

**From:** [Stahl, Megan D.](#)  
**To:** [Jennifer Stanhope](#); [Lennon, Tiernan](#)  
**Cc:** [Taina Pankiewicz](#)  
**Subject:** RE: MVP Information  
**Date:** Wednesday, November 8, 2017 10:25:22 AM  
**Attachments:** [image002.png](#)  
2017\_11\_08-MVP Plant AMM letter-FINAL signed msu.pdf

Jen,  
The letter detailing MVP's proposed AMM for listed plant species is attached. We will file this with FERC as well.  
Please let me know if you need anything else.  
Megan

**From:** Stahl, Megan D.  
**Sent:** Friday, October 27, 2017 11:16 AM  
**To:** 'Jennifer Stanhope' <[jennifer\\_stanhope@fws.gov](mailto:jennifer_stanhope@fws.gov)>; 'Lennon, Tiernan' <[tiernan\\_lennon@fws.gov](mailto:tiernan_lennon@fws.gov)>  
**Cc:** 'Taina Pankiewicz' <[TPankiewicz@envsi.com](mailto:TPankiewicz@envsi.com)>  
**Subject:** RE: MVP Information

Jen/Tiernan,  
I understand that there will be no further comments on the plant AMM. Would you like both the Virginia spiraea and SWP measures outlined below included in one formal letter report to you (cc: FERC)? Please confirm and I will finalize the letter for submission.  
Thanks,  
Megan

**From:** Stahl, Megan D.  
**Sent:** Tuesday, October 17, 2017 4:00 PM  
**To:** 'Jennifer Stanhope' <[jennifer\\_stanhope@fws.gov](mailto:jennifer_stanhope@fws.gov)>; 'Lennon, Tiernan' <[tiernan\\_lennon@fws.gov](mailto:tiernan_lennon@fws.gov)>  
**Cc:** 'Taina Pankiewicz' <[TPankiewicz@envsi.com](mailto:TPankiewicz@envsi.com)>  
**Subject:** RE: MVP Information

Jen,  
  
As we discussed this morning, in addition to the avoidance and minimization measures that MVP proposed for the unsurveyed parcels in the email below, MVP also proposes to restrict herbicide use within 100' of Small Whorled Pagonia if found on parcel WV-GR-065.  
  
In addition, regarding the 10-year monitoring plan that would be established if Small Whorled Pagonia is found on parcel WV-GR-065, MVP would develop the plan in coordination with USFWS EFO and WV DNR. The final plan would then be submitted to USFWS EFO and WV DNR for review and approval and would include the following details:

- 10 year monitoring assessments would be conducted annually during optimal survey timeframe to assess colony status and potential threats to continued success;
- Each monitoring assessment would include documentation of plant height, leaf whorl diameter, flowering, and fruiting;
- Data collected will be provided annually to USFWS EFO and WV DNR;
- Baseline assessments would be conducted prior to and during construction;
- Monitoring assessments pre-construction, during construction and post-construction would include measurements of light levels, soil moisture and temperature; and
- The surveyor would be approved by USFWS EFO and WV DNR if not on approved surveyor list, including 3<sup>rd</sup> party academic research organization.

Please let me know if you need anything else.  
Megan

**From:** Stahl, Megan D.  
**Sent:** Tuesday, October 17, 2017 8:02 AM  
**To:** 'Jennifer Stanhope' <[jennifer\\_stanhope@fws.gov](mailto:jennifer_stanhope@fws.gov)>; 'Lennon, Tiernan' <[tiernan\\_lennon@fws.gov](mailto:tiernan_lennon@fws.gov)>  
**Cc:** 'Taina Pankiewicz' <[TPankiewicz@envsi.com](mailto:TPankiewicz@envsi.com)>  
**Subject:** RE: MVP Information

Jen and Tiernan,

Here are responses to your recent questions. Please review and let me know if you would like to discuss.

1. Here are the acreages for the unsurveyed parcels for plants:

| Parcel    | County     | State | Tract Total Acre | 300' study corridor (acre) | LOD (acre) |
|-----------|------------|-------|------------------|----------------------------|------------|
| WV-GR-065 | Greenbrier | WV    | 86.9             | 8.1                        | 3.5        |
| WV-SU-046 | Summers    | WV    | 4.3              | 3.5                        | 2.3        |

2. As stated in the FEIS each VSAT site would include a 4-foot-diameter dish antenna attached to a 2.5-inch metal pole. I included an example photo below. No light is emitted from the equipment. The VSAT modems transmit and receive in frequency ranges outside of the ranges heard by bats.



3. The final Exotic and Invasive Species Control Plan is attached.

This plan is consistent with MVP's commitment that no herbicides will be used, except when requested by land management agencies or at the request of landowner. It specifically states: *Eradication measures could include hand cutting unless requested to use herbicides by a state or federal management agency to achieve effective removal of these species.*

In addition, MVP developed Karst-specific Erosion and Sediment Control Plans (as detailed on page 4-59 of the FEIS), which explains:

*Mountain Valley does not propose the wide-scale use of pesticides and/or herbicides in karst areas, but would consider them for localized use, only after a request from a landowner or land management agency. However, in the case of any request, Mountain Valley would not apply fertilizers, herbicides, and pesticides within 100 feet of a waterbody or karst feature.*

4. Exotic and invasive species monitoring:

The attached plan states: *MVP will monitor the right-of-way annually after the first and second growing seasons following construction to allow for early detection of exotic or invasive species infestations or outbreaks.*

5. For the parcel that remains to be surveyed for Small Whorled Pagonia you asked about permanent waterbars. Please review the following explanation and let me know if you would like to discuss.

The centerline of the proposed pipeline crosses this parcel at the highest point so the unsurveyed area would be downslope. Please review the attached E&S plan sheets. The unsurveyed parcel is outlined in red. The green bars represent the permanent waterbars that would remain post-construction. Each is approximately 50' in length. The hollow blue triangle represents the upslope area that would be diverted during a storm event. Once the water hits the end of the waterbar, the water would disperse evenly down the slope and not form channels. The hollow blue triangles contribute very little hydrology to the overall watershed and downslope areas. The only areas that could potentially have any change in hydrology would be the area directly below the waterbars and these areas are within the permanent ROW that would be mowed post-construction.

6. Avoidance and minimization measures that MVP proposes for the unsurveyed parcels are as follows:

| Parcel | Species | County | State | 300' study corridor (acre) | LOD (acre) | Proposed Avoidance and Minimization Measures  |
|--------|---------|--------|-------|----------------------------|------------|---|
|        |         |        |       |                            |            | <ul style="list-style-type: none"><li>• If possible, survey May 1 – September 30</li><li>• If found:</li><li>• Relocate</li></ul> |

|           |                       |            |    |          |      |  |
|-----------|-----------------------|------------|----|----------|------|--|
| WV-GR-065 | Small Whorled Pagonia | Greenbrier | WV | 8.076802 | 3.51 | <ul style="list-style-type: none"> <li>If found and relocation is not possible establish a management plan that could include: <ul style="list-style-type: none"> <li>Establish as much of a buffer as possible and fence off to avoid (show fencing and buffer on E&amp;S plans)</li> <li>Minimize clearing in the immediate area</li> <li>Avoid erosion/sedimentation and changes in hydrology by installing additional E&amp;S controls (temporary diversion berm on the working side of the area)</li> <li>Restrict chipped brush from being blown off of the right-of-way into habitat (as stated in FEIS)</li> <li>Wash equipment to avoid introduction of non-native species</li> <li>Replant non-permanent areas with woody species (which is already stated as a commitment in MVP's Restoration and Rehabilitation Plan)</li> <li>Establish a 10 year monitoring plan</li> </ul> </li> </ul>   |
| WV-SU-046 | Virginia Spirea       | Summers    | WV | 3.499243 | 2.30 | <ul style="list-style-type: none"> <li>If possible, survey July 1 – September 30</li> <li>If found: <ul style="list-style-type: none"> <li>Relocate</li> <li>If found and relocation is not possible establish a management plan that could include: <ul style="list-style-type: none"> <li>Establish as much of a buffer as possible and fence off to avoid (show fencing and buffer on E&amp;S plans)</li> <li>Minimize clearing in the immediate area</li> <li>Avoid erosion/sedimentation and changes in hydrology by installing additional E&amp;S controls (temporary diversion berm on the working side of the area)</li> <li>Restrict chipped brush from being blown off of the right-of-way into habitat (as stated in FEIS)</li> <li>Wash equipment to avoid introduction of non-native species</li> <li>Replant non-permanent areas with woody species (which is already stated as a commitment in MVP's Restoration and Rehabilitation Plan)</li> <li>Restrict herbicides within 100' of plants (In accordance with FERC's Procedures MVP will not apply herbicides within 100 feet of a waterbody)</li> <li>Establish a 2 year monitoring plan</li> </ul> </li> </ul> </li> </ul> |

Sumalee asked for information about acreages of tree clearing associated with take by season within buffers. We are working on that information and will provide it midweek.

Please let me know if you need anything else.

Megan

**From:** Stahl, Megan D.  
**Sent:** Monday, October 09, 2017 5:58 PM  
**To:** 'Jennifer Stanhope' <[jennifer\\_stanhope@fws.gov](mailto:jennifer_stanhope@fws.gov)>  
**Cc:** 'Taina Pankiewicz' <[TPankiewicz@envsi.com](mailto:TPankiewicz@envsi.com)>  
**Subject:** MVP Information

Jen,

I am trying to compile the information that you requested last week and I have a few questions. The E&S plans and SWPP are still in development and have not been approved yet. The POD was recently submitted. These documents are very large and I cannot send them by email. Is there particular information you are looking for that I can send to you, or do you need the entire files?

Can you clarify which satellites you were referring to that could cause concerns for light and noise?

I attached the maps of the unsurveyed areas for plants, which includes:

| Parcel_Num | County     | State | Survey Needed Acre | Surveys Needed        |
|------------|------------|-------|--------------------|-----------------------|
| WV-GR-065  | Greenbrier | WV    | 8.076802           | small whorled pagonia |
| WV-SU-046  | Summers    | WV    | 3.499243           | Virginia spiraea      |

Can you please clarify which parcel you need information regarding topography?

Thanks,  
Megan

Megan Stahl  
Permitting Supervisor  
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November 8, 2017

Ms. Jennifer Stanhope  
U.S. Fish and Wildlife Service  
Fish and Wildlife Biologist  
Virginia Field Office  
6669 Short Lane  
Gloucester, VA 23061

**Subject: Avoidance and Minimization Measures for Small Whorled Pogonia and Virginia Spiraea on the  
Proposed Mountain Valley Pipeline Project  
FERC Docket No. CP16-10-000**

Dear Ms. Stanhope,

This letter is an addendum to the plant survey reports submitted for the above referenced project. Mountain Valley Pipeline (MVP) proposes the following Avoidance and Minimization Measures for the area within the MVP limits of disturbance (LOD) with the potential for listed plants to occur (Table 1).

Table 1. Un-surveyed parcels on the proposed Mountain Valley Pipeline

| Parcel    | County     | State | LOD<br>(Acre) | Plant Species         |
|-----------|------------|-------|---------------|-----------------------|
| WV-GR-065 | Greenbrier | WV    | 3.5           | Small whorled pogonia |
| WV-SU-046 | Summers    | WV    | 2.3           | Virginia spiraea      |

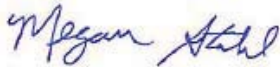
**Avoidance and Minimization Measures:**

- If the construction schedule allows, presence/absence surveys will be conducted during the appropriate survey windows prior to construction:
  - Small whorled pogonia: May 1 – September 30
  - Virginia spiraea: July 1 – September 30.
- If listed species are identified, MVP will develop a relocation plan in coordination with U.S. Fish and Wildlife Service Elkins Field Office (USFWS EFO) and West Virginia Department of Natural Resources (WVDNR). The final plan will be submitted to USFWS EFO and WVDNR for review and approval.
- If relocation of listed species is not possible, MVP will develop a management plan in coordination with USFWS EFO and WVDNR. The plan could include:

- Establish as much of a buffer as possible and fence off to avoid. Fencing and buffer would be shown on site-specific Erosion and Sedimentation (E&S) Control Plans.
  - Minimize clearing in the immediate area.
  - Avoid erosion, sedimentation and changes in hydrology by installing additional E&S controls, such as construction of a temporary diversion berm on the working side of the area.
  - Restrict chipped brush from being blown off the right-of-way into surrounding area.
  - Wash equipment to avoid introduction of non-native species.
  - Seed non-permanent areas with woody species as described in MVP's Restoration and Rehabilitation Plan.
  - Comply with MVP's Exotic and Invasive Species Control Plan.
  - Restrict herbicides use within 100-feet of listed plant species.
- If listed species are identified, MVP will develop a monitoring plan in coordination with USFWS EFO and WVDNR. The final plan will be submitted to USFWS EFO and WVDNR for review and approval. The plan would include the following details:
    - Small whorled pagonia: 10-year plan.
    - Virginia spiraea: 2-year plan.
    - Monitoring assessments will be conducted annually for the duration of the plan during optimal survey timeframe to assess colony status and potential threats to continued success.
    - Each monitoring assessment will include documentation of plant height, leaf whorl diameter, flowering, and fruiting.
    - Data collected will be provided annually to USFWS EFO and WVDNR.
    - Baseline assessments will be conducted prior to and during construction.
    - Monitoring assessments pre-construction, during construction and post-construction will include measurements of light levels, soil moisture and temperature.
    - USFWS EFO and WVDNR will approve the surveyor if not on approved surveyor list, including third party academic research organization.

Please contact me if you have questions or would like additional information.

Sincerely,



Megan Stahl  
Permitting Supervisor

cc: James Martin, Federal Energy Regulatory Commission  
Paul Friedman, Federal Energy Regulatory Commission

November 8, 2017

Ms. Jennifer Stanhope  
U.S. Fish and Wildlife Service  
Fish and Wildlife Biologist  
Virginia Field Office  
6669 Short Lane  
Gloucester, VA 23061

**Subject: Avoidance and Minimization Measures for Small Whorled Pogonia and Virginia Spiraea on the  
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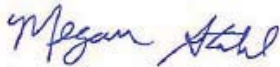
**Avoidance and Minimization Measures:**

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Please contact me if you have questions or would like additional information.

Sincerely,



Megan Stahl  
Permitting Supervisor

cc: James Martin, Federal Energy Regulatory Commission  
Paul Friedman, Federal Energy Regulatory Commission