| Project Information | |
|---|---|
| Project EDA | 3.0 acres |
| 20% Project EDA | 0.6 acres |
| Area 1 - Drainage Area to Ditches | 4.0 acres |
| Area 2 - Drainage Area to Ditches | 2.1 acres |
| Area 3 - Drainage Area to Ditches | 0.6 acres |
| Area 1 - ODOT R/W Draining to Ditches | 1.1 acres |
| Area 2 - ODOT R/W Draining to Ditches | 1.3 acres |
| Area 3 - ODOT R/W Draining to Ditches | 0.2 acres |

Drainage Area to Ditch

ODOT R/W Portion of Drainage Area

**BMP Design Approach**

The treatment goal is 0.6 acres. The 0.6 acres must be comprised primarily of drainage within ODOT R/W.

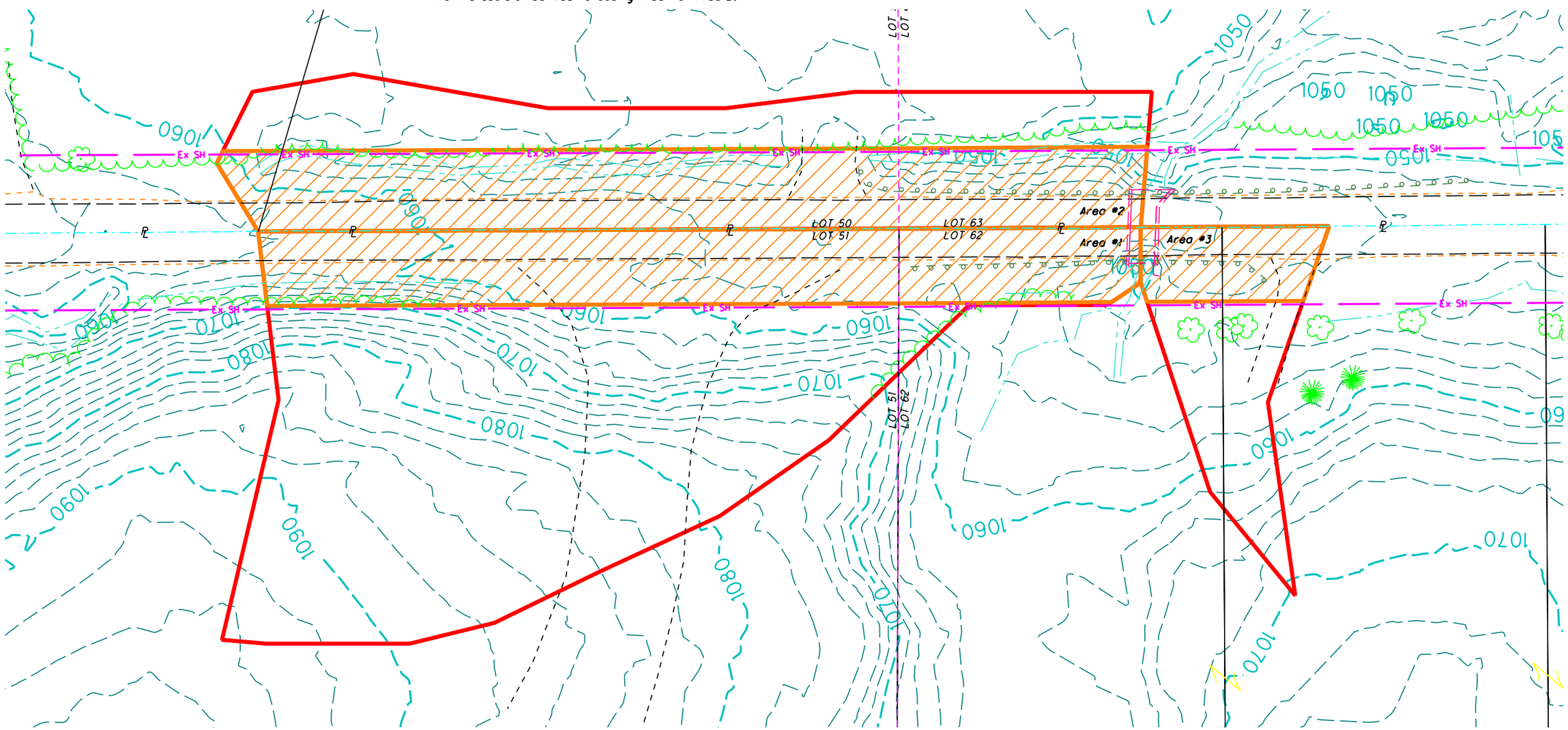
Note that the northeast corner of the project area sheet flows off the project and outside ODOT right-of-way. No treatment is required in this area.

While Area 3 has a contributing drainage area of 0.6 acres, the ODOT component is only 0.2 acres. Therefore, an additional 0.4 acres would still require treatment if this ditch were used as a vegetated biofilter.

Area 1 has a drainage area of 4 acres, and ODOT contributing of 1.1 acres. This would satisfy the requirements of 0.6 acres of treatment. The ditch width would be 9' ($EBW=5.4*(4)^{0.356}=8.8'$)

Area 2 has a drainage area of 2.1 acres, and ODOT contributing of 1.3 acres. This would satisfy the requirements of 0.6 acres of treatment. The ditch width would be 7' ($EBW=5.4*(2.1)^{0.356}=7.0'$)

Area 1 or 2 would be acceptable locations for a vegetated biofilter. The utility and right-of-way impacts should be evaluated and factored into the decision between choosing Area 1 or Area 2.




CALCULATED

CHECKED

VEGETATED BIOFILTER EXAMPLE

BMP - JAN. 2008

1-1

| Project Information | |
|---|---|
| Project EDA | 3.0 acres |
| 20% Project EDA | 0.6 acres |
| Area 1 - Drainage Area to Ditches | 4.0 acres |
| Area 2 - Drainage Area to Ditches | 2.1 acres |
| Area 3 - Drainage Area to Ditches | 0.6 acres |
| Area 1 - ODOT R/W Draining to Ditches | 1.1 acres |
| Area 2 - ODOT R/W Draining to Ditches | 1.3 acres |
| Area 3 - ODOT R/W Draining to Ditches | 0.2 acres |

Drainage Area to Inlet

ODOT R/W Portion of Drainage Area

| Option #1 | |
|---|---|
| ExT Lengths | |
| 20% x Area 1 ExT Length: | 11' |
| Rounded up to 4' increment: | 12' |
| 20% x Area 2 ExT Length: | 12' |
| Rounded up to 4' increment: | 12' |
| 20% x Area 3 ExT Length: | 2' |
| Rounded up to 4' increment: | 4' |

| Option #2 | |
|---|---|
| ExT Lengths | |
| Area 1: | 54' |
| Rounded up to 4' increment: | 56' |
| Area 2: | 57' |
| Rounded up to 4' increment: | 60' |
| Area 3: | 10' |
| Rounded up to 4' increment: | 12' |

BMP Design Approach

The treatment goal is 0.6 acres. The 0.6 acres must be comprised primarily of drainage within ODOT R/W.

Note that the northeast corner of the project area sheet flows off the project and outside ODOT right-of-way. No treatment is required in this area.

The tables on this sheet show the options available for providing exfiltration trenches.

Option #1 multiplies the calculated length of trench by 20% for all inlets. All inlets will require treatment using Option #1.

Option #2 uses the entire calculated ExT length for the drainage area, but only requires that ExTs be provided to treat 20% of the Project EDA (0.6 acres). Therefore, it is possible to provide an ExT at only one inlet, if the inlet has 0.6 acres of ODOT R/W draining to it.

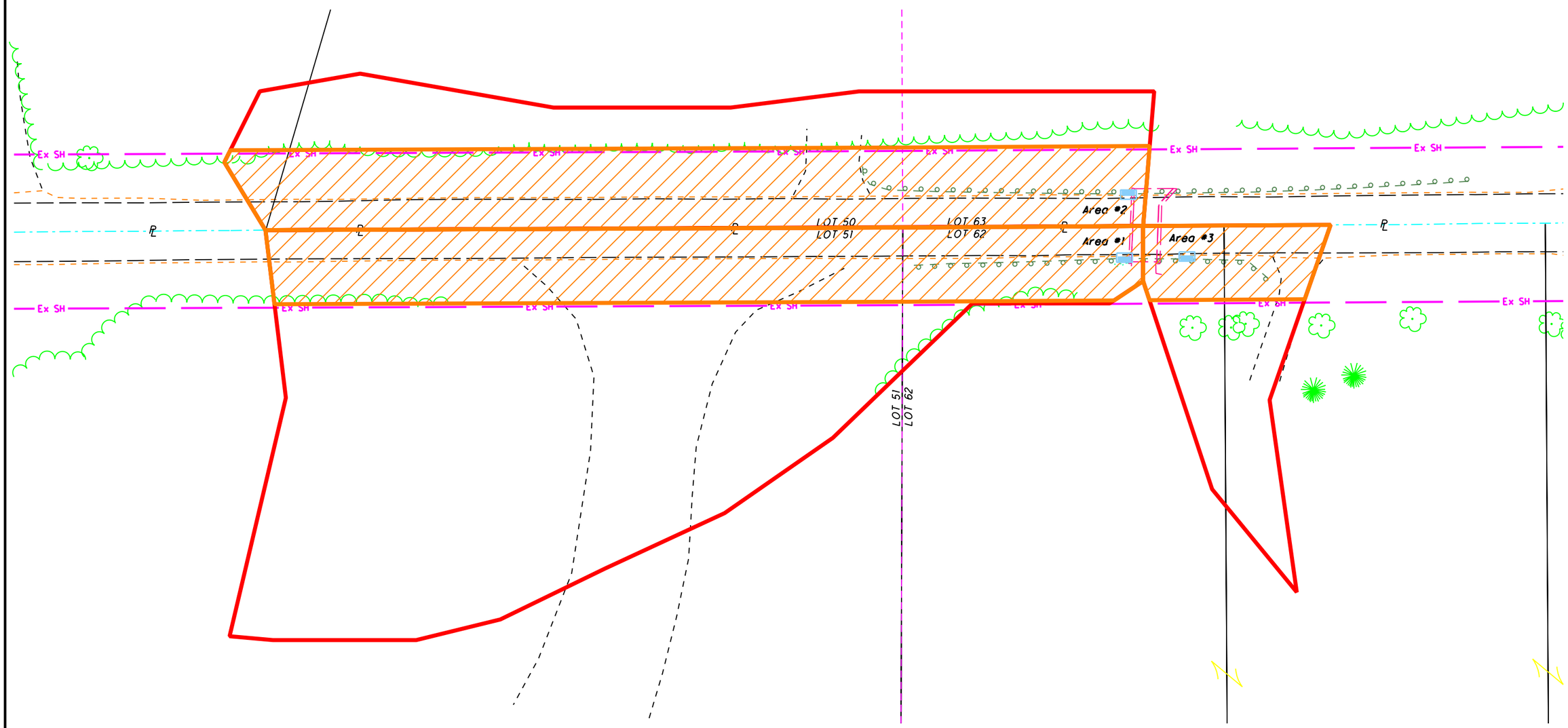
Area 1 has a drainage area of 4 acres, and ODOT contributing of 1.1 acres. Providing an Ext at this inlet would satisfy the requirements of 0.6 acres of treatment if Option #2 is used.

Area 2 has a drainage area of 2.1 acres, and ODOT contributing of 1.3 acres. Providing an ExT at this inlet would satisfy the requirements of 0.6 acres of treatment if Option #2 is used.

While Area 3 has a contributing drainage area of 0.6 acres, the ODOT component is only 0.2 acres. Therefore, an additional 0.4 acres would still require treatment if an ExT was provided at this inlet using Option #2.

Option #1 would require a total of 28' of exfiltration trench to comply with post-construction BMP requirements.

Option #2 allows the use of a 56' exfiltration trench at the inlet in Area 1 or 60' at the inlet in Area 2 to comply with post-construction BMP requirements.

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EXFILTRATION TRENCH EXAMPLE

BMP - JAN. 2008

1-1