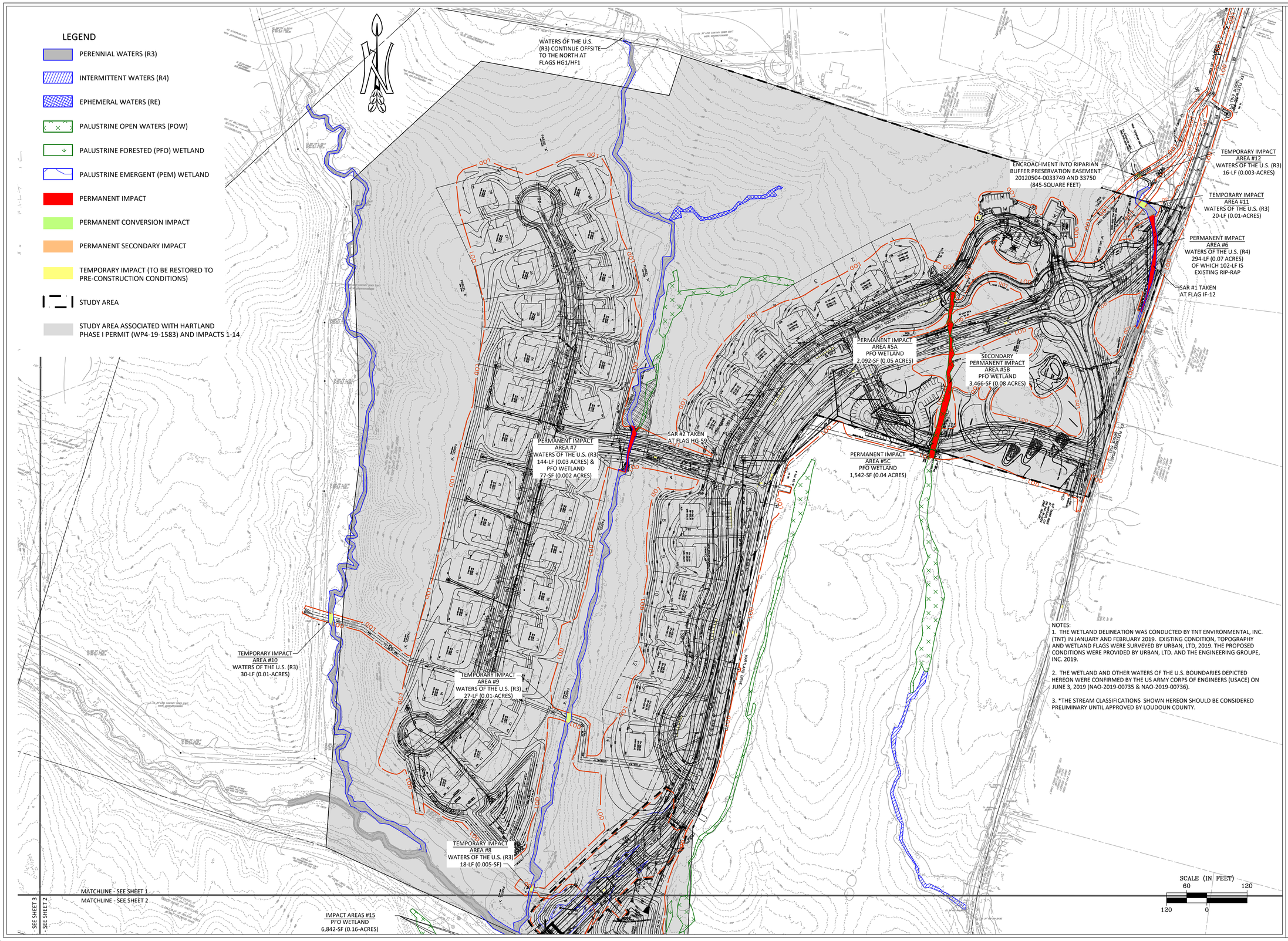
APPENDIX IX

OVERALL SITE DEVELOPMENT PLAN AND WETLAND IMPACT MAP

Received by VMRC September 3, 2020 /blh



NOTES:

1. THE WETLAND DELINEATION WAS CONDUCTED BY TNT ENVIRONMENTAL, INC. (TNT) IN JANUARY AND FEBRUARY 2019. EXISTING CONDITION, TOPOGRAPHY AND WETLAND FLAGS WERE SURVEYED BY URBAN, LTD, 2019. THE PROPOSED CONDITIONS WERE PROVIDED BY URBAN, LTD. AND THE ENGINEERING GROUPE, INC. 2019.

2. THE WETLAND AND OTHER WATERS OF THE U.S. BOUNDARIES DEPICTED HEREON WERE CONFIRMED BY THE US ARMY CORPS OF ENGINEERS (USACE) ON JUNE 3, 2019 (NAO-2019-00735 & NAO-2019-00736).

3. *THE STREAM CLASSIFICATIONS SHOWN HEREON SHOULD BE CONSIDERED PRELIMINARY UNTIL APPROVED BY LOUDOUN COUNTY.

4455 Brookfield Corporate Drive, Suite 100
Chantilly, VA 20151
PH: 703-466-5123 WWW.TNTENVIRONMENTALINC.COM
TNT ENVIRONMENTAL

HARTLAND PHASE II

LOUDOUN COUNTY

OVERALL IMPACT MAP TO WATERS OF THE U.S.

REVISIONS

DATE	COMMENTS

SHEET 1 OF 4

SCALE: 1" = 120'

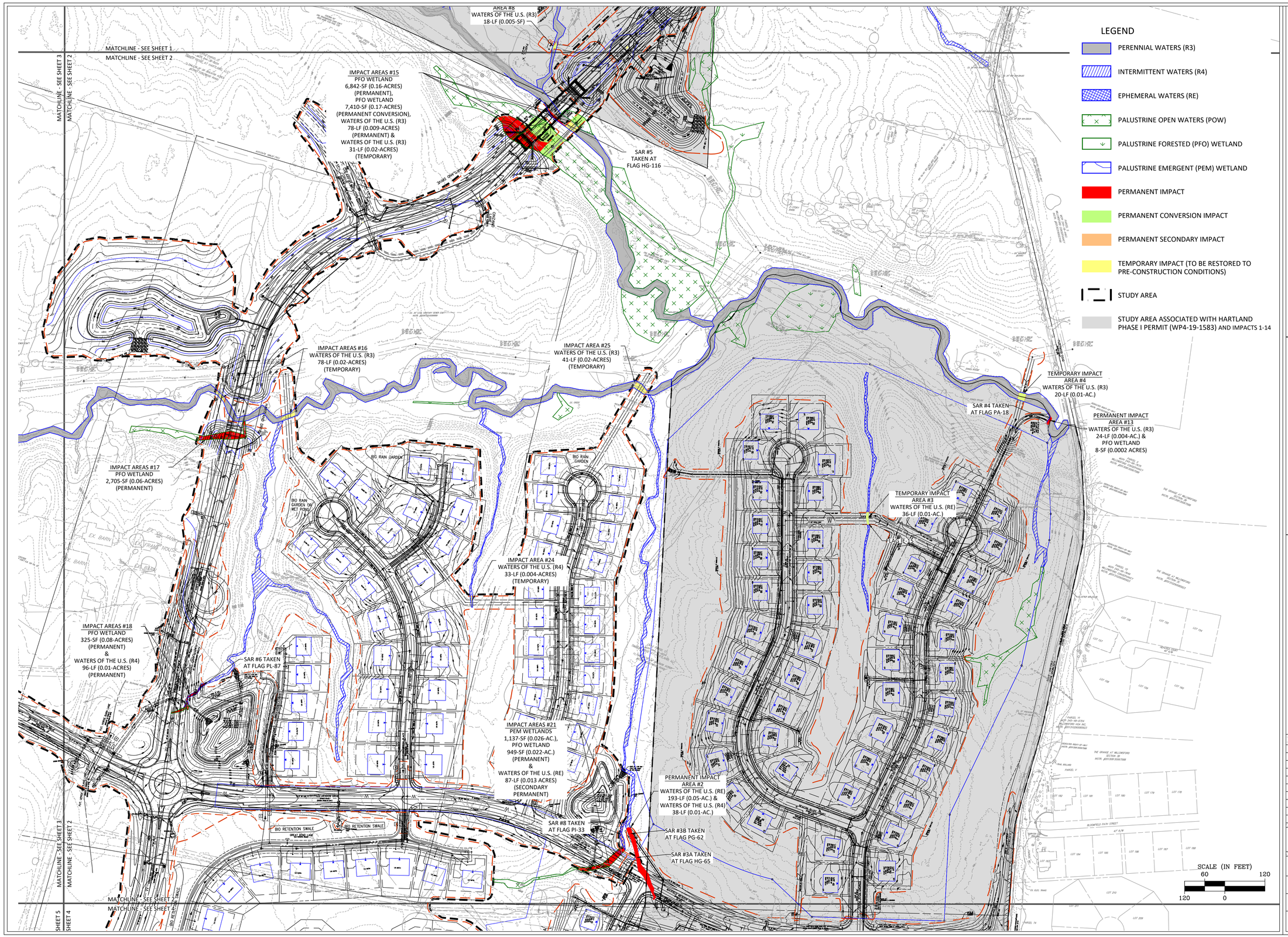
PROJECT DATE: 8/27/20

DRAFT: SSS

CHECK: AMS

FILE NUMBER: 1460-F1

Received by VMRC September 3, 2020 /blh



4455 Brookfield Corporate Drive, Suite 100
Chantilly, VA 20151
PH: 703-466-5123 WWW.TNTENVIRONMENTALINC.COM
ENVIRONMENTAL

HARTLAND
PHASE II
LOUDOUN COUNTY

OVERALL IMPACT MAP
TO WATERS OF THE U.S.

REVISIONS

DATE	COMMENTS

SHEET 2 OF 4

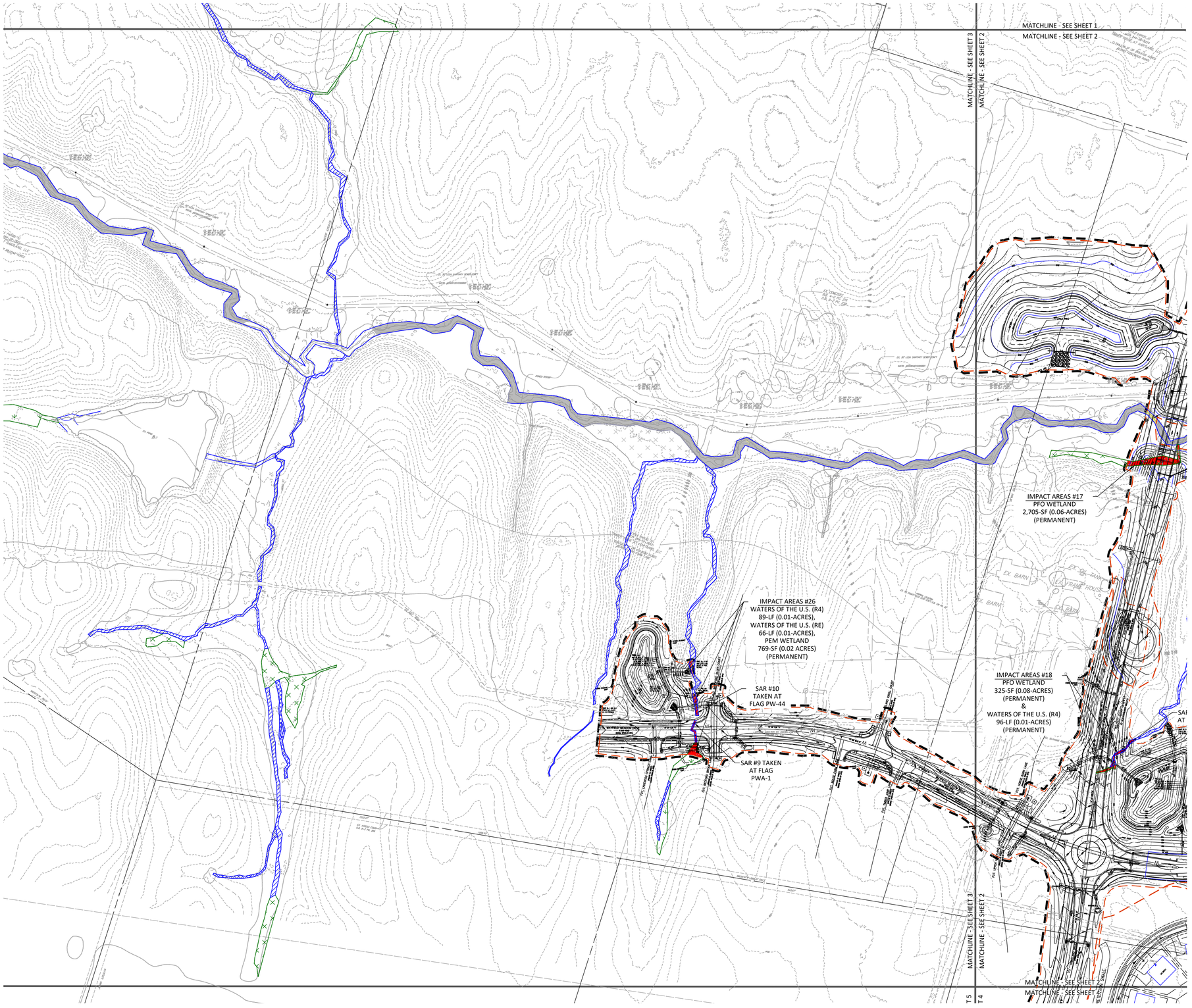
SCALE: 1" = 120'

PROJECT DATE: 8/27/20

DRAFT: SSS | CHECK: AMS

FILE NUMBER: 1460-F1

Received by VMRC September 3, 2020 /blh



LEGEND

- PERENNIAL WATERS OF THE U.S. (R3)
- INTERMITTENT WATERS OF THE U.S. (R4)
- EPHEMERAL WATERS OF THE U.S. (RE)
- PALUSTRINE OPEN WATERS (POW)
- PALUSTRINE FORESTED (PFO) WETLAND
- PALUSTRINE EMERGENT (PEM) WETLAND
- PERMANENT IMPACT
- PERMANENT CONVERSION IMPACT
- PERMANENT SECONDARY IMPACT
- TEMPORARY IMPACT (TO BE RESTORED TO PRE-CONSTRUCTION CONDITIONS)
- STUDY AREA
- STUDY AREA ASSOCIATED WITH HARTLAND PHASE I PERMIT (WP4-19-1583) AND IMPACTS 1-14

SCALE (IN FEET)
60 120
120 0

4455 Brookfield Corporate Drive, Suite 100
Chantilly, VA 20151
PH: 703-466-5123 WWW.TNTENVIRONMENTALINC.COM
TNT ENVIRONMENTAL

HARTLAND
PHASE II
LOUDOUN COUNTY

OVERALL IMPACT MAP TO WATERS OF THE U.S.

REVISIONS

DATE	COMMENTS

SHEET 3 OF 4

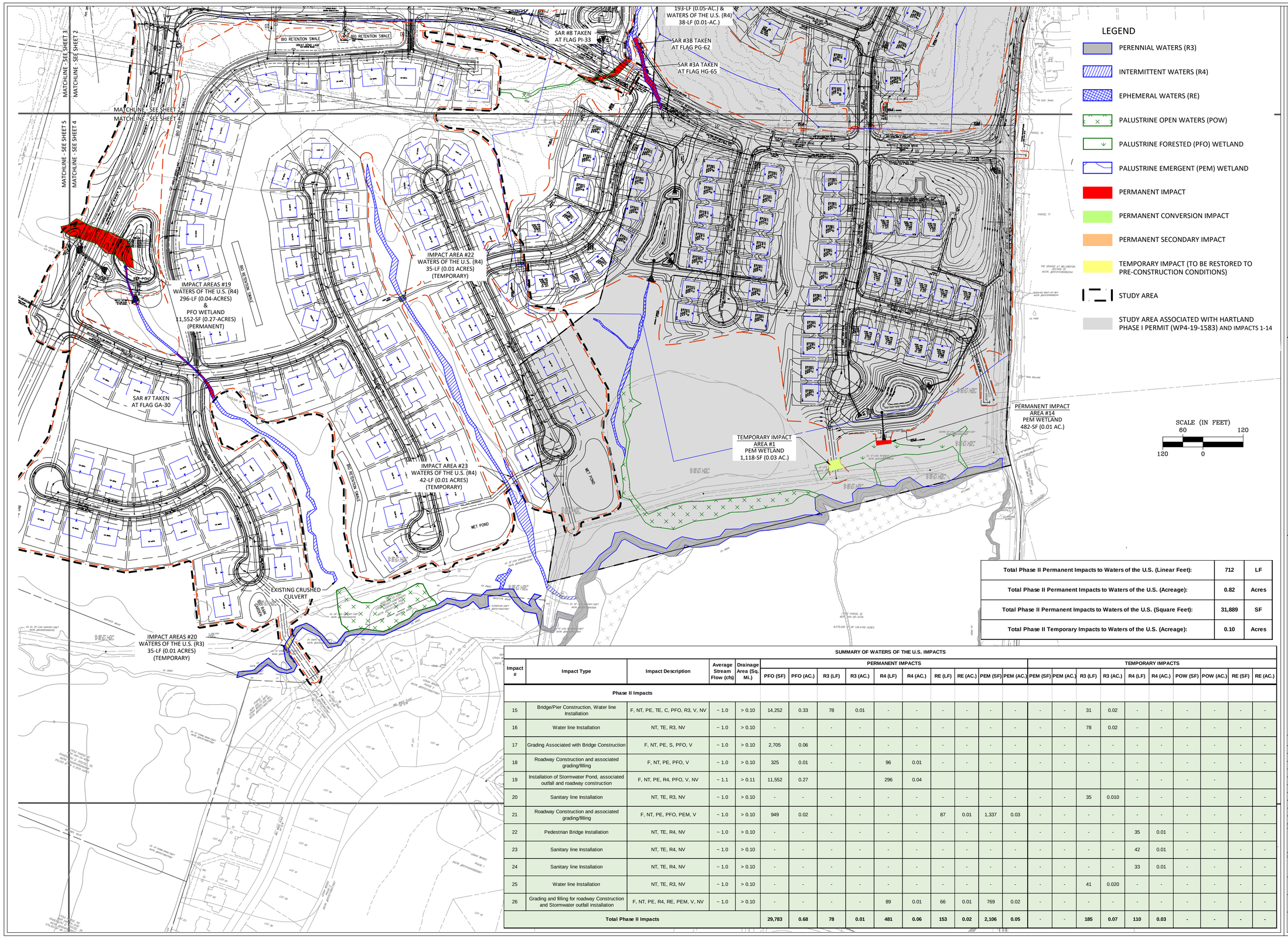
SCALE: 1" = 120'

PROJECT DATE: 8/27/20

DRAFT: SSS | CHECK: AMS

FILE NUMBER: 1460-F1

Received by VMRC September 3, 2020 /blh



Total Phase II Permanent Impacts to Waters of the U.S. (Linear Feet):	712	LF
Total Phase II Permanent Impacts to Waters of the U.S. (Acreage):	0.82	Acres
Total Phase II Permanent Impacts to Waters of the U.S. (Square Feet):	31,889	SF
Total Phase II Temporary Impacts to Waters of the U.S. (Acreage):	0.10	Acres

SUMMARY OF WATERS OF THE U.S. IMPACTS

Impact #	Impact Type	Impact Description	Average Stream Flow (cfs)	Drainage Area (Sq. Mi.)	PERMANENT IMPACTS										TEMPORARY IMPACTS									
					PFO (SF)	PFO (AC.)	R3 (LF)	R3 (AC.)	R4 (LF)	R4 (AC.)	RE (LF)	RE (AC.)	PEM (SF)	PEM (AC.)	PEM (SF)	PEM (AC.)	R3 (LF)	R3 (AC.)	R4 (LF)	R4 (AC.)	POW (SF)	POW (AC.)	RE (SF)	RE (AC.)
Phase II Impacts																								
15	Bridge/Pier Construction, Water line Installation	F, NT, PE, TE, C, PFO, R3, V, NV	~ 1.0	> 0.10	14,252	0.33	78	0.01	-	-	-	-	-	-	-	-	31	0.02	-	-	-	-	-	-
16	Water line Installation	NT, TE, R3, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	78	0.02	-	-	-	-	-	-
17	Grading Associated with Bridge Construction	F, NT, PE, S, PFO, V	~ 1.0	> 0.10	2,705	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Roadway Construction and associated grading/filling	F, NT, PE, PFO, V	~ 1.0	> 0.10	325	0.01	-	-	96	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Installation of Stormwater Pond, associated outfall and roadway construction	F, NT, PE, R4, PFO, V, NV	~ 1.1	> 0.11	11,552	0.27			296	0.04									-	-	-	-		
20	Sanitary line Installation	NT, TE, R3, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	35	0.010	-	-	-	-	-	-
21	Roadway Construction and associated grading/filling	F, NT, PE, PFO, PEM, V	~ 1.0	> 0.10	949	0.02	-	-	-	-	87	0.01	1,337	0.03	-	-	-	-	-	-	-	-	-	-
22	Pedestrian Bridge Installation	NT, TE, R4, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	0.01	-	-	-	-
23	Sanitary line Installation	NT, TE, R4, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	0.01	-	-	-	-
24	Sanitary line Installation	NT, TE, R4, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	0.01	-	-	-	-
25	Water line Installation	NT, TE, R3, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	41	0.020	-	-	-	-	-	-
26	Grading and filling for roadway Construction and Stormwater outfall installation	F, NT, PE, R4, RE, PEM, V, NV	~ 1.0	> 0.10	-	-	-	-	89	0.01	66	0.01	769	0.02	-	-	-	-	-	-	-	-	-	-
Total Phase II Impacts					**29,783**	**0.68**	**78**	**0.01**	**481**	**0.06**	**153**	**0.02**	**2,106**	**0.05**	**-**	**-**	**185**	**0.07**	**110**	**0.03**	**-**	**-**	**-**	**-**

4455 Brookfield Corporate Drive, Suite 100
Chantilly, VA 20151
PH: 703-466-5123 WWW.TNTENVIRONMENTALINC.COM
ENVIRONMENTAL

HARTLAND PHASE II

LOUDOUN COUNTY

OVERALL IMPACT MAP TO WATERS OF THE U.S.

REVISIONS

DATE	COMMENTS

SHEET 4 OF 4

SCALE: 1" = 120'

PROJECT DATE: 8/27/20

DRAFT: SSS | CHECK: AMS

FILE NUMBER: 1460-F1

Received by VMRC September 3, 2020 /blh