint at the TCL site was routed and sealed. The zone along the cold joint, about 3 feet wide (0.91 meter), was sealed with mastic to decrease the permeability by filling the surface voids.</p> <p>Ecology has expressed concern about segmentation which DOE has tried to address, but the cold joints introduced by the number of temporary segments is concerning given MatCon's known issues with cold joint fractures.</p>	<p>explain what construction technique they intend to use, such as a 3-meter wedge shaped cold joint panel at section borders to improve bonding (note, this is discussed in the construction specification, but there is still concern because the tapered edge construction described is considerably shorter than 3 meters, as little as 1 foot, see #39).</p> <p>Also, has there been any cracking along cold joints in either of the past two MatCon projects?</p>					
76.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A P. 17, Section 9	<p>MatCon Barrier:</p> <p>Document states MatCon was chosen as the barrier construction material. This material has several limitations according to EPA/540/R-03/505:</p> <ul style="list-style-type: none"> The subgrade to receive the MatCon cover must be firm and unyielding to support compaction of the MatCon asphalt during construction. 	<p>More information should be provided in this section about how MatCon was chosen, and whether the site characteristics are suitable to the use of Matcon, in particular:</p> <ul style="list-style-type: none"> Is the subgrade, with the underground tanks, adequate support for the equipment and pressure needed for compaction of MatCon? What is the pressure needed for compaction of MatCon hot and cold joints and what are the loading limits for the subgrade and tank domes? 	Requested edit	Accepted. This is beyond the scope of the maintenance and performance monitoring plan and pertains to a component of the approved ISB design. Will modify plan to remove this Section.	Accept	Close	JD

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		<ul style="list-style-type: none"> The subgrade to receive the MatCon cover must have slopes of less than 3:1 (height:volume) to ensure the safe use of compacting and paving equipment during installation. The subgrade to receive MatCon must have a slope greater than 1.5 percent to facilitate drainage and minimize surface water ponding. The subgrade must be constructed to a grading tolerance of ±0.5 inch (1.3 cm). 	<ul style="list-style-type: none"> Will subgrade have slope in the envelope needed for MatCon? Will there grading tolerance be adequate? What subgrade tolerance will be achieved and how will it be measured? <p>Supporting document should also be provided (see comment #40)</p>					
77.	24-TWO-0167 Attachment_5 RPP-RPT-61684, Rev. 4A Section 10	Section 10 omits T-Tank Farm from inclusion of future Milestone M-045-92 Annual ISB Report under the current approved RPP-RPT-61684, Rev. 3B dated 4/25/2023 which specifically includes subsurface monitoring for T-Farm ISB as a requirement.	Revise text to reinstate subsurface monitoring for T-Farm ISB.	RPP-RPT-61684 Rev. 3B dated 4/25/2023 is the current valid revision and there are no provisions in this document for cessation of subsurface monitoring for T-Farm or supporting/approving removal of any ISB monitoring devices.	Not accepted. There are no plans to perform subsurface monitoring at the new MatCon T Farm barrier. Revision 3B does not include the MatCon surface, but the demonstration polyurea barrier, which will be removed. See response to Item 70.	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	CG
78.	Unresolved Comments to RPP-RPT-64363 Rev. 0 241-T Tank Farm Interim Surface Barrier Design Considerations Report Page 6 Section 3.1 Last Paragraph	Text reads: “Last, the entire tank farm fenced boundary has historically not been within the scope of barrier coverage due to less risk associated with future events.” It is unclear what the “future events” include and why this sentence is included.	Clarify, add additional information, or delete sentence.	Unresolved Comment requires clarification for continued limitations of the extent of the ISB since there are stated depth limitations to the influence of reduction of infiltration into the subsurface soils with the current 20-ft distance from the SSTs.	Not accepted. Document provided to Ecology based on their request to provide as information only.	Accept	Close	CG
79.	Unresolved Comments to RPP-RPT-64363 Rev. 0 241-T Tank Farm Interim Surface Barrier Design Considerations Report Page 20 Section 3.4.5 6th Bullet	Text addresses intended removal of ISB vadose zone monitoring equipment and NEST stations and states that “All ISB monitoring data is being evaluated by Closure and Interim Measures staff. Recommendations on a path forward for future monitoring of all ISBs will be included in this evaluation. Further assessment will be required to determine whether the boreholes need protection in the new 241-T Tank Farm ISB, or whether they can be abandoned in place.” Ecology recommends inclusion/implementation of an ISB monitoring program for 241-T Tank Farm to include dry-	Ecology recommends securing and utilization of existing dry-well monitoring system for ISB vadose zone monitoring and include dry-well neutron probe monitoring and to incorporated into the Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program (RPP-RPT-61884 Rev 3B or current revision).	Unresolved Comment since there has not been acceptance and/or approval by Ecology to terminate or eliminate subsurface moisture monitoring for T-Farm.	See comment #78	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	CG

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		well neutron probe monitoring and to incorporated into the Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program (RPP-RPT-61884 Rev 3B or current revision).						
80.	Unresolved Comments to RPP-RPT-64363 Rev. 0 241-T Tank Farm Interim Surface Barrier Design Considerations Report Page 48 Table 4-2 Item #11	Text addresses existing NEST stations within and adjacent to T-Farm.	Ecology recommends securing and utilization of existing dry-well monitoring system for ISB vadose zone monitoring and include dry-well neutron probe monitoring and to incorporated into the Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program (RPP-RPT-61884 Rev 3B or current revision).	Unresolved Comment since there has not been acceptance and/or approval by Ecology to terminate or eliminate subsurface moisture monitoring for T-Farm.	See comment #78	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	CG
81.	Unresolved Comments to RPP-RPT-64363 Rev. 0 241-T Tank Farm Interim Surface Barrier Design Considerations Report General Comment	Ecology currently recommends inclusion/implementation of an ISB monitoring program for 241-T Tank Farm to include dry-well neutron probe monitoring and to incorporated into the Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program (RPP-RPT-61884 Rev 3B or current revision).	Changes/Revision to prior agreements for future ISB monitoring for 241-T Tank Farm.	Unresolved Comment since there has not been acceptance and/or approval by Ecology to terminate or eliminate subsurface moisture monitoring for T-Farm.	See comment #78	Not Accepted. Ecology has not approved discontinuing subsurface monitoring at T-Farm.	Open	CG
82.	Unresolved Comments to RPP-RPT-64363 Rev. 0 241-T Tank Farm Interim Surface Barrier Design Considerations Report Section 3.1, Page 4, Second Paragraph	RPP-RPT-55084, <i>Hanford 241-T Farm Leak Inventory Assessment Report</i> , was published in 2013.	Are you able to provide a more recent report?	Unresolved Comment. If current data is available, it would be great if reference it. If not, discuss why the data is still relevant?	See comment #78	Accepted	Close	MM
83.	Unresolved Comments to RPP-RPT-64363 Rev. 0 241-T Tank Farm Interim Surface Barrier Design Considerations Report Section 3.1,	PNL-6297, <i>Model Assessment of Protective Barrier Designs: Part II</i> was published in 1987.	State why this document is still relevant given that it was published in 1987.	Unresolved Comment. If current data is available, it would be great if reference it. If not, discuss why the data is still relevant?	See comment #78	Accept	Close	MM

