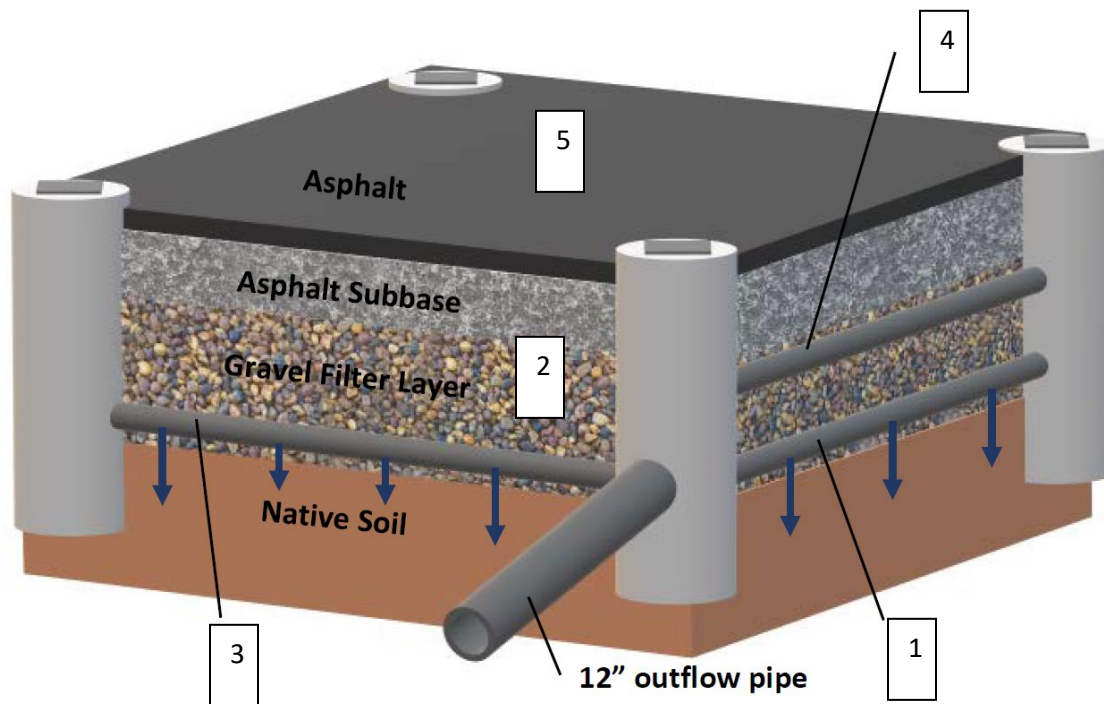


Appendix B: Winchester Subsurface Gravel Filter Concept Design



Notes

1. Heavy equipment shall not be used such that will jeopardize infiltration capacity of the native sub-grade.
2. Storage layer can be comprised of materials (natural or manufactured) to hold the design storage volume (DSV).
3. Overflow shall be located to drain back to existing storm drainage. Elevation can be varied to meet existing infrastructure inverts and flow controlled through orifice or weir features.
4. Hydraulic inlets should be drained by gravity to the extent practicable and include adequate pretreatment to reduce incidence of clogging and long-term maintenance.
5. Surface cover may vary and include pavement, grass, trees, soil or any combination desirable by end user and site specific requirements.



UNIVERSITY OF NEW HAMPSHIRE
STORMWATER CENTER

Concept Subsurface Filter/Infiltration Area

Winchester Results:

Location	ABV	Units	1	2	AVE	Total
Drainage Area (estimated)	DCIA	Acres	10.04	3.14	6.59	13.18
Water Quality Volume (Philly)	WQVP	cf	36,462	11,411	23,937	47,873
Design Storage Volume	DSV	cf	3,304	1,062	2,183	4,366
Infiltration Rate	Inf	in/hr	1.02	1.02	1.02	NA
BMP Capacity: Depth of Runoff from Impervious Area	PSC	in	0.10	0.10	0.10	NA
TP Reduction		lb/yr	5.32	1.68	3.50	7.00
TN Reduction		lb/yr	37.28	11.79	24.54	49.1
TSS Reduction		lb/yr	1,942	28	985	1,970
Volume Reduction		cf	9,480	3,081	6,281	12,561

Middlesex Park and Washington St. Winchester, MA

May, 2019

UNH Stormwater Center



Conceptual Design Approach v1

(NOT FOR CONSTRUCTION)

Drawn By: DRM

Reviewed By:

Approved By:

Date: May 31, 2019

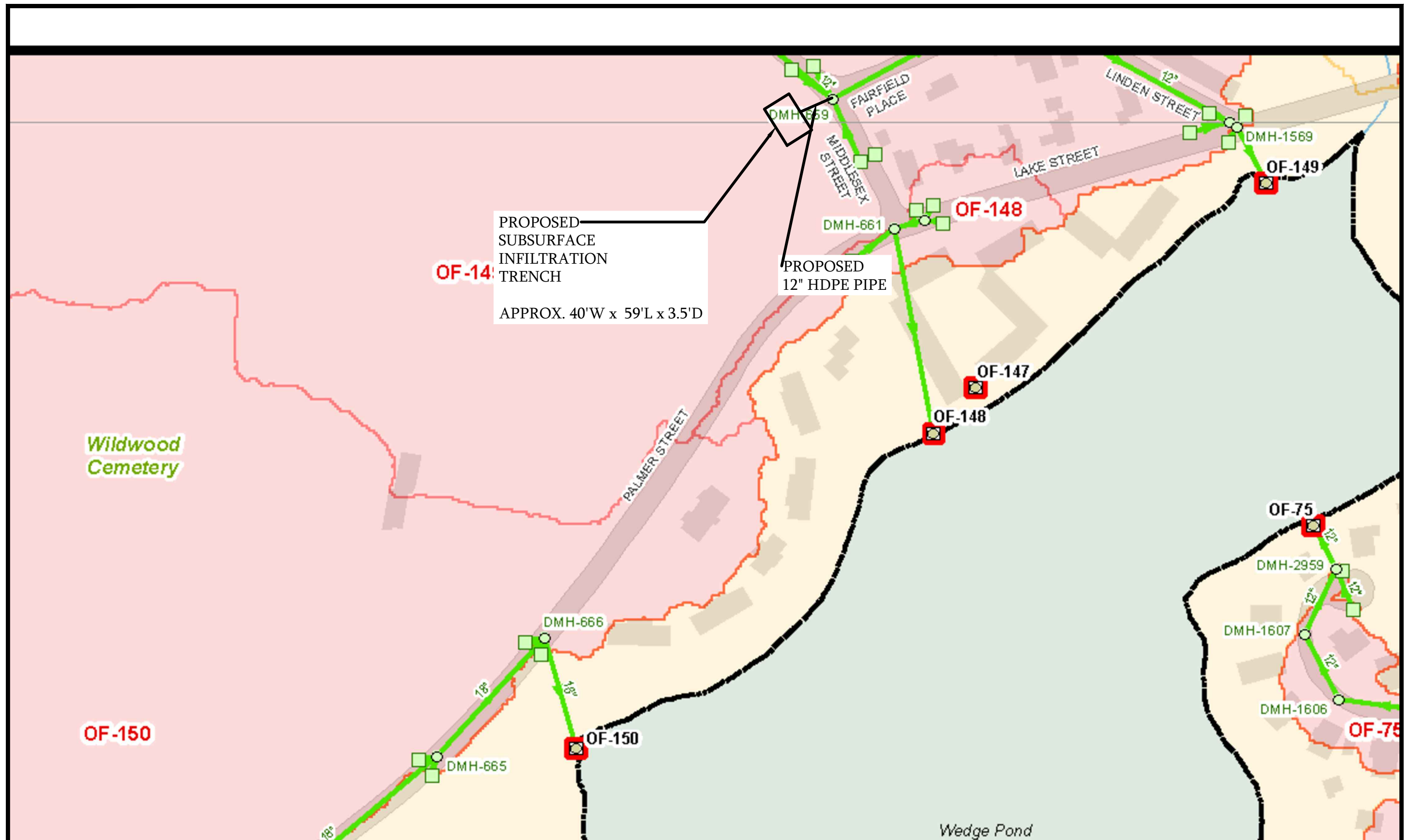
INDEX

Sheet 1: Title Sheet

Sheet 2: Plan Overview Middlesex Park

Sheet 3: Plan Overview Washington St.

Sheet 4: Typ. Subsurface Infiltration X-Sect.

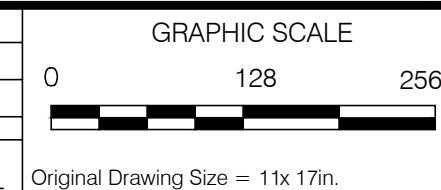


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No.	Date	Revision
1	05/31/2019	1
Designed:	Checked:	Approved:
DRM		



Project: **PLAN OVERVIEW**
Middlesex Park
Winchester, MA

Date: May 31, 2019
Sheet No. **2 of 4**

