Board of Trustees Regular Meeting Agenda
Hartland Township Hall
Tuesday, September 01, 2020
7:00 PM

1. Call to Order
2. Pledge of Allegiance
3. Roll Call
4. Approval of the Agenda
5. Call to the Public
6. Approval of the Consent Agenda
   a. Approve Payment of Bills
   b. Approve Post Audit of Disbursements Between Board Meetings
   c. Approve 08/18/20 Regular Meeting Minutes
   d. Approve 08/18/20 Closed Session Meeting Minutes
   e. Approve 08/19/20 Special Meeting Minutes
   f. Approve 08/19/20 Closed Session Meeting Minutes
7. Applicant
   a. Site Plan Application #20-005 Hartland Senior Living PD – Preliminary Site Plan
8. Pending & New Business
   a. Staff Stipend for Personal Data Use ($1,350)
   b. Township Truck Purchase
9. Board Reports

[BRIEF RECESS]

10. Information / Discussion
    a. Township Update
    b. Review of Manager Candidates
11. Adjournment

Hartland Township Board of Trustees Meeting Agenda Memorandum

Submitted By: Susan Case, Finance Clerk

Subject: Approve Payment of Bills

Date: August 25, 2020

Recommended Action
Move to approve the bills as presented for payment.

Discussion
Bills presented total $85,828.20. The bills are available in the Finance office for review.

Notable invoices include:
$22,840.14 – Chloride Solutions, LLC – (Dust control)
$12,679.29 – Jennifer M. Nash – (Livingston County Sewage Disposal Bonds, Series 2015)
$19,000.00 – PHP Pfeffer-Hanniford-Palka – (Audit of Financial Statements FYE 3/31/20)

Financial Impact
Is a Budget Amendment Required? ☐Yes ☒No
All expenses are covered under the amended FY21 budget.

Attachments
Bills for 09.01.2020

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
ANDERSONM	ANDERSON, MITCHELL E	08/12/2020	08/12/20	FOA	REFUND OF CANDIDATE FILING FEE FOR 8	
43920	10382 DUNHAM RD	09/01/2020		N		100.00
08/12/2020	HARTLAND MI, 48353	/ /	0.0000	N		0.00
		09/01/2020		N		100.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-000-284.000	ELECTION FILING FEE DEPOSIT	100.00

VENDOR TOTAL: 100.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
CHLORIDESO	CHLORIDE SOLUTIONS, LLC	08/24/2020	695-B	FOA	DUST CONTROL	
43963	672 NORTH M-52	09/01/2020		N		3,114.09
06/27/2020	WEBBERVILLE MI, 48892	/ /	0.0000	N		0.00
		09/01/2020		Y		3,114.09
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-463-969.002	ROAD CHLORIDE	3,114.09

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
CHLORIDESO	CHLORIDE SOLUTIONS, LLC	08/14/2020	752	FOA	DUST CONTROL	
43961	672 NORTH M-52	09/01/2020		N		10,691.54
08/14/2020	WEBBERVILLE MI, 48892	/ /	0.0000	N		0.00
		09/01/2020		Y		10,691.54
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-463-969.002	ROAD CHLORIDE	10,691.54

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
CHLORIDESO	CHLORIDE SOLUTIONS, LLC	08/21/2020	753	FOA	DUST CONTROL	
43962	672 NORTH M-52	09/01/2020		N		9,034.51
08/21/2020	WEBBERVILLE MI, 48892	/ /	0.0000	N		0.00
		09/01/2020		Y		9,034.51
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-463-969.002	ROAD CHLORIDE	9,034.51

VENDOR TOTAL: 22,840.14

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
CINTAS	CINTAS CORPORATION	07/13/2020	4055688711	FOA	MATS	
43924	P.O. BOX 630910	09/01/2020		N		50.84
07/13/2020	CINCINNATI OH, 45263	/ /	0.0000	N		0.00
		09/01/2020		N		50.84
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-265-801.000	CONTRACTED SERVICES	50.84

Vendor Code	Vendor name	Post Date	Invoice	Bank	Invoice Description
CINTAS	CINTAS CORPORATION	07/27/2020	4056897724	FOA	MATS

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
43925	P.O. BOX 630910	09/01/2020		N		40.29
07/27/2020	CINCINNATI OH, 45263	/ /	0.0000	N		0.00
		09/01/2020		N		40.29
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-265-801.000	CONTRACTED SERVICES				40.29	
CINTAS	CINTAS CORPORATION	08/10/2020	4058242523	FOA	MATS	
43959	P.O. BOX 630910	09/01/2020		N		50.84
08/10/2020	CINCINNATI OH, 45263	/ /	0.0000	N		0.00
		09/01/2020		N		50.84
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-265-801.000	CONTRACTED SERVICES				50.84	
CINTAS	CINTAS CORPORATION	08/24/2020	4059460526	FOA	MATS	
43960	P.O. BOX 630910	09/01/2020		N		40.29
08/24/2020	CINCINNATI OH, 45263	/ /	0.0000	N		0.00
		09/01/2020		N		40.29
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-265-801.000	CONTRACTED SERVICES				40.29	
					VENDOR TOTAL:	182.26
CIOFU	CIOFU, LARRY N	08/12/2020	08/12/20	FOA	REFUND OF CANDIDATE FILING FEE FOR 8	
43913	1340 WINDMILL LANE	09/01/2020		N		100.00
08/12/2020	MILFORD MI, 48380	/ /	0.0000	N		0.00
		09/01/2020		N		100.00
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-000-284.000	ELECTION FILING FEE DEPOSIT				100.00	
					VENDOR TOTAL:	100.00
CITY	CITY ELECTRIC SUPPLY - MI	08/06/2020	BRI092456	FOA	SPRANGER REPAIRS	
43935	PO BOX 1006	09/01/2020		N		109.88
08/06/2020	WILBRAHAM MA, 01095	/ /	0.0000	N		0.00
		09/01/2020		N		109.88
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-751-930.000	REPAIRS & MAINTENANCE				109.88	
					VENDOR TOTAL:	109.88

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
CITYOFFENT	CITY OF FENTON	08/17/2020	3736	FOA	BACTERIOLOGICAL SAMPLES	
43932	301 S LEROY ST	09/01/2020		N		16.00
08/17/2020	FENTON MI, 48430	/ /	0.0000	N		0.00
		09/01/2020		Y		16.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
536-000-740.000	OPERATING SUPPLIES	16.00

VENDOR TOTAL: 16.00

COLAIANNE	COLAIANNE, JOSEPH W	08/12/2020	08/12/20	FOA	REFUND OF CANDIDATE FILING FEE FOR 8	
43912	12354 GOLDEN OAKS DR	09/01/2020		N		100.00
08/12/2020	MILFORD MI, 48380	/ /	0.0000	N		0.00
		09/01/2020		N		100.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-000-284.000	ELECTION FILING FEE DEPOSIT	100.00

VENDOR TOTAL: 100.00

0071	DTE ENERGY-STREET LIGHTS	07/31/2020	200372257086	FOA	JULY 2020 STREETLIGHTS INCL MILLPOIN	
43934		09/01/2020		N		1,270.45
	P.O. BOX 630795					
07/31/2020	CINCINNATI OH, 45263-0795	/ /	0.0000	N		0.00
		09/01/2020		N		1,270.45

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-448-921.000	STREET LIGHTS	1,024.45
701-000-290.400	MILPOINT STREET LIGHT ESCROW	223.71
701-000-290.410	FIDDLERS GROVE STREETLIGHT	22.29
		1,270.45

VENDOR TOTAL: 1,270.45

5888	FOSTER, SWIFT, COLLINS & SMITH	07/31/2020	790972	FOA	JULY 2020	
43943	313 S. WASHINGTON SQUARE	09/01/2020		N		5,155.32
08/13/2020	LANSING MI, 48933-2193	/ /	0.0000	N		0.00
		09/01/2020		Y		5,155.32

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-209-826.000	LEGAL FEES	585.00
536-000-826.000	LEGAL FEES	1,102.50
590-595-826.000	LEGAL FEES	495.00
590-000-826.000	LEGAL FEES	317.82
401-444-826.000	LEGAL FEES	472.50

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
101-101-826.000	LEGAL FEES			675.00		
206-000-826.000	LEGAL FEES			1,507.50		
				5,155.32		
					VENDOR TOTAL:	5,155.32
FOUNTAINW	FOUNTAIN, WILLIAM J	08/12/2020	08/12/20	FOA	REFUND OF CANDIDATE FILING FEE FOR 8	
43918	1469 DIVISION	09/01/2020		N		100.00
08/12/2020	HARTLAND MI, 48353	/ /	0.0000	N		0.00
		09/01/2020		N		100.00
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-000-284.000	ELECTION FILING FEE DEPOSIT			100.00		
					VENDOR TOTAL:	100.00
GERMANE	GERMANE, MATTHEW J	08/12/2020	08/12/20	FOA	REFUND OF CANDIDATE FILING FEE FOR 8	
43915	3600 BULLARD RD	09/01/2020		N		100.00
08/12/2020	HARTLAND MI, 48353	/ /	0.0000	N		0.00
		09/01/2020		N		100.00
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-000-284.000	ELECTION FILING FEE DEPOSIT			100.00		
					VENDOR TOTAL:	100.00
HARPER	HARPER, GLENN E	08/12/2020	08/12/20	FOA	REFUND OF CANDIDATE FILING FEE FOR 8	
43916	11122 AL FORD LN	09/01/2020		N		100.00
08/12/2020	BRIGHTON MI, 48114	/ /	0.0000	N		0.00
		09/01/2020		N		100.00
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-000-284.000	ELECTION FILING FEE DEPOSIT			100.00		
					VENDOR TOTAL:	100.00
HAYAA-F	HARTLAND AREA YOUTH ATHLETIC ASSOC	09/01/2020	090120	FOA	PAYMENT DUE 9/15/20 PER AGREEMENT	
43198	HAYAA - FOOTBALL	09/01/2020		N		307.49
	P.O. BOX 359					
09/01/2020	HARTLAND MI, 48353	/ /	0.0000	N		0.00
		09/01/2020		N		307.49
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-751-801.000	CONTRACTED SERVICES			307.49		

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
					VENDOR TOTAL:	307.49
HAYAA-B	HARTLAND AREA YOUTH ATHLETIC ASSOC.	09/01/2020	090120	FOA	SEPTEMBER 2020 - PAYMENT PER AGREEME	
43245	HAYAA - BASEBALL	09/01/2020		N		1,000.00
	P.O. BOX 110					
09/01/2020	HARTLAND MI, 48353	/ /	0.0000	N		0.00
		09/01/2020		N		1,000.00
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-751-801.000	CONTRACTED SERVICES				1,000.00	
					VENDOR TOTAL:	1,000.00
HCSA	HARTLAND COMMUNITY SOCCER ASSN	09/01/2020	090120	FOA	PAYMENT DUE 9/15/20 PER AGREEMENT	
43192	HARTLAND COMMUNITY EDUCATION	09/01/2020		N		698.32
	9525 HIGHLAND RD					
09/01/2020	HOWELL MI, 48843	/ /	0.0000	N		0.00
		09/01/2020		N		698.32
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-751-801.000	CONTRACTED SERVICES				698.32	
					VENDOR TOTAL:	698.32
0001	HARTLAND TOWNSHIP GENERAL FUND	07/31/2020	081720	FOA	JULY 2020 MOBILE HOME TAX DISBURSEME	
43930		09/01/2020		N		269.00
08/17/2020	,	/ /	0.0000	N		0.00
		09/01/2020		N		269.00
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
701-000-290.300	MOBILE HOME FEES ESCROW				269.00	
					VENDOR TOTAL:	269.00
HYL	HARTLAND YOUTH LACROSSE	09/01/2020	090120	FOA	PAYMENT DUE 9/15/20 PER AGREEMENT	
43186	P.O. BOX 56	09/01/2020		N		307.49
09/01/2020	HARTLAND MI, 48353	/ /	0.0000	N		0.00
		09/01/2020		N		307.49
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-751-801.000	CONTRACTED SERVICES				307.49	
					VENDOR TOTAL:	307.49
1548	HORIZON LANDSCAPE INC.	08/01/2020	15121	FOA	WEEDING/PRUNING OF SHRUBS	
43922	11765 HIBNER RD	09/01/2020		N		293.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
08/01/2020	HARTLAND MI, 48353	/ /	0.0000	N		0.00
		09/01/2020		Y		293.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-265-802.000	LAWN/SNOW MAINTENANCE	293.00

VENDOR TOTAL: 293.00

4589	HORNING, KATHLEEN A	08/12/2020	08/12/20	FOA	REFUND OF CANDIDATE FILING FEE FOR 8	
43914	1665 HARTLAND WOODS DR	09/01/2020		N		100.00
08/12/2020	HOWELL MI, 48843-9044	/ /	0.0000	N		0.00
		09/01/2020		N		100.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-000-284.000	ELECTION FILING FEE DEPOSIT	100.00

VENDOR TOTAL: 100.00

3366	I.M.C. PRODUCTS	08/11/2020	2644	FOA	TRACE/REPLACE ALL WIRING BELOW WATER	
43939		09/01/2020		N		4,000.00
	P.O. BOX 245					
08/11/2020	HARTLAND MI, 48353	/ /	0.0000	N		0.00
		09/01/2020		N		4,000.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
536-000-930.001	REPAIRS & MAINTENANCE SYSTEM	4,000.00

3366	I.M.C. PRODUCTS	08/11/2020	2645	FOA	AIR GAP CONTROL PANEL	
43940		09/01/2020		N		2,000.00
	P.O. BOX 245					
08/11/2020	HARTLAND MI, 48353	/ /	0.0000	N		0.00
		09/01/2020		N		2,000.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
536-000-930.001	REPAIRS & MAINTENANCE SYSTEM	2,000.00

3366	I.M.C. PRODUCTS	08/11/2020	2646	FOA	DECONTAMINATE CONTROL CABINET	
43941		09/01/2020		N		1,000.00
	P.O. BOX 245					
08/11/2020	HARTLAND MI, 48353	/ /	0.0000	N		0.00
		09/01/2020		N		1,000.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
536-000-930.001	REPAIRS & MAINTENANCE SYSTEM	1,000.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
					VENDOR TOTAL:	7,000.00
ITRIGHT	I.T. RIGHT	08/03/2020	20165241	FOA	MS 365 BUSINESS STANDARD	
43964	PO BOX 160	09/01/2020		N		7,693.20
08/03/2020	BATH MI, 48808	/ /	0.0000	N		0.00
		09/01/2020		N		7,693.20
Open						

GL NUMBER	DESCRIPTION	AMOUNT
577-000-946.000	PEG SERVER & SOFTWARE RENTAL	5,493.20
101-258-970.102	CAPITAL OUTLAY SOFTWARE	2,200.00
		7,693.20

ITRIGHT	I.T. RIGHT	08/25/2020	20165415	FOA	CREDIT MEMO	
43965	PO BOX 160	09/01/2020		N		(1,693.20)
08/25/2020	BATH MI, 48808	/ /	0.0000	N		0.00
		09/01/2020		N		(1,693.20)
Open						

GL NUMBER	DESCRIPTION	AMOUNT
577-000-946.000	PEG SERVER & SOFTWARE RENTAL	(1,693.20)

					VENDOR TOTAL:	6,000.00
JCIJONES	JCI JONES CHEMICALS, INC	08/13/2020	829719	FOA	800 GALLONS HYPOCHLORITE SOLUTION	
43927	MSC#729	09/01/2020		N		2,020.40
	P.O. BOX 830674					
08/13/2020	BIRMINGHAM AL, 35283-0674	/ /	0.0000	N		0.00
		09/01/2020		Y		2,020.40
Open						

GL NUMBER	DESCRIPTION	AMOUNT
536-000-740.001	WATER TREAT. CHEMICALS	2,020.40

					VENDOR TOTAL:	2,020.40
LIVINGCO	JENNIFER M. NASH	08/12/2020	081220	FOA	LIVINGSTON COUNTY SEWAGE DISPOSAL BO	
43904	C/O BRIAN JONCKHEERE, LCDC	09/01/2020		N		12,679.29
	2300 E. GRAND RIVER, STE 105					
08/12/2020	HOWELL MI, 48843-7581	/ /	0.0000	N		0.00
		09/01/2020		N		12,679.29
Open						

GL NUMBER	DESCRIPTION	AMOUNT
591-000-997.000	BOND INTEREST PAYMENT	12,679.29

					VENDOR TOTAL:	12,679.29
LASHBROOK	LASHBROOK SEPTIC SERVICE	08/03/2020	A-50927	FOA	7/21 - 8/17/20 RENTAL AT SPRANGER FI	

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
43921	4895 CURDY RD	09/01/2020		N		180.00
08/03/2020	HOWELL MI, 48855	/ /	0.0000	N		0.00
		09/01/2020		Y		180.00
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
401-751-970.006	SPRANGER FIELD				180.00	
LASHBROOK	LASHBROOK SEPTIC SERVICE	08/17/2020	A-51197	FOA	8/18 - 9/14/20 RENTAL AT SPRANGER FI	
43929	4895 CURDY RD	09/01/2020		N		180.00
08/17/2020	HOWELL MI, 48855	/ /	0.0000	N		0.00
		09/01/2020		Y		180.00
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
401-751-970.006	SPRANGER FIELD				180.00	
					VENDOR TOTAL:	360.00
0220	LIVINGSTON COUNTY TREASURER	07/31/2020	081720	FOA	JULY 2020 MOBILE HOME TAX DISBURSEME	
43931	200 E. GRAND RIVER	09/01/2020		N		1,345.00
08/17/2020	HOWELL MI, 48843	/ /	0.0000	N		0.00
		09/01/2020		N		1,345.00
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
701-000-290.300	MOBILE HOME FEES ESCROW				1,345.00	
					VENDOR TOTAL:	1,345.00
2909	LIVINGSTON CTY.DRAIN COMMISSIO	07/31/2020	3207	FOA	LIV CNTY WATERSHED GRP SHARED COST	
43910	2300 E. GRAND RIVER STE. 105	09/01/2020		N		463.28
07/31/2020	HOWELL MI, 48843	/ /	0.0000	N		0.00
		09/01/2020		N		463.28
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-465-956.000	MISCELLANEOUS				463.28	
2909	LIVINGSTON CTY.DRAIN COMMISSIO	07/31/2020	3214	FOA	LIV CNTY WATERSHED GRP SHARED COST	
43909	2300 E. GRAND RIVER STE. 105	09/01/2020		N		321.36
07/31/2020	HOWELL MI, 48843	/ /	0.0000	N		0.00
		09/01/2020		N		321.36
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-465-956.000	MISCELLANEOUS				321.36	

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
2909	LIVINGSTON CTY.DRAIN COMMISSIO	07/31/2020	3222	FOA	LIV CNTY WATERSHED GROUP SHARED COST	
43908	2300 E. GRAND RIVER	09/01/2020		N		358.61
	STE. 105					
07/31/2020	HOWELL MI, 48843	/ /	0.0000	N		0.00
		09/01/2020		N		358.61
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-465-956.000	MISCELLANEOUS	358.61

VENDOR TOTAL: 1,143.25

LOWES	LOWES BUSINESS ACCT/SYNCB	08/06/2020	06276	FOA	SHOP VAC	
43951	P.O. BOX 530970	09/01/2020		N		179.55
08/06/2020	ATLANTA GA, 30353-0970	/ /	0.0000	N		0.00
		09/01/2020		N		179.55
Open						

GL NUMBER	DESCRIPTION	AMOUNT
536-000-740.000	OPERATING SUPPLIES	179.55

LOWES	LOWES BUSINESS ACCT/SYNCB	07/22/2020	09453	FOA	LIGHT BULB/MISC	
43958	P.O. BOX 530970	09/01/2020		N		117.71
07/22/2020	ATLANTA GA, 30353-0970	/ /	0.0000	N		0.00
		09/01/2020		N		117.71
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-265-740.000	OPERATING SUPPLIES	117.71

LOWES	LOWES BUSINESS ACCT/SYNCB	07/23/2020	09601	FOA	WASP SPRAY/MISC	
43956	P.O. BOX 530970	09/01/2020		N		69.53
07/23/2020	ATLANTA GA, 30353-0970	/ /	0.0000	N		0.00
		09/01/2020		N		69.53
Open						

GL NUMBER	DESCRIPTION	AMOUNT
536-000-740.000	OPERATING SUPPLIES	69.53

LOWES	LOWES BUSINESS ACCT/SYNCB	07/28/2020	11261	FOA	TOOL SET, WD-40, OIL, GREASE	
43952	P.O. BOX 530970	09/01/2020		N		221.27
07/28/2020	ATLANTA GA, 30353-0970	/ /	0.0000	N		0.00
		09/01/2020		N		221.27
Open						

GL NUMBER	DESCRIPTION	AMOUNT
536-000-740.000	OPERATING SUPPLIES	221.27

LOWES	LOWES BUSINESS ACCT/SYNCB	07/27/2020	12797	FOA	KNIFE	
43953	P.O. BOX 530970	09/01/2020		N		25.89

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
07/27/2020	ATLANTA GA, 30353-0970	/ /	0.0000	N		0.00
		09/01/2020		N		25.89
Open						

GL NUMBER	DESCRIPTION	AMOUNT
536-000-740.000	OPERATING SUPPLIES	25.89

VENDOR TOTAL: 613.95

1180	PETER'S TRUE VALUE HARDWARE	08/18/2020	K54384	FOA	TRASH BAGS, PINE SOLE, CLEANER/POLIS	
43928	3455 W. HIGHLAND ROAD	09/01/2020		N		40.95
08/18/2020	MILFORD MI, 48380	/ /	0.0000	N		0.00
		09/01/2020		N		40.95
Open						

GL NUMBER	DESCRIPTION	AMOUNT
536-000-740.000	OPERATING SUPPLIES	40.95

VENDOR TOTAL: 40.95

PETRUCCI	PETRUCCI, JOSEPH M	08/12/2020	08/12/20	FOA	REFUND OF CANDIDATE FILING FEE FOR 8	
43917	2291 ARCIERO	09/01/2020		N		100.00
08/12/2020	HOWELL MI, 48855	/ /	0.0000	N		0.00
		09/01/2020		N		100.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-000-284.000	ELECTION FILING FEE DEPOSIT	100.00

VENDOR TOTAL: 100.00

0102	PHP PFEFFER-HANNIFORD-PALKA	08/03/2020	1000051286	FOA	AUDIT OF FINANCIAL STATEMENTS FYE 3/	
43936	225 E. GRAND RIVER	09/01/2020		N		19,000.00
	SUITE 104					
06/15/2020	BRIGHTON MI, 48116	/ /	0.0000	N		0.00
		09/01/2020		Y		19,000.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-101-807.000	AUDIT FEES	9,160.00
590-000-807.000	AUDIT FEES	4,990.00
536-000-807.000	AUDIT FEES	4,000.00
206-000-807.000	AUDIT FEES	850.00
		19,000.00

VENDOR TOTAL: 19,000.00

PMTECH	PM TECHNOLOGIES	08/03/2020	139619	FOA	PRIMARY PREVENTIVE MAINTENANCE	
43907	28294 BECK ROAD	09/01/2020		N		788.10

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
08/03/2020	WIXOM MI, 48393	/ /	0.0000	N		0.00
		09/01/2020		N		788.10
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-265-801.000	CONTRACTED SERVICES				788.10	
					VENDOR TOTAL:	788.10
PREISS	PREISS COMPANIES LLC	07/29/2020	12796	FOA	BLDG SEWER LINE REPAIR TO WTP	
43911	8211 CLYDE ROAD	09/01/2020		N		1,150.00
07/29/2020	FENTON MI, 48430	/ /	0.0000	N		0.00
		09/01/2020		Y		1,150.00
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
536-000-930.003	REPAIRS & MAINTENANCE BLD&GRDS				1,150.00	
					VENDOR TOTAL:	1,150.00
7532	PRINTING SYSTEMS, INC.	07/21/2020	215145	FOA	ELECTION SUPPLIES	
43906	12005 BEECH DALY	09/01/2020		N		337.91
07/21/2020	TAYLOR MI, 48180	/ /	0.0000	N		0.00
		09/01/2020		Y		337.91
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-191-727.000	SUPPLIES & POSTAGE				337.91	
					VENDOR TOTAL:	337.91
ZRULL	ZRULL, LOUISE A	08/12/2020	08/12/20	FOA	REFUND OF CANDIDATE FILING FEE FOR 8	
43919	1605 MOONLIGHT DR	09/01/2020		N		100.00
08/12/2020	HOWELL MI, 48843	/ /	0.0000	N		0.00
		09/01/2020		N		100.00
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-000-284.000	ELECTION FILING FEE DEPOSIT				100.00	
					VENDOR TOTAL:	100.00
					TOTAL - ALL VENDORS:	85,828.20

FUND TOTALS:

Fund 101 - GENERAL FUND	42,670.00
Fund 206 - FIRE OPERATING	2,357.50
Fund 401 - CAPITAL PROJECTS FUND	832.50
Fund 536 - WATER SYSTEM FUND	15,826.09

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
Fund 577 - CABLE TV FUND						3,800.00
Fund 590 - SEWER OPERATIONS & MAINTENANCE FUND						5,802.82
Fund 591 - LAKE TYRONE 2015 SEWER SAD						12,679.29
Fund 701 - TRUST AND AGENCY						1,860.00

Hartland Township Board of Trustees Meeting Agenda Memorandum

Submitted By: Susan Case, Finance Clerk

Subject: Approve Post Audit of Disbursements Between Board Meetings

Date: August 25, 2020

Recommended Action
Move to approve the presented disbursements under the post-audit resolution.

Discussion
The following disbursements have been made since the last board meeting:

Accounts Payable – $16,820.30

August 31, 2020 Payroll - $74,932.45

Financial Impact
Is a Budget Amendment Required? ☐Yes ☒No
All expenses are covered under the amended FY21 budget.

Attachments
Post Audit Bills List 08.12.2020
Post Audit Bills List 08.25.2020
Payroll for 08.31.2020

CHECK DISBURSEMENT REPORT FOR HARTLAND TOWNSHIP
CHECK DATE FROM 08/12/2020 - 08/12/2020

Check Date	Bank	Check #	Payee	Description	GL #	Amount
08/12/2020	FOA	40583	DTE ENERGY	STREET LIGHTS	101-448-921.000	39.19
			TOTAL - ALL FUNDS	TOTAL OF 1 CHECKS		39.19

--- GL TOTALS ---

101-448-921.000	STREET LIGHTS	39.19
	TOTAL	39.19

CHECK DISBURSEMENT REPORT FOR HARTLAND TOWNSHIP
CHECK DATE FROM 08/25/2020 - 08/25/2020

Check Date	Bank	Check #	Payee	Description	GL #	Amount
08/25/2020	FOA	40610	CONSUMERS ENERGY	UTILITIES - GAS	536-000-920.001	14.00
08/25/2020	FOA	40611	DTE ENERGY	UTILITIES - ELECTRIC	101-265-920.002	1,697.45
		40611		STREET LIGHTS	101-448-921.000	38.83
		40611		UTILITIES - ELECTRIC	101-751-920.002	441.71
		40611		UTILITIES	209-000-920.000	14.47
		40611		UTILITIES - ELECTRIC	536-000-920.002	4,819.39
						7,011.85
08/25/2020	FOA	40612	MUTUAL OF OMAHA	ACCRUED STD/LTD BENEFITS	001-000-257.103	131.27
		40612		EMPLOYMENT EXPENSE	101-172-716.000	37.11
		40612		EMPLOYMENT EXPENSE	101-192-716.000	89.03
		40612		EMPLOYMENT EXPENSE	101-209-716.000	92.20
		40612		EMPLOYMENT EXPENSE	101-215-716.000	60.10
		40612		EMPLOYMENT EXPENSE	101-253-716.000	62.26
		40612		EMPLOYMENT EXPENSE	101-400-716.000	107.85
		40612		EMPLOYMENT EXPENSE	536-000-716.000	76.50
						656.32
08/25/2020	FOA	40613	PRINCIPAL LIFE INSURANCE COMPANY	ACCRUED DENTAL BENEFITS	001-000-257.101	102.29
		40613		ACCRUED VISION BENEFITS	001-000-257.102	44.83
		40613		EMPLOYMENT EXPENSE	101-172-716.000	37.28
		40613		EMPLOYMENT EXPENSE	101-192-716.000	74.56
		40613		EMPLOYMENT EXPENSE	101-209-716.000	72.04
		40613		EMPLOYMENT EXPENSE	101-215-716.000	120.17
		40613		EMPLOYMENT EXPENSE	101-253-716.000	144.08
		40613		EMPLOYMENT EXPENSE	101-400-716.000	102.98
		40613		EMPLOYMENT EXPENSE	536-000-716.000	37.28
						735.51
08/25/2020	FOA	40614	PRIORITY HEALTH	ACCRUED MEDICAL BENEFITS	001-000-257.100	1,672.68
		40614		EMPLOYMENT EXPENSE	101-172-716.000	527.69
		40614		EMPLOYMENT EXPENSE	101-192-716.000	1,055.38
		40614		EMPLOYMENT EXPENSE	101-209-716.000	1,160.92
		40614		EMPLOYMENT EXPENSE	101-215-716.000	1,392.92
		40614		EMPLOYMENT EXPENSE	101-253-716.000	2,026.15
		40614		EMPLOYMENT EXPENSE	536-000-716.000	527.69
						8,363.43
			TOTAL - ALL FUNDS	TOTAL OF 5 CHECKS		16,781.11

--- GL TOTALS ---

001-000-257.100	ACCRUED MEDICAL BENEFITS	1,672.68
001-000-257.101	ACCRUED DENTAL BENEFITS	102.29
001-000-257.102	ACCRUED VISION BENEFITS	44.83
001-000-257.103	ACCRUED STD/LTD BENEFITS	131.27
101-172-716.000	EMPLOYMENT EXPENSE	602.08
101-192-716.000	EMPLOYMENT EXPENSE	1,218.97
101-209-716.000	EMPLOYMENT EXPENSE	1,325.16
101-215-716.000	EMPLOYMENT EXPENSE	1,573.19

Check Date	Bank	Check #	Payee	Description	GL #	Amount
101-253-716.000			EMPLOYMENT EXPENSE		2,232.49	
101-265-920.002			UTILITIES - ELECTRIC		1,697.45	
101-400-716.000			EMPLOYMENT EXPENSE		210.83	
101-448-921.000			STREET LIGHTS		38.83	
101-751-920.002			UTILITIES - ELECTRIC		441.71	
209-000-920.000			UTILITIES		14.47	
536-000-716.000			EMPLOYMENT EXPENSE		641.47	
536-000-920.001			UTILITIES - GAS		14.00	
536-000-920.002			UTILITIES - ELECTRIC		4,819.39	
			TOTAL		16,781.11	

Check Register Report For Hartland Township
For Check Dates 08/31/2020 to 08/31/2020

Check Date	Bank	Check Number	Name	Check Gross	Physical Check Amount	Direct Deposit	Status
08/31/2020	FOA	16818	GOODWIN, DENNIS R	255.65	198.91	0.00	Open
08/31/2020	FOA	16819	PETRUCCI, JOSEPH M	600.00	504.66	0.00	Open
08/31/2020	FOA	16820	VOIGHT, KEITH R	63.00	55.50	0.00	Open
08/31/2020	FOA	16821	ICMA VANTAGEPOINT TRANSFER AGENT	1,306.51	1,306.51	0.00	Open
08/31/2020	FOA	16822	ICMA VANTAGEPOINT TRANSFER AGENT	3,942.32	3,942.32	0.00	Open
08/31/2020	FOA	16823	ICMA VANTAGEPOINT TRANSFER AGENT	1,042.38	1,042.38	0.00	Open
08/31/2020	FOA	DD6685	BAGDON, KELLY M	1,831.40	0.00	1,309.33	Cleared
08/31/2020	FOA	DD6686	BEAUDOIN, DIANA K	754.68	0.00	681.70	Cleared
08/31/2020	FOA	DD6687	BERNARDI, MELYNDA A	995.79	0.00	760.29	Cleared
08/31/2020	FOA	DD6688	BROOKS, TYLER J	1,568.93	0.00	1,124.68	Cleared
08/31/2020	FOA	DD6689	CASE, SUSAN E	1,554.21	0.00	1,052.90	Cleared
08/31/2020	FOA	DD6690	CIOFU, LARRY N	2,583.33	0.00	1,906.08	Cleared
08/31/2020	FOA	DD6691	COLAIANNE, JOSEPH W	600.00	0.00	478.83	Cleared
08/31/2020	FOA	DD6692	DRYDEN-HOGAN, SUSAN A	3,291.57	0.00	2,355.94	Cleared
08/31/2020	FOA	DD6693	FOUNTAIN, WILLIAM J	5,833.33	0.00	4,647.93	Cleared
08/31/2020	FOA	DD6694	FOX, LAWRENCE E	428.25	0.00	377.29	Cleared
08/31/2020	FOA	DD6695	GERMANE, MATTHEW J	600.00	0.00	529.10	Cleared
08/31/2020	FOA	DD6696	HARPER, GLENN E	600.00	0.00	504.66	Cleared
08/31/2020	FOA	DD6697	HEASLIP, JAMES B	2,938.79	0.00	1,757.48	Cleared
08/31/2020	FOA	DD6698	HENDRIX, PETER J	35.68	0.00	31.44	Cleared
08/31/2020	FOA	DD6699	HORNING, KATHLEEN A	2,583.33	0.00	1,793.79	Cleared
08/31/2020	FOA	DD6700	JOHNSON, LISA	2,082.96	0.00	1,467.84	Cleared
08/31/2020	FOA	DD6701	KLINE, CORI L	672.81	0.00	575.06	Cleared
08/31/2020	FOA	DD6702	KUMAR, ANDREW M	1,760.64	0.00	1,278.40	Cleared
08/31/2020	FOA	DD6703	LANGER, TROY D	3,533.12	0.00	2,506.01	Cleared
08/31/2020	FOA	DD6704	LENAGHAN, WILLIAM J	492.24	0.00	450.49	Cleared
08/31/2020	FOA	DD6705	LOUIS, CASEY	830.25	0.00	542.26	Cleared
08/31/2020	FOA	DD6706	MITCHELL, KYLE J	2,439.48	0.00	1,882.35	Cleared
08/31/2020	FOA	DD6707	MORGANROTH, CAROL L	1,916.52	0.00	1,477.80	Cleared
08/31/2020	FOA	DD6708	RUF, ANDREW J	880.00	0.00	738.95	Cleared
08/31/2020	FOA	DD6709	SHOLLACK, DONNA M	1,691.91	0.00	1,241.93	Cleared
08/31/2020	FOA	DD6710	VERMILLION, KAREN L	1,695.14	0.00	1,255.76	Cleared
08/31/2020	FOA	DD6711	VERMILLION, NATHANIAL J	418.00	0.00	342.29	Cleared
08/31/2020	FOA	DD6712	VETTRAINO, ALEXANDER D	822.25	0.00	682.89	Cleared

Check Date	Bank	Check Number	Name	Check Gross	Physical Check Amount	Direct Deposit	Status
08/31/2020	FOA	DD6713	WEST, ROBERT M	3,632.36	0.00	2,393.54	Cleared
08/31/2020	FOA	DD6714	WYATT, MARTHA K	2,773.88	0.00	2,003.63	Cleared
08/31/2020	FOA	EFT554	FEDERAL TAX DEPOSIT	12,275.51	12,275.51	0.00	Cleared
08/31/2020	FOA	EFT555	MI DEPT OF TREASURY	3,606.23	3,606.23	0.00	Cleared
Totals:			Number of Checks: 038	74,932.45	22,932.02	38,150.64	

Total Physical Checks: 6
Total Check Stubs: 32

Hartland Township Board of Trustees Meeting Agenda Memorandum

Submitted By: Larry Ciofu, Clerk

Subject: 08-18-2020 Hartland Township Board Regular Meeting Minutes

Date: August 26, 2020

Recommended Action
Move to approve the Hartland Township Board Regular Meeting minutes for August 18, 2020.

Discussion
Draft minutes are attached for review

Financial Impact
None

Attachments
08-18-2020 HTB Minutes - DRAFT

DRAFT

1. Call to Order

The meeting was called to order by Supervisor Fountain at 7:00 p.m.

2. Pledge of Allegiance

3. Roll Call

PRESENT: Supervisor Fountain, Clerk Ciofu, Treasurer Horning, Trustee Colaianne, Trustee Germane, Trustee Harper, Trustee Petrucci
ABSENT: None

Also present was Public Works Director Bob West.

4. Approval of the Agenda

Move to approve the agenda for the August 18, 2020 Hartland Township Board meeting as presented.
Motion made by Treasurer Horning, Seconded by Trustee Harper.
Voting Yea: Supervisor Fountain, Clerk Ciofu, Treasurer Horning, Trustee Colaianne, Trustee Germane, Trustee Harper, Trustee Petrucci.
Voting Nay: None

5. Call to the Public

No one came forward.

6. Approval of the Consent Agenda

Move to approve the consent agenda for the August 18, 2020 Hartland Township Board meeting as presented.
Motion made by Trustee Petrucci, Seconded by Trustee Colaianne.
Voting Yea: Supervisor Fountain, Clerk Ciofu, Treasurer Horning, Trustee Colaianne, Trustee Germane, Trustee Harper, Trustee Petrucci.
Voting Nay: None

a. Approve Payment of Bills
b. Approve Post Audit of Disbursements Between Board Meetings
c. Approve 07/07/20 Regular Meeting Minutes
d. Approve 07/07/20 Closed Session Meeting Minutes
e. Approve 08/05/20 Closed Session Meeting Minutes
f. Approve 08/05/20 Regular Meeting Minutes

7. Pending & New Business

g. Hartland Township Graffiti Mitigation Policy

Public Works Director Bob West gave a brief overview of the Hartland Township Graffiti Mitigation Policy developed due to recent circumstances in the community and the public's

request for a response. Director West reviewed the policy provisions as it relates to township property and private property. He stated that the policy gives the Township leverage to work with utility companies for issues in easements or on electrical boxes to mitigate the circumstances for clean up and cost. With regards to issues on private property, there is liability issue with regards to the methods used to clean graffiti which often results in property damage. The policy basically gives the Township the ability to work with private property owners to work towards mitigation of these issues as they arise. Trustee Harper inquired as to whether we are reporting these instances to the Sheriff's Department as they may have a special unit that deals with this type of issue. Director West stated that they do take photographs of these incidents and they will contact the Sheriff's office with this information. Clerk Ciofu inquired as to whether there was some way to educate the public with regard to not attempting to clean these to avoid causing further damage. Director West stated this has been discussed but the focus has been getting this clean up quickly and getting information out on social media that it is being addressed.

Move to adopt the Hartland Township Graffiti Mitigation Policy.
Motion made by Trustee Germane, Seconded by Treasurer Horning.
Voting Yea: Supervisor Fountain, Clerk Ciofu, Treasurer Horning, Trustee Colaianne, Trustee Germane, Trustee Harper, Trustee Petrucci.
Voting Nay: None

8. Board Reports

Trustee Colaianne: No report.
Trustee Germane: No report.
Trustee Harper: No report.
Trustee Petrucci: No report.
Clerk Ciofu: No report.
Treasurer Horning: Reported that the Farmer's Market had the most vendors they have had all summer, around 22 or 23 vendors.
Supervisor Fountain: Stated that the Township's Large Item Clean Up day is Saturday, September 19, 2020 from 9:00 a.m. to 1:00 p.m.

[BRIEF RECESS]

9. Information / Discussion
   h. Township Update

Supervisor Fountain reported that Communications Director Melynda Bernardi is working on the Volunteer of the Year and the State of the Community with the Partner's in Progress, to be held in the middle of October. This month's Hartland in Hindsight will feature the Safer Roads Committee. Planning Director Troy Langer has indicated they have made a lot of progress on the Mayberry Homes project and is working on permit issues regarding a pool on a lakefront home. Public Works Director West is working on the water system expansion with the developers and there is a meeting scheduled this week with the developers. The township pickup truck was in a deer/truck accident. No one was hurt, but the truck was totaled and we received $9600 form the insurance company. A new truck through the State Program will be around $23,000, so we will be purchasing a new truck at a net cost of around $15,000. Finance Director Susan Dryden Hogan is working with John Axe regarding the refunding of the surplus for the water bond back to residents. Supervisor Fountain brought to the Boards attention that

the State is making the County designate one Assessor in the County to act as the Assessor for communities that do not meet state mandated assessing requirements. He brought this up due to our recent 100% score on the assessing audit, and that our Assessor, Jim Heaslip could be a candidate for this designation.

10. Closed Session
    i. To consider the purchase or lease of real property

Move to go into closed session to consider the purchase or lease of real property, pursuant to Section 8(d) of the Open Meetings Act.
Motion made by Trustee Harper, Seconded by Trustee Petrucci. Roll call vote taken.
Voting Yea: Supervisor Fountain, Clerk Ciofu, Treasurer Horning, Trustee Colaianne, Trustee Germane, Trustee Harper, Trustee Petrucci.
Voting Nay: None Motion passed: 7 – 0 – 0.

The Board is in closed session at 7:20 p.m.

The Board came out of closed session at 7:25 p.m.

Move to take action as discussed in the closed session regarding the purchase or lease of real property.
Motion made by Trustee Harper, Seconded by Trustee Colaianne.
Voting Yea: Supervisor Fountain, Clerk Ciofu, Treasurer Horning, Trustee Colaianne, Trustee Germane, Trustee Harper, Trustee Petrucci.
Voting Nay: None

11. Adjournment

Move to adjourn the meeting at 7:30 p.m.
Motion made by Trustee Harper, Seconded by Trustee Petrucci.
Voting Yea: Supervisor Fountain, Clerk Ciofu, Treasurer Horning, Trustee Colaianne, Trustee Germane, Trustee Harper, Trustee Petrucci.
Voting Nay: None

Hartland Township Board of Trustees Meeting Agenda Memorandum

Submitted By: Larry Ciofu, Clerk

Subject: 08-18-2020 Hartland Township Board Closed Session Meeting Minutes

Date: August 26, 2020

Recommended Action
Move to approve the Hartland Township Board Closed Session Meeting minutes for August 18, 2020.

Discussion
Draft minutes are available in the Clerk's Office for review.

Financial Impact
None

Attachments
None

Hartland Township Board of Trustees Meeting Agenda Memorandum

Submitted By: Larry Ciofu, Clerk

Subject: 08-19-2020 Hartland Township Board Special Meeting Minutes

Date: August 26, 2020

Recommended Action
Move to approve the Hartland Township Board Special Meeting minutes for August 19, 2020.

Discussion
Draft Minutes are attached for review

Financial Impact
None

Attachments
8-19-2020 HTB Minutes - DRAFT

DRAFT

1. Call to Order

The meeting was called to order by Supervisor Fountain at 6:00 p.m.

2. Pledge of Allegiance

3. Roll Call

PRESENT: Supervisor Fountain, Clerk Ciofu, Treasurer Horning, Trustee Colaianne, Trustee Germane (at 6:02 p.m.), Trustee Harper, Trustee Petrucci
ABSENT: None

4. Approval of the Agenda

Move to approve the agenda for the August 19, 2020 Hartland Township Board meeting as presented.
Motion made by Treasurer Horning, Seconded by Trustee Harper.
Voting Yea: Supervisor Fountain, Clerk Ciofu, Treasurer Horning, Trustee Colaianne, Trustee Harper, Trustee Petrucci.
Voting Nay: None
Absent: Trustee Germane

5. Call to the Public

Summer McMullen of 4312 Latourette came forward and stated she was a newly elected Trustee on the ballot for November 2020 and asked the Board to reconsider the Manager position to be tabled until after the first of the year. She stated she felt it was fiscally responsible to move forward with a non-mission critical position due to not being aware of the financial implications related to the COVID-19. She stated that since April of 2020, the State of Michigan has had a hiring freeze and she believes that Livingston County does as well. She stated that with the State of Michigan hiring freeze other departments are helping out and working together to fill those voids until they find out what is going on with their budget. She also requested to be included in the review for the Township Manager position.

Denise O'Connell of 6049 Tipsico Lake Road came forward and stated she was the other half of the team that got elected for the November 2020 ballot. She asked the Board to table this agenda item in speaking with the headhunter for interviewing and hiring a Township Manager. She stated why she thought this was a fiscally responsible thing to do in that no one else is hiring any new employees anywhere except for some businesses that are able to open at this time. She stated she feels this is fiscally irresponsible to consider this in that we have absolutely no idea how our budget will be affected by the state revenue sharing next year. She stated the current level is $1.3 million and the talk is the reduction will be at least 25%. If this is the case. we will be looking at a deficit of $326,000. After speaking with hundreds of our residents in the community during the election cycle, they, as well as herself, are questioning the necessity of this position. She stated that we just had an election that re-elected our Treasurer, Supervisor, and Clerk and that she feels that our Supervisor is our elected official and that we do not need an un-elected bureaucrat in our community. She also stated that as a community we need to work together as there are residents that are in dire straits right now that didn't get the $1200 from the federal government and didn't

get their unemployment, and there are businesses that are never going to open again. She hoped we would consider this aspect. She thanked the Board for their time.

[Brief Recess]

6. Closed Session

a. To review candidate applications for the Township Manager position, subject to confidentiality

Supervisor Fountain gave a brief overview of the purpose of the closed session to review with Mr. Walsh of Walsh Municipal Services seven unidentified candidates for the Township Manager position and to determine if there are at least three candidates that would be worth interviewing. The interviews would be open to the public at a future scheduled meeting.

The Board moved to go into closed session under section 8(f) of the Open Meetings Act, to review and consider the contents of applications for employment in Hartland Township with Frank Walsh of Walsh Municipal Services, upon the requests of the applicants that the applications remain confidential, in connection with the Township Board's hiring for the position of Township Manager.

Motion: Clerk Ciofu Second: Trustee Petrucci

Roll Call

Supervisor Fountain	Yes	Trustee Germane	Yes
Clerk Ciofu	Yes	Trustee Harper	Yes
Treasurer Horning	Yes	Trustee Petrucci	Yes
Trustee Colaianne	Yes	**Motion carried: 7 – 0 – 0.**	

Board is in closed session at 6:18 p.m.

Board came out of closed session at 7:20 p.m.

Move to proceed with interviews with candidates 6, 11, 25 and 26.
Motion made by Treasurer Horning, Seconded by Trustee Colaianne.
Voting Yea: Supervisor Fountain, Clerk Ciofu, Treasurer Horning, Trustee Colaianne, Trustee Germane, Trustee Harper, Trustee Petrucci.
Voting Nay: None

Move to set the meeting date for candidate interviews on Friday, August 28, 2020 at 3:00 p.m. at the Hartland Township Hall.
Motion made by Trustee Germane, Seconded by Trustee Harper.
Voting Yea: Supervisor Fountain, Clerk Ciofu, Treasurer Horning, Trustee Colaianne, Trustee Germane, Trustee Harper, Trustee Petrucci.
Voting Nay: None

7. Adjournment

Move to adjourn the meeting at 7:25 p.m.
Motion made by Trustee Harper, Seconded by Trustee Colaianne.
Voting Yea: Supervisor Fountain, Clerk Ciofu, Treasurer Horning, Trustee Colaianne, Trustee Germane, Trustee Harper, Trustee Petrucci.
Voting Nay: None

Hartland Township Board of Trustees Meeting Agenda Memorandum

Submitted By: Larry Ciofu, Clerk

Subject: 08-19-2020 Hartland Township Board Closed Session Meeting Minutes

Date: August 26, 2020

Recommended Action
Move to approve the Hartland Township Board Closed Session Meeting minutes for August 19, 2020.

Discussion
Draft minutes are available in the Clerk's Office for review.

Financial Impact
None

Attachments
None

Hartland Township Board of Trustees Meeting Agenda Memorandum

Submitted By: Troy Langer, Planning Director

Subject: Site Plan Application #20-005 Hartland Senior Living PD – Preliminary Site Plan

Date: August 26, 2020

Recommended Action

Move to Approved as outlined in the Staff Memorandum, dated August 26, 2020.

Approval of Site Plan Application #20-005, the Preliminary Planned Development Site Plan for Hartland Senior Living, subject to the following:

1. Waiver request on the minimum lot size requirement for a planned development, being less than 20 acres, is approved.

2. Waiver request on the building height, being greater than 35 feet, is approved.

3. Waiver request to deviate from the maximum allowable and minimum façade material percentages, is approved

4. The site plan is subject to the current location of the access drive connecting to M-59. In the event the access drive needs to be relocated more than ten (10) feet in either direction, the applicant will need to submit a site plan to the Planning Commission for review to amend the approved site plan.

5. As part of the Final Plan Review, the applicant shall secure an ingress-egress easement agreement for the proposed access drive connection to the adjacent property to the west (Trillium Center/office building, at 12319 Highland Road), which would afford a secondary emergency access for the development.

6. The applicant shall adequately address the outstanding items noted in the Planning Department's memorandum, dated August 13, 2020, on the Construction Plan set, subject to an administrative review by Planning staff prior to the issuance of a land use permit.

7. Applicant complies with any requirements of the Township Engineering Consultant, Department of Public Works Director, Hartland Deerfield Fire Authority, and all other government agencies, as applicable.

8. (Any other conditions the Planning Commission deems necessary)

Discussion

Applicant: Kevin Brown, PIRHL Developers, LLC

Site Description

The subject property is located between Bullard Road and Fenton Road, north of Highland Road (M-59), in Section 23 of the Township. The Township's Heritage Park is east of the property. Trillium Center, a professional office building, is on the west of the site and addressed as 12319 Highland Road.

The site is comprised of three separate parcels, with a combined total of approximately 17.9 acres. The parcels are undeveloped. The largest parcel (Parcel ID #4708-23-300-025) is approximately 13.71 acres in size and zoned CA-Conservation Agricultural. The other two parcels are west and south of the large parcel and are zoned OS-Office Services. One parcel is approximately 2.00 acres (Parcel ID #4708-23-300-026). The other parcel (Parcel ID #4708-23-300-027) is approximately 2.22 acres in size. Each parcel has frontage along Highland Road. The combined frontage is approximately 617 lineal feet.

The Future Land Use Map designates each parcel as Office.

Currently the property has open field areas with trees along the east, west, and north boundaries. Wetland areas are noted on the plan in the northwest corner of the site. Site work is not proposed in the areas adjacent to the wetland. The applicant has provided a copy of the wetland delineation report from ASTI Environmental, who reviewed the three (3) wetland areas in March 2020. Per the applicant the Department of Environment, Great Lakes and Energy (EGLE) conducted a Level 3 Wetlands Identification Program (WIP) Review in June 2020. EGLE concurred with the findings of the applicant's consultant.

East of the subject property, on separate parcels, are a single-family home (12477 Highland Road) and Heritage Park (12439 Highland Road), both zoned CA. Trillium Center, a professional office building, is on the west and zoned OS-Office Services (12319 Highland Road). Single-family homes are also west of the subject site, addressed off Bullard Road, and are zoned CA. The property to the north, zoned CA, is owned by the Livingston Land Conservancy and is undeveloped.

Project Summary

The Planning Commission reviewed this project at their August 20, 2020, Special Meeting. At that meeting, the Planning Commission recommended approval of the project, subject to a few changes. The Planning Commission recommended some changes to the landscape plan that will result in some landscape plant materials being moved to different locations on the site, but no additional plant materials being required.

Site History

Following is a summary of the history of the site.

REZ #282

REZ #282 was a request to rezone approximately 13.7 acres of land from SR-Suburban Residential to CA-Conservation Agricultural for parcel currently identified as Parcel ID #4708-23-300-025, and rezone approximately 4.4 acres from SR-Suburban Residential to OS-Office Services, for the parcels currently identified as Parcel ID #4708-23-300-026 (2 acres) and Parcel ID #4708-23-300-027 (2.2 acres). The Township Board approved REZ #282 on July 6, 2000.

Metes & Bounds Land Division #589

On November 8, 2000, the Township Board approved Metes & Bounds Land Division #589 to create three (3) parcels that comprise the project area for the current request SP #20-005.

REZ #322

The original request was to rezone approximately 13.7 acres of land (Parcel ID #4708-23-300-025) from CA-Conservation Agricultural to PDMR (Planned Development Medium Density Residential), which was withdrawn on August 5, 2005. The rezoning request was modified to request a zoning change from CA to MR-Multiple Density Residential for the same 13.7 acres of land. On November 10, 2005, the Planning

Commission reviewed the request and a motion was approved to table the request indefinitely.

Site Plan Application #19-012 Hartland Senior Living PD – Concept Plan
The Concept Plan for Hartland Senior Living Planned Development was discussed under Site Plan Application #19-012. The Planning Commission reviewed the project on December 5, 2019 followed up by the Township Board's review at their meeting on December 10, 2019.

Planned Development Procedure
Section 3.1.18 of the Township's Zoning Ordinance provides standards and approval procedures for a Planned Development (PD). Approval of a Planned Development is a three-step process. A Concept Plan, Preliminary Plan, and Final Plan are all reviewed by the Planning Commission and the Township Board, with the Planning Commission making a recommendation and the Board having final approval at each step. The process usually requires a rezoning from the existing zoning district to the Planned Development (PD) zoning district. As part of the rezoning, a public hearing is held before the Planning Commission consistent with the Michigan Zoning Enabling Act; this public hearing is held at the same meeting during which the Planning Commission reviews and makes a recommendation on the Preliminary Plan. Approval of the Final Plan by the Township Board usually constitutes a rezoning of the subject property to PD.

For all intents and purposes, the Preliminary Plan step is essentially the same as a preliminary site plan review for a conventional project in the Township. All the information and details required for a preliminary site plan approval must be provided for the Preliminary PD review and approval. Final PD review will involve detailed plans for those phases for which construction is intended to begin immediately and the planned development agreement.

Overview of the Preliminary Plan and Proposed Use
The applicant has submitted a Preliminary Plan for a senior living facility consisting of a single, three (3) story, 146-unit building that accommodates seniors (age 62 and older). The gross floor area of the building was not provided.

The occupants are either able to live an independent lifestyle or may need assistance. The facility offers two (2) types of residential units with 71 one-bedroom apartments and 75 two-bedroom apartments. Of the 146 residential units, sixty-one (61) units will be affordable for those earning up to 60% of AMI (Area Median Income) and eighty-five (85) units will be unrestricted market rate apartments.

Public access to the site is via Highland Road (M-59) with a new entrance drive. Approvals and permits from the Michigan Department of Transportation (MDOT) will be required for the new access, as well as any proposed work within the road right-of-way, such as the proposed sidewalk. The applicant has submitted an application to MDOT for the proposed work and has noted the permit is under review at MDOT.

A proposed connecting drive is shown at the west property line, from the proposed parking lot of the PD site to the existing parking lot of the Trillium Center office building. The applicant has made outreach to the property owner to begin discussions on the drive connection.

The applicant has stated that this development will require municipal water and sewer. The Township is currently exploring extension of municipal water lines down M-59 that could provide water service to this property. The proposed development was not included in the original municipal sewer district; and therefore, the applicant would be required to purchase Residential Equivalent Units (REU)'s for this project.

The Township's Director of Public Works has provided a letter with additional comments.

The proposed Hartland Senior Living facility is not specifically listed as a use permitted in any specific zoning classification in the Township Ordinance. The Site Plan Review Committee met with the applicant twice to discuss the project, and noted that the project does not appear to be permitted in the CA district, nor would rezoning the property to multiple- family be a viable option as the Future Land Use Map designates the property as Office. As an alternative option, the applicant was encouraged to apply for a Planned Development (PD) for the project.

The proposed use is summarized in the applicant's Preliminary PD Submission Narrative. Per the applicant's description, the proposed project is a blend of independent and semi-independent housing for senior citizens, where the residents reside in individual apartment units, but will also have access to a congregate kitchen, dining room and living areas. Limited healthcare will be available to assist residents. The facility offers a variety of services that are outlined in the project summary provided by the applicant. Social, cultural and educational programs are scheduled by a full-time activity coordinator. The facility has a fitness center and fitness classes; theatre room; media center; central social hub; full-service hair salon and barber shop; and an on-site home-based health care provider and clinic. Add on services include meals (two meals a day), housekeeping and laundry services. Additional offerings are listed in the applicant's summary of the facility.

Based on the description of the proposed use, the senior living facility would not be considered similar to a typical multiple-family use, or an apartment complex. The proposed use has some unique attributes in how it is limited to persons 62 and older. In addition, although it is designed for independent living, some residents are likely to need some health assistance. The Planned Development process allows for unique projects such as this. The Planning Commission reviewed the Concept Plan under SP #19-012 and made the determination that the proposed use is different than a multi-family housing complex or a State licensed nursing care facility, and the use could be allowed through a Planned Development. The residential density would also be established as part of the Planned Development.

Eligibility Criteria (Section 3.1.18.B.)

To be eligible for PD approval, the applicant must demonstrate that the criteria in Section 3.1.18.B. will be met.

1. **Recognizable Benefits.** *The planned development shall result in a recognizable and substantial benefit to the ultimate uses of the project and to the community and shall result in a higher quality of development than could be achieved under conventional zoning.*

   The applicant outlines the community benefits that Hartland Senior Living will provide as listed below:

   - Preservation of natural features and woodland areas
   - Provision of a housing type, senior housing, that is in demand with Hartland Township
   - Efficient use of land and low demand for new Township infrastructure
   - Low impact on Township services
   - Harmonious with surrounding areas
   - A proposed access drive connection to the adjacent property to the west (Trillium Center/office building, 12319 Highland Road), which would afford a secondary emergency access for the development

- Extension of the public water system to accommodate the proposed development, built to the Township standards
- Installation of pathways and walking trails on the site, and along M-59

2. **Minimum Size.** *Planned Developments must be a minimum of 20 acres of contiguous land.*

   The proposed project is approximately 17.9 acres in size**.** Historically, the Planning Commission has approved Planned Developments of less than 20 acres.

   Given the location of this project being adjacent to a Township Park and amount of open space, staff has included in the recommendation to approve this waiver.

3. **Use of Public Services.** *The proposed type and density of use shall not result in an unreasonable increase in the use of public services, facilities and utilities, and shall not place an unreasonable burden upon the subject site, surrounding land, property owners and occupants, or the natural environment.*

   The proposed development will utilize vehicular access, via M-59, which is an existing public roadway capable of supporting the proposed development. In addition, the proposed development will connect to the municipal sanitary sewer system and is part of discussions to extend municipal water to serve this site. The Public Works Director has indicated this development should not burden the existing water and sewer system.

4. **Compatibility with Comprehensive Plan.** *The proposed development shall not have an adverse impact upon the Comprehensive Plan for the Township. Notwithstanding this requirement, the Township may approve a Planned Development proposal that includes uses which are not called for on the Future Land Use Map, provided that the Planning Commission and Township Board determine that such a deviation from the Future Land Use Map is justified in light of the current planning and development objectives of the Township.*

   The proposed development is somewhat new in concept and different from more traditional apartments and nursing care facilities. The zoning ordinance definitions provide a definition for congregate or interim care housing, but that type of use is not specifically listed in the zoning districts; however, it appears to be residential in nature and treated in a similar manner to nursing care facilities. As a result, this appears to be consistent with the zoning on the property. The future land use map depicts the property in an Office category; however, the proposed development appears to be justified in light of the current planning and development objectives of the Township.

5. **Unified Control.** *The proposed development shall be under single ownership or control such that there is a single person or entity having responsibility for completing the project, or assuring completion of the project, in conformity with the Ordinance.*

   The applicant will be the sole owner of all the subject property and will continue ownership of the development.

<u>Planned Development Design Standards (Section 3.1.18.C.)</u>
This section outlines the design standards for a planned development. Additional site standards will be discussed from applicable sections of the Zoning Ordinance.

1. **Permitted Uses.** *The predominant use on the site shall be consistent with the uses specified for the*

parcel on the Township's Comprehensive Plan for Future Land Uses.

The 2015 Future Land Use Map (FLUM) designates each of the three (3) parcels as Office. Currently two (2) of the parcels are zoned OS (Office Service); the largest parcel is zoned CA (Conservation Agricultural). On the FLUM office uses have been located in areas that contain existing office development as well as in areas that have high visibility along M-59, between Clark Road and Bullard Road. The Office classification is intended to permit the construction of professional and medical complexes and other low intensity commercial uses that are ancillary to office uses.

Adequate landscaping and buffers are required, as well as high architectural appearance of the buildings, with a height limit of three stories.

The proposed senior living facility is considered a residential use and is not consistent with the FLUM designation of Office. The residential use however is a low intensity use. The building is situated approximately 235 feet from Highland Road (M-59) and approximately 156 feet from the front (south) property line. An approximate 100-foot wide greenbelt landscape area is provided along the frontage of the site, in front of the building. A conifer tree screen is also provided along the east and west property lines where adjacent to residential uses.

The building height is approximately 39'-4" for the majority of the roof (midpoint of roofline). One small section of the gable roof has a mid-point height of 41'-4". The applicant has provided a waiver request to exceed the maximum height of 35 feet, as discussed in a separate section of the memorandum.

2. **Residential Density.** *Residential density in a planned development shall be consistent with the density designation within the Township's Comprehensive Plan.*

   The subject property (all three parcels) is designated as Office on the adopted 2015 Future Land Use Map. Office does not permit residential uses thus density cannot be calculated.

   The proposed use as presented by the applicant, is a senior housing development for senior citizens aged 62 and older, that provides independent and semi-independent living housing. The three-story building includes 146 apartment units and a variety of amenities for the residents making Hartland Senior Living a unique residential development, and different from a multiple-family apartment complex. The density will be established as part of the Planned Development project.

3. **Design Details.** *The applicant shall prepare a detailed description of design details to be implemented in the proposed planned development, to be presented in a Pattern Book.*

   The design details are provided on the submitted site plans and architectural drawings for the Planned Development.

4. **Minimum Yard Requirements.** The minimum yard requirements are noted in the chart below per Section 3.1.18.C.vi.a.

Setbacks	Minimum PD Standard	Proposed setback	Complies Yes/No
Along M-59	50 ft.	156 ft.	Yes
Along perimeter, but not adjacent to a	40 ft.	143 ft. (east, building) 83 ft. (east, carport)	Yes Yes

road (east & west property lines		138 ft. (west, building) 76 ft. (west, carport)	Yes Yes
Between parking lot & property line & adjacent to road (M-59)	40 ft.	135 ft.	Yes
Between parking lot & property line but not adjacent to road	50 ft.	83 ft. (east) 53 ft. (west)	Yes Yes

5. **Building Height.** *No building in a planned development shall be greater than thirty-five (35) feet in height.*

   The building height is approximately 39'-4" for the majority of the roof (midpoint of roofline). One small section of the gable roof has a mid-point height of 41'-4". The applicant has provided a waiver request to exceed the maximum height of 35 feet, stating that the added height is necessary in order to provide nine (9) foot ceilings for the living units on the second and third floors, and a 10-foot ceiling on the ground floor. Having this design makes the apartment units more marketable and the higher ceiling on the ground floor is necessary for the larger volume common areas/facilities. The Planning Commission shall review the waiver request and make a determination.

6. **Parking and Loading.** *Planned developments shall comply with the parking and loading requirements specified in Section 5.8.*

   The parking standards outlined in Section 5.8 do not provide specific standards that would be applicable for the proposed senior housing facility. The applicant has provided a discussion on the parking needs for this facility which are based on similar senior living facilities. The parking formula as proposed by the applicant is approximately 1.09 parking spaces per unit. In his opinion, this should accommodate the needs of the residents, staff, and visitors. Based on this formula, for the 146 residential units, 159 parking spaces are provided on the plan.

   The parking space dimensions are shown as ten (10) feet in width and twenty (20) feet in length The 159 parking spaces includes four (4) carport structures with ten (10) parking spaces in each structure; 119 surface parking spaces, eleven (11) of which are van accessible, barrier-free parking spaces. Six (6) barrier-free parking spaces are required for 159 spaces.

   A dedicated loading area is provided on the east side of the building, with a masonry screen wall. The dimensions of the paved loading area are approximately 70 feet by 43 feet, or approximately 3,010 square feet. A separate dumpster is not shown on the plans.

7. **Landscaping.** Landscaping requirements are provided in Section 3.1.18.C.vi.e. These are considered minimum design standards, which the plan appears to comply with. A more detailed review of the landscaping is provided in this memorandum using the landscape standards outlined in Section 5.11 (Landscaping and Screening).

8. **Open Space.** *Open space shall be provided to complement and accentuate the high-quality design of the proposed planned development. At minimum the planned development shall provide open space consistent with the previous zoning designation for the site.*

The proposed open space is 76.80% of the site, or approximately 13.76 acres. In CA (Conservation Agricultural) the open space requirement is a minimum of 85%, for a single-family detached dwelling. For OS (Office Service), the open space requirement is a minimum of 25%. The proposed open space area on the PD plan exceeds the minimum amount required for OS, but is slightly less than required for CA. For comparison purposes, a minimum 70% open space is required for a multiple-family building in MR (Multiple Family Residential).

9. **Natural Features.** *Consistent with the stated intentions for creation of these regulation, the preservation of the natural features of the Township are an important planning consideration. A PD proposal must consider the natural topography and geologic features, scenic vistas, trees and other vegetation and natural drainage patterns that exist on the site and propose a development pattern which preserves and avoids disruption of those natural features as much as possible.*

   A Phase 1 Environmental Site Assessment of the site was conducted and found no recognized environmental conditions on the site. A wetland delineation was conducted which located three (3) wetland areas on the site, located generally in the northwest corner of the site. No development is proposed in that area and the wetlands will not be disturbed.

   A Tree Inventory was conducted along the east side of the site. Trees greater than eight (8) inches in diameter were identified and tagged in the field. Those trees are shown on the plans. The applicant intends to preserve those trees in order to augment the required buffer along the east side of the PD site.

10. **Sidewalks and Pedestrian Access.** *The applicant must demonstrate the PD site and all uses within the site will be connected to any existing pedestrian and nonmotorized vehicle paths and trails within a public right-of-way or easement open to the public.*

    An eight (8) foot wide asphalt sidewalk will be extended for the width of the site along Highland Road (M-59). The existing concrete sidewalk along Highland Road will be removed and seeded after removal. Internally concrete sidewalks are provided around the building and parking areas, with a connection to the courtyard sidewalks and the sidewalk along Highland Road. An eight (8) foot wide concrete path is shown around the detention basin.

<u>Requirements for Preliminary Review (Section 3.1.18.E.ii)</u>
Following is a summary of items that have not been addressed in the previous review as part of the Design Standards section.

1. Sewer and Water

The Public Works Director has indicated the referenced parcels were never part of the municipal water district within Hartland Township. All parcels seeking municipal water connection outside of the service district are required to undergo a capacity study to be managed by the Hartland Township Public Works Department. The proposed parcels have been previously included in modeling exercises, and the Hartland Township Public Works Department approves the concept of connecting to the municipal water system as discussed with the applicant.

The referenced parcels associated with the concept plan were never part of the municipal sewer district within Hartland Township. All parcels seeking municipal sewer connection outside of the service district are required to undergo a capacity study to be managed by the Livingston County Drain Commission office. Public Works would advise the applicant to contact the Livingston County Drain Commission office to initiate that process.

The DPW has outlined the number of REU's that will be required for the proposed development, in a letter dated November 19, 2019.

2. **Stormwater and Drainage Systems.**
The applicant has stated stormwater will be collected from the building roof, parking lots, and sidewalks and piped to the on-site retention system. Treated stormwater will be released from the basin to the north via natural drainage patterns. The applicant has contacted the Livingston County Drain Commission and provided the site plan for preliminary review.

3. **Traffic Generation**
A trip generation study was completed by the applicant's consultant who determined Hartland Senior Living is projected to generate fewer than 750 daily trips and fewer than 50 peak hour directional trips. This places it below the MDOT and Township threshold for requiring a full traffic study. The conclusion of the study was that the PD project would have no significant impact or cause change in traffic volume on M-59.

4. **Fiscal Impacts.**
The applicant has provided a response to this topic in the Narrative Summary, stating Hartland Senior Living will be an asset to the Hartland Township community and will contribute to the fiscal health of the Township and the Hartland Consolidated School District.

SITE PLAN REVIEW – Applicable Site Standards
This section will provide a review of all applicable standards that were not discussed in the previous section of this memorandum.

Site Description

The subject property is located between Bullard Road and Fenton Road, north of Highland Road (M-59), in Section 23 of the Township. The Township's Heritage Park is east of the property. Trillium Center, a professional office building, is on the west of the site and addressed as 12319 Highland Road.

The site is comprised of three separate parcels, with a combined total of approximately 17.9 acres. The parcels are undeveloped.

Site Requirements

Access Management and Non-Residential Driveway Standards (Sec. 5.10)

- Required – per Sec. 5.10.8.A, the minimum access spacing between commercial driveways on a street with a posted speed limit of 55 MPH is 525 feet (posted speed on Highland Road is 55 mph) and is subject to approval by the Michigan Department of Transportation (MDOT).
- Proposed – the proposed driveway from Highland Road is approximately 912 feet from the adjacent property to the west (office building at 12319 Highland Road). The adjacent property to the east is single family residential property (12477 Highland Road).
- Meets Requirement? – **TBD**
- Comment – **Applicant must submit the plans to the Michigan Department of Transportation (MDOT) for applicable reviews, approvals, and permits. Staff does not anticipate any issues with approvals or permits from MDOT.**

Landscaping and Screening (Sec. 5.11)

A. Greenbelt Landscaping –
<u>Along Public or Private road right-of-way (Sec. 5.11.2.C.)</u>
- Required – within the first 30 feet of the property, 1 canopy tree for every 30 ft of lineal of frontage; 3 small deciduous ornamental trees or large deciduous or evergreen shrubs for the initial 40 ft., and 1 additional ornamental tree or large shrub per 20 ft. thereafter. Street frontage = 575 feet. EQUATES TO: 21 canopy trees; 32 additional ornamental trees or large deciduous or evergreen shrubs REQUIRED
- Proposed – 27 canopy trees; 7 ornamental trees; and 35 large deciduous shrubs (42 total), located within 100-foot wide landscape area
- Meets Requirement? – Yes for the number of required plants; **TBD on plant location**
- Comment – the greenbelt trees and shrubs are to be located within the first 30 feet of the property (from the ROW) and approximately one-third of the plants comply with this location. The rest of the trees and shrubs are planted in a large lawn area that stretches across the frontage of the site. This landscaped area is approximately 100 feet in depth. Staff would recommend some trees and shrubs be shifted to the greenbelt area east of the internal access drive, where greenbelt landscaping is not provided. **Planning Commission determination required regarding compliance of the greenbelt landscaping requirement.**

B. Foundation Landscaping (Sec.5.11.2.D.)
- Required – must equal 60% of the front and sides of the proposed building where facing road or adjacent to a parking lot; must be 8-10 ft. in width, and consist of 1 ornamental or columnar tree, and 6 medium or 8 small shrubs for every 30 ft. Combined total building perimeter measurement (all sides of the building) = 2,494 lineal feet; 60% = 1,496 lineal feet. EQUATES TO: 50 ornamental trees/columnar trees PLUS 450 small or 300 medium shrubs REQUIRED
- Proposed – 10-foot wide landscape beds (or wider); 50 ornamental/columnar trees plus 1,217 shrubs (small and medium, total)
- Meets Requirement? – Yes
- Comment – (none)

C. Parking Lot Landscaping (Sec. 5.11.2.E.i.)
- Required – landscaped end caps for parking areas of 10 or more spaces; 1 canopy tree per 180 sq. ft. of interior area, with 50% of the interior area covered with small or medium shrubs and remaining area may include a combination of groundcover, perennials, annuals and mulch. EQUTES TO: 27 trees and shrubs/plants at ground level to provide 50% coverage plus additional plants for coverage REQUIRED.
- Proposed – 21 trees and lawn/shrubs provided to meet required coverage for parking endcaps/landscaped areas
- Meets Requirement? – **No**
- Comment – **Six (6) additional canopy trees required as noted on landscape plan provided by staff**

D. Perimeter Landscaping (Sec. 5.11.2.E.ii.a.) – For areas visible from a public road (from Highland Road – in this case an internal access lane runs parallel to Highland Road and is associated with the parking areas within the site; parking along the access lane is not proposed
- Required – landscape berm planted with a combination of evergreen and deciduous shrubs to effectively screen parking lot; or evergreen hedge row a min. 3 ft. in height; or a decorative screen wall
- Proposed – Greenbelt landscaping, with a combination of trees and shrubs which runs parallel with the access lane

- Meets Requirement? – to be considered by the Planning Commission
- Comment – Per Section 5.11.2.E.ii.a.(4), the Planning Commission may permit modifications to the screening requirement where a greater setback, natural landscaping or topography or unique site layout would allow for a lesser or modified screening requirement. In this case the access lane is approximately 100 feet from the street right-of-way/property line and the greenbelt landscaping provides an adequate level of screening such that additional screening of the access lane may not be necessary. **Planning Commission determination required regarding compliance of perimeter landscaping requirement (for areas visible for Highland Road).**

E. Perimeter Landscaping (Sec. 5.11.2.E.ii.b.) – For areas not visible from a public road (east and west sides of parking lot)
- Required –1 canopy or evergreen tree for every 30 ft., along with understory shrubs for screening purposes for perimeter areas not visible from a ROW. Landscape area east of parking lot = 660 ft. EQUATES TO: 22 canopy or evergreen trees and understory shrubs for screening REQUIRED. West side of parking lot = 480 ft.
  EQUATES TO: 16 canopy or evergreen trees and understory shrubs for screening, REQUIRED.
- Proposed –east of parking lot: 99 conifer trees and existing trees along east property line to be preserved. West of parking lot: 55 evergreen trees
- Meets Requirement? – Yes, for east of parking lot; additional screening required in areas on west side of parking lot-see landscape plan provided by staff
- Comment – **Planning Commission to determine if additional screening is required on the west side of the parking lot.**

F. Buffering or Screening (Sec. 5.11.2.G.i.) – Screening between Land Uses (east and west property lines where abutting single-family zoned properties)
- Required – evergreen trees planted in a staggered or clustered pattern with varying tree heights
- Proposed – evergreen tree screen with a staggered/double row of evergreen trees in most areas, with varying tree heights, on east and west sides of the site, and includes existing trees along east property line, to be preserved
- Meets Requirement? – Yes, with the addition of conifer trees in areas shown on landscape plan provided by staff
- Comment – **Planning Commission to determine if plan provided by staff provides the required screening, where abutting single-family zoned properties (with houses).**

G. Screening of Ground Mounted Equipment (Sec. 5.11.2.G.iii.) – Ground mounted equipment was not shown on the plans
- Required – screening on three sides for utility cabinets (if 30 inches or more in height)
- Proposed – equipment not shown on the plan
- Meets Requirement? – NA at this time
- Comment – **Planning Commission could add a condition that all ground mounted equipment, if proposed, shall be shown on the construction set of plans and shall be adequately screened per Section 5.11.**

H. Detention/Retention Area Landscaping (Sec. 5.11.2.H.)
- Required – detention/retention ponds must be integrated into the overall design of the property and landscaped to provide a natural setting; 1 canopy or evergreen tree and 10 medium, 6 large

shrubs or ornamental trees must be planted for every 50 ft. of pond perimeter. Pond Perimeter = 947 lineal ft. EQUATES TO: 19 canopy or evergreen trees, and 190 medium shrubs, or 114 large shrubs or ornamental trees

- Proposed –26 canopy trees;196 shrubs (medium + large shrubs combined); 7 ornamental trees
- Meets Requirement? – Yes
- Comment – (none)

I. Other Comments on Landscape Plans

- Sheet 9 (Overall Preliminary Landscape Plan) labels several areas as "Lawn", which are generally around the formal areas of the site, in the greenbelt, around the building and in the courtyard. Staff assumes these are mowed turf areas which should be irrigated. Other areas on the site appear to be lawn areas but are not labeled. These areas, as noted on the landscape plan provided by staff, should be labeled and the seed mix should be provided on Sheet 14 or Sheet 15. Depending on the seed mix and type of lawn, irrigation may or may not be required.
- Sheet 14 (Landscape Details) should be revised to state the depth of shredded hardwood mulch (3"-4" for most landscape areas required).
- Sheet 14 should be revised to add language to the notes titled as "Subsurface Dripperline Irrigation". The note should say the following: "All planting beds and turf/lawn areas shall have irrigation installed".
- The revisions shall be provided on the Construction Set of plans.

Lighting (Sec. 5.13)

A. Intensity

- Required – max. 0.5 fc along property line adjacent to residential; or max.1.0 fc along property line adjacent to non-residential; average fc between 2.4 and 3.6 in main parking area and an average of 5.0 fc at main building entrance; may not exceed 10 fc on site
- Proposed – photometric plan indicates an average of 0.56 fc at property limits; average of 3.22 fc in main parking area; and average 4.96 fc at main building entrance
- Meets Requirement? – Yes
- Comment – (none)

B. Fixture Height

- Required – 25' or the height of the principal building, whichever is less, measured from the ground level to the centerline of the light source
- Proposed – 21' total height, for light poles (1' base and 20' pole) and 15' total height, for light poles (1' base and 14' pole)
- Meets Requirement? – Yes
- Comment – (none)

C. Fixture Type

- Required – details of all lighting fixtures needed including specifications for shielding, wattage and illumination
- Proposed – specifications for proposed LED light fixtures are shown on the photometric plan. Light fixtures are shielded and aimed downward
- Meets Requirement? – Yes
- Comment – (none)

Water Supply and Wastewater Disposal (Sec. 5.16)

The proposed development will be served by public water and sanitary sewer, as previously discussed.

Architecture / Building Materials (Sec. 5.24)
Architecture Comments:

The project includes the senior living facility/ building and four (4) carport structures, each with ten (10) parking spaces. Façade material calculations are provided below for the senior living building. The carport structures are discussed separately; however, façade materials calculations are not warranted for this type of structure.

Façade Materials Calculation – façade materials must comply with the specifications for Façade Materials Group #1. Separate façade materials charts are provided for the apartment building, outer facades and courtyard facades.

Staff would note that there appears to be inconsistencies for the data (facade material percentages) listed for building façade labeled as "A1" (south elevation for apartment building) in the chart on Sheet A-7 and Sheet A-12. Staff reached out to the applicant about this however the applicant did not confirm which chart has the correct information before the completion of this memorandum. This needs to be clarified on the Construction Set of plans. For purposes of this analysis, staff used the data found on Sheet A-12 for building façade "A1".

The applicant has submitted an architectural waiver request for consideration by the Planning Commission, in a letter dated July 23, 2020. Architectural standards are noted below with additional comments at the end of this section.

Materials Group #1: Proposed Façade Materials by Percentage by Elevation-Outward-facing Facades *(Numbers do not include percentages for interior courtyard facades)*

Group #1	Stone (50% Max.) Stone veneer prop.	Shake Siding	Cement Siding B1	Cement Siding B2	Glass (50% Max.)	Cement Panel	Door/VTAC No standards provided	Fiberglass Shingles (25% Max.)	Standing Seam Metal Roof (20% Max.)	TOTAL Cement Products (10% Max.)*
South (A1)	9.4%	10.1%	15.7%	20.7%	10.9%	7.4%	1.3%	24.5%	X	53.9%
South (A)	10.5%	12.6%	5.3%	12.2%	10.3%	6.1%	1.8%	39.1%	21%	36.2%
East (B)	7.0%	4.1%	15.6%	21.1%	10.4%	6.9%	1.1%	32.3%	1.5%	47.7%
West (C)	6.1%	6.1%	11.3%	21.0%	9.5%	5.6%	1.6%	37.0%	1.8%	44.0%
North (D)	26%	9.5%	18.3%	31.1%	10.3%	0.0%	1.8%	26.4%	X	58.9%

*Cementitious products include shake siding, cement siding (B1 and B2), and cement panel

Materials Group #1: Proposed Façade Materials by Percentage by Elevation-Interior Courtyard

Facades

Group #1	Stone (50% Max.) Stone veneer prop.	Shake Siding	Cement Siding B1	Cement Siding B2	Glass (50% Max.)	Cement Panel	Door/ VTAC No standards provided	Fiberglass Shingles (25% Max.)	Standing Seam Metal Roof (20% Max.)	TOTAL All Cement Products (10% Max. for siding)*
East (C)	4.8	4.8%	20.1%	22.3%	8.6%	7.9%	0.2%	31.3%	X	55.1%
North (D)	26`%	10.8%	13.1%	32.1%	8.4%	X	1.6%	31.4%	X	56.0%
West (A)	6.1%	7.9%	16.8%	22.4%	10.4%	5.0%	1.7%	29.7%	X	52.1%
South (B)	9.5%	7.8%	21.8%	10.9%	12.4%	11.8%	2.0%	23.8%	X	52.3%

*Cementitious products include shake siding, cement siding (B1 and B2), and cement panel

- Colors: Product specifications are provided in the architectural plan set (Materials Board on Sheet A-13). Two (2) colors of cementitious horizontal siding are proposed, "Cool Charcoal" (siding B1) and "Natural Clay" (siding B2). The color of the cementitious panel is "Snow", and the shake siding is "Cool Charcoal". The asphalt shingles are "Weathered Wood".

  The porte cochere has a curved standing seam metal roof as do the dormers, the color appears to be similar in tone as the asphalt shingles, however a color picture is provided on Sheet A-13. The panelized stone veneer system (stone product in façade materials chart) has a variety of beige and brown tones. The product name is "Powder Ridge Drystack Clip".

- Materials: Percentages are listed for each elevation side as indicated by the table; architectural waiver request has been submitted by the applicant.
- Meets Requirement? – **TBD**
- Comment – The applicant has submitted an architectural waiver request, dated July 22, 2020, to deviate from the maximum allowable and minimum required façade material percentages, as follows: cement board siding exceeds 10% on all elevations; fiberglass shingles exceed maximum of 25% on most elevations; standing seam metal roof exceeds 20%; and brick is not utilized (30% minimum is required). The applicant's waiver request is to exceed the 10% maximum for cement board siding. Staff assumes that this is for each type of cement board siding (B1 and B2). Other cement board products are also used (shakes and panels) which are not specifically listed as a façade material in Section 5.24, thus minimum/maximum percentages are not provided. A sum total of all cement board products is provided for each elevation in the charts above.

  Per the applicant, the design goal is to maintain a consistency of architectural forms and treatment on all elevations and provide a residential look to the building. Stone is used instead of brick to be more compatible with the shingle style architecture.

Two (2) colors of cement board (horizontal) siding are used, as well as other cement board products to carry out the shingle style architecture and add visual interest, through the use of shakes and panels.

The Planning Commission to make a determination on granting the architectural waiver request to deviate from the minimum or maximum percentages of cement board siding; standing seam metal roof; and brick, as specified for Materials Group #1 for the apartment building.

Detached carport structures
Four (4) detached carport structures are proposed, each providing ten (10) parking spaces. Elevation drawings are provided on Sheet A-14. Each carport is approximately 18 feet by 100 feet in size and 7'-6" in height. The flat-roofed structure has a galvanized steel roof, and a wood screen runs along the back side, plus a short return wall on the ends, to prevent headlight trespass. A surface mounted light fixture is provided for each parking space.

Other Requirements-Zoning Ordinance Standards
Nothing additional at this time.

Hartland Township DPW Review
A review letter is provided from the Hartland Township DPW Director, dated November 19, 2019.

Hartland Township Engineer's Review (HRC)
The Township Engineer (HRC) has reviewed the Preliminary PD plans and recommends approval subject to items being addressed in the letter dated May 20, 2020.

Hartland Deerfield Fire Authority Review
The Hartland Deerfield Fire Authority has reviewed the plans and provided comments in the letter dated July 27, 2020. Approval is subject to the contingencies being addressed as outlined in the letter.

Attachments:
1. DPW Review letter, dated November 19, 2020 -*PDF version only*
2. Township Engineer (HRC) letter dated May 20, 2020-*PDF version only*
3. Hartland Deerfield Fire Authority letter, dated July 27, 2020-*PDF version only*
4. Preliminary PD Submission Narrative-*PDF version only*
5. Waiver Request Letter dated July 22, 2020-*PDF version only*
6. Tree Inventory Report dated June 9, 2020-*PDF version only*
7. Wetland Delineation dated April 4, 2020-*PDF version only*
8. Trip Generation Memo dated April 17, 2020-*PDF version only*
9. MDOT Driveway Application dated April 9, 2020
10. PIRHL Landscape plan with staff comments dated August 13, 2020
11. Civil Plans Preliminary PD received August 10, 2020
12. Architectural Plans Preliminary PD received August 10, 2020

CC:
HRC, Twp Engineer (via email)
R. West, Twp DPW Director (via email)
A. Carroll, Hartland FD Fire Chief (via email)

DEPARTMENT OF PUBLIC WORKS

Robert M. West, Public Works Director
2655 Clark Road
Hartland MI 48353
Phone: (810) 632-7498

TO:	Planning Department
DATE:	November 19, 2019
DEVELOPMENT NAME:	Hartland Senior
PIN#:	4708-23-300-(025, 026 & 027)
APPLICATION #:	SP# Unknown
REVIEW TYPE:	Conceptual Site Plan

The Department of Public Works (DPW) has reviewed the *Hartland Senior* development site plans in regards to municipal utilities.

Municipal Water

The referenced parcels associated with the conceptual development were never part of the municipal water district within Hartland Township. The proposed conceptual plan would require 49.64 water REU's for 146 units. All parcels seeking municipal water connection outside of the service district are required to undergo a capacity study to be managed by Hartland Township Public Works Department. The proposed parcels have been previously included in modeling exercises, and Hartland Township Public Works approves the concept of connecting to the municipal water system as discussed with the applicant.

Municipal Sewer

The referenced parcels associated with the conceptual development were never part of the municipal sewer district within Hartland Township. The proposed conceptual plan would require 49.64 sewer REU's for full build out. All parcels seeking municipal sewer connection outside of the service district are required to undergo a capacity study to be managed by the Livingston County Drain Commissioner's office. Public Works would advise the applicant to contact the Livingston County Drain Commission to initiate that process.

REUs

According to the Township's records, the referenced parcels not have any REUs (Resident Equivalency Units), and therefor will be required to purchase the required REU's prior to issuance of a building permit. The conceptual plan indicates 146-units, which based upon 2019 rates, will require 49.64 water REU's ($5,816.01 each) and 35.25 sewer REU's ($9,439.20 each) for a total of $757,268.62 for the entire development.

At this time, subsequent plans should include the following:

- Water main material, sizes and connection detail sheet with redundant looping
- Water service lead location, size and materials including fittings.
- Sanitary sewer material and sizes and connection detail sheet.
- Foundation lowest elevation level
- Genesee County IPP Permit
- Utility easements noted as public.

Please feel free to contact me with any further questions or comments regarding this matter, and thank you for your time.

Robert M. West; Public Works Director

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

STREET: 105 W. Grand River
Howell, MI 48843
PHONE: 517-552-9199
WEBSITE: hrcengr.com

July 9, 2020

Hartland Township
2655 Clark Road
Hartland, MI 48353

Attn: Mr. Troy Langer, Planning Director

Re: Site Plan Review
Hartland Senior Living

HRC Job No. 20200375.02

Dear Mr. Langer:

As requested, this office has reviewed the site plan for the above project as prepared by Mannik Smith Group (plans dated June 25, 2020). The following items will need to be addressed:

General

1. All permits are to be obtained prior to the start of construction. At this time, the permits for this development may include Livingston County Building & Utility Services, MDOT ROW, MDEGLE Water Main, and LCDC Soil Erosion.

2. Applicable standard detail sheets shall be attached to the plans.

3. Plans shall be signed and sealed by a professional engineer or architect licensed to practice in the State of Michigan.

Water Supply

1. The water supply improvements must be designed in accordance with the Hartland Township Engineering Design Standards.

2. The water service size and material shall be shown on the plans.

3. The fire hydrant coverage must be reviewed and approved by the Hartland Area Fire Department.

4. A water main stub is needed to the west property line for future looping.

Sanitary Sewer

1. The sanitary sewer improvements must be designed in accordance with the Hartland Township Engineering Design Standards and reviewed by the Livingston County Drain Commission.

2. The proposed sanitary sewer improvements will require approval from the Livingston County Drain Commission.

3. Livingston County Drain Commission standard detail sheets must be included with the plan set.

Storm Drainage

1. The proposed storm water collection and detention systems must be designed in accordance with the Hartland Township and Livingston County Engineering Design Standards.

Paving & Grading

1. The proposed paving and grading improvements must be designed in accordance with Hartland Township Engineering Design Standards.

2. Acceleration and deceleration lanes may be required as directed by MDOT.

Subject to these items being addressed in the construction plans, we have no objection to the approval of the preliminary site plan. One (1) complete set of the construction plans should be submitted to the Township Planning Department for review.

If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.

Paul L. Koppana, P.E.

PLK/plk

pc: Hartland Twp; M. Wyatt, B. West
HRC; R. Alix, M. Darga, File

HARTLAND DEERFIELD FIRE AUTHORITY

FIRE MARSHALS OFFICE

Hartland Area Fire Dept.
3205 Hartland Road
Hartland, MI. 48353-1825

Voice: (810) 632-7676
Fax: (810) 632-2176
E-Mail: jwhitbeck@hartlandareafire.com

July 27, 2020

To: Hartland Township
Livingston County Building Dept.

Re: PIRHL
Hartland Senior Living
12371 Highland Road, Hartland Mi 48353

All,

We have reviewed the architectural plans for the Hartland Senior Living complex at 12371 Highland Road for the above project (plans dated June 18, 2020 and as received by Hartland Township on June 29, 2020). The items listed below are some of what the fire department would need to address moving forward.

1) Roadway should be 26' all the way around the complex due to height of building and the use of aerial operations for fire suppression.
2) Hydrant location not provided. Please provide.
3) Radius on the North East corner needs to be checked against our turning radius on our apppartus. See attachment in email for parameters.
4) Height of lamp posts overhanging into the roadway need to be at least 13' 6" for clearance of the apparatus to go underneath.

Items of discussion for future include:

1) FDC and Strobe locations along with Standpipes for stairwells
2) Elevator, Attic access and staircase locations
3) Rapid Entry Boxes
4) Labeling of stairwells for fire suppression efforts. ie: N, E and W
5) Naming of zones for alarms that will be understood. ie: N, S, E, W and Main

We have no further comments at this time. Please forward any revised drawings affecting the fire department for further review.

Sincerely,

Yours In Fire Safety,

Jenn Whitbeck
Fire Inspector

Harland Senior Living

PD Preliminary Review

Submission Narrative Items

Community Benefits

The Hartland Senior Living development team requests to use the Planned Development option in order to create a high-quality development that fills a need for senior housing in the Hartland Township community. Under the current zoning for the parcel, which is split between Conservation Agriculture and Office, offices could be developed on parcels 4708-23-300-026 and 4708-23-300-027, and up to six single family houses could be built on parcel 4708-23-300-025, a parcel that features areas of dense woods and wetlands.

Hartland Senior Living will preserve this wooded area and wetlands and will provide a choice of living environments by creating a marketable housing product that fills an unmet demand for senior living, allowing Hartland Township seniors to age in place in their community. A market demand analysis completed by Maxfield Research estimates demand for 2,115 senior independent living units in Hartland Township and eastern Livingston County by 2025. Hartland Senior Living will develop the site in an efficient manner, requiring no new public streets and shorter utility extensions than a single-family development. Hartland Senior Living will also place low or no impacts on schools, roads, and township resources compared to the offices and single-family housing otherwise allowable on the site and will contribute more in tax revenue than would the normally permissible uses.

Hartland Senior Living will also complement surrounding uses and provide a buffer from commercial development to homes and sensitive natural areas. A connection to the Trillium office development immediately to the west of the site is proposed, and the development team has made outreach to the owner of that parcel to begin discussions. This connection will provide secondary emergency access for the development. The development will also involve extending the eight-foot asphalt path along M-59 for the length of the development site, which will increase connectivity to Hartland Heritage Park.

In summary, Hartland Senior Living will provide the following community benefits:

- Preservation of natural features and woodland areas
- Provision of a housing type that is in demand within Hartland Township
- Efficient use of land and low demand for new Township infrastructure
- Low impact on Township services
- Harmonious with surrounding uses

Use Classification

The development team requests that Hartland Senior Living be classified under the definition of Congregate Care Housing as defined in Section 2.56 of the Hartland Township Zoning Ordinance. Hartland Senior Living will provide independent and semi-independent housing for senior citizens aged 62 and older and will include a congregate kitchen, dining room, and living areas. Residents will live in individual units. Limited healthcare will be available to assist residents with activities of daily living. Hartland Senior Living will also include a shuttle bus to provide transportation to nearby retail and healthcare. Hartland Senior Living meets the use requirements for Congregate Care Housing, as it is accessed from a paved arterial road, is set back more than 75 feet from all property lines, and features a

minimum of 1,500 square feet of open space per living unit. Hartland Senior Living also provides more parking than required by the Ordinance for Congregate Care Housing.

Design Details Summary

Hartland Senior Living includes many design features that enhance the appearance of the building to the public and also enhance the experience for building occupants. Overall, the design of the building borrows from the shingle style architecture found in the area. This is clearly apparent in the entry façade facing Highland Road. The long gable roof lines accented by the barrel vaulted porte cochere create a welcoming and obvious entry to the building. Stacked stone used in various building elements provide a warm, chalet feel to the building. Each well-appointed living unit includes a private patio or balcony for outdoor enjoyment.

While a bit difficult to perceive in this submission, the landscaping is designed to enhance the building entry experience. Landscaping will complement and enhance the various outdoor spaces and "rooms" created by the building. A landscaped patio accessible from the main dining room is accented by a pergola. A smaller landscaped courtyard is located between the commons area and the three-story residential building. A separate, large central courtyard is the focal point of this three-story building section. This area will be appropriately landscaped and include outdoor furnishings to encourage resident use. A sidewalk circumnavigates the perimeter of the building to encourage resident walking and outdoor exercise.

Common use areas occupy a large portion of the one-story, main entry building as well as portions of the three-story residential building. These include three separate dining rooms (Café, formal dining room, and private dining room), a physical therapy/fitness center, theater, multi-purpose room, activity room, card room, beauty salon, home health care office, as well as neighborhood "living rooms" located along the residential corridors.

Section 3.1.18.C.vi.c - Building Height

The proposal exceeds the building height limit of 35' limit. As proposed, the mid-point of the roof for the majority of the building is 39'-4". One small section of gable roof has a mid-point of 41'-4". The height limit of 35' creates a hardship in developing high quality apartments meeting current market expectations. The proposal provides marketable living units with 9' ceilings on the second and third floors. The ground floor has a ceiling height of 10'. This higher ceiling height is needed for the larger volume common use facilities on the ground floor.

A mitigating factor to consider is the location of the higher building masses. The proposal exceeds the building height limit in the living unit portion of the building. This area is set back approximately 300' from the Highland Road right of way. The common use facilities are located closer to Highland Road. This area of the building is one-story and is in compliance with the 35' height limit.

A formal height waiver request letter is also included with the submission package.

Section 3.1.18.E.ii.b – Design and Circulation

1. Locations and setback are depicted on the plans.
2. Layouts and facades are depicted on the plans.
3. Building footprint is depicted on the plans.
4. Circulation: All driveways within the project are intended to be private. The development team has applied to MDOT for a driveway connection permit. This permit application is currently under review by the MDOT district office.
5. Parking and Open Space: Hartland Senior Living proposes 159 parking spaces, including six ADA spaces and 40 carport spaces, which equates to 1.09 spaces per dwelling unit. A portion of residents will not own vehicles, and therefore a parking ratio of one parking space per dwelling unit is appropriate, plus additional parking for staff and visitors. The development will provide shuttle bus transportation to allow residents without vehicles to access retail and healthcare nearby. Based on experience at other similar communities in Southeast Michigan, the development team believes this is an appropriate number of parking spaces for a congregate care facility, providing ample parking for residents, staff, and visitors. Specifically, these comparable facilities are:
   - Lockwood of Fenton: 106 units, 91 parking spaces, 0.85 spaces per unit
   - Lockwood of Burton: 126 units, 120 parking spaces, 0.95 spaces per unit
   - Lockwood of Waterford: 126 units, 112 parking spaces, 0.89 spaces per unit
   - Lyon Township Senior Living: 130 units, 117 parking spaces, 0.9 spaces per unit

   Residents will have access to a landscaped central courtyard, which will serve as the primary recreation/outdoor space of the development. A patio off the dining room will also allow residents to be outdoors. A significant portion of the property, particularly the areas to the north of the building, will be undeveloped and remain as natural green space.

6. Landscaping and screening are depicted on the plans.

Section 3.1.18.E.ii.c – Residential/Non-Residential Units

A total of 146 residential units are proposed for the site. No non-residential units are proposed.

Section 3.1.18.E.ii.d – Environmental Analysis

A Phase I Environmental Site Assessment found no recognized environmental conditions on the project site; this report is available upon request. The report comments on the soil typology and hydrology in the area. A geotechnical investigation was also completed that studied the site soils for compressibility and permeability. This report also established water table elevation on the site of approximately 6 to 9 feet below ground surface (approximately 970 feet in elevation). This geotechnical report is available upon request.

Section 3.1.18.E.ii.e – Wetlands and Unusual Site Features

A wetland delineation was commissioned that found three wetland areas on the site, all in the northwest corner. This report is provided with the application. No development is planned in that area, and the wetlands will not be disturbed. A Level III Wetland Delineation was conducted by EGLE this summer that verified the consultant's conclusions; this report is available upon request.

Section 3.1.18.E.ii.f – Sewer and Water

Sewerage Service

Sanitary effluent from the project will be directed to an existing 12-inch sanitary sewer located on the north side of M59 (Highland Road), via a new pvc sanitary lateral. Waste water generated from the food preparation areas will be directed through an oil / water separator located on the east side of the site and into a proposed pvc sanitary lateral. Black and Gray water from residential units will be directed directly into the proposed sanitary lateral downstream from the oil / water separator.

Water Service

Water service will be provided via a new public waterline being constructed along M59 (Highland Road). Fire and domestic water service for the development will be directed to the site via a new combination water line which will circle the site to provide a fire loop. The water line will enter the building on the east side and separate into individual fire and domestic services. Various appurtenances, including tap, water meter, hydrants, fire department connection, etc. are expected to be coordinated with the local water authority and fire department.

Section 3.1.18.E.ii.g – Stormwater

Stormwater will be collected from the building roof, parking lots, and sidewalks and piped to the on-site retention basin. Treated stormwater will be released from the basin to the north via natural drainage patterns. The development team has contacted the Livingston County Drain Commission and provided the site plan for preliminary review. No comments have been received at this time.

Section 3.1.18.E.ii.h – Sidewalks

An eight-foot-wide asphalt path will be extended for the length of the site along M-59, and the existing narrow concrete sidewalk along M-59 will be removed. A concrete sidewalk will ring the building along the parking lots and connect into the courtyard.

Section 3.1.18.E.ii.i – Traffic Impacts

According to a trip generation study completed by Bergmann, Hartland Senior Living will have no adverse impact on traffic flow along M-59 (Highland Road). Hartland Senior Living is projected to generate fewer than 750 daily trips and fewer than 50 peak hour directional trips, which places it below the MDOT and Township threshold for requiring a full traffic study.

Section 3.1.18.E.ii.j – Fiscal Impacts

Hartland Senior Living will be an asset to the Hartland Township community and will contribute to the fiscal health of the Township and the Hartland Consolidated School District. It will not place an unreasonable burden on local services, the site, or surrounding properties. A letter provided by the Hartland Township Assessor in November of 2019 estimated Hartland Senior Living would pay ad valorem real estate taxes of $286,400. As the development will be home to seniors over age 62, it will place no burden on the school district, all while contributing its ad valorem share of property tax revenue. The on-site healthcare and 24/7 on-site management team will serve as a first line of defense to ensure that only true emergency calls are dispatched to Township emergency services. Hartland Senior Living will also be a large water and sewer customer, contributing to Township and County utility budgets.

Section 3.1.18.E.ii.k – General Schedule

General Schedule

Item	Date
PD Preliminary Review Approval	July, 2020
PD Final Approval	October, 2020
Building Permit Submission	March, 2021
Tree Clearing	March, 2021
Construction Start	June, 2021
Construction Completion / Occupancy	December, 2022

-Please note that no phasing is anticipated at this time.

www.pirhl.com

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Cleveland, Ohio 44113
P. 216.378.9690
F. 216.378.9691

May 22, 2020

Revised July 22, 2020

Troy Langer
Hartland Township Planning
2655 Clark Road
Hartland, Michigan 48353

Dear Mr. Langer:

In your May 8, 2020, email correspondence, you identified the need for the development team to request waivers from Hartland Township standards for building height and façade materials at Hartland Senior Living. This revised letter addresses the additional waiver requests noted in the email from Martha Wyatt on July 9, 2020. The team's requests appear below:

Height: The proposal exceeds the building height limit of 35' limit. As proposed, the mid-point of the roof for most of the building is 39'-4". One small section of gable roof has a mid- point of 41'-4". The height limit of 35' creates a hardship in developing high quality apartments meeting current market expectations. The proposal provides marketable living units with 9' ceilings on the second and third floors. The ground floor has a ceiling height of 10'. This higher ceiling height is needed for the larger volume common use facilities on the ground floor.

A mitigating factor to consider is the location of the higher building masses. The proposal exceeds the building height limit in the living unit portion of the building. This area is set back approximately 400' from the Highland Road right of way. The common use facilities are located closer to Highland Road. This area of the building is one-story and complies with the 35' height limit.

Façade Materials: The proposed design deviates from the maximum allowable and minimum required façade material percentages:

1. Cement board siding maximum of 10%: All elevations exceed 10% cement board siding.

   The south elevation is the predominant elevation visible from Highland Road. The one-story commons building is 5.3% siding. When combined with the partial view of the 3-story apartment building, percentages are 20.3% siding.

   The design goal is to maintain consistency of architectural forms and treatment on all elevations. More extensive use of siding is introduced on secondary and courtyard elevations. However, the secondary elevations and courtyard elevations maintain the same aesthetic as the primary elevations; gable elements are treated the same on primary and secondary elevations to create a more cohesive design.

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2. Other Cement board products, including shakes and panels are introduced to add texture and interest. The proposed architecture is a shingle style and a combination of horizontal and shake siding is prevalent in this style. We are introducing several colors and textures to break down the scale of the building and to provide interest. While they are not listed as a category in Section 5.24.14, it is consistent with the shingle style architecture.

3. Fiberglass shingles maximum of 25%:
   The intent is to utilize dimensional architectural fiberglass shingles for the gable and hipped roofs and standing seam metal on the Porte Cochere roof and dormers.

4. Brick minimum of 30%:
   The proposed design includes stone instead of brick. Stone is preferred because it is more compatible with the shingle style architecture. Stone is used consistently at the base of gable elements on all facades. The one-story commons building is 20% stone. When combined with the partial view of the 3-story apartment building, percentages are 11% stone. The percentage of stone utilized on secondary and courtyard elevations range from 2.6% - 10.5%.

We appreciate your review and are happy to provide any additional information necessary.

Regards,

Graham Welling
Senior Development Coordinator

Tree Inventory Report

Hartland Senior Living Center Site

Highland Road (M-59) Parcels 47-08-23-300-025,
47-08-23-300-026, and 47-08-23-300-027
17.92 Acres of the Southwest ¼ of Section 23, T03N, R06E
Hartland Township, Livingston County, Michigan

project for:

Flint Surveying and Engineering, Inc.
5370 Miller Road, Suite 13
Swartz Creek, Michigan 48473

Huron Ecologic, LLC
4975 Maple Valley Road
Marlette, Michigan 48453

Huron Ecologic Project 2020-13-01
2020 June 09

HURON ECOLOGIC

Huron Ecologic, Limited Liability Company
4975 Maple Valley Road, Marlette, Michigan 48453
810-346-2584 ◈ mail@HuronEcologic.com ◈ www.HuronEcologic.com

2020 June 09

Kim R. Carlson, President
Flint Surveying and Engineering, Inc.
5370 Miller Road, Suite 13
Swartz Creek, Michigan 48473

Subject: Tree Inventory Report
Hartland Senior Living Center Site
Highland Road (M-59), Parcels 47-08-23-300-025,
47-08-23-300-026, and 47-08-23-300-027
17.92 Acres of the Southwest ¼ of Section 23, T03N, R06E
Hartland Township, Livingston County, Michigan
Huron Ecologic Project 2020-13-01

Mr. Carlson:

At your request, on 2020 June 08, Huron Ecologic, LLC (Huron Ecologic) conducted a full tree inventory along the east side of the proposed Hartland Senior Living Center site located on the north side of Highland Road (M-59), including Parcels 47-08-23-300-025, 47-08-23-300-026, and 47-08-23-300-027, totaling 17.92 acres of the Southwest ¼ of Section 23, T03N, R06E, in Hartland Township, Livingston County, Michigan. The purpose of the tree inventory was to identify any trees regulated by Hartland Township ordinances that would be impacted by the proposed development. Prior to conducting the inventory, Huron Ecologic reviewed Hartland Township ordinances pertaining to trees and also consulted with Martha Wyatt, planning and zoning administrator with Hartland Township. Based on this review and discussions, it was determined that Hartland Township regulates most trees 8 inches or greater in diameter but that detailed inventory, tagging, and survey would not be required for those portions of the subject site not impacted by the proposed development. Based on the original site plan provided by Flint Surveying and Engineering, most trees on the subject site would not be impacted. However, it was uncertain how far east tree clearing might extend for installation of a proposed water line, and whether the outlet of the proposed stormwater detention pond would impact any trees. In both cases, it did not appear there would be any impact. Hartland Township was also concerned that proposed landscaping provide adequate screening for the adjacent residence to the east at 12477 Highland Road.

Martha Wyatt of Hartland Township initially indicated that it appeared no trees needed to be tagged or surveyed. Therefore, Huron Ecologic did not tag any trees on the subject site during the original tree inventory on 2020 May 06, but instead, provided a list and sizes of the trees observed in the areas of concern. Based on subsequent review, Hartland Township determined that trees along the east side of the subject site would need to be tagged and surveyed. On 2020 June 09, Huron Ecologic re-inventoried and tagged all trees 8 inches or greater in diameter along the east side of the subject site within Areas 1 and 2 as shown on the attached Tree Inventory Map.

Thank you for the opportunity to provide this service. Please contact me should you have any questions or require further assistance.

William Collins

Huron Ecologic, LLC
William Collins, Manager

Area 1 - Adjacent to Residence at 12477 Highland Road, Trees Listed From South to North					
#	Common Name	Scientific Name	Diameter DBH Inches*	Condition	Comments
1	Box-elder	*Acer negundo*	15+13+10	good	start front yard
2	American Elm	*Ulmus americana*	16	fair	Poison Ivy vines
3	American Elm	*Ulmus americana*	18	good	
4	Black Cherry	*Prunus serotina*	8.5	good	
5	Black Oak	*Quercus velutina*	30+29+23 +17	good	
6	Black Cherry	*Prunus serotina*	11+10	poor	stunted, leaning
7	Bur Oak	*Quercus macrocarpa*	8	good	near TP 903
8	Bur Oak	*Quercus macrocarpa*	9	good	
9	Scots Pine	*Pinus sylvestris*	11	good	
10	Box-elder	*Acer negundo*	12	fair	dead branches
11	Black Oak	*Quercus velutina*	12	good	
12	Eastern White Pine	*Pinus strobus*	11	good	
13	Black Pine	*Pinus nigra*	11	fair	Virginia Creeper vines
14	Eastern White Pine	*Pinus strobus*	11	fair	3 trunks
15	Eastern White Pine	*Pinus strobus*	12	fair	thin growth
16	Bur Oak	*Quercus macrocarpa*	16.5	good	
17	Scots Pine	*Pinus sylvestris*	11.5	good	
18	Black Cherry	*Prunus serotina*	17	good	
19	Black Cherry	*Prunus serotina*	11.5	good	
20	Black Cherry	*Prunus serotina*	13	fair	leaning
21	Apple	*Malus pumila*	8+8	good	
22	Black Cherry	*Prunus serotina*	27+21	fair	21" trunk mostly dead
23	Black Cherry	*Prunus serotina*	19	good	
24	Black Pine	*Pinus nigra*	12	good	
25	Black Cherry	*Prunus serotina*	25+25+22	good	
26	Black Cherry	*Prunus serotina*	16	good	
27	Black Cherry	*Prunus serotina*	24+9	fair	leaning
28	Black Cherry	*Prunus serotina*	24	fair	broken limb
29	Serviceberry	*Amelanchier arborea*	9	good	
30	Black Cherry	*Prunus serotina*	9	fair	leaning
31	Box-elder	*Acer negundo*	12	good	
32	Box-elder	*Acer negundo*	9+8	good	
33	Black Cherry	*Prunus serotina*	25	poor	rotted trunk base
34	Black Cherry	*Prunus serotina*	27	poor	
35	Bur Oak	*Quercus macrocarpa*	10	good	
36	Black Cherry	*Prunus serotina*	19	fair	leaning
37	Black Cherry	*Prunus serotina*	19	fair	leaning
38	Black Oak	*Quercus velutina*	38	good	
39	Black Cherry	*Prunus serotina*	39+31	fair	31" trunk partly rotted
40	Bur Oak	*Quercus macrocarpa*	11.5	good	
41	Bur Oak	*Quercus macrocarpa*	14	good	

Area 1 - Adjacent to Residence at 12477 Highland Road, Trees Listed From South to North					
#	Common Name	Scientific Name	Diameter DBH Inches	Condition	Comments
42	Black Oak	*Quercus velutina*	12+7	good	
43	Black Cherry	*Prunus serotina*	13	good	start back yard
44	Bur Oak	*Quercus macrocarpa*	12.5		
45	Black Cherry	*Prunus serotina*	22	good	
46	Black Cherry	*Prunus serotina*	10	good	
47	Black Cherry	*Prunus serotina*	9	good	
48	Black Cherry	*Prunus serotina*	10	good	
49	Black Cherry	*Prunus serotina*	8	fair	leaning, multiple deformed trunk
50	American Elm	*Ulmus americana*	11	good	
51	Black Cherry	*Prunus serotina*	8	fair	leaning
52	Black Cherry	*Prunus serotina*	8	good	
53	Black Cherry	*Prunus serotina*	13	good	
54	Black Cherry	*Prunus serotina*	17	good	
55	Black Cherry	*Prunus serotina*	9	good	
56	Bur Oak	*Quercus macrocarpa*	12	good	
57	Black Cherry	*Prunus serotina*	24+23	fair	23" trunk broken
58	Black Cherry	*Prunus serotina*	20+13	good	

Area 2 - Adjacent to Hartland Township Park, Trees Listed From South to North, Trees North of Tree 82 are North of Proposed North Parking Area					
#	Common Name	Scientific Name	Diameter DBH Inches	Condition	Comments
59	Black Cherry	*Prunus serotina*	33+26+23	good	
60	American Elm	*Ulmus americana*	11	good	
61	White Oak	*Quercus alba*	33	good	
62	White Oak	*Quercus alba*	32	good	
63	Black Cherry	*Prunus serotina*	24+16+14	fair	16" trunk broken

Tree Inventory

Based on the request from Flint Surveying and Engineering and latest review by Hartland Township, Huron Ecologic made a detailed inventory and tagged all trees 8 inches or greater in diameter in the east of the subject site, adjacent to the residence at 12477 Highland Road and the southwest corner of the adjacent Hartland Township Park. This area is shown as Area 1 and Area 2 on the Tree Inventory Map on page 4 of this report. A total of 63 trees were inventoried and tagged. It appears that few, if any, of these trees would be impacted by the proposed development as shown on the latest site plan provided to Huron Ecologic by Flint Surveying and Engineering. Of the few trees present in the proposed development area, most are Eastern Red-cedar – *Juniperus virginiana* of less than 6 inches in diameter, appearing to be about 15 years old or younger based on size and historical aerial photography. For general information about other vegetation on the subject site, refer to the original 2020 May 07 Huron Ecologic report.

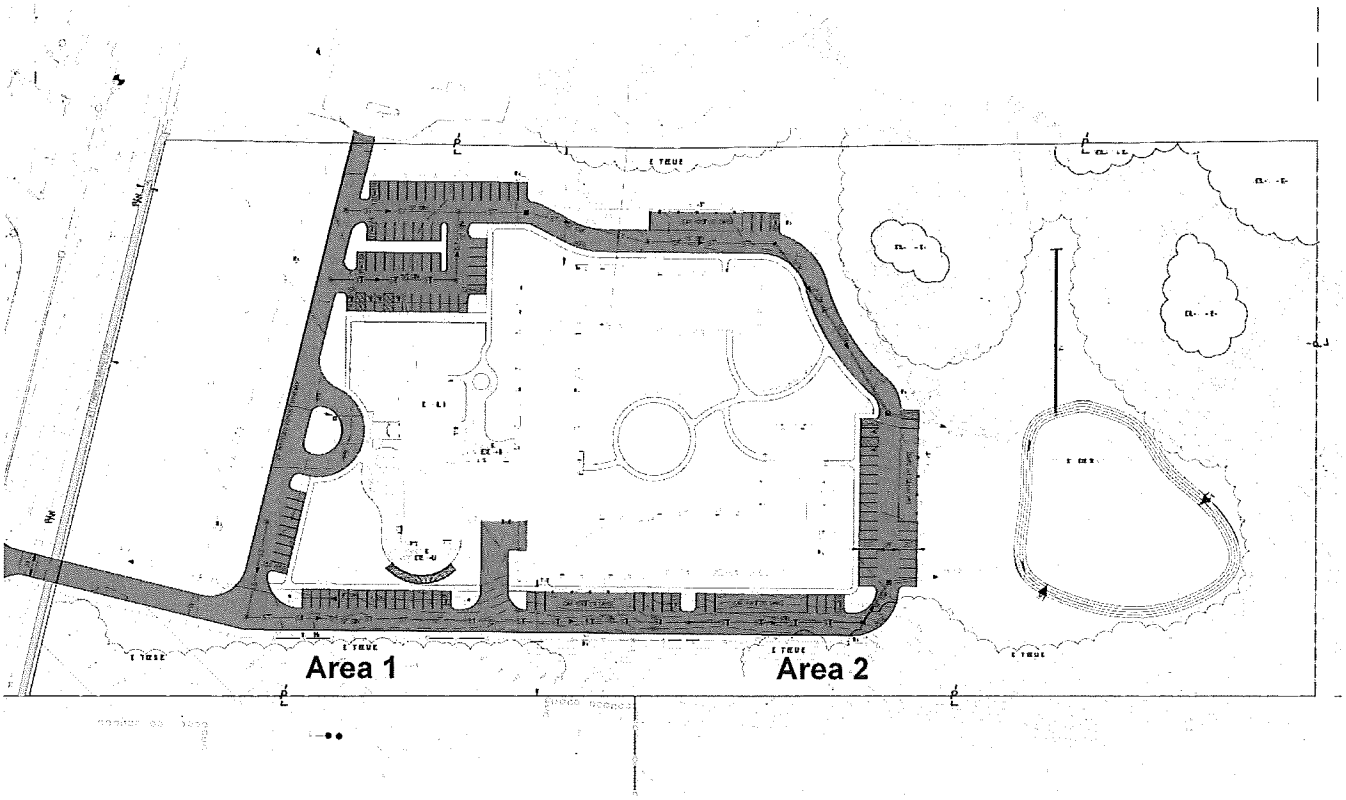
Tree diameters provided in this report are listed as inches at "diameter breast height", or DBH, which is normally 4.5 feet above the ground surface. For large trees with multiple fused trunks, the diameter may be larger at 4.5 feet than the lower base trunk. For this reason, in very few cases, the diameter listed is below 4.5 feet to better represent the tree. For trees with multiple non-fused trunks, diameters (X) are listed as X+X+ and so on. Trees with multiple trunks extending from the same root system may effectively be two different trees due to horizontal separation. In these cases, Huron Ecologic determines whether uprooting of one trunk would significantly affect the others. If not, they are listed as separate trees, and if so, they are listed as the same tree with multiple trunks.

The tree conditions provided in this report represent general visual evaluations ranging from good to fair to poor. The conditions account only for obvious exterior physical indicators. Interior conditions, such as hollow trunks, or diseases that may not present clear visual indicators are not accounted for. The designation of good, fair, or poor condition is somewhat subjective but determined with consistency. Trees determined to be in good condition appear to have no or few indications of physical or pathological problems. Trees in fair condition may exhibit minor issues such as broken limbs, small areas of missing bark, leaning, or limited stress due to disease, pests, or vines. Whatever the issue, such minor conditions do not appear likely to significantly impair continued tree growth. Trees determined to be in poor condition exhibit major damage such as broken or hollow and exposed trunks, major leaning or uprooting, or major stress due to disease, pests, or vines. A tree determined to be in poor condition appears unlikely to recover normal growth and/or likely to soon die. Determination of tree condition is always relative to the typical growth form and condition of particular tree species. For example, Box-elder and willows typically have multiple leaning trunks, some of which are often damaged or dead, but otherwise, unlikely to impair the tree as a whole.

Limitations

The information presented in this report is intended to assist the client in making a reasonable assessment of regulated trees and potential impacts on the subject site. The determinations of Huron Ecologic are limited to the specific project area at the subject location as indicated by the client and consultation with the local regulatory agency. As with all projects, the quantity of information obtained is a function of time and budgetary constraints as defined in the scope of work requested by the client. Therefore, the findings and conclusions of Huron Ecologic, LLC should in no way be considered as absolute certainties, but rather, as professional judgments regarding data collected during the course of this project. The determinations of Huron Ecologic are limited to specific conditions observed during the site inspection and applicable regulations at the time of this report. Tree species identification is often limited by season and natural variations. This report has been produced solely for the client indicated in this report. No other person, entity, or assigns shall make use of or rely upon this report or its conclusions without the express written consent of Huron Ecologic, LLC.

Tree Inventory Map



ASTI ENVIRONMENTAL

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Compliance • Restoration

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Sent Via Email Only

April 2, 2020

Mr. Graham Welling
PIRHL Developers, LLC
800 West St. Clair Ave.
4th Floor
Cleveland, OH 44113

RE: Wetland Delineation and Jurisdictional Assessment with GPS Survey
Hartland Senior
12371 Highland Road
Hartland Township, Livingston County, Michigan
ASTI File No. 3-11269

Dear Mr. Welling:

On March 24, 2020, ASTI Environmental (ASTI) conducted a site investigation to delineate wetland boundaries on approximately 17.9 acres at 12371 Highland Road, east of Bullard Road, and west of Fenton Road in Hartland Township, Livingston County, Michigan (Property). Three wetlands were found on the Property (Figure 1 – *GPS-Surveyed Wetland Boundaries*). Wetland boundaries, as depicted on Figure 1, were located using a professional grade, hand-held Global Positioning System unit (GPS).

SUPPORTING DATA AND MAPPING

The United States Geological Survey (USGS) West Highland, Michigan 7.5' Quadrangle Map, the USDA Web Soil Survey (WSS), the National Wetland Inventory Map (NWI), Michigan Department of Environment, Great Lakes, and Energy (EGLE) Wetlands Map Viewer web site, and digital aerial photographs were all used to support the wetland delineation and subsequent regulatory status determination. The NWI, EGLE and USGS maps indicated the presence of wetland in the northwestern portion of the Property.

In addition, the WSS indicated the Property is comprised of the soils Boyer-Oshtemo loamy sands (2-6% slopes), Boyer-Oshtemo loamy sands (6-12% slopes), Carlisle muck (0-2% slopes), Fox sandy loam (0-2% slopes), Fox sandy loam (2-6% slopes), Fox sandy loam (6-12% slopes), Oakville fine sand, loamy (0-6% slopes). The soil complex of Carlisle muck is listed as hydric soil by the WSS.

FINDINGS

ASTI investigated the Property for the presence of any lakes, ponds, wetlands, and watercourses. This work is based on *MCL 324 Part 301 (Inland Lakes and Streams)* and *Part 303 (Wetland Protection)* and Executive Order 11990, Protection of Wetlands, 1977.

It should be noted that some municipalities have local wetland ordinances and natural features setbacks that may apply to this property. In addition, in some circumstances the US Army Corps of Engineers (ACOE) may also have jurisdiction of wetlands or watercourses on your Property. If either is the case for your site, this information will also be noted in the wetland descriptions below.

The delineation protocol used by ASTI for this delineation is based on the US Army Corps of Engineers' *Wetland Delineation Manual,* 1987, the *Regional Supplement to the Corps of Engineer Wetland Delineation Manual: Northcentral and Northeast Region*, and related guidance/documents, as appropriate. Wetland vegetation, hydrology, and soils were used to locate the wetland boundaries. Three wetland areas were found on the Property and are discussed below.

Wetland A

Wetland A is a scrub/shrub wetland 0.08 acres in size located entirely on the Property (see Figure 1). Dominant vegetation found within Wetland A included silky dogwood (*Cornus amomum*), gray dogwood (*Cornus racemosa*), and stinging nettle (*Utica dioica*). Soils within Wetland A were mucky sand and are considered hydric because they met the hydric soil criteria for a sandy mucky mineral and a sandy redox. Indicators of wetland hydrology observed within Wetland A included surface water, high water table, saturation, and sparsely vegetated concave surface.

Dominant vegetation observed within the upland adjacent to Wetland A included wild black cherry (*Prunus serotina*), flowering dogwood (*Cornus florida*), Allegheny blackberry (*Rubus allegheniensis*), tartarian honeysuckle (*Lonicera tatarica*), white avens (*Geum canadense*), early winter cress (*Barbarea verna*), and eastern prickly gooseberry (*Ribes cynosbati*). Upland soils were loamy sand, and no evidence of wetland hydrology was observed.

Wetland A would typically not be regulated by EGLE, because it is less than five acres in size and located over 500-feet from an inland lakes, streams, or pond. However, since this project receives federal funding, EO11990 applies, which means that proposed impacts to all on-site wetlands must be accounted for, permitted, and mitigated.

Wetland B

Wetland B is a forested wetland 0.31 acres on the Property (see Figure 1); it continues off-site to north and west of the Property. Dominant vegetation found within Wetland B included silver maple (*Acer saccharinum*), gray birch (*Betula populifolia*), American hornbeam (*Carpinus caroliniana*), and skunk-cabbage (*Symplocarpus foetidus*). Soils within Wetland B were a muck and are considered hydric because they met the hydric soil criteria for a histosol. Indicators of wetland hydrology observed within Wetland B included surface water, high water table, and saturation.

Dominant vegetation observed within the upland adjacent to Wetland B included red oak (*Quercus rubra*), black oak (*Quercus velutina*), eastern hop-hornbeam (*Ostrya virginiana*), and American hornbeam (*Carpinus caroliniana*). Upland soils were loam sand and no evidence of wetland hydrology was observed.

It is ASTI's opinion that Wetland B is regulated by EGLE because it is contiguous with wetland systems located off-site to the west and the north. Wetland B is contiguous to the off-site wetlands via surface water connection to the north. This size is based on visual estimates in the field as well as estimated from aerial photography.

Wetland C

Wetland C is a scrub/shrub wetland 0.20 acres in size, located entirely on the Property (see Figure 1). Dominant vegetation found within Wetland C included gray birch (*Betula populifolia*), American hornbeam (*Carpinus caroliniana*), sensitive fern (*Onoclea sensibilis*), royal fern (*Osmunda spectabilis*), and green ash (*Fraxinus pennsylvanica*). Soils within Wetland C were mucky sand and are considered hydric because they met the hydric soil criteria for a sandy mucky mineral, a thick dark surface, a sandy redox, and a stripped matrix. Indicators of wetland hydrology observed within Wetland C included surface water, high water table, saturation, and sparsely vegetated concave surface.

Dominant vegetation observed within the upland adjacent to Wetland C included American beech (*Fagus grandifolia*), autumn olive (*Elaeagnus umbellata*), American hornbeam (*Carpinus caroliniana*), Indian strawberry (*Potentilla indica*), and eastern prickly gooseberry (*Ribes cynosbati*). Upland soils were loamy/clay and no evidence of wetland hydrology was observed.

Wetland C would typically not be regulated by EGLE, because it is less than five acres in size and located over 500-feet from an inland lakes, streams, or pond. However, since this project receives federal funding, EO11990 applies, which means that proposed impacts to all on-site wetlands must be accounted for, permitted, and mitigated.

Wetland Flagging

Wetland boundaries were marked in the field with day-glo pink flagging with black striped the following flagging numbers:

Wetland A:	A-1 through A-11	Wetland B:	B-1 through B-12
Wetland C:	C-1 through C-16		

SUMMARY

Based upon the data, criteria, and evidence noted above, it is ASTI's professional opinion that the Property includes three wetlands, Wetlands A, B, and C. Attached are Figure 1, which shows the surveyed locations of wetland flagging on the Property, and completed US Army Corps of Engineers (ACOE) Wetland Data Forms. Please note that the data sheet numbers match the data collection sampling points shown on Figure 1.

Thank you for the opportunity to assist you with this project. Please let us know if we can be of any further assistance in moving your project forward.

Sincerely yours,

ASTI ENVIRONMENTAL

Jeremiah Roth
Wetland Ecologist

Dianne C. Martin, PWS
Vice President
Professional Wetland Scientist #1313

Attachments: Figure 1 – *GPS-Surveyed Wetland Boundaries*
Completed ACOE Wetland Data Forms

12371 Highland Road

Hartland, MI

0 50 100 200 Feet

N

ASTI Environmental

Client: PIRHL Developers, LLC
Created by: RMH, March 27, 2020, ASTI Project 3-11269
Imagery: SEMCOG, Maxar

Figure 1 - GPS-Surveyed Wetland Boundaries

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hartland Senior City/County: Hartland/ Livingston Sampling Date: 3/24/2020

Applicant/Owner: PIRHL Developers, LLC State: MI Sampling Point: U1

Investigator(s): Jeremiah Roth (ASTI Environmental Section, Township, Range: Section 23, To3N, R06E

Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): conves Slope %: 2-6%

Subregion (LRR or MLRA): LRR L Lat: Long: Datum:

Soil Map Unit Name: Boyer-Oshtemo loamy sands, 6 to 12% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___	No X	**Is the Sampled Area within a Wetland?** **Yes** ___ **No** X
Hydric Soil Present?	Yes ___	No X	If yes, optional Wetland Site ID:
Wetland Hydrology Present?	Yes ___	No X	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: U1

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*	40	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	40	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Cornus florida*	20	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	20	=Total Cover	
Herb Stratum (Plot size: 5ft)			
1. *Rubus allegheniensis*	10	Yes	FACU
2. *Lonicera tatarica*	5	Yes	FACU
3. *Geum canadense*	5	Yes	FAC
4. *Barbarea verna*	5	Yes	UPL
5. *Thelypteris noveboracensis*	2	No	FAC
6. *Ribes cynosbati*	5	Yes	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	32	=Total Cover	
Woody Vine Stratum (Plot size: 30ft)			
1. *Vitis riparia*	10	Yes	FAC
2.			
3.			
4.			
	10	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	17	x 3 =	51
FACU species	80	x 4 =	320
UPL species	5	x 5 =	25
Column Totals:	102 (A)		396 (B)

Prevalence Index = B/A = 3.88

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: U1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 4/2	80					Loamy/Clayey	
	10YR 6/2	20						
7-12	10YR 5/3	100					Loamy/Clayey	
12-24	10YR 5/4	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hartland Senior City/County: Hartland/ Livingston Sampling Date: 03/24/2020

Applicant/Owner: PIRHL Developers, LLC State: MI Sampling Point: U2

Investigator(s): Jeremiah Roth (ASTI Environmental) Section, Township, Range: Section 23, T03N, R06E

Landform (hillside, terrace, etc.): slope Local relief (concave, convex, none): convex Slope %: 6-12

Subregion (LRR or MLRA): LRR L Lat: ____ Long: ____ Datum: NAD 83

Soil Map Unit Name: Carlisle muck, 0 to 2% slopes NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ? Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: U2

Tree Stratum (Plot size: 30Ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	20	Yes	FACU
2. *Quercus velutina*	20	Yes	UPL
3. *Ostrya virginiana*	10	No	FACU
4. *Carpinus caroliniana*	10	No	FAC
5.			
6.			
7.			
	60	=Total Cover	

Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Carpinus caroliniana*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	

Herb Stratum (Plot size: 5ft)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
		=Total Cover	

Woody Vine Stratum (Plot size: 30ft)			
1. *None*			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	30	x 4 =	120
UPL species	20	x 5 =	100
Column Totals:	70 (A)		280 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: U2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/2	100					Loamy/Clayey	
10-24	10YR 5/2	85					Loamy/Clayey	
	10YR 5/1	15						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hartland Senior City/County: Hartland/ Livingston Sampling Date: 03/24/2020

Applicant/Owner: PIRHL Developers, LLC State: MI Sampling Point: U3

Investigator(s): Jeremiah Roth (ASTI Environmental) Section, Township, Range: Section 23, T03N, R06E

Landform (hillside, terrace, etc.): plain Local relief (concave, convex, none): convex Slope %: 0-2

Subregion (LRR or MLRA): LRR L Lat: ____ Long: ____ Datum: NAD 83

Soil Map Unit Name: Carlisle muck, 0 to 2% slopes NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 20
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: U3

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fagus grandifolia*	30	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	30	=Total Cover	

Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Carpinus caroliniana*	10	Yes	FAC
2. *Elaeagnus umbellata*	5	Yes	UPL
3.			
4.			
5.			
6.			
7.			
	15	=Total Cover	

Herb Stratum (Plot size: 5ft)			
1. *Fagus grandifolia*	10	Yes	FACU
2. *Potentilla indica*	5	Yes	FACU
3. *Ribes cynosbati*	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25	=Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	55	x 4 =	220
UPL species	5	x 5 =	25
Column Totals:	70 (A)		275 (B)

Prevalence Index = B/A = 3.93

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: U3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					Loamy/Clayey	
6-12	10YR 5/2	100					Loamy/Clayey	
12-24	10YR 2/1	80					Mucky Sand	
	10YR 5/1	20						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hartland Senior City/County: Hartland/Livingston Sampling Date: 3/24/2020

Applicant/Owner: PIRHL Developers, LLC State: MI Sampling Point: U4

Investigator(s): Jeremiah Roth (ASTI Environmental) Section, Township, Range: Section 23, T03N, R06E

Landform (hillside, terrace, etc.): slope Local relief (concave, convex, none): convex Slope %: 6-12

Subregion (LRR or MLRA): LRR L Lat: Long: Datum: NAD 83

Soil Map Unit Name: Boyer-Oshtemo loamy sands, 6 to 12% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___	No X	**Is the Sampled Area within a Wetland?** **Yes** ___ **No** X
Hydric Soil Present?	Yes ___	No X	If yes, optional Wetland Site ID:
Wetland Hydrology Present?	Yes ___	No X	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: U4

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*	15	Yes	FACU
2. *Quercus velutina*	10	Yes	UPL
3. *Fagus grandifolia*	10	Yes	FACU
4. *Quercus rubra*	10	Yes	FACU
5.			
6.			
7.			
	45	=Total Cover	

Sapling/Shrub Stratum (Plot size: 15ft)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5ft)			
1. *Fagus grandifolia*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5	=Total Cover	

Woody Vine Stratum (Plot size: 30ft)			
1. *None*			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	40	x 4 =	160
UPL species	10	x 5 =	50
Column Totals:	50 (A)		210 (B)

Prevalence Index = B/A = 4.20

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: U4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	80					Loamy/Clayey	
	10YR 6/2	20						
10-16	10YR 5/3	80					Loamy/Clayey	
	10YR 6/2	20						
16-24	10YR 4/4	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hartland Senior City/County: Hartland/Livingston Sampling Date: 3/24/2020

Applicant/Owner: PIRHL Developers, LLC State: MI Sampling Point: U5

Investigator(s): Jeremiah Roth (ASTI Environmental) Section, Township, Range: Section 23, T03N, R06E

Landform (hillside, terrace, etc.): plain Local relief (concave, convex, none): convex Slope %: 6-12

Subregion (LRR or MLRA): LRR L Lat: ____ Long: ____ Datum: NAD 83

Soil Map Unit Name: Fox sandy loam, 0 to 2% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: U5

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Sapling/Shrub Stratum (Plot size: 15ft)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5ft)			
1. *Centaurea stoebe*	35	Yes	UPL
2. *Bromus inermis*	35	Yes	UPL
3. *Daucus carota*	10	No	UPL
4. *Verbascum thapsus*	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85	=Total Cover	

Woody Vine Stratum (Plot size: 30ft)			
1. *None*			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	85	x 5 =	425
Column Totals:	85 (A)		425 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: U5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	80					Loamy/Clayey	
	10YR 6/2	20						
10-16	10YR 4/4	100					Loamy/Clayey	
16-24	10YR 4/4	80					Loamy/Clayey	
	10YR 3/3	20						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hartland Senior City/County: Hartland/Livingston Sampling Date: 3/24/2020

Applicant/Owner: PIRHL Developers, LLC State: MI Sampling Point: U6

Investigator(s): Jeremiah Roth (ASTI Environmental) Section, Township, Range: Section 23, T03N, R06E

Landform (hillside, terrace, etc.): slope Local relief (concave, convex, none): convex Slope %: 6-12

Subregion (LRR or MLRA): LRR L Lat: ____ Long: ____ Datum: NAD 83

Soil Map Unit Name: Fox sandy loam, 2 to 6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: U6

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus macrocarpa*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Cornus racemosa*	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	20	=Total Cover	
Herb Stratum (Plot size: 5ft)			
1. *Solidago canadensis*	20	Yes	FACU
2. *Symphyotrichum pilosum*	20	Yes	FACU
3. *Symphyotrichum lateriflorum*	10	No	FAC
4. *Bromus inermis*	15	Yes	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65	=Total Cover	
Woody Vine Stratum (Plot size: 30ft)			
1. *Vitis aestivalis*	10	Yes	FACU
2.			
3.			
4.			
	10	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	60	x 4 =	240
UPL species	15	x 5 =	75
Column Totals:	105 (A)		405 (B)

Prevalence Index = B/A = 3.86

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: U6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	80					Loamy/Clayey	
	10YR 6/2	20						
10-16	10YR 4/4	100					Loamy/Clayey	
16-24	10YR 4/4	90					Loamy/Clayey	
	10YR 3/3	10						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hartland Senior City/County: Hartland/ Livingston Sampling Date: 3/24/2020

Applicant/Owner: PIRHL Developers, LLC State: MI Sampling Point: W1

Investigator(s): Jeremiah Roth (ASTI Environmental) Section, Township, Range: Section 23, T03N, R06E

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope %: 0-2

Subregion (LRR or MLRA): LRR L Lat: Long: Datum: NAD-83

Soil Map Unit Name: Boyer-Oshtemo loamy sands, 6 to 12% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___	**Is the Sampled Area within a Wetland?** **Yes** X **No** ___
Hydric Soil Present?	Yes X	No ___	If yes, optional Wetland Site ID: Wetland A
Wetland Hydrology Present?	Yes X	No ___	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 4
Water Table Present?	Yes X	No ___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: W1

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Cornus amomum*	10	Yes	FACW
2. *Cornus racemosa*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	20	=Total Cover	
Herb Stratum (Plot size: 5ft)			
1. *Urtica dioica*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5	=Total Cover	
Woody Vine Stratum (Plot size: 30ft)			
1. *Vitis riparia*	10	Yes	FAC
2.			
3.			
4.			
	10	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	35 (A)		95 (B)

Prevalence Index = B/A = 2.71

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-24	10YR 3/1	95	10YR 6/6	5	C	M	Mucky Sand	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- X Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hartland Senior City/County: Hartland/ Livingston Sampling Date: 3/24/2020

Applicant/Owner: PIRHL Developers, LLC State: MI Sampling Point: W2

Investigator(s): Jeremiah Roth (ASTI Environmental) Section, Township, Range: Section 23, T03N, R06E

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope %: 0-2

Subregion (LRR or MLRA): LRR L Lat: ____ Long: ____ Datum: NAD-83

Soil Map Unit Name: Carlisle muck, 0 to 2% slopes NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: Wetland B
Wetland Hydrology Present?	Yes X	No ____	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 2
Water Table Present?	Yes X	No ____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 1

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: W2

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	20	Yes	FACW
2. *Betula populifolia*	25	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	45	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Carpinus caroliniana*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	15	=Total Cover	
Herb Stratum (Plot size: 5ft)			
1. *Symplocarpus foetidus*	25	Yes	OBL
2. *Urtica dioica*	5	No	FAC
3. *Carex lacustris*	2	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	32	=Total Cover	
Woody Vine Stratum (Plot size: 30ft)			
1. *None*			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	27	x 1 =	27
FACW species	20	x 2 =	40
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	92 (A)		202 (B)

Prevalence Index = B/A = 2.20

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	85	2.5YR 3/1	15	C	M	Muck	Faint redox concentrations
8-24	10YR 3/1	95	5Y 3/2	5	C	M	Muck	Faint redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hartland Senior City/County: Hartland/ Livingston Sampling Date: 3/24/2020

Applicant/Owner: PIRHL Developers, LLC State: MI Sampling Point: W3

Investigator(s): Jeremiah Roth (ASTI Environmental) Section, Township, Range: Section 23, T03N, R06E

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope %: 0-2

Subregion (LRR or MLRA): LRR L Lat: ____ Long: ____ Datum: NAD 83

Soil Map Unit Name: Carlisle muck, 0 to 2% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: Wetland C
Wetland Hydrology Present?	Yes X	No ____	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 2
Water Table Present?	Yes X	No ____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 2

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: W3

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Betula populifolia*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	15	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Carpinus caroliniana*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5ft)			
1. *Onoclea sensibilis*	20	Yes	FACW
2. *Osmunda spectabilis*	25	Yes	OBL
3. *Symplocarpus foetidus*	15	No	OBL
4. *Fraxinus pennsylvanica*	20	Yes	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80	=Total Cover	
Woody Vine Stratum (Plot size: 30ft)			
1. *None*			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	40	x 2 =	80
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		195 (B)

Prevalence Index = B/A = 1.86

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	90	10YR 5/6	10	C	M	Mucky Sand	Prominent redox concentrations
8-12	10YR 2/1	80	10YR 5/6	20	C	M	Mucky Sand	Prominent redox concentrations
12-18	10YR 2/1	90	2.5YR 3/1	10	C	M	Sandy	Faint redox concentrations
18-24	10YR 5/1	90	10YR 5/6	10	C	M	Sandy	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- X Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- X Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ? Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ? Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hartland Senior City/County: Hartland/ Livingston Sampling Date: 3/24/2020

Applicant/Owner: PIRHL Developers, LLC State: MI Sampling Point: W4

Investigator(s): Jeremiah Roth (ASTI Environmental) Section, Township, Range: Section 23, T03N, R06E

Landform (hillside, terrace, etc.): slope Local relief (concave, convex, none): concave Slope %: 0-4

Subregion (LRR or MLRA): LRR L Lat: Long: Datum: NAD 83

Soil Map Unit Name: Boyer-Oshtemo loamy sands, 6 to 12% slopes NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___	**Is the Sampled Area within a Wetland?** **Yes** X **No** ___
Hydric Soil Present?	Yes X	No ___	If yes, optional Wetland Site ID: Wetland B
Wetland Hydrology Present?	Yes X	No ___	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 3

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: W4

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fagus grandifolia*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	

Sapling/Shrub Stratum (Plot size: 15ft)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5ft)			
1. *Symplocarpus foetidus*	15	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	15	=Total Cover	

Woody Vine Stratum (Plot size: 30ft)			
1. *None*			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	25 (A)		55 (B)

Prevalence Index = B/A = 2.20

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	80	2.5YR 3/1	10	C	M	Mucky Sand	Faint redox concentrations
	10YR 4/1	10						
12-24	10YR 2/1	90	2.5YR 3/1	10	C	M	Mucky Sand	Faint redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- X Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- X Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

BERGMANN
ARCHITECTS ENGINEERS PLANNERS

TECHNICAL MEMORANDUM

To: Mr. Graham Welling
PIRHL

Re: Hartland Senior Living – Hartland Twp, MI
Trip Generation Study

From: Steven J. Russo, PE
Transportation Engineer

Date: April 17, 2020

INTRODUCTION

This memorandum presents an evaluation of traffic generation for the proposed Hartland Senior Living development in Hartland Township, Livingston County, Michigan. The subject site is located on the north side of Highland Road (M-59) approximately ½ mile west of Pleasant Valley / Fenton Road and is currently vacant. The proposed project involves construction of a 146-unit senior living facility with access provided via a single driveway to M-59. Additionally, a cross access connection is proposed with the adjacent Trillium Professional Center to the west which will provide an additional access point to M-59.

TRIP GENERATION

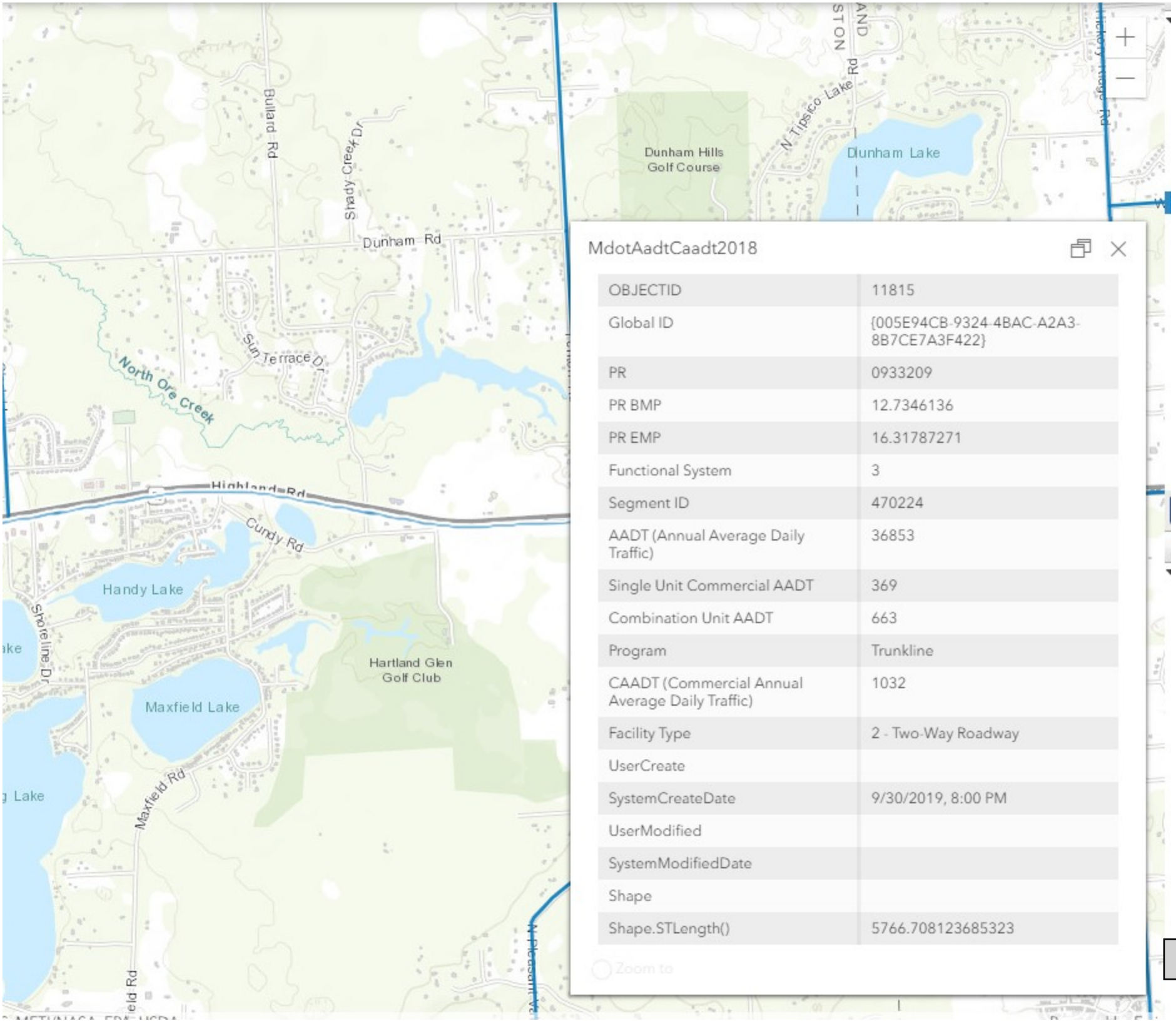
The number of peak hour vehicle trips generated by the proposed development were forecast based on the rates and equations published by the Institute of Transportation Engineers (ITE) in *Trip Generation, 10th Edition*. The ITE land use category that most closely matches the operation of the proposed facility is *Land Use #252 (Senior Adult Housing - Attached)* which consists of attached independent living developments, including retirement communities, age-restricted housing, and active adult communities. ITE publishes both average trip generation rates and equations for Land Use #252 and selection of the appropriate method was based on the guidelines outlined in the ITE *Trip Generation Manual*. The trip generation summary is summarized in **Table 1**.

Table 1: Site Trip Generation

Land Use	ITE Code	Amount	Units	Average Daily Traffic	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Senior Adult Housing	252	146	Dwelling Units	562	10	19	29	20	17	37

According to the MDOT *Geometric Design Guidance* and Section 6.5 of the Township Zoning Ordinance, the forecast number of site-generated vehicle trips does not meet the minimum thresholds (50 peak hour directional trips or 750 daily trips) to require traffic impact analysis or further study. Furthermore, this project would result in only a minor increase in traffic volume on M-59 which carries approximately 37,000 vehicles per day in the site vicinity. ***Therefore, the proposed project would have no significant traffic impact and the change in traffic volume on the adjacent road network would not be discernable.***

Please direct any questions regarding this memorandum to Bergmann.



MdotAadtCaadt2018

OBJECTID	11815
Global ID	{005E94CB-9324-4BAC-A2A3-8B7CE7A3F422}
PR	0933209
PR BMP	12.7346136
PR EMP	16.31787271
Functional System	3
Segment ID	470224
AADT (Annual Average Daily Traffic)	36853
Single Unit Commercial AADT	369
Combination Unit AADT	663
Program	Trunkline
CAADT (Commercial Annual Average Daily Traffic)	1032
Facility Type	2 - Two-Way Roadway
UserCreate	
SystemCreateDate	9/30/2019, 8:00 PM
UserModified	
SystemModifiedDate	
Shape	
Shape.STLength()	5766.708123685323

Zoom to

Application Reference Number:69796

Applicant Info

Applicant Name: Hartland Senior Living LDHA, LLC

Mailing Address: 800 West St. Clair Avenue, 4th Floor

City: Cleveland **State:** OH **Zip:** 44113

Primary Contact

Contact Name: Graham Welling

Phone No: 216-453-5943 **Cell Phone No:**

Email Address: gwelling@pirhl.com

Secondary Contact

Contact Name: Greg Schunck

Phone No: 216-378-1490 **Cell Phone No:**

Email Address: gschunck@manniksmithgroup.com

Contractor Info

Contractor Name: Hartland Senior Living LDHA, LLC

Mailing Address: 800 West St. Clair Avenue, 4th Floor

City: Cleveland **State:** OH **Zip:** 44113

Primary Contact

Contact Name: Graham Welling

Phone No: 216-453-5943 **Cell Phone No:**

Email Address: gwelling@pirhl.com

Secondary/Consultant Contact

Contact Name: Greg Schunck

Phone No: 216-378-1490 **Cell Phone No:**

Email Address: gschunck@manniksmithgroup.com

Site Info

State Route: M59 **Township Of:** Hartland **County:** Livingston County

Nearest Intersection: hartland glenn **Side of Road:** ☑ West

Distance to the nearest intersection: 0.0 Feet **Direction from worksite to the nearest intersection on the state route:** East

Work Info

Proposed Start Date: 10/30/2020 **Proposed Completion Date:** 05/02/2022

Purpose:

```
Proposed asphalt driveway to access the north
side of M-59 (Highland Road) to service a new
140+ bed senior living facility
```

Requisition #: **Work Order #:**

MDOT Job #: **Organizations Job #:**

Lane Closure Proposed: No

No

Work Located on Restricted Route:

Work performed outside of time restrictions: No

Date Submitted: 04/09/2020

Bond Info

Department Bond Number:

Insurance Info

Certificate of Insurance Number:

Attachments

Attachments Included.

Type of Work

Driveways

Commercial Driveways - Parking spaces >50

Application Fee (Nonrefundable)

Additional fees may be applied.

$410.00

Add 6 canopy trees to parking lot area

Add evergreen trees to provide double row/ screening of site where abutting single-family residential and for screening of parking lot (west side)

* Label these areas as turf, lawn or other cover & provide seed mix information

ARCHITECTURAL SITE PLAN

SCALE: 1" = 50'-0"

0 25' 50'

07/23/2020

RDL ARCHITECTS
16102 Chagrin Blvd. Suite 200
Shaker Heights, Ohio 44120
T: 216-752-4300 F: 216-752-4301
www.rdlarchitects.com

Hartland Senior Living
Hartland Township, MI

SP #20-005
Preliminary Plan
8/13/2020

PIRHL DEVELOPERS, LLC
800 WEST ST. CLAIR AVENUE, 4th FLOOR
CLEVELAND, OHIO 44113
T: 216.378.9690

A-1

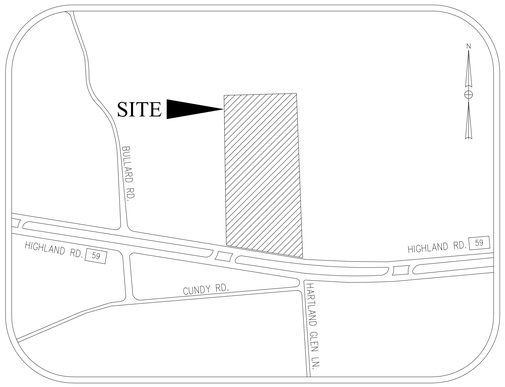
HARTLAND SENIOR LIVING

HARTLAND TOWNSHIP
COUNTY OF LIVINGSTON, STATE OF MICHIGAN

PREPARED FOR
PIRHL DEVELOPERS, LLC.
800 WEST SAINT CLAIR AVENUE,
FOURTH FLOOR
CLEVELAND, OHIO 44113

SITE DATA

CRITERIA	PROVIDED
LOT WIDTH	615.30 FT
TOTAL SITE AREA	17.92 ACRES (780,632 SQFT), 3 PARCELS
GREEN SPACE	13.17 ACRES (573,491.6 SQFT)
GREEN SPACE %	73.5%
WEST SIDE YARD SETBACK	137.5 FT.
EAST SIDE YARD SETBACK	142.9 FT.
FRONT YARD SETBACK	155.9 FT.
REAR YARD SETBACK	589.7 FT.
PARKING STALL GEOMETRY	10' X 20'
PARKING STALLS (REGULAR)	108 STALLS
PARKING STALLS (CARPORT)	40 STALLS
ADA PARKING STALLS	11 STALLS
TOTAL STALLS	159 STALLS
PARKING LOT SIDEWALK WIDTH	7 FT.
R/W ASPHALT PATH WIDTH	8 FT.
DRIVE AISLE WIDTH	24 FT.
DRIVEWAY SPACING	344 FT.



VICINITY MAP
NOT TO SCALE

INDEX OF PRELIMINARY CIVIL SHEETS

APPROVALS

SIGNATURES BELOW SIGNIFY CONCURRENCE WITH THE GENERAL PURPOSE AND LOCATION OF THE PROPOSED PROJECT. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE DESIGN ENGINEER PREPARING THE PLANS.

PLAN SET APPROVED BY:

HARTLAND TOWNSHIP — DATE

HARTLAND TOWNSHIP FIRE DEPARTMENT
FIRE CHIEF — DATE

HARTLAND TOWNSHIP UTILITIES COMMISSION,
DIRECTOR — DATE

UTILITY CONTACTS

SANITARY SEWERS
HARTLAND TOWNSHIP WASTEWATER DEPARTMENT
ATTN:
PHONE:

STORM SEWERS
HARTLAND TOWNSHIP STORM WATER DEPARTMENT
ATTN:
PHONE:

WATER SERVICE
HARTLAND TOWNSHIP WATER DEPARTMENT
ATTN:
PHONE:

GAS SERVICE

ELECTRIC COMPANY

CABLE

PROJECT CONTACTS

DEVELOPER
PIRHL DEVELOPERS, LLC.
800 WEST ST. CLAIR AVENUE, 4TH FLOOR
CLEVELAND, OH 44113
PHONE: 216–378–9690

ARCHITECT
RDL ARCHITECTS
16102 CHAGRIN BOULEVARD
SHAKER HEIGHTS, OH 44120
ATTN: EILEEN NACHT
PHONE: 216–752–4300

CIVIL ENGINEER
THE MANNIK & SMITH GROUP, INC.
20600 CHAGRIN BLVD., SUITE 500
SHAKER HEIGHTS, OH 44122
ATTN: KENDRA SANELLI
PHONE: 216–378–1490

NO.	DATE	BY	DESCRIPTION
01	05/15/2020	G.L.S.	PRELIMINARY SITE LAYOUT
02	06/10/2020	G.L.S.	UPDATED PRELIMINARY SITE LAYOUT
03	06/25/2020	G.L.S.	UPDATED PRELIMINARY SITE LAYOUT WITH TREE SURVEY
04	07/23/2020	G.L.S.	SITE LAYOUT REVISED PER 07/09/2020 COMMENTS

Mannik Smith GROUP
TECHNICAL SKILL. CREATIVE SPIRIT.
www.MannikSmithGroup.com
JOB NO. K2030001

RDL ARCHITECTS
16102 CHAGRIN BOULEVARD, SUITE 200
SHAKER HEIGHTS, OHIO 44120

HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

TITLE SHEET

W:\Projects\Projects-P-T\K2030001\CAD\BASE\1_Title Sheet.dwg - Last printed 7/23/2020 10:12 AM

A.L.T.A./N.S.P.S. LAND TITLE SURVEY

HARTLAND PROPERTY

VACANT M–59 (HIGHLAND ROAD) PROPERTY

PART OF THE SOUTHWEST 1/4, SECTION 23, T3N–R6E,
HARTLAND TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

SURVEYOR'S NOTES

SITE INFORMATION

PARCEL "A"
PROPERTY ADDRESS: HIGHLAND RD
PROPERTY TAX ID NUMBER: 08–23–300–025
CLASSIFICATION: 402 – RESIDENTIAL REAL

PARCEL "B"
PROPERTY ADDRESS: HIGHLAND RD
PROPERTY TAX ID NUMBER: 4708–23–300–026
CLASSIFICATION: 202 – COMMERCIAL

PARCEL "C"
PROPERTY ADDRESS: HIGHLAND RD
PROPERTY TAX ID NUMBER: 4708–23–300–027
CLASSIFICATION: 202– COMMERCIAL

LAND AREA

PARCEL "A" GROSS LAND AREA = 13.70 ACRES (596,948 S.F.), MORE OR LESS.
PARCEL "B" GROSS LAND AREA = 2.00 ACRES (87,211 S.F.), MORE OF LESS
PARCEL "C" GROSS LAND AREA = 2.22 ACRES (96,660 S.F.),, MORE OR LESS
THESE AREAS DO NOT INCLUDE LAND LOCATED IN THE M–59 (HIGHLAND ROAD) RIGHT–OF–WAY.

ZONING

PER THE HARTLAND TOWNSHIP ZONING MAP, DATED DECEMBER 12, 2012, FOUND ON THE HARTLAND TOWNSHIP WEBSITE, THE SUBJECT PROPERTY IS LOCATED IN TWO ZONING DISTRICTS AS FOLLOWS:

PARCEL "A": CA – CONSERVATION AGRICULTURAL
PARCEL "B": OS – OFFICE SERVICE
PARCEL "C": OS – OFFICE SERVICE

NO ZONING INFORMATION WAS PROVIDED BY THE OWNER.

FLOOD ZONE INFORMATION

THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA ("SFHA") AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).

BY GRAPHIC PLOTTING ONLY, THE SUBJECT PROPERTY IS LOCATED ON FLOOD INSURANCE RATE MAP NUMBER 26093C0239D WITH EFFECTIVE DATE OF SEPTEMBER 17, 2008. THE SUBJECT PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X, AREAS TO BE DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD.

WETLANDS

NO WETLAND FLAGS WERE FOUND ON THE SUBJECT PROPERTY DURING THE FIELD SURVEY PERFORMED FOR THIS SURVEY.

NO WETLAND INFORMATION WAS PROVIDED BY THE CLIENT.

STREET INFORMATION

THE PROPERTY HAS DIRECT PHYSICAL ACCESS TO M–59 (HIGHLAND ROAD), A PUBLIC ROAD.

INTERSECTING PUBLIC STREETS

M–59 (HIGHLAND ROAD) INTERSECTS WITH US–23 HIGHWAY 2.00 MILES WEST AND WITH FENTON ROAD 0.55 MILES EAST OF THE SUBJECT PROPERTY.

DUMPS AND LANDFILLS

BY VISUAL OBSERVATION ONLY, THIS SITE DOES NOT APPEAR TO BE USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL AT THIS TIME.

CEMETERIES AND BURIAL GROUNDS

BY VISUAL OBSERVATION ONLY, THIS SITE DOES NOT APPEAR TO HAVE ANY CEMETERIES OR BURIAL GROUNDS AT THIS TIME.

EARTH WORK AND BUILDING CONSTRUCTION

BY VISUAL OBSERVATION ONLY, THIS SITE HAS NOT HAD ANY RECENT EARTH WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS AT THIS TIME.

STREET AND SIDEWALK CONSTRUCTION

BY VISUAL OBSERVATION ONLY, THIS SITE DOES NOT APPEAR TO HAVE ANY RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS AT THIS TIME.

UTILITIES

UTILITY INFORMATION SHOWN IS PLOTTED GRAPHICALLY BASED ON FIELD OBSERVATIONS AND FROM AVAILABLE UTILITY MAPS OBTAINED FROM HARTLAND TOWNSHIP AND LOCAL UTILITY COMPANIES.

NO UTILITY INFORMATION WAS PROVIDED BY THE CLIENT.

AS–BUILT PLANS AND RECORD DRAWINGS

NO AS–BUILT PLANS OR RECORD DRAWINGS WERE PROVIDED BY THE CLIENT.

LOCATION MAP

NO SCALE

SURVEYOR'S CERTIFICATION

To: PIRHL Acquisitions, LLC, an Ohio Limited Liability Company; Tippecanoe Properties, LLC a Michigan Limited Liability Company; and First American Title Insurance Company.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 2, 3, 4, 6(b), 7(a), 7(b)1, 7(c), 8, 9, 10(a), 11, 13, 14, 16, 17, 19 and 20 of Table A thereof. The fieldwork was completed on November 14, 2019.

KIM R. CARLSON
Professional Surveyor No. 35992

DATE:

TITLE DESCRIPTION

Legal description provided by: First American Title Insurance Company, Commitment File No. MIFA19–4499, Exhibit C, Commitment Date: October 03, 2019, 8:00 AM.

The land is described as follows: Township of Hartland, County of Livingston, State of Michigan

Commencing at the South 1/4 Corner of Section 23, Town 3 North, Range 6 East, Hartland Township, Livingston County, Michigan; thence North 03 degrees 19 minutes 08 seconds West 282.39 feet (288.49 feet record) along the North and South 1/4 line (as previously established) of said Section 23 to the PLACE OF BEGINNING; thence the following two courses along the North line of M–59 Highway (200 foot wide 1/2 Right–of–Way); Westerly 168.26 feet along the arc of a 3619.71 foot radius curve to the right through a central angle of 02 degrees 39 minutes 48 seconds and having a long chord bearing North 80 degrees 35 minutes 37 seconds West 168.24 feet, and North 79 degrees 15 minutes 43 seconds West 87.76 feet; thence North 02 degrees 20 minutes 48 seconds West 552.34 feet; thence North 87 degrees 52 minutes 37 seconds West 351.07 feet; thence North 02 degrees 20 minutes 48 seconds West 40.64 feet along the line parallel with and 725.00 feet Easterly of Bullard Road to a point located 725.00 feet Northerly of the original centerline of said M–59 Highway; thence North 03 degrees 59 minutes 56 seconds West 703.10 feet (740 feet record); thence North 86 degrees 42 minutes 18 seconds East 597.00 feet along the North line of the South 5/8 of the East 1/2 of the Southwest 1/4 of said Section 23; thence South 03 degrees 19 minutes 08 seconds East 1387.36 feet (1392.58 feet record) along said North and South 1/4 line, to the Place of Beginning. Being a part of the Southwest 1/4 of Section 23; Town 3 North, Range 6 East, Hartland Township, Livingston County, Michigan.

AND

Legal description provided by: First American Title Insurance Company, Commitment File No. MIFA19–4509, Exhibit C, Commitment Date: October 03, 2019, 8:00 AM..

The land is described as follows: Township of Hartland, County of Livingston

PARCEL 1:
A part of the South 1/4 of Section 23, Town 3 North, Range 6 East, Hartland Township, Livingston County, Michigan; Commencing at the South 1/4 corner of Section 23, Town 3 North, Range 6 East, Hartland Township, Livingston County, Michigan; thence North 03 degrees 19 minutes 08 seconds West, 282.39 feet (288.49 feet record) along the North and South 1/4 line (as previously established) of said Section 23; thence the following two courses long the North line of M–59 Highway (200 feet wide 1/2 right–of–way): Westerly, 168.26 feet along the arc of a 3619.71 foot radius curve to the right through a central angle of 02 degrees 39 minutes 48 seconds, and having a long chord bearing North 80 degrees 35 minutes 37 seconds West, 168.24 feet and North 79 degrees 15 minutes 43 seconds West, 272.05 feet to the place of beginning; thence continuing along said North line of M–59 Highway North 79 degrees 15 minutes 43 seconds West, 175.04 feet; thence North 02 degrees 20 minutes 48 seconds West, 498.35 feet along the line parallel with and 725.00 feet Easterly of the centerline of Bullard Road; thence South 87 degrees 52 minutes 37 seconds East, 171.02 feet; thence South 02 degrees 20 minutes 48 seconds East, 524.65 feet to the place of beginning.

PARCEL 2:
A part of the Southwest 1/4 of Section 23, Town 3 North, Range 6 East, Hartland Township, Livingston County, Michigan; Commencing at the South 1/4 corner of Section 23, Town 3 North, Range 6 East, Hartland Township, Livingston County, Michigan; thence North 03 degrees 19 minutes 08 seconds West, 282.39 feet (288.49 feet record) along the North and South 1/4 line (as previously established) of said Section 23; thence the following two courses along the North line of M–59 Highway (200 foot wide 1/2 right–of–way); Westerly 168.26 feet along the arc of a 3619.71 foot radius curve to the right through a central angle of 02 degrees 39 minutes 48 seconds, and having a long chord bearing North 80 degrees 35 minutes 37 seconds West, 168.24 feet and North 79 degrees 15 minutes 43 seconds West, 87.76 feet to the place of beginning; thence continuing along said North line of M–59 Highway, North 79 degrees 15 minutes 43 seconds West, 184.29 feet; thence North 02 degrees 20 minutes 48 seconds West, 524.65 feet; thence South 87 degrees 52 minutes 37 seconds East, 180.05 feet; thence South 02 degrees 20 minutes 48 seconds East, 552.34 feet to the place of beginning.

COMMITMENT FILE NO. MIFA19–4499 SCHEDULE B, PART II EXCEPTIONS

This survey is based upon First American Title Insurance Company ALTA Commitment File No. MIFA19–4499, Commitment Date: October 03, 2019, 8:00 AM.

7A 7. The effect of a Deed from Clayton H. Goers and Marilyn Goers, husband and wife to Dennis C. Goers and Donna M. Goers, Revocable Living Trust Dated October 10, 2013 or as Thereafter Amended recorded in Instrument No. 2015R–038048. **QUIT CLAIM DEED FOR SUBJECT PROPERTY.**

8A 8. Highway Easement Release in favor of the State of Michigan and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 187, page 257. **THIS ITEM AFFECTS SUBJECT PROPERTY. IT IS SHOWN.**

9A 9. Matters referenced by survey recorded in Liber 2898, page 856. **REFERENCED SURVEY SHOWS THE SUBJECT PROPERTY AS PARCEL "A".**

10A 10. Easement in favor of International Transmission Company and the Covenants, Conditions and Restrictions contained in instrument recorded in Instrument No. 2008R–002699. **REFERENCED EASEMENT AFFECTS THE SUBJECT PROPERTY. IT IS SHOWN.**

11A 11. Resolution No. 12–R019 to remove Intended M–59 Park Access Easement recorded in Instrument No. 2012R–041883. **RESOLUTION VACATING ACCESS EASEMENT AFFECTING THE SUBJECT PROPERTY. IT IS NOT SHOWN.**

COMMITMENT FILE NO. MIFA19–4509 SCHEDULE B, PART II EXCEPTIONS

This survey is based upon First American Title Insurance Company ALTA Commitment File No. MIFA19–4509, Commitment Date: October 03, 2019, 8:00 AM.

7B 7. Interest of Dennis C. Goers and Donna M. Goers Revocable Living Trust dated October 10, 2003 or as thereafter amended, as evidenced by instrument recorded in Liber 4210, page 600. **QUIT CLAIM DEED FOR SUBJECT PROPERTY.**

8B 8. Highway Easement Release in favor of the State of Michigan and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 187, page 257. **THIS ITEM AFFECTS SUBJECT PROPERTY. IT IS SHOWN.**

9B 9. Matters referenced by survey recorded in Liber 2898, page 856. **REFERENCED SURVEY SHOWS THE SUBJECT PROPERTY AS PARCELS "B" AND "C" AND INGRESS / EGRESS EASEMENT. THE INGRESS/EGRESS EASEMENT IS SHOWN.**

Know what's below
Call before you dig.

ALTA/NSPS LAND TITLE SURVEY

Revisions
REVISION

ALTA/NSPS LAND TITLE SURVEY

HARTLAND PROPERTY
M–59 (HIGHLAND ROAD)
SECTION 23, HARTLAND TOWNSHIP
LIVINGSTON COUNTY, MICHIGAN

F·S·E
Surveying & Engineering Since 1957
5370 MILLER ROAD, SUITE 13 • SWARTZ CREEK, MI 48473
PHONE: (810) 230–1333 FAX: (810) 230–7844

Date : 11–14–19
Drawn by: W.J.A.
Checked by: K.R.C.
Sheet No. 1 OF 3
Job No. 25990

WATERMAIN NOTE
PER THE HARTLAND TOWNSHIP DEPARTMENT OF PUBLIC WORKS DIRECTOR, NO WATERMAIN EXISTS IN THE VICINITY OF THE SUBJECT PROPERTY.

LEGEND

- FOUND IRON
- SET IRON
- FOUND MONUMENT
- SET MONUMENT
- STORM SEWER & MANHOLE
- SANITARY SEWER & MANHOLE
- WATERMAIN, HYDRANT, & GATE VALVE
- GAS MAIN & VALVE
- BURIED TELEPHONE & MANHOLE
- UNDER GROUND ELECTRIC & MANHOLE
- OVERHEAD ELECTRIC, POLE, & GUY WIRE
- CATCH BASIN (CURB & ROUND)
- 785 CONTOUR LINE
- FENCE
- GUARD RAIL
- WELL
- LIGHT POLE
- STEEL GUARD POST
- SIGN
- STREET SIGN
- MAILBOX
- CONC. CONCRETE
- ASPH. ASPHALT

GRAPHIC SCALE
60 0 30 60 120 240
(IN FEET)
1 inch = 60 ft.

ZONED: CA (CONSERVATION AGRICULTURAL)

HARTLAND TOWNSHIP
08-23-400-035
12439 HIGHLAND ROAD

ZONED: CA (CONSERVATION AGRICULTURAL)

SHED

HOUSE

BILL RAINS
08-23-400-019
12477 HIGHLAND ROAD

3"x6" WOOD POSTS

4' WOOD FENCE

4' WIRE FENCE

3"x6" WOOD POSTS

NORTH – SOUTH 1/4 LINE SECTION 23

S3°19'08"E 1387.98'

NORTH – SOUTH 1/4 LINE SECTION 23

N3°19'08"W 282.39'

FND REROD W/ 38119 CAP

P.O.B. PARCEL 08-23-300-025

FND REROD

PHONE BOX

N80°35'37"W 168.24'

SOUTH LINE SECTION 23

SOUTH 1/4 CORNER SECTION 23, T3N-R6E HARTLAND TWP. LIVINGSTON CO., MI

ZONED: CA (CONSERVATION AGRICULTURAL)

LIVINGSTON LAND CONSERVANCY
08-23-300-032
0 BULLARD ROAD

N86°42'18"E 597.00'

PARCEL 08-23-300-025
13.70 AC. ±
ZONED: OFFICE SERVICE

FND REROD W/ 38119 CAP

N2°20'48"W 552.34'

P.O.B. PARCEL 08-23-300-027

SET KRC

N79°15'43"W 87.76'

N79°15'43"W 184.29'

NORTH LINE M-59 (200' WIDE 1/2 R.O.W.)

200' 1/2 R.O.W.

PARCEL 08-23-300-027
2.22 AC. ±
ZONED: OFFICE SERVICE

S87°52'37"E 180.05'

N87°52'37"W 351.07'

FND 3/4" PIPE

S2°20'48"E 524.65'

SET KRC

100'

25'

25'

N79°15'43"W 75.04'

P.O.B. PARCEL 08-23-300-026

N87°52'37"E 171.02'

PARCEL 08-23-300-026
2.00 AC. ±
ZONED: OFFICE SERVICE

M-59 (HIGHLAND ROAD)
PUBLIC ROAD 200' WIDE 1/2 R.O.W.
(ASPHALT SURFACE W/ C&G)

C/L M-59 (HIGHLAND ROAD)

FND 3/4" PIPE

FND 3/4" PIPE W/ 38119 CAP

POND

FND 3/4" PIPE

N3°59'56"W 703.10'

N2°20'48"W 40.64'

FND 3/4" PIPE

N2°20'48"W 498.35'

CONC CURB & GUTTER

ISLAND

ASPHALT PARKING LOT

CONC SIDEWALK

1 STORY BRICK BLDG

MARK & ANGELA HORVATH
08-23-300-034
2270 BULLARD ROAD

4' WOOD FENCE

CONCRETE

HOUSE

JANIS LOPEX & BRANDON BOLAND
08-23-300-029
2280 BULLARD ROAD

ZONE: CA (CONSERVATION AGRICULTURAL)

ZONED: CA (CONSERVATION AGRICULTURAL)

LMR INVESTMENT PROPERTIES LLC
08-23-300-035
12319 HIGHLAND ROAD

ZONED: OS (OFFICE SERVICE)

ASPHALT ROAD

SOUTH BULLARD RD NORTH

EX. SAN MH

EX. CB

EX. STM MH

EX. 8" SAN

EX. GAS

EX. OW

EX. E.G.

EX. E.A.

POST W/REFLECTOR (TYPICAL)

LEFT LANE MUST TURN LEFT

CONC CURB & GUTTER

EX 12" RCP CULV

DO NOT ENTER WRONG WAY

ONE WAY

STOP

60'

8A 8B

9B

10A

811
Know what's below
Call before you dig.

ALTA/NSPS SURVEY

Revisions

REVISION	

ALTA SURVEY

HARTLAND SENIOR LIVING
M-59 (HIGHLAND ROAD)

SECTION 23, HARTLAND TOWNSHIP
LIVINGSTON COUNTY, MICHIGAN

F·S·E Surveying & Engineering Since 1957
5370 MILLER ROAD, SUITE 13 • SWARTZ CREEK, MI 48473
PHONE: (810) 230-1333 FAX: (810) 230-7844

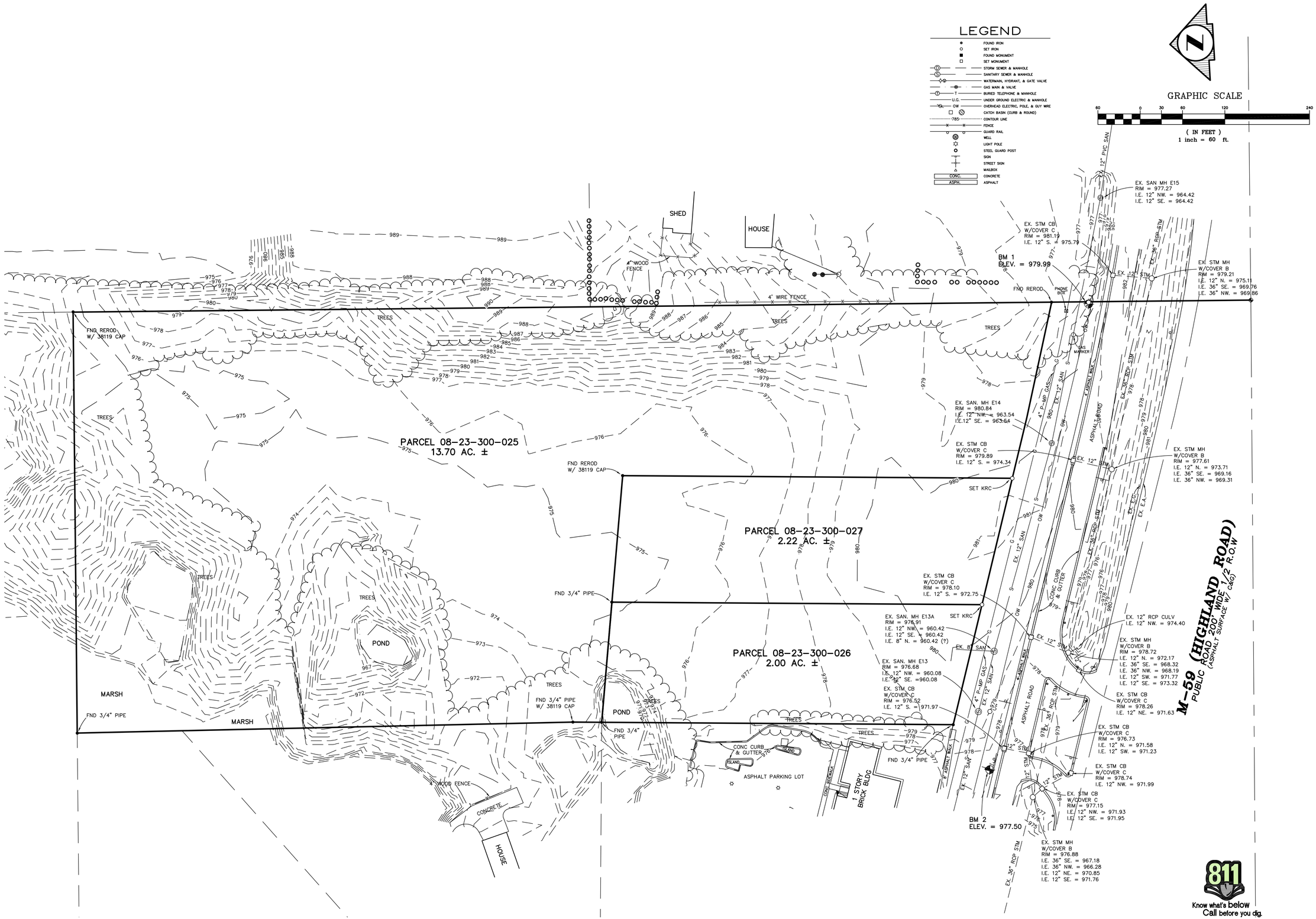
Date : 12-13-19

Drawn by: W.J.A.

Checked by: K.R.C.

Sheet No. 2 OF 3

Job No. 25990



TOPOGRAPHIC SURVEY

Revisions

TOPOGRAPHIC SURVEY

HARTLAND SENIOR LIVING
M-59 (HIGHLAND ROAD)
SECTION 23, HARTLAND TOWNSHIP
LIVINGSTON COUNTY, MICHIGAN

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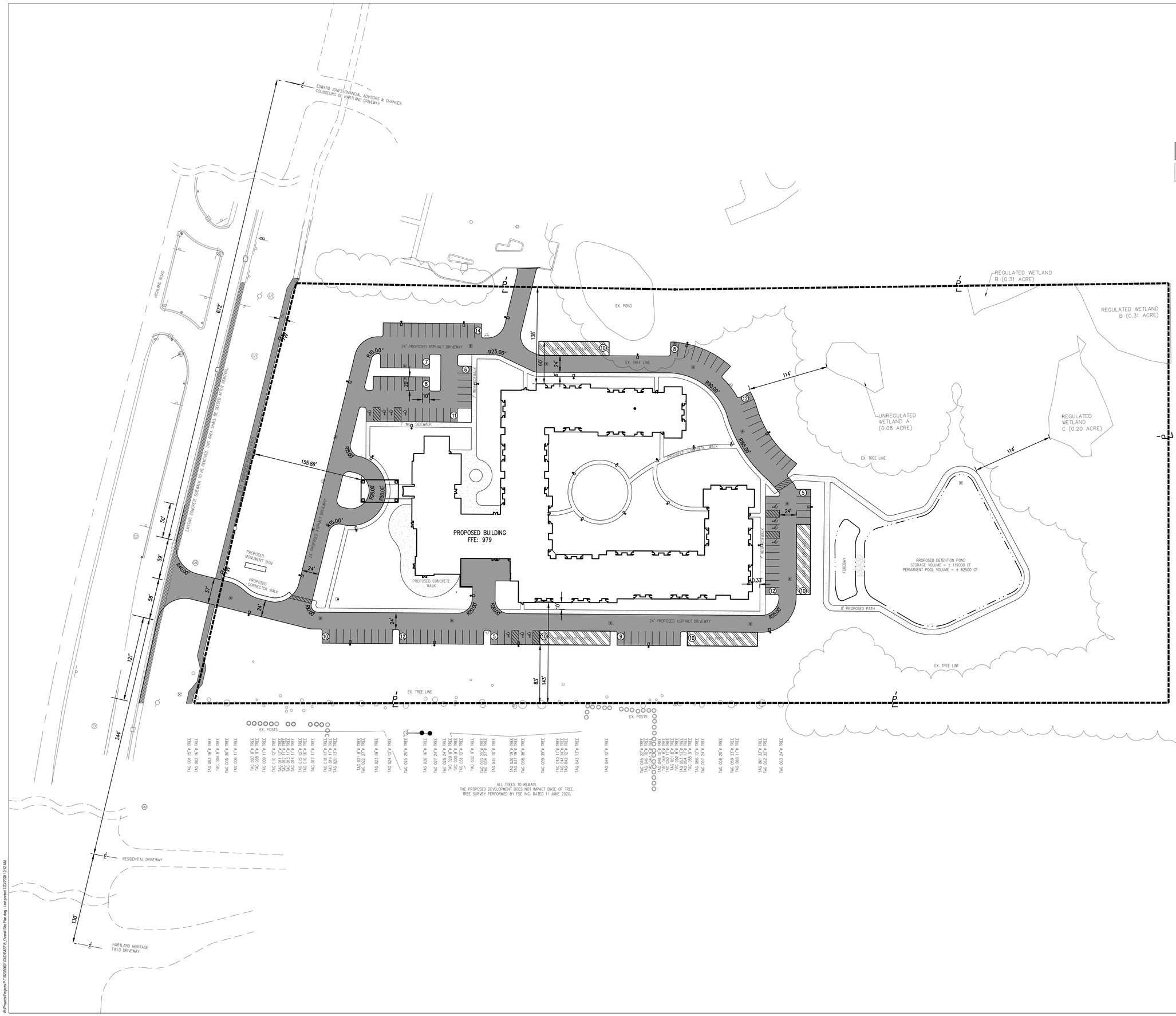

1"=50'

PROPOSED SITE LAYOUT LEGEND

- HEAVY DUTY ASPHALT PAVEMENT PER DETAIL
- CONCRETE SIDEWALK PER DETAIL
- POLE MOUNTED SITE LIGHT
- HANDI-CAP PARKING SYMBOL
- SITE LAYOUT CODED NOTE
- EXISTING TREE (VARIABLE SIZES)
- PROPOSED PARKING SPACES

GENERAL NOTES

1. HARTLAND SENIOR LIVING PROPOSES 159 PARKING SPACES, INCLUDING SIX ADA SPACES AND 40 CARPORT SPACES, WHICH EQUATES TO 1.09 SPACES PER DWELLING UNIT. A PORTION OF RESIDENTS WILL NOT OWN VEHICLES, AND THEREFORE A PARKING RATIO OF ONE PARKING SPACE PER DWELLING UNIT IS APPROPRIATE, PLUS ADDITIONAL PARKING FOR STAFF AND VISITORS.

NO.	DATE	BY	DESCRIPTION
01	05/15/2020	G.L.S.	PRELIMINARY SITE LAYOUT
02	06/10/2020	G.L.S.	UPDATED PRELIMINARY SITE LAYOUT
03	06/25/2020	G.L.S.	UPDATED PRELIMINARY SITE LAYOUT WITH TREE SURVEY
04	07/23/2020	G.L.S.	SITE LAYOUT REVISED PER 07/09/2020 COMMENTS

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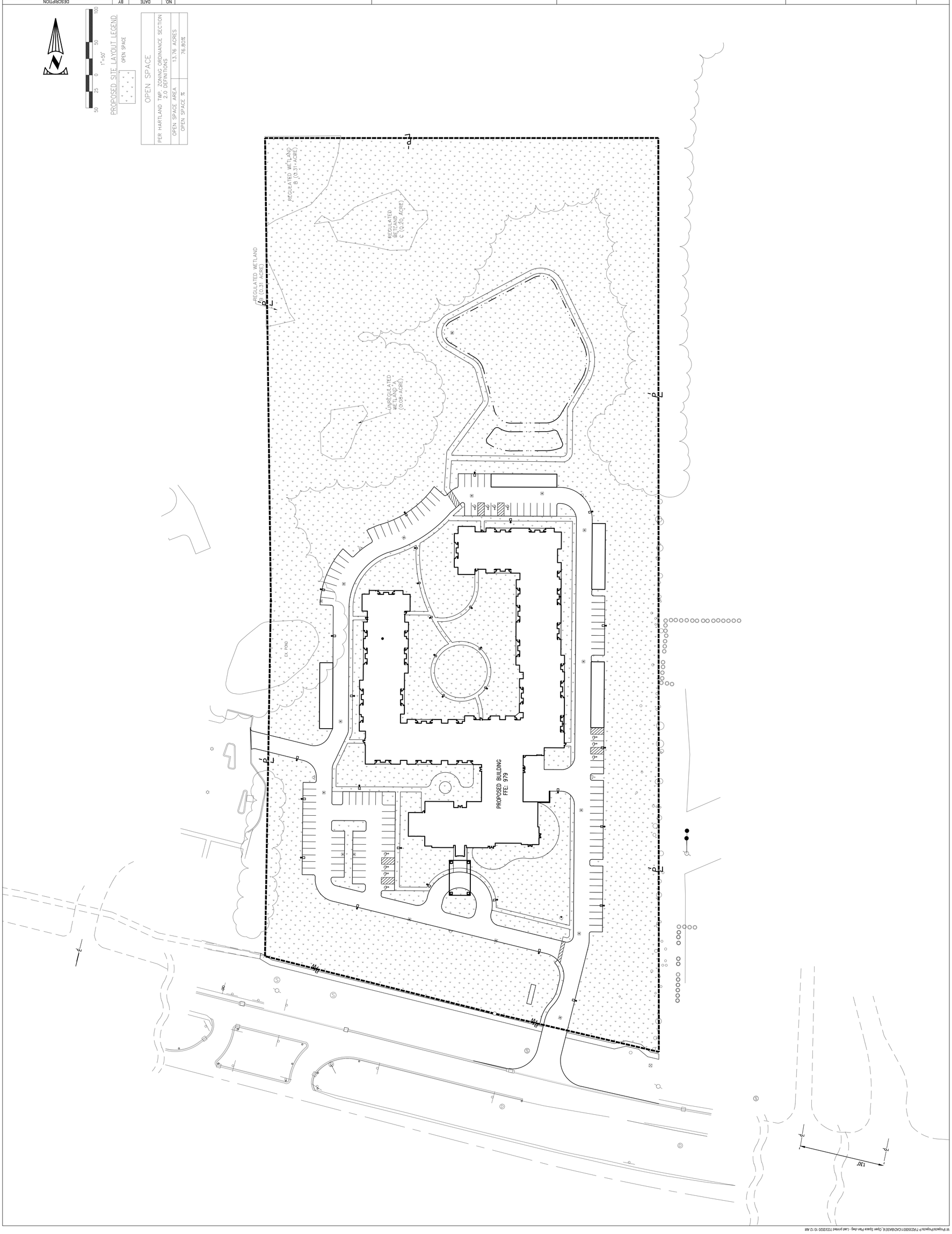
HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

PRELIMINARY
SITE PLAN



NO.	DATE	BY	DESCRIPTION
01	05/14/2020	GLS	PRELIMINARY SITE LAYOUT
02	06/10/2020	GLS	UPDATED PRELIMINARY SITE LAYOUT
03	06/25/2020	GLS	UPDATED PRELIMINARY SITE LAYOUT WITH TREE SURVEY
04	07/23/2020	GLS	SITE LAYOUT REVISED PER 07/09/2020 COMMENTS

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HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

OPEN SPACE PLAN

17 / 6

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PRELIMINARY
GRADING PLAN

7 / 17

HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

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NO.	DESCRIPTION	BY	DATE
01	PRELIMINARY SITE LAYOUT	GLS	09/14/2020
02	UPDATED PRELIMINARY SITE LAYOUT	GLS	09/10/2020
03	UPDATED PRELIMINARY SITE LAYOUT WITH TREE SURVEY	GLS	09/25/2020
04	SITE LAYOUT REVISED PER 07/09/2020 COMMENTS	GLS	07/23/2020

PRELIMINARY
UTILITY PLAN

8 / 17

HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

RDL ARCHITECTS
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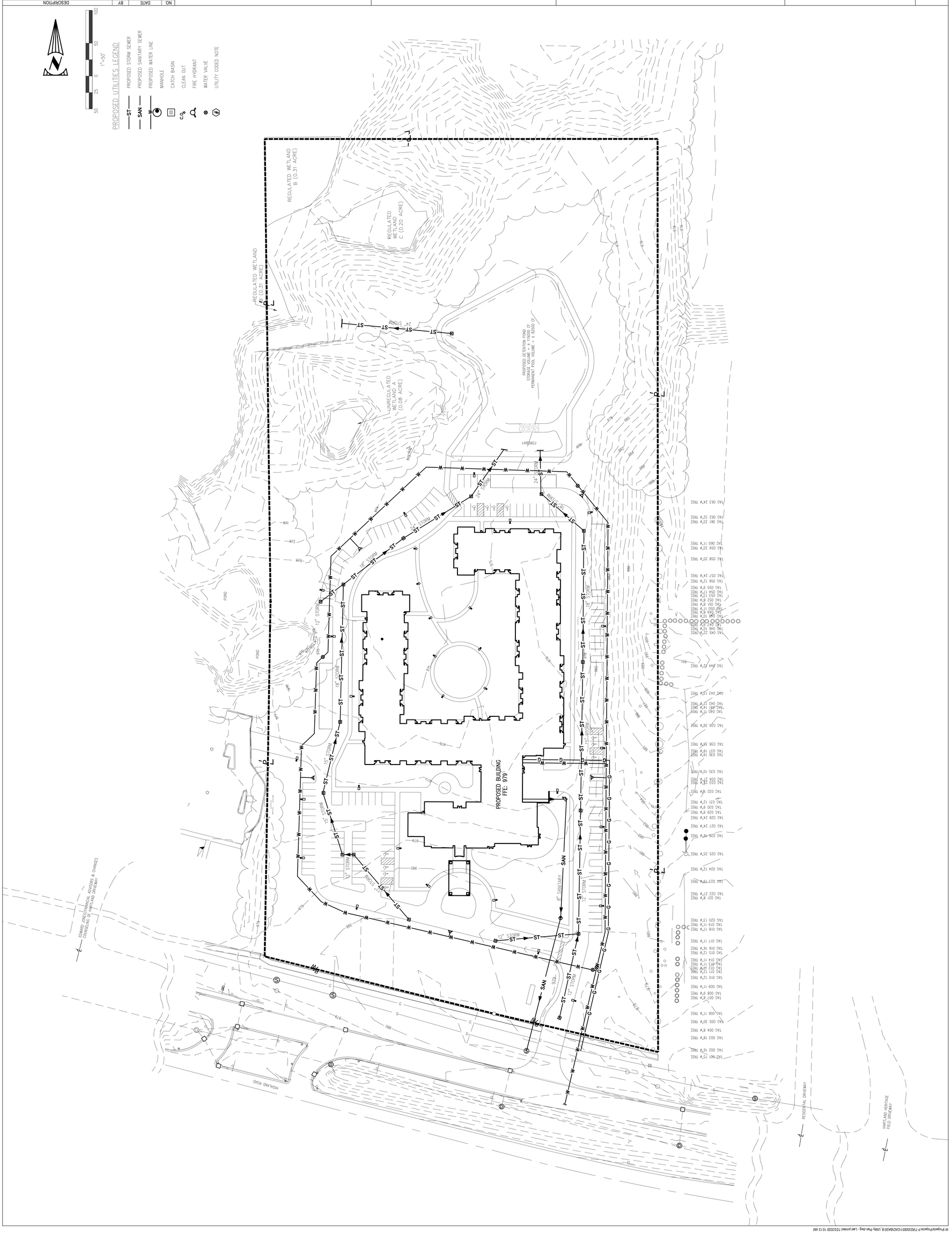
NO.	DATE	BY	DESCRIPTION
01	05/14/2020	GLS	PRELIMINARY SITE LAYOUT
02	06/10/2020	GLS	UPDATED PRELIMINARY SITE LAYOUT
03	06/25/2020	GLS	UPDATED PRELIMINARY SITE LAYOUT WITH TREE SURVEY
04	07/23/2020	GLS	SITE LAYOUT REVISED PER 07/09/2020 COMMENTS



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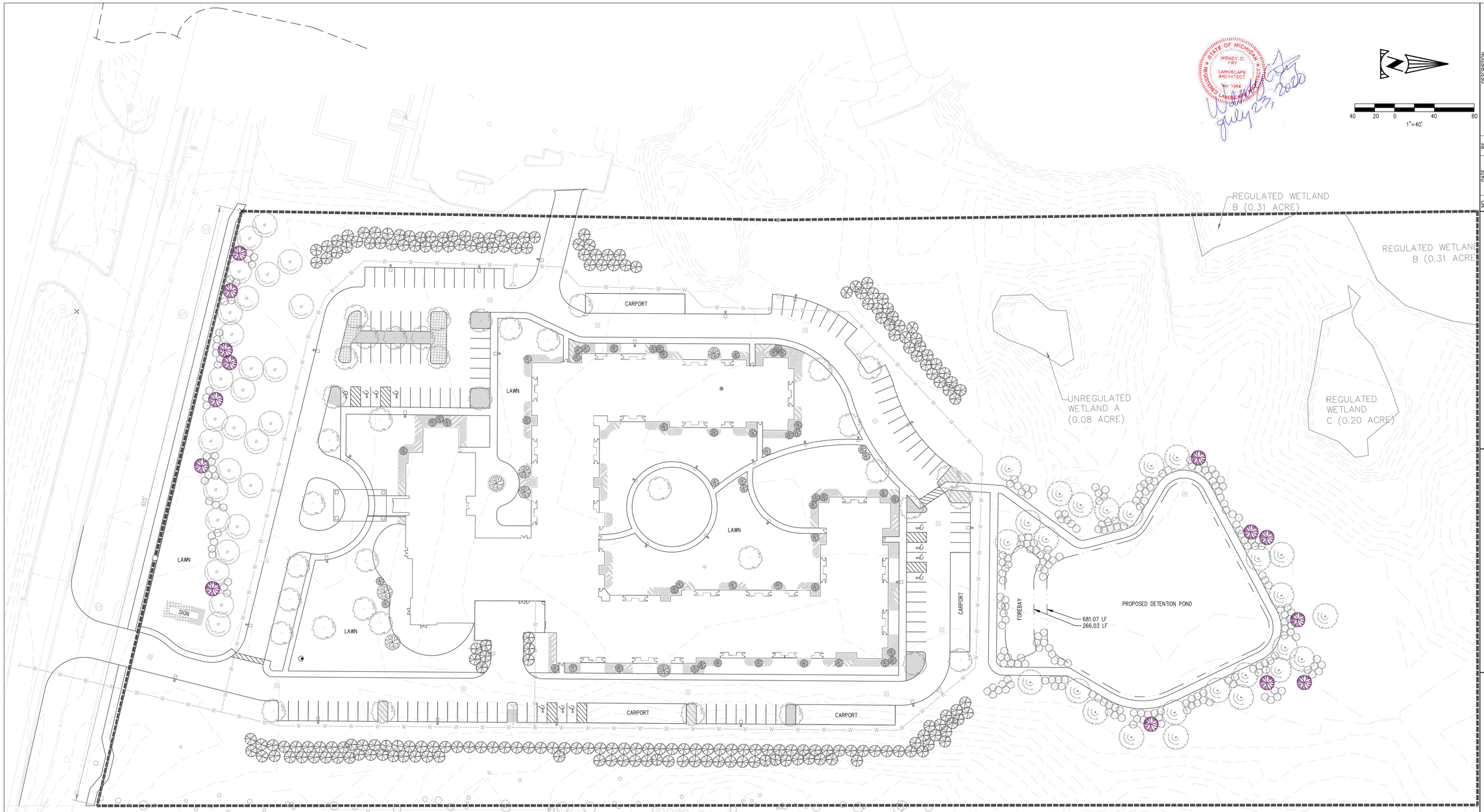

NO.	DATE	BY	DESCRIPTION
01	05/15/2020	G.L.S.	PRELIMINARY SITE LAYOUT
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HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

OVERALL
PRELIMINARY
LANDSCAPE PLAN

TAG 001 15"ø TREE
TAG 002 16"ø TREE
TAG 003 18"ø TREE
TAG 004 8"ø TREE
TAG 005 30"ø TREE
TAG 006 11"ø TREE
TAG 007 8"ø TREE
TAG 008 9"ø TREE
TAG 009 11"ø TREE
TAG 010 12"ø TREE
TAG 011 12"ø TREE
TAG 012 11"ø TREE
TAG 013 11"ø TREE
TAG 014 11"ø TREE
TAG 015 12"ø TREE
TAG 016 16"ø TREE
TAG 017 11"ø TREE
TAG 018 17"ø TREE
TAG 019 11"ø TREE
TAG 020 13"ø TREE
TAG 021 8"ø TREE
TAG 022 27"ø TREE
TAG 023 19"ø TREE
TAG 024 12"ø TREE
TAG 025 25"ø TREE
TAG 026 16"ø TREE
TAG 027 24"ø TREE
TAG 028 24"ø TREE
TAG 029 9"ø TREE
TAG 030 9"ø TREE
TAG 031 12"ø TREE
TAG 032 9"ø TREE
TAG 033 25"ø TREE
TAG 034 25"ø TREE
TAG 035 10"ø TREE
TAG 036 19"ø TREE
TAG 037 19"ø TREE
TAG 038 38"ø TREE
TAG 039 39"ø TREE
TAG 040 11"ø TREE
TAG 041 14"ø TREE
TAG 042 12"ø TREE
TAG 043 13"ø TREE
TAG 044 12"ø TREE
TAG 045 22"ø TREE
TAG 046 10"ø TREE
TAG 047 9"ø TREE
TAG 048 10"ø TREE
TAG 049 8"ø TREE
TAG 050 11"ø TREE
TAG 051 8"ø TREE
TAG 052 8"ø TREE
TAG 053 13"ø TREE
TAG 054 13"ø TREE
TAG 055 9"ø TREE
TAG 056 12"ø TREE
TAG 057 24"ø TREE
TAG 058 20"ø TREE
TAG 059 33"ø TREE
TAG 060 11"ø TREE
TAG 061 33"ø TREE
TAG 062 32"ø TREE
TAG 063 24"ø TREE

LEGEND

- ORNAMENTAL TREES
- CANOPY TREES
- EVERGREEN TREES
- SHRUBS
- PERENNIALS
- EXISTING TREE (VARIABLE SIZES)
- PHYSOCARPUS OPULIFOLIUS 'NANUS'
- VIBURNUM CARLIESII
- ILEX GLABRA 'SHAMROCK'
- RHUS AROMATICA 'GRO LOW'
- MICROBIOTA DECUSSATA
- VIBURNUM OPULUS 'COMPACTUM'

PLANT CALCULATIONS

GREEN BELT: 615 LF
CANOPY TREE: 1 TREE / 30'
SHRUBS: 3 SHRUBS IN FIRST 40' AND 1 SHRUB / 20'

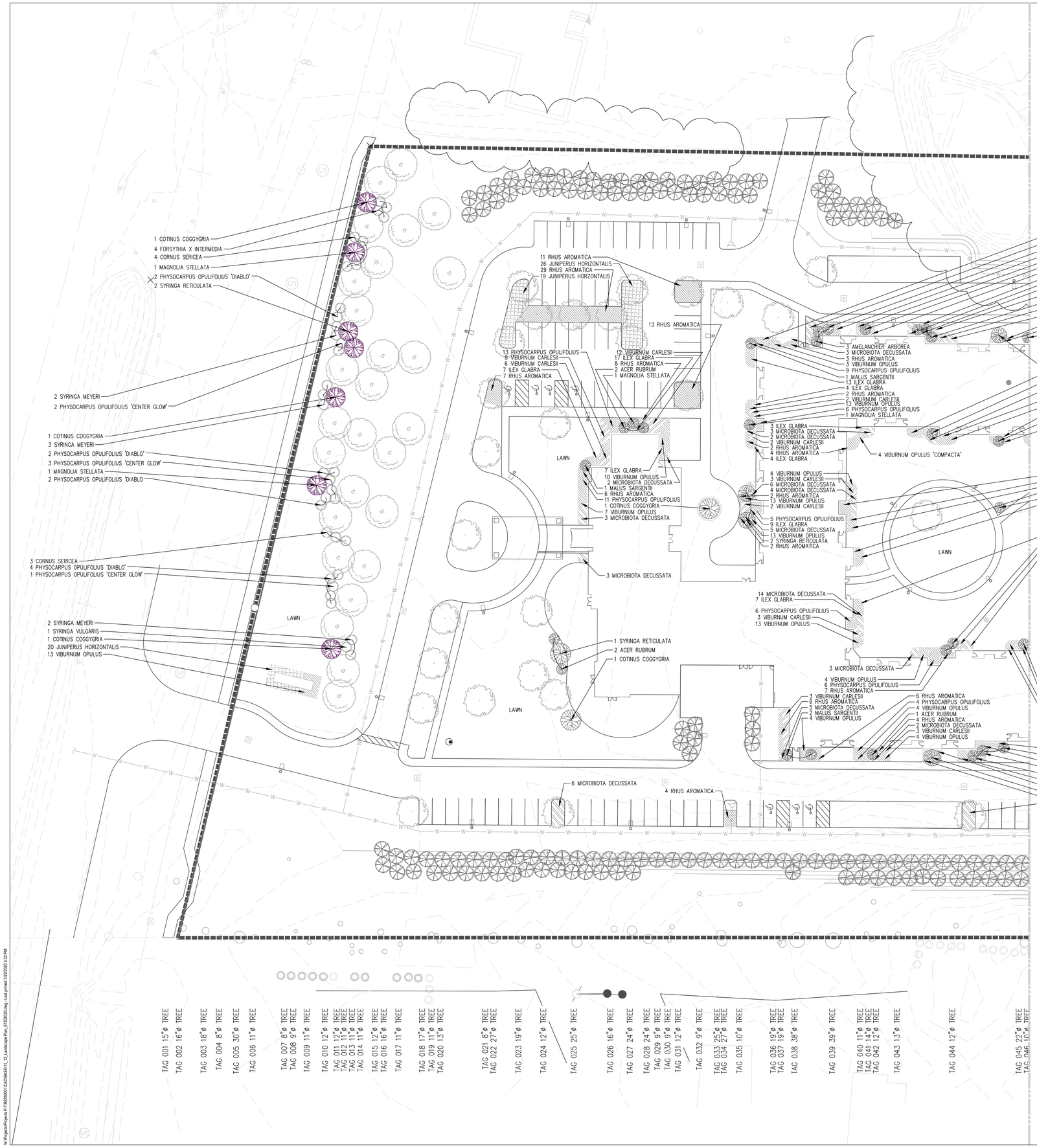
FOUNDATION: 2494 LF
ORNAMENTAL TREE: 60% OF BUILDING FACADE @ 1 TREE / 30'
SHRUBS: 60% OF BUILDING FACADE @ 6 SHRUBS / 30'

POND: 947.1 LF
CANOPY TREE: 1 TREE / 50'
SHRUBS: 10 SHRUBS / 50'

PARKING:
CANOPY TREE: 1 TREE / 180 SF
SHRUBS: 50% OF AREA

PLANT REQUIREMENTS

	GREEN BELT REQUIRED	GREEN BELT PROVIDED
CANOPY TREES	27	27
ORNAMENTAL TREES/SHRUBS	42	42
	FOUNDATION REQUIRED	FOUNDATION PROVIDED
ORNAMENTAL TREES	63	63
SHRUBS	500	1030
	PARKING LOT REQUIRED	PARKING LOT PROVIDED
CANOPY TREES	38	38
SHRUBS	156	156
	DETENTION REQUIRED	DETENTION PROVIDED
CANOPY TREES	24	24
SHRUBS	191	191
	SIGN REQUIRED	SIGN PROVIDED
SHRUBS	33	33
	SCREEN REQUIRED	SCREEN PROVIDED
EVERGREENS	213	213



STATE OF MICHIGAN
WENDY C. FRY
LANDSCAPE ARCHITECT
No. 1068
LICENSED LANDSCAPE ARCHITECT
REGISTERED
July 23, 2020

30 15 0 30 60
1"=30'

NO.	DATE	BY	DESCRIPTION
01	03/04/20	RM	PRELIMINARY LAYOUT
02	06/10/2020	G.L.S.	UPDATED PRELIMINARY SITE LAYOUT
03	06/25/2020	G.L.S.	UPDATED PRELIMINARY SITE LAYOUT WITH TREE SURVEY
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HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

PRELIMINARY
LANDSCAPE PLAN

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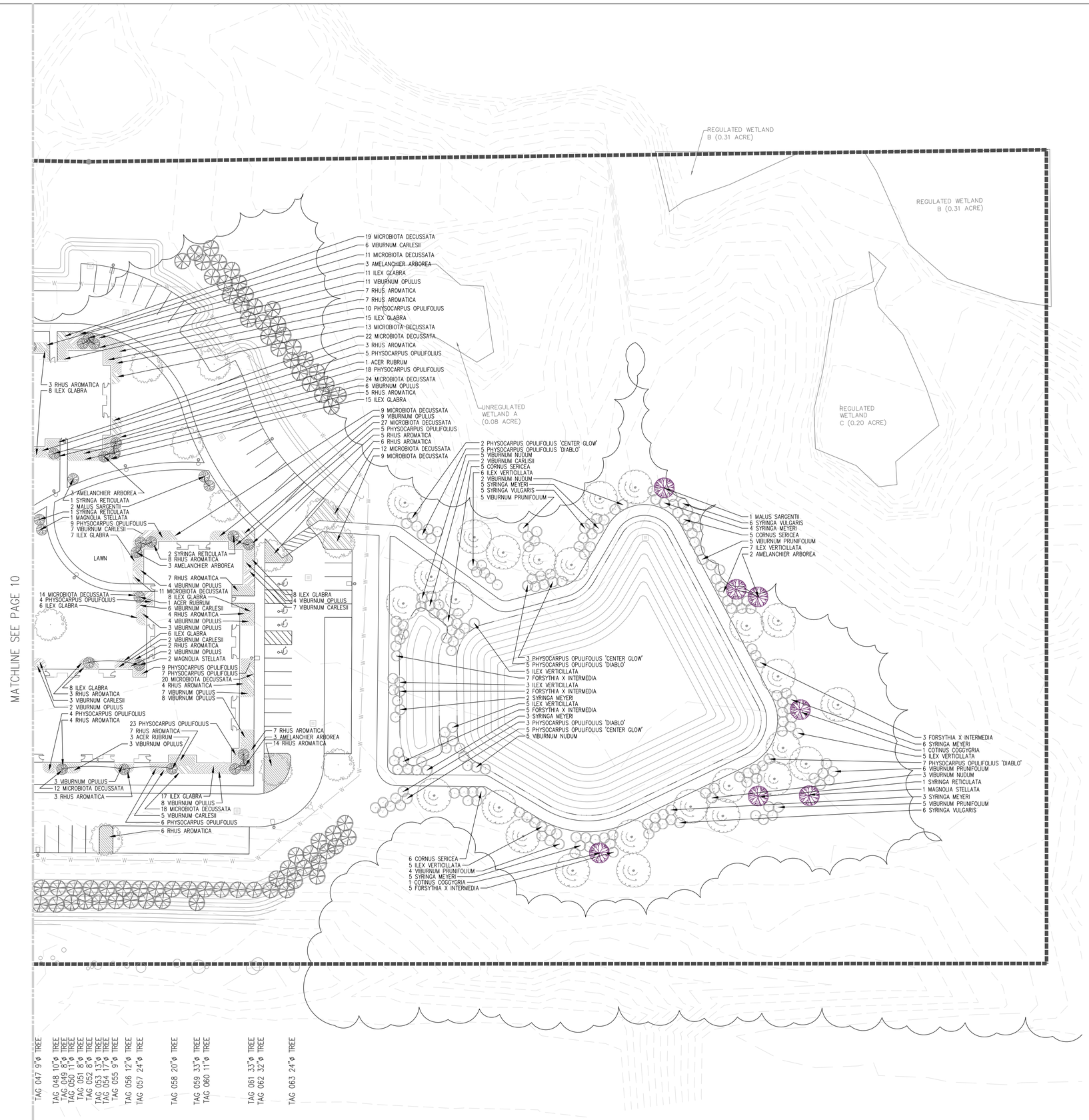

STATE OF MICHIGAN
WENDY C. FRY
LANDSCAPE ARCHITECT
No. 1962
REGISTERED LANDSCAPE ARCHITECT
July 23, 2020

30 15 0 30 60
1"=30'

NO.	DATE (DD/MO/YR)	BY	DESCRIPTION
01	05/12/2020	GLS	PRELIMINARY SITE LAYOUT
02	06/10/2020	GLS	UPDATED PRELIMINARY SITE LAYOUT
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HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

PRELIMINARY
LANDSCAPE PLAN

PRELIMINARY
LANDSCAPE PLAN

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HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

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NO.	DATE	BY	DESCRIPTION
01	06/10/2020	GHS	PRELIMINARY SITE LAYOUT
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03	06/25/2020	GLS	UPDATED PRELIMINARY SITE LAYOUT WITH TREE SURVEY
04	07/23/2020	GLS	SITE LAYOUT REVISED PER 07/09/2020 COMMENTS

1"=30'

MATCHLINE SEE PAGE 11

1 NYSSA SYLVATICA

1 GLEDITSIA TRIACANTHOS F INERMIS

LAWN

5 PICEA ABIES 8'
4 PICEA GLAUCA 10'
3 PICEA OMORIKA 8'

5 PICEA OMORIKA 8'
5 PICEA ABIES 10'
5 PICEA GLAUCA 10'
7 PICEA ABIES 8'
6 PICEA OMORIKA 10'
6 PICEA GLAUCA 10'
5 PICEA OMORIKA 8'

3 GLADITSIA TRIACANTHOS F INERMIS
1 GYMNOCLADUS DIOICUS
2 GYMNOCLADUS DIOICUS
1 GLEDITSIA TRIACANTHOS F INERMIS
2 GYMNOCLADUS DIOICUS

6 GLADITSIA TRIACANTHOS F INERMIS
1 GYMNOCLADUS DIOICUS
1 ACER RUBRUM

5 PICEA OMORIKA 8'
3 PICEA OMORIKA 8'

1 ACER RUBRUM
3 NYSSA SYLVATICA
2 GYMNOCLADUS DIOICUS

7 PICEA GLAUCA 8'
6 PICEA ABIES 10'
6 PICEA OMORIKA 10'

5 PICEA ABIES 8'
4 PICEA GLAUCA 8'
3 PICEA GLAUCA 8'
6 PICEA GLAUCA 10'

6 PICEA OMORIKA 8'
5 PICEA OMORIKA 10'
4 PICEA GLAUCA 10'
4 PICEA ABIES 10'
7 PICEA ABIES 8'

2 QUERCUS RUBRA
3 LIRIODENDRON TULIPFERA
1 ACER SACCHARUM
1 ACER RUBRUM
1 NYSSA SYLVATICA

4 LIRIODENDRON TULIPFERA
2 GYMNOCLADUS DIOICUS
3 ACER RUBRUM
3 QUERCUS RUBRA

1 ACER SACCHARUM
3 NYSSA SYLVATICA
2 GYMNOCLADUS DIOICUS

TAG 001 15'ø TREE
TAG 002 16'ø TREE
TAG 003 18'ø TREE
TAG 004 8'ø TREE
TAG 005 30'ø TREE
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TAG 007 8'ø TREE
TAG 008 9'ø TREE
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TAG 010 12'ø TREE
TAG 011 12'ø TREE
TAG 012 11'ø TREE
TAG 013 11'ø TREE
TAG 014 11'ø TREE
TAG 015 12'ø TREE
TAG 016 16'ø TREE
TAG 017 11'ø TREE
TAG 018 17'ø TREE
TAG 019 11'ø TREE
TAG 020 13'ø TREE
TAG 021 8'ø TREE
TAG 022 27'ø TREE
TAG 023 19'ø TREE
TAG 024 12'ø TREE
TAG 025 25'ø TREE
TAG 026 16'ø TREE
TAG 027 24'ø TREE
TAG 028 24'ø TREE
TAG 029 9'ø TREE
TAG 030 9'ø TREE
TAG 031 12'ø TREE
TAG 032 9'ø TREE
TAG 033 25'ø TREE
TAG 034 27'ø TREE
TAG 035 10'ø TREE
TAG 036 19'ø TREE
TAG 037 19'ø TREE
TAG 038 38'ø TREE
TAG 039 39'ø TREE
TAG 040 11'ø TREE
TAG 041 14'ø TREE
TAG 042 12'ø TREE
TAG 043 13'ø TREE
TAG 044 12'ø TREE
TAG 045 22'ø TREE
TAG 046 10'ø TREE

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PRELIMINARY
LANDSCAPE PLAN

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HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

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NO.	DATE	BY	DESCRIPTION
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02	06/10/2020	GLS	UPDATED PRELIMINARY SITE LAYOUT
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04	07/23/2020	GLS	SITE LAYOUT REVISED PER 07/09/2020 COMMENTS

MATCHLINE SEE PAGE 10

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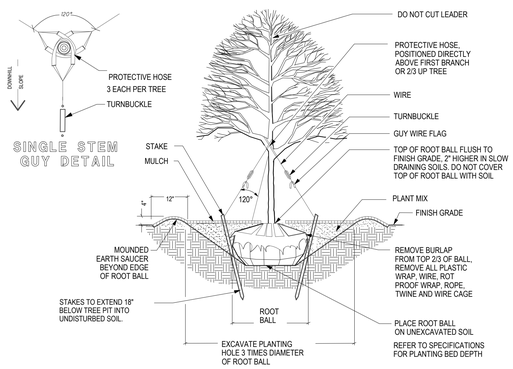
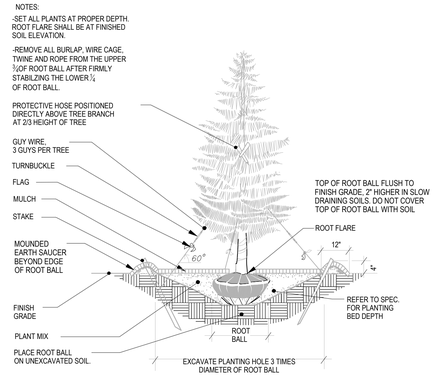
NOTES:
-STAKES TO EXTEND 18" INTO UNDISTURBED SOIL.
-SET STAKES VERTICAL AND AT EQUAL HEIGHT.
-TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE TO PREVIOUS GRADE.
-REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.



DECIDUOUS TREE WITH GUYS (3" CALIPER AND GREATER)

NO SCALE

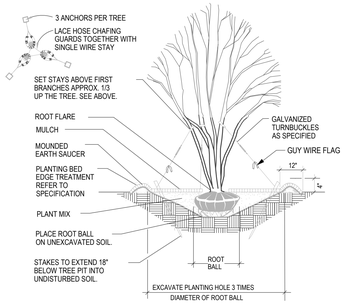
NOTES:
-SET ALL PLANTS AT PROPER DEPTH. ROOT FLARE SHALL BE AT FINISHED SOIL ELEVATION.
-REMOVE ALL BURLAP, WIRE CAGE, TWINE AND ROPE FROM THE UPPER ⅔OF ROOT BALL AFTER FIRMLY STABILIZING THE LOWER ⅓ OF ROOT BALL.



EVERGREEN TREE WITH GUYS (TREES GREATER THAN 8' HT.)

NO SCALE

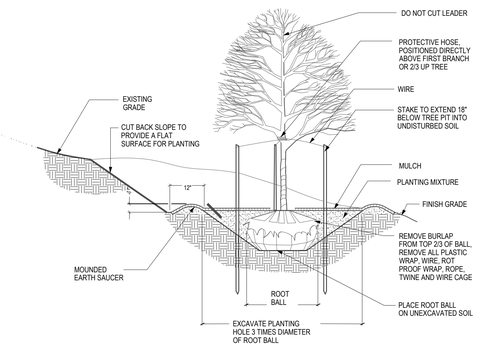
NOTES:
GUY 3 LARGEST STEMS. DO NOT CUT LEADER(S)
SET STAKES VERTICAL AND AT EQUAL HEIGHT
SET ALL PLANTS AT PROPER DEPTH. ROOT FLARE SHALL BE AT FINISHED SOIL ELEVATION.
REMOVE ALL BURLAP, WIRE CAGE, TWINE AND ROPE FROM UPPER 3/4 OF ROOT BALL AFTER FIRMLY STABILIZING LOWER 1/4 OF ROOT BALL IN PLANTING MIXTURE.



MULTISTEM TREE WITH GUYS (TREES GREATER THAN 8' HT.)

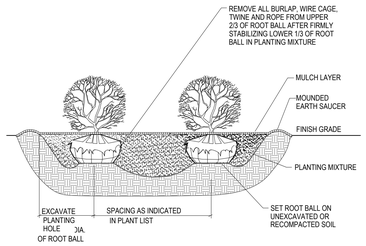
NO SCALE

NOTES:
-STAKES TO EXTEND 18" INTO UNDISTURBED SOIL.
-SET STAKES VERTICAL AND AT EQUAL HEIGHT.
-TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE TO PREVIOUS GRADE.



TREE PLANTING ON SLOPE

NO SCALE

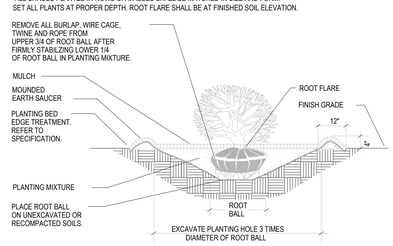


NOTE:
ALL SHRUBS PLANTED IN ROWS OR MASSES SHALL BE MATCHED IN SIZE AND FORM
SHRUBS SHALL BEAR SAME RELATION TO FINISH GRADE AS THEY BORE TO PREVIOUS GRADE.

MASS SHRUB PLANTING B & B or CONTAINER

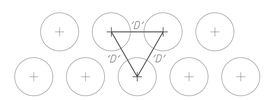
NO SCALE

ALL SHRUBS PLANTED IN ROWS OR MASSES SHALL BE MATCHED IN SIZE AND FORM.
SET ALL PLANTS AT PROPER DEPTH. ROOT FLARE SHALL BE AT FINISHED SOIL ELEVATION.



SHRUB PLANTING - B & B

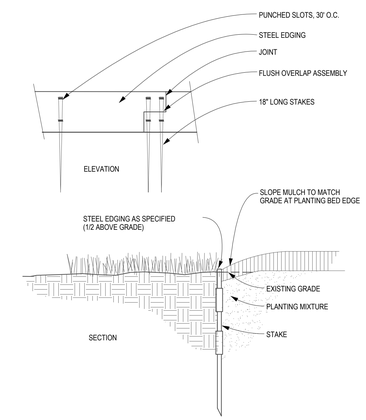
NO SCALE



D = DIMENSION OF PLANT SPACING (SHRUB, GROUNDCOVER OR PERENNIAL) AS INDICATED IN PLANT LIST

TYPICAL PLANT SPACING

NO SCALE



METAL EDGING

NO SCALE

GENERAL LANDSCAPE NOTES

THE WORK CONSISTS OF PROVIDING ALL NECESSARY MATERIALS, LABOR, EQUIPMENT, TOOLS AND SUPERVISION REQUIRED TO COMPLETE THE WORK AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH ALL PERTINENT UTILITY COMPANIES 3 WORKING DAYS IN ADVANCE OF ANY DIGGING TO FAMILIARIZE THEMSELVES WITH ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE TO ANY UTILITIES.

THE CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH THE CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND FIELD ENGINEER. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE NOTIFICATION.

DISCREPANCIES BETWEEN DIMENSIONED LAYOUT AND ACTUAL FIELD CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.

ALL UNPAVED PORTIONS OF THE SITE SHALL BE PLANTED WITH GRASS, GROUNDCOVER, SHRUBS OR OTHER LIVE PLANT MATERIAL.

ALL LAWN AREAS SHALL HAVE 4" MINIMUM OF TOPSOIL.

ALL PLANTING BEDS SHALL HAVE 12" MINIMUM OF PLANT MIX AND SHREDDED HARDWOOD BARK MULCH AS SPECIFIED ON THIS SHEET.

ALL TOPSOIL SHALL BE SCREENED, FERTILE, SANDY LOAM. PH RANGE SHALL BE 6.5%-7%. ORGANIC CONTENT SHALL RANGE BETWEEN 4%-6%. AMEND SOIL AS NECESSARY TO ACHIEVE SOIL PARAMETERS.

PLANT MATERIAL

THE CONTRACTOR SHALL PROVIDE A ONE YEAR WARRANTY ON ALL PLANTS AND VEGETATION PROPOSED ON THE PLANTING PLAN. ANY TREES, SHRUBS, GROUND COVER OR OTHER VEGETATION PLANTED AS PART OF THIS PROJECT THAT DO NOT SURVIVE ONE YEAR FROM PLANTING SHALL BE REPLACED AT THE THE EXPENSE OF THE CONTRACTOR. THE LANDSCAPE ARCHITECT SHALL BE THE SOLE JUDGE OF REQUIRED REPLACEMENTS.

REFER TO THE DRAWING AND PLANTING DETAILS FOR PLANTING REQUIREMENTS, MATERIALS AND EXECUTION. IF THERE IS A DISCREPANCY BETWEEN THE DRAWINGS AND THE PLANT LIST, THE DRAWINGS SHALL GOVERN.

PLANT SHRUBS IN A DORMANT CONDITION, BEFORE NEW GROWTH APPEARS. PLANTING AT TIMES OTHER THAN THOSE INDICATED MUST OBTAIN PRIOR APPROVAL FROM THE LANDSCAPE ARCHITECT.

PLANTS SHALL BE OBTAINED FROM REGISTERED PLANT NURSERIES, AND NOT OBTAINED FROM THE WILD.

ALL PLANTS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT UPON DELIVERY TO THE SITE. PLANTS DELIVERED TO THE SITE THAT DO NOT MEET THE ABOVE CRITERIA MAY BE REJECTED AND ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

THE OWNER RESERVES THE RIGHT TO SELECT AND/OR APPROVE PLANT SELECTIONS AT THE NURSERY WHERE GROWN, PRIOR TO ACCEPTANCE OF MATERIALS.

THE LANDSCAPE ARCHITECT SHALL APPROVE ALL BED LAYOUTS, PRIOR TO INSTALLATION BY THE CONTRACTOR

BACKFILL MIX FOR ALL PLANTINGS, USE BACKFILL MIX CONSITING OF THE FOLLOWING:
1. ONE PART EXCAVATED SOIL.
2. ONE PART EPA RATED CLASS IV COMPOST.
3. A SLOW RELEASE COMMERCIAL FERTILIZER (0-20-20 OR EQUAL) ADDED AT A RATE OF 5 POUNDS PER CUBIC YARD TO THE BACKFILL MIX.
4. IF SOIL AREAS ARE OF HIGH PH (GREATER THAN 6.5) APPLY 1.25 POUNDS OF ELEMENTAL SULFUR PER CUBIC YARD OF BACKFILL MIX. NOTE: CONTRACTOR SHALL SUPPLY A DETAILED SOIL ANALYSIS PRIOR TO ALL PLANT BED PREPARTATION. ANALYSIS SHALL INDICATE SOIL PH, TEXTURE, MAJOR NUTRIENTS, SALTS, ETC. SOIL ANALYSIS SHALL BE FROM A REPUTABLE, INDEPENDENT LAB. SOIL AMENDMENTS SHALL BE INCORPORATED INTO BACKFILL/PLANT MIX AS RECOMMENEDED BY THE INDEPENTDENT LAB.

SMOOTH AND SHAPE THE BACKFILL MIX TO FORM A SHALLOW BASIN SLIGHTLY LARGER THAN THE PLANTING HOLE. MULCH ALL PLANTING AREAS WITH A LAYER OF FINELY SHREDDED HARDWOOD BARK OF UNIFORM TEXTURE AND SIZE. USE SHREDDED HARDWOOD BARK AGED MIN. OF ONE YEAR. RAKE AND SMOOTH THE ENTIRE AREA OF THE PLANTING BEDS. MULCH TO A DEPTH OF 3 INCHES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, DELIVERING, APPLYING, MEASURING AND SCHEDULING A SUFFICIENT AMOUNT OF WATER NECESSARY TO KEEP EACH PLANT IN A HEALTHY GROWING CONDITION THROUGHOUT THE PERIOD OF ESTABLISHMENT. THE CONTRACTOR SHALL APPLY 1" OF WATER PER WEEK TO ALL NEW PLANTS.

RESTORATION OF DISTURBED AREAS FOR NEW LAWN. ALL DISTURBED AREAS NOT COVERED BY BUILDING, PAVEMENT OR LANDSCAPE PLANTING BEDS SHALL BE PREPARED FOR GRASS AND SEEDED. LOOSEN RUTS AND WORK THE SOIL AREAS TO A MINIMUM OF 6" DEEP PRIOR TO FINE GRADING AND SEEDING WORK.

STRAW MULCH SHALL BE APPLIED 3" IN DEPTH. ALL MULCHING MUST HAVE A TIE DOWN.

LAWN SEED SHALL BE FRESH, CLEAN, DRY NEW-CROP SEED COMPOSED OF VARIETIES, MIXED IN PROPORTIONS, AND TESTED FOR MINIMUM PERCENTAGES OF PURITY AND GERMINATION AS FOLLOWS BY WEIGHT.

NOTES CONTINUED

VARIETY	PROPORTION BY WEIGHT	PURITY	GERMINATION
BARON KENTUCKY BLUEGRASS	25	90	80
VANTAGE KENTUCKY BLUEGRASS	25	90	80
PARK KENTUCKY BLUEGRASS	25	90	80
PENNFINE PERENNIAL RYEGRASS	25	90	80
CREEPING RED FESCUE	25	90	80

SUBSURFACE DRIPPERLINE IRRIGATION

ALL PLANTING BEDS SHALL HAVE IRRIGATION INSTALLED.

DRIPPERLINE TO BE MANUFACTURED BY HUNTER PLD-06-12, NETAFIM TECHLINE CV, RAINBIRD XSF DRIPLINE XSF-06-12, OR TORO DL2000, RGP-2-12.

SUBSURFACE IRRIGATION TUBING SHALL BE SELF-FLUSHING, PRESSURE COMPENSATING DRIPPERLINE WITH INTERNAL CHECK VALVE AT EACH EMITTER. DRIPPERLINE SHALL CONSIST OF NOMINAL SIZED ONE-HALF INCH LOW DENSITY, LINEAR POLYETHYLENE TUBING WITH INTERNAL PRESSURE COMPENSATING, CONTINUOUSLY SELF-FLUSHING, INTEGRAL DRIP EMITTERS. THE EMITTERS SHALL HAVE THE ABILITY TO INDEPENDENTLY REGULATE DISCHARGE RATES, WITH AN OUTPUT PRESSURE OF 7 TO 70 PSI AND SHALL CONTINUOUSLY CLEAN THEMSELVES WHILE IN OPERATION.

DRIPPERLINE FED FROM A RECLAIMED WATERSOURCE SHALL BE LAVENDER IN COLOR.

DRIPPERLINE SHALL HAVE EMITTERS SPACED 12" O.C. AND EACH EMITTER SHALL HAVE .5 - .6 GPH EMITTER OUTPUT.

HEADER PIPE FOR ALL DRIPPERLINE SHALL BE POLYETHYLENE PIPE, 1" SIZE.

ALL FITTINGS SHALL BE MANUFACTURED FOR USE WITH THE SUBSURFACE IRRIGATION TUBING BY THE SUBSURFACE DRIPPERLINE MANUFACTURER.

ALL ASSOCIATED SYSTEM EQUIPMENT INCLUDING AIR RELIEF VALVES, FLUSH VALVES, PRESSURE REGULATING VALVES AND FILTERS SHALL BE MANUFACTURED FOR USE WITH THE SUBSURFACE IRRIGATION TUBING BY THE SUBSURFACE DRIPPERLINE MANUFACTURER.

SUBMIT SHOP DRAWING OF ALL IRRIGATION COMPONENTS, PROPOSED LAYOUT AND WATER SOURCE, TO THE LANDSCAPE ARCHITECT, FOR REVIEW, PRIOR TO THE START OF CONSTRUCTION.

STATE OF MICHIGAN
WENDY C. FRY
LANDSCAPE ARCHITECT
No. 1061
LICENSED
REGISTERED
July 27, 2020

NO.	DATE	BY	DESCRIPTION
01	05/15/2020	GLS	PRELIMINARY SITE LAYOUT
02	06/10/2020	GLS	UPDATED PRELIMINARY SITE LAYOUT
03	06/25/2020	GLS	UPDATED PRELIMINARY SITE LAYOUT WITH TREE SURVEY
04	07/29/2020	GLS	SITE LAYOUT REVISED PER 07/08/2020 COMMENTS

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JOB NO. R2350001

RDL ARCHITECTS
16102 CHAGRIN BOULEVARD, SUITE 200
SHAKER HEIGHTS, OHIO 44120

HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

LANDSCAPE DETAILS

OVERALL PLANT LIST

	FOUNDATION	PARKING	GREENBELT	DETENTION	SCREENING	SIGN	SCIENTIFIC NAME	COMMON NAME	SIZE (HEIGHT OR CALIPER)	ROOT	SPACING	REMARKS
	DECIDUOUS TREES											
	0	2	4	4	0	0	*Acer rubrum*	Red Maple	3"	B&B	As Per Plan	Specimen quality.
	0	0	3	6	0	0	*Acer saccharum*	Sugar Maple	3"	B&B	As Per Plan	Specimen quality.
	0	20	0	2	0	0	*Gleditsia triacanthos f inermis*	Thornless Honeylocust	3"	B&B	As Per Plan	Specimen quality.
	0	11	4	0	0	0	*Gymnocladus dioica*	Kentucy Coffeetree	3"	B&B	As Per Plan	Matched in form. All male cultivars of a single source
	0	1	7	2	0	0	*Liriodendron tulipifera*	Tulip Tree	3"	B&B	As Per Plan	Specimen quality.
	0	4	4	5	0	0	*Nyssa sylvatica*	Black Gum	3"	B&B	As Per Plan	Specimen quality.
	0	0	5	6	0	0	*Quercus rubra*	Red Oak	3"	B&B	As Per Plan	Specimen quality.
Total	0	38	27	25	0	0						
	ORNAMENTAL TREES											
	13	0	0	0	0	0	*Acer rubrum 'Red Rocket'*	Red Rocket Maple	2"	B&B	As Per Plan	Specimen quality.
	24	0	0	2	0	0	*Amelanchier arborea*	Downey Serviceberry	12' ht.	B&B	As Per Plan	Multi-stem
	2	0	3	2	0	0	*Cotinus coggygria 'Royal Purple'*	Royal Purple Smoketree	12' ht.	B&B	As Per Plan	Specimen quality.
	7	0	2	1	0	0	*Magnolia stellata*	Star Magnolia	2"	B&B	As Per Plan	Specimen quality.
	6	0	0	1	0	0	*Malus sargentii*	Sargent Crab Apple	2"	B&B	As Per Plan	Specimen quality.
	9	0	2	1	0	0	*Syringa reticulata 'Ivory Silk'*	Ivory Silk Tree Lilac	2"	B&B	As Per Plan	Specimen quality.
Total	61	0	7	7	0	0						
	EVERGREEN TREES											
	0	0	0	0	42	0	*Picea abies*	Norway Spruce	8' ht.	B&B	12' O.C.	Specimen quality.
	0	0	0	0	27	0	*Picea abies*	Norway Spruce	10' ht.	B&B	12' O.C.	Specimen quality.
	0	0	0	0	29	0	*Picea glauca*	White Spruce	8' ht.	B&B	12' O.C.	Specimen quality.
	0	0	0	0	36	0	*Picea glauca*	White Spruce	10' ht.	B&B	12' O.C.	Specimen quality.
	0	0	0	0	37	0	*Picea omorika*	Serbian Spruce	8' ht.	B&B	12' O.C.	Specimen quality.
	0	0	0	0	31	0	*Picea omorika*	Serbian Spruce	10' ht.	B&B	12' O.C.	Specimen quality.
Total	0	0	0	0	202	0						
	SHRUBS											
	0	0	7	16	0	0	*Cornus sericea*	Twig Dogwood	30" ht	B&B/Cont	As Per Plan	
	0	0	4	22	0	0	*Forsythia x intermedia 'Kolgold'*	Kolgold Forsythia	30" ht	B&B	As Per Plan	
	231	0	0	0	0	0	*Ilex glabra 'Shamrock'*	Inkberry	18" ht.	B&B	30" O.C.	
	0	0	0	36	0	0	*Ilex verticillata*	Winterberry	30" ht	B&B	As Per Plan	6 JIM DANDY& 30 CACAPON
	0	45	0	0	0	20	*Juniperus horizontalis 'Bar Harbor'*	Bar Harbor Juniper	3 gal.	Cont	4' O.C.	
	129	35	0	0	0	0	*Microbiota decussata*	Siberian Cypress	3 gal.	Cont	4' O.C.	
	0	0	6	10	0	0	*Physocarpus opulifolius 'Center Glow'*	Center Glow Ninebark	30"	B&B	As Per Plan	
	0	0	10	20	0	0	*Physocarpus opulifolius 'Diabolo'*	Diabolo Ninebark	30"	B&B	As Per Plan	
	184	0	0	0	0	0	*Physocarpus opulifolius 'Nanus'*	Dwarf Ninebark	3 gal.	Cont	24" O.C.	FOR FOUNDATION PLANTING
	173	76	0	0	0	0	*Rhus aromatica 'Gro-Low'*	Gro-Low Sumac	3 gal.	Cont	4' O.C.	
	0	0	7	28	0	0	*Syringa meyeri 'Paliban'*	Dwarf Korean Lilac	30" ht	B&B	As Per Plan	
	0	0	1	17	0	0	*Syringa vulgaris 'Sensation'*	Sensation Lilac	30" ht	B&B	As Per Plan	
	103	0	0	2	0	0	*Viburnum carlessi*	Korean Spice Viburnum	18" ht.	B&B/Cont	42" O.C.	
	0	0	0	15	0	0	*Viburnum nudum 'Winterthur'*	Winterthur Smooth Viburnum	30" ht	B&B	As Per Plan	
	210	0	0	0	0	13	*Viburnum opulus 'Compactum'*	Compact European Cranberrybush	18" ht.	B&B	42" O.C.	
	0	0	0	25	0	0	*Viburnum prunifolium*	Blackhaw Viburnum	30" ht.	B&B	As Per Plan	
Total	1030	156	35	191	0	33						

STATE OF MICHIGAN
WENDY C. FRY
LANDSCAPE ARCHITECT
No. 1068
REGISTERED LANDSCAPE ARCHITECT
July 23, 2020

NO.	DATE (DD/MM/YR)	BY (INITIALS)	DESCRIPTION
01	05/10/2020	G.L.S.	PRELIMINARY SITE LAYOUT
02	06/10/2020	G.L.S.	UPDATED PRELIMINARY SITE LAYOUT
03	06/25/2020	G.L.S.	UPDATED PRELIMINARY SITE LAYOUT WITH TREE SURVEY
04	07/23/2020	G.L.S.	SITE LAYOUT REVISED PER 07/09/2020 COMMENTS

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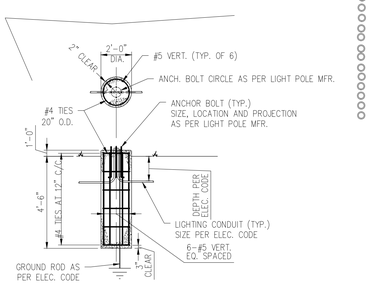
JOB NO. R2350001

RDL ARCHITECTS
16102 CHAGRIN BOULEVARD, SUITE 200
SHAKER HEIGHTS, OHIO 44120

HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

PLANT SCHEDULE



NOTES:

1. CONCRETE FOR LIGHT POLE FOUNDATION SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH f'_c = 4000 PSI.
2. REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH f_y = 60 KSI.
3. ALL EXPOSED EDGES OF CONCRETE LIGHT POLE FOUNDATION SHALL BE CHAMFERED 1".
4. MINIMUM SOIL BEARING CAPACITY SHALL BE 2000 PSF.
5. MAXIMUM POLE HEIGHT SHALL BE 22 FEET.

CONCRETE LIGHT POLE FOUNDATION DETAIL

NOT TO SCALE

STATISTICS

DESCRIPTION	AVG
PROPERTY LIMITS	0.56 fc
PAVEMENT LIMITS	2.22 fc
ENTRY/EXIT DRIVES	4.51 fc
MAIN BUILDING ENTRANCE	4.96 fc
MAIN PARKING AREA LIMITS	3.22 fc
COURTYARD WALK LIMITS	0.75 fc

NOTE:

1. LIGHTING INTENSITY IS MEASURED AT 5 FEET ABOVE GROUND LEVEL ON A VERTICAL PLANE.

LUMINAIRE SCHEDULE

SYMBOL	LABEL	QUANTITY	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LUMENS PER LAMP	WATTAGE
	A	19	LITHONIA LIGHTING	DSX1 LED P5 50K T3M MVOLT HS	DSX1 LED P5 50K T3M MVOLT WITH HOUSESIDE SHIELD	ABSOLUTE	138.0
	B	4	LITHONIA LIGHTING	DSX1 LED P9 50K T3M MVOLT HS	DSX1 LED P9 50K T3M MVOLT WITH HOUSESIDE SHIELD	ABSOLUTE	241.0
	C	8	LITHONIA LIGHTING	RAD1 LED P1 50K SYM HS	RADEAN ARM MOUNTI WITH P1 5000K SYMMETRIC DISTRIBUTION WITH HOUSESIDE SHIELD	ABSOLUTE	25.4
	D	3	ALW USA	CORE 300LX-C3LU-D-N-1-W-20-83-40-60-20-83-40-60	CORE LX TALL-SHELL CORE SERIES SCONCE	2000	15.2
	E	7	RAB LIGHTING, INC.	SLIM26N	CAST FINNED METAL HOUSING, 1 CIRCUIT BOARD WITH 1 LED; MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH, CLEAR FLAT GLASS LENS	ABSOLUTE	29.5
	F	6	LITHONIA LIGHTING	REAL6C D6MW ESL 1500L 35K .95CC	6" REALITY LED RECESSED DOWNLIGHT, 1500 LUMENS .95 SPACING 3500K CCT	1521	18.8
	G	8	LITHONIA LIGHTING	VCPG LED P1 40K T5M MVOLT	VCPG LED WITH P1-PERFORMANCE PACKAGE, 4000K, T5M OPTIC TYPE	ABSOLUTE	26.6

POLE FIXTURE SCHEDULE

	QUANTITY	CATALOG NUMBER	HEIGHT (FT)	POLE SHAFT SIZE (IN X FT)	WALL THICKNESS (IN)	DRILL MOUNTING	BOLT SIZE (IN X IN X IN)	FINISH
LITHONIA LIGHTING ROUND STRAIGHT ALUMINUM POLE	22	RSA 20 5C DM19AS DBLXD	20' POLE ON A 1' CONCRETE BASE	5 X 20	0.125	DM19AS	¾ X 18 X 3	DBLXD BLACK
LITHONIA LIGHTING ROUND STRAIGHT ALUMINUM POLE	8	RSA 14 4C DM19AS DBLXD	14' POLE ON A 1' CONCRETE BASE	4 X 14	0.125	DM19AS	¾ X 18 X 3	DBLXD BLACK

NO.	DATE	BY	DESCRIPTION
01	05/15/20	G.L.S	PRELIMINARY SITE LAYOUT
02	06/10/20	G.L.S	UPDATED PRELIMINARY SITE LAYOUT
03	06/25/20	G.L.S	UPDATED PRELIMINARY SITE LAYOUT WITH TREE SURVEY
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16102 CHAGRIN BOULEVARD, SUITE 200
SHAKER HEIGHTS, OHIO 44120

HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

PHOTOMETRIC PLAN

LUMINAIRES A AND B

D-Series Size 1

LED Area Luminaire

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA: 1.01 ft² (0.09 m²)

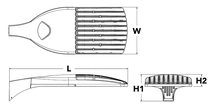
Length: 33" (83.8 cm)

Width: 13" (33.0 cm)

Height H1: 7-1/2" (19.0 cm)

Height H2: 3-1/2"

Weight (max): 27 lbs (12.2 kg)



Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 750W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX1 LED

Series	LEDs	Color temperature	Distribution		Voltage	Mounting
DSX1 LED	**Forward optics** P1 P4 P7 P2 P5 P8 P3 P6 P9 **Rotated optics** P10[7] P12[7] P11[7] P13[7]	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short (Automotive) T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium	T5VS Type V very short[1] T5S Type V short[1] T5M Type V medium[1] T5W Type V wide[1] BLC Backlight control[2] LCCO Left corner cutoff[2] RCCO Right corner cutoff[2]	MVOLT[3,4] 120[3] 208[3] 240[3] 277[3] 347[3] 480[3]	**Shipped included** SPA Square pole mounting RPA Round pole mounting WBA Wall bracket[5] SPUMBA Square pole universal mounting adaptor[6] RPUMBA Round pole universal mounting adaptor[6] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish)[7]

Control options	Other options	Finish (required)
Shipped installed NLTAIR2 nLight AIR generation 2 enabled[8] PIRHN Network, high/low motion/ambient sensor[9] PER NEMA twist-lock receptacle only (controls ordered separately)[10] PERS Five-pin receptacle only (controls ordered separately)[10] PER7 Seven-pin receptacle only (controls ordered separately)[10] DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[10] DS Dual switching[11,9,10] PIR High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc[9,12] PIRH High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc[9,12] PIR1FSCIV High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc[9,12] PIRH1FCIV Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc[9,12] FAO Field adjustable output[13]	**Shipped installed** HS House-side shield[9] SF Single fuse (120, 277, 347V)[1] DF Double fuse (208, 240, 480V)[1] L90 Left rotated optics[7] R90 Right rotated optics[7] **Shipped separately** BS Bird spikes[14] EGS External glare shield	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

LUMINAIRE C

Radean Arm Mount

LED Area Luminaire

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA: 0.75 ft² (0.05 m²)

Length:

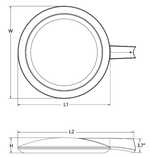
L1 24" (61 cm)

L2 30" (60.96 cm)

Width: 24" (61 cm)

Height: 4" (10.2 cm)

Weight (max): 29lbs (13.15Kg)



Introduction

The RADEAN arm mount luminaire is the perfect choice for pedestrian applications where daytime aesthetics and visual comfort are needed. Adding architectural flair to any space, the RADEAN's low-profile shape and smooth curves blend in while adding a touch of elegance.

Perfect for campuses, parks, pedestrian malls, courtyards and pathways, the RADEAN arm mount is the Architect's choice to provide beautiful aesthetics both day and night.

Ordering Information

EXAMPLE: RAD1 LED P3 30K SYM MVOLT RPA PE DNAXD

RAD1 LED

Series	Performance package	Color temperature	Distribution	Voltage	Mounting
RAD1 LED	P1 1,000 Lumens P2 5,000 Lumens P3 7,000 Lumens P4 11,000 Lumens P5 16,000 Lumens	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	SYM Symmetric type V ASY Asymmetric type IV PATH Pathway type III	MVOLT[1] 277[1] 120[1] 347 208[1] 480 240[1]	SPA Square pole mounting (includes adapter) RPA Round pole mounting WBA Wall bracket

Control options	Other options	Finish (required)
Shipped installed NLTAIR2 nLight AIR 2.0 enabled[2] PIR Bi-level motion sensor (100% to 30%).[3,4,5,6] PE Button photocell[5,6,7] FAO Field adjustable output[8,9,7]	SF Single fuse[1] DF Double fuse[1] L90 Left rotated optics R90 Right rotated optics **Shipped separately** HS Houseside shield[6]	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

LUMINAIRE D

ALW

CORE 300 LX

UP + DOWN SCONCE

PROJECT

Job

Type

Part #

Notes

SPECIFICATIONS

Source Two Xicato XTM LED modules - up to 3000 lumens each

CCT 2700K, 3000K, 3500K or 4000K

Color Consistency 1x2 SDCM (MacAdam) along BBL, CCT +/- 40K to 70K, Duv +/- .001

CRI (Ra) 83 or 98

Driver / Location Included / Remote mount or deep canopy options

Dimming 0-10V or phase dimming to 10% standard; DALI, DMX and 1% dimming available

Input Voltage 100 to 277VAC, phase dimmable versions are 120VAC only

Power Up to 47 watts max, depending on LED module / driver

Reflector 20°, 40° or 60° - field replaceable without tools

Material CNC machined aluminum with stainless steel hardware

Finish Powder coat - TGIC polyester for exterior and interior use

Weight 5 lb. [2.3 kg]

Location Listed for Wet & Damp locations

Approvals ETL Listed to UL 1598, 2108, 8750 and CSA C22.2# 9 & #250.0

L80 Life > 50,000 hours at 80% lumen maintenance based on IESNA LM-80-08

Warranty Lifetime Limited Warranty - see warranty for details

IES Files LM-79-08 IES files available

Modifications Any modification or customization is possible - consult factory

LED · INDOOR OUTDOOR · WET LOCATION · DIMMABLE · POWERED BY XICATO · TITLE 24 · ETL Intertek

ORDERING LOGIC

**CORE 300 LX LIGHT SCONCE SHALL BE DOWN DIRECTION ONLY.

Driver Exampl	Location	Dimming	# of Circuits	Mounting Location	Output	Up Direction CRI*	Up Direction C.C.T.	Reflector	Down Direction** Output	Down Direction** CRI*	Down Direction** C.C.T.	Reflector	Shell Color	Options
C3LU -	D	N	1	W	-			-	20	83	40	60 -		-

Driver Location: R=Remote, W=Integral, Canopy; Dimming: N=None, P=Phase, V=0-10V, Z=Other; Circuits: 1, 2; Mounting Location: D=Damp, W=Wet; Output: 07=700lm, 10=960lm, 13=1300lm, 20=2000lm, 30=3000lm; CRI*: 83=83, 98=98*; C.C.T.: 27=2700K, 30=3000K, 35=3500K, 40=4000K; Reflector: 20=20°, 40=40°, 60=60°; Down Output: 07=700lm, 10=960lm, 13=1300lm, 20=2000lm, 30=3000lm; Down CRI*: 83=83, 98=98*; Down C.C.T.: 27=2700K, 30=3000K, 35=3500K, 40=4000K; Down Reflector: 20=20°, 40=40°, 60=60°; Shell Color: XX (see chart on page 4); Options: ZZ=Custom

* 98 CRI not available in 3000 lm

Example Part Number: **C3LU-RN1D-13832720-20832740-S3**

C**ORE** 300 **L**X **U**p + **D**own Sconce • **R**emote Driver, **N**o Dimming **1** Circuit, **D**amp Location • UP= **13**00 lm, **83** CRI, **27**00K, **20°** Reflector • DOWN= **20**00 lm, **83** CRI, **27**00K, **40°** Reflector• **S3** Hard Shell

LITHONIA LIGHTING®

FEATURES & SPECIFICATIONS

INTENDED USE — **These specifications are for USA standards only. Check with factory for Canadian specifications.** Round Straight Aluminum is a general purpose light pole for up to 30-foot mounting heights. This pole provides a lighter and naturally corrosion-resistant option for mounting area light fixtures and floodlights.

CONSTRUCTION — **Pole Shaft:** The pole shaft is of uniform wall thickness and is one-piece extruded 6063 aluminum alloy with T6 temper. The shaft is uniform in cross-section down length of pole with no taper. Available shaft diameters are 4", 4.5", 5", and 6".

Pole Top: Options include tenon top, drilled for side mount fixture, tenon with drilling (includes extra handhole) and open top. Side drilled and open top poles include a removable aluminum top cap secured with three stainless-steel screws. The top cap resists intrusion of moisture or environmental contaminants.

Handhole: A non-reinforced handhole with grounding provision is provided near the base. Standard positioning varies with shaft width as follows: 4", 4.5", and 5" shaft, handhole at 12"; 6" shaft, handhole at 18" on side A. Positioning the handhole lower than standard may not be possible and requires engineering review; consult Tech Support-Outdoor for further information. All handholes for a pole specified with openings wide 4" through 6" shaft width has nominal dimension of 2" x 4" with surface mount overlap design.

Bolt Caps/Base Cover: Pole base plate utilizes cast aluminum bolt caps to cover anchor bolt and nut assembly. Spun aluminum covers available as an option.

Anchor Base/Bolts: Anchor base is cast from 356 alloy aluminum and is heat treated to a T6 temper after welding. Anchor bolts are manufactured to ASTM F1554 Standards Grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Upper portion of anchor bolt is galvanized per ASTM A-153; bolts have an "L" bend on bottom end and are galvanized a minimum of 12" on the threaded end. Each hot-dipped galvanized anchor bolt is furnished with two hex nuts and two flat washers.

HARDWARE - All structural and non-structural fasteners are stainless-steel.

FINISH – Extra durable painted finish is coated with polyester powder that meets SA and SB classifications of ASTM D3359. Standard powder-coat finishes include Dark Bronze, White, Black, Medium Bronze and Natural Aluminum colors. Classic finishes include Sandstone, Charcoal Gray, Tennis Green, Bright Red and Steel Blue colors. Other finishes include Brushed Aluminum, and Anodized Dark Bronze, Anodized Natural Aluminum and Anodized Black. Architectural Colors and Special Finishes are available by quote and include, but are not limited to RAL Colors, Custom Colors and Extended Warranty Finishes. Factory-applied primer paint finish is available for customer field-paint applications.

WARRANTY — 1-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

NOTE: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

Catalog Number

Notes

Type

Anchor Base Poles

RSA

ROUND STRAIGHT ALUMINUM

LUMINAIRE E

SLIM26N

RAB

12, 18 and 26 Watt SLIM wallpacks are ultra efficient and deliver impressive light distribution with a compact low-profile design that's super easy to install as a downlight or uplight.

Color: Bronze Weight: 4.5 lbs

Project:

Type:

Prepared By:

Date:

Driver Info		LED Info	
Type:	Constant Current	Watts:	26W
120V:	0.27A	Color Temp:	4000K
208V:	0.15A	Color Accuracy:	72 CRI
240V:	0.15A	L70 Lifespan:	100000
277V:	0.13A	Lumens:	3523
Input Watts:	30W	Efficacy:	118 LPW
Efficiency:	87%		

Technical Specifications

Listings

UL Listing:
Suitable for wet locations. Suitable for mounting within 1.2m (4ft) of the ground.

DLC Listed:
This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities.
DLC Product Code: P96TPDJK

ADA Compliant:
SLIM™ is ADA Compliant

Dark Sky Approved:
The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire

IESNA LM-79 & LM-80 Testing:
RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80.

Construction

IP Rating:
Ingress Protection rating of IP66 for dust and water

Cold Weather Starting:
Minimum starting temperature is -40°C (-40°F)

Maximum Ambient Temperature:
Suitable for use in 40°C (104°F) ambient temperatures

Housing:
Precision die-cast aluminum housing

Mounting:
Heavy-duty mounting bracket with hinged housing for easy installation

Recommended Mounting Height:
Up to 22 ft

Lens:
Tempered glass lens

Reflector:
Specular thermoplastic

Gaskets:
High-temperature silicone

Finish:
Formulated for high-durability and long lasting color

Green Technology:
Mercury and UV-free. RoHS compliant components. Polyester powder coat finish formulated without the use of VOCs or toxic heavy metals.

LED Characteristics

LED:
Multi-chip, long-life LED

Lifespan:
100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations

Color Consistency:
3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

Color Stability:
LED color temperature is warrantied to shift no more than 200K in CCT over a 5 year period

Color Uniformity:
RAB's range of CCT (Correlated Color Temperature) follows the guidelines for the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

Electrical

Driver:
Constant Current, Class 2, 100-277V, 50/60 Hz., 6KV surge protection. 120V: 0.28A, 208V: 0.16A, 240V: 0.14A, 277V: 0.12A

Other

Patents:
The design of the SLIM™ is protected by patents in U.S. Pat D681,864, and pending patents in Canada, China, Taiwan and Mexico.

HID Replacement Range:
Replaces 175W Metal Halide

Buy American Act Compliance:
RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Optical

BUG Rating:
B1 U0 G0

LUMINAIRE F

LITHONIA LIGHTING®

FEATURES & SPECIFICATIONS

INTENDED USE — For use with common 6" installed housings for retrofit applications:
New Construction use with housings L7X, L6L or L7XLED T24 (dedicated LED connector).
Remodel or install from below applications use with L7XR or L7XRLED T24 (dedicated LED connector).

LED module for use in retrofit / remodel or new construction applications where energy savings, long-life, and functional delivered light levels are required. The Reality LED module provides 80% energy savings over the 65W BR30 and replicates the beam pattern and useful light levels of these fixtures. It will maintain at least 70% light output for 50,000 hours in a typical IC environment. The Reality LED module is the most economical means to create a well lit environment with exceptional energy efficiency and near zero maintenance.

CONSTRUCTION — Rugged, one-piece, die-cast heat sink design for optimal thermal management.
Wet location rated lens is tightly fitted to the housing to reduce the ingress of dust.
Hardwire kit ships standard to enable a permanent conversion to a LEB source and Title 24 compliant.
Twin torsion springs ensure easy installation.

OPTICS — Elliptical upper reflector and a patented polycarbonate micro prism lens provides a 38 degree or 65 degree full width half max (FWHM) beam angle based on distribution chosen. Lower splay recesses optical system into the ceiling to prevent glare and provide a traditional look.

ELECTRICAL — LEDs on a metal core circuit board, ensure cool-running operation for long life.
On-board circuitry to ensure protection against wiring errors.
High-efficiency driver mounted on the module. Primary power disconnect provided for simple connection to a standard Edison (E26) base socket.
Full range dimming is standard; dimming down to 25%. Optimal dimming performance is achieved when connected to an electronic low-voltage (ELV) dimmer; See page 2 for recommended dimmers.
Input wattage for 600L is 8 W, 80 lumens per watt. Input wattage for 1000L is 11W, 89 lumens per watt.
Actual wattage may differ by +/-5% when operating at 120V +/-10%.

INSTALLATION — Suitable for installation in standard-height rough-in sections. Fits into most popular 6" housings.

LISTINGS — CSA certified to US and Canadian safety standards. Wet location listed.

WARRANTY — Five-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Catalog Number

Notes

Type

6" LED Module

REALITY™ IC/Non-IC Retrofit

Specifications

Aperture: 4-3/8 (11.1)
Ceiling opening: As rough-in
Overlap trim: 7-1/2 (19.1)
Height: 6-5/8 (17.0) max.
Weight (module only): 2.8 lbs.
Weight (module and carton): 3.96 lbs.
All dimensions are inches (centimeters) unless otherwise noted.

ORDERING INFORMATION For shortest lead times, configure products using **bolded options.**

Example: REAL6 D6MW ESL 1000L 35K .60SC

Series/Finish			ESL Type	Lumen output[1]	Color temperature	Distribution	Voltage
Series **REAL6 D6** 6" energy star retrofit module	Finish **MW** Matte white **A** Clear diffuse AZ Clear specular BN Brushed nickel BLZ Black specular BZA Antique bronze ORB Oil-rubbed bronze WT Wheat diffuse		**ESL**	**600L** 8W, 600 lumens **1000L** 11W, 1000 lumens	27K 2700K **30K 3000K** 35K 3500K 40K 4000K	**.60SC .60 spacing criteria** .90SC .90 spacing criteria	**(blank)** 120V

Options		
PFMW Matte white plastic flange ring PFBL Black plastic flange ring **L7X** New construction rough-in[2] **L7XR** Remodel rough-in[2]	**L6** New construction rough-in[2] **L7XLED T24** New construction rough-in (LED connector) **L7XLED T24 SDT 277V** Non-IC 277V stepdown transformer (277V to 120V) (LED connector)	**Shipped separately** HS Houseside shield[4]
L7XRLED T24 Remodel rough-in (LED connector) LC6LED T24 New construction rough-in (LED connector) ISH Insect shield		

Accessories: *Order as separate catalog number.*

T5A6	Makes non-bracket housings compatible with the LED module ships as units, J6 or J25
FL2LED	Makes L7XF housings compatible with the LED module
REAL HW Kit	Enables a permanent conversion to an LED source and Title 24 compliant (ships standard)
CTR6	6" proof ring, white

Notes
1 Total system delivered lumens.
2 Must be ordered on separate line.

LUMINAIRE G

VCPG LED

Parking Garage

Catalog Number

Notes

Type

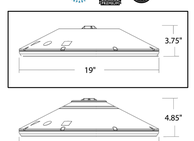
Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Diameter: 19"

Height: 3.75" (4.85" with Up-Light)

Weight (max, with no options): 18 lbs



Introduction

The all new VCPG LED (Visually Comfortable Parking Garage) luminaire is designed to bring glare control, optical performance and energy savings into one package. The recessed lens design of VCPG LED minimizes high angle glare, while its precision molded acrylic lens eliminates LED pixilation and delivers the required minimums, verticals and uniformity. The dedicated up-light module option reduces the contrast between the luminaire and the ceiling creating a more visually comfortable environment.

The VCPG LED delivers up to 87% in energy savings when replacing 175W metal halide luminaires. With over 100,000 hour life expectancy (12+ years of 24/7 continuous operation), the VCPG LED luminaire provides significant maintenance savings over traditional luminaires.

A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: VCPG LED V4 P4 40K 70CRI T5M MVOLT SRM DNAXD

VCPG LED	V4	P1	40K		T5M	MVOLT	SRM
Series	LED Light Engines	Package	Color temperature	Color Rendering Index	Distribution	Voltage	Mounting
VCPG LED	V4[1] 4 Light Engines V8[1] 8 Light Engines	P1[1] P2[1] P3[1] P4[1] P5[1] P6[1] P7[1]	30K 3000 K 35K 3500 K 40K 4000 K 50K 5000 K	70CRI 80CRI	T5M[2] Type V, medium T5W[2] Type V, wide T5E[2] Type V entry LANE[2] Drive lane	MVOLT[1] For ordering with fuse 347 120 480 208 240 277 347 480	**Shipped included** PM Pendant mount standard (24-inch length supply leads) SRM Surface mount (24-inch length supply leads) ARM Arm mount (use RSXWBA accessory to mount to a wall) **Shipped separately** YK Yoke/trunnion mount[3]

Options			Finish (required)
Shipped installed UPL1 Up-Light: 500 lumens UPL2 Up-Light: 700 lumens EBWC Emergency battery backup, Certified in CA Title 20 MAEDBS (8W, -20°C min)[4,5,6] E10WH Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 5°C min)[4,5,6] HA High ambient (50°C, only P1-P4) SF Single fuse (120V, 277V, 347V) DF Double fuse (208V, 240V, 480V) SPD10KV 10KV Surge Pack LD536 36in (3ft) lead length LD572 72in (6ft) lead length LD5108 108in (9ft) lead length DMG External 0-10V leads (no controls)[7] **Shipped Separately** WG Wire Guard BDS Bird Shroud HS House-Side Shield	**Standalone Sensors/Controls[8]** PIR Motion/ambient sensor for 8-15' mounting heights PIRH Motion/ambient sensor for 15-30' mounting heights PIR1FC3V Motion/ambient sensor for 8-15' mounting heights, pre programmed to 3fc and 35% light output PIRH1FC3V Motion/ambient sensor for 15-30' mounting heights, pre programmed to 3fc and 35% light output PIR1FC3V924 ULS924 Listed motion/ambient sensor for emergency circuit for 8-15' mounting heights, pre programmed to 3fc and 35% light output[9] PIRH1FC3V924 ULS924 Listed motion/ambient sensor for emergency circuit for 15-30' mounting heights, pre programmed to 3fc and 35% light output[9] **Networked Sensors/Controls[8]** NLTAIR2 PIR nLGHT AIR Wireless enabled motion/ambient sensor for 8-15' mounting heights NLTAIR2 PIRH nLGHT AIR Wireless enabled motion/ambient sensor for 15'-30' mounting heights NLTAIR2 PIR924 nLGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 8-15' mounting heights[9] NLTAIR2 PIRH924 nLGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 15-30' mounting heights[9] XAD XPoint™ Wireless enabled[10] XAD924 XPoint™ Wireless enabled, UL 924 Listed for emergency circuit[9,10] XAD PIR XPoint™ Wireless enabled motion/ambient sensor for 8-15' mounting heights XAD PIRH XPoint™ Wireless enabled motion/ambient sensor for 15-30' mounting heights XAD924 PIR XPoint™ Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 8-15' mounting heights[9] XAD924 PIRH XPoint™ Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 15-30' mounting heights[9]		DWHXD White DNAXD Natural aluminum DDBXD Dark bronze DBLXD Black

NO	DATE	BY	DESCRIPTION
01	02/14/2020	G.L.S	PRELIMINARY SITE LAYOUT
02	06/10/2020	G.L.S	UPDATED PRELIMINARY SITE LAYOUT
03	06/25/2020	G.L.S	UPDATED PRELIMINARY SITE LAYOUT WITH TREE SURVEY
04	07/22/2020	G.L.S	SITE LAYOUT REVISED PER 07/09/2020 COMMENTS

TECHNICAL SKILL. CREATIVE SPIRIT.

Mannik Smith GROUP

www.MannikSmithGroup.com

JOB NO: R22500007

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HARTLAND SENIOR LIVING
HARTLAND TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

PHOTOMETRIC PLAN

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HARTLAND SENIOR LIVING

MSHDA PROJECT # 3915
DATE: 2020-07-23

12371 HIGHLAND ROAD,
HARTLAND TOWNSHIP, MI 48353

DRAWING INDEX

LOCATION PLAN

N
PLAN

07/23/2020

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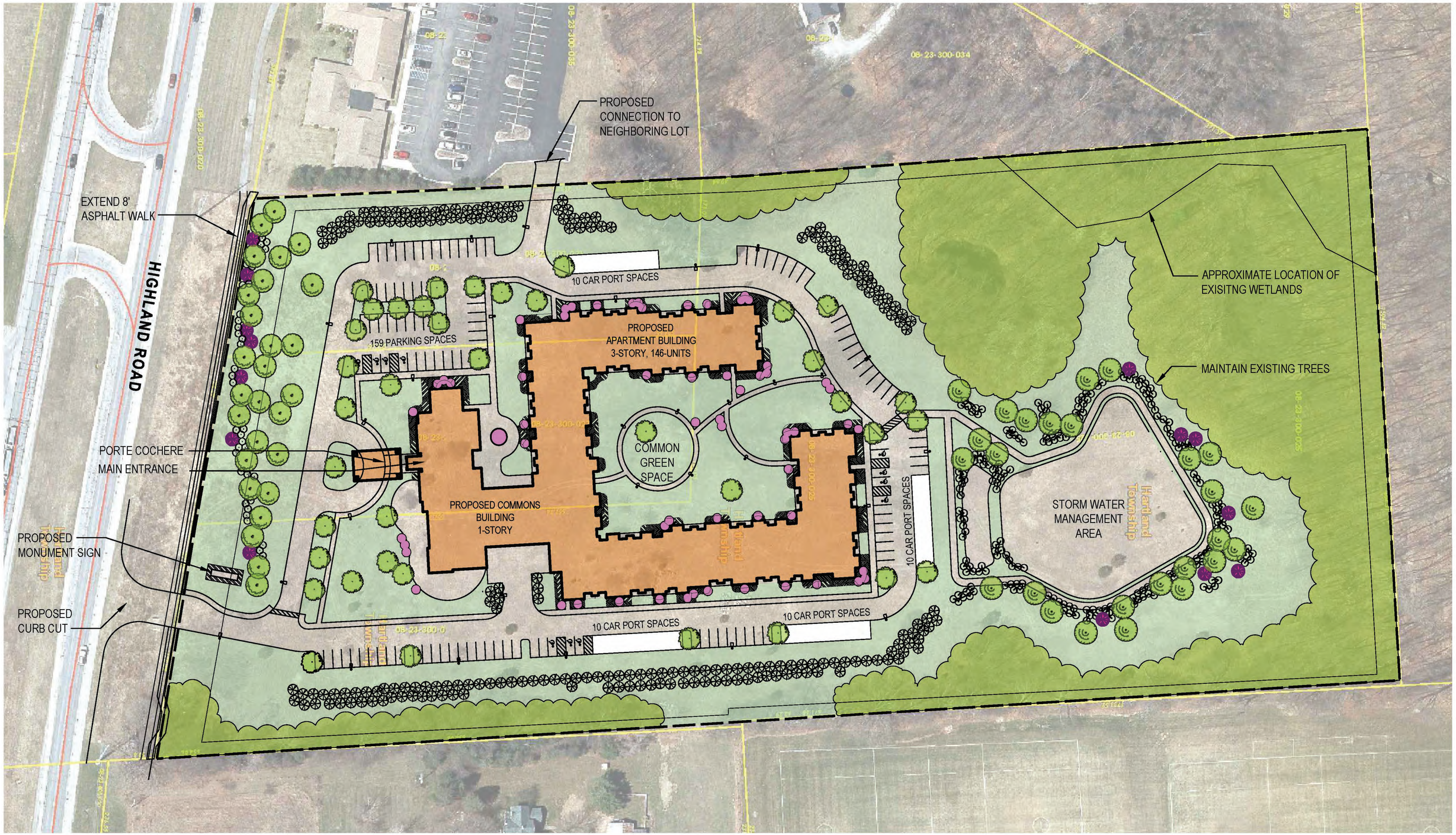

ARCHITECTURAL SITE PLAN

SCALE: 1" = 50'-0"

0 25' 50'

07/23/2020

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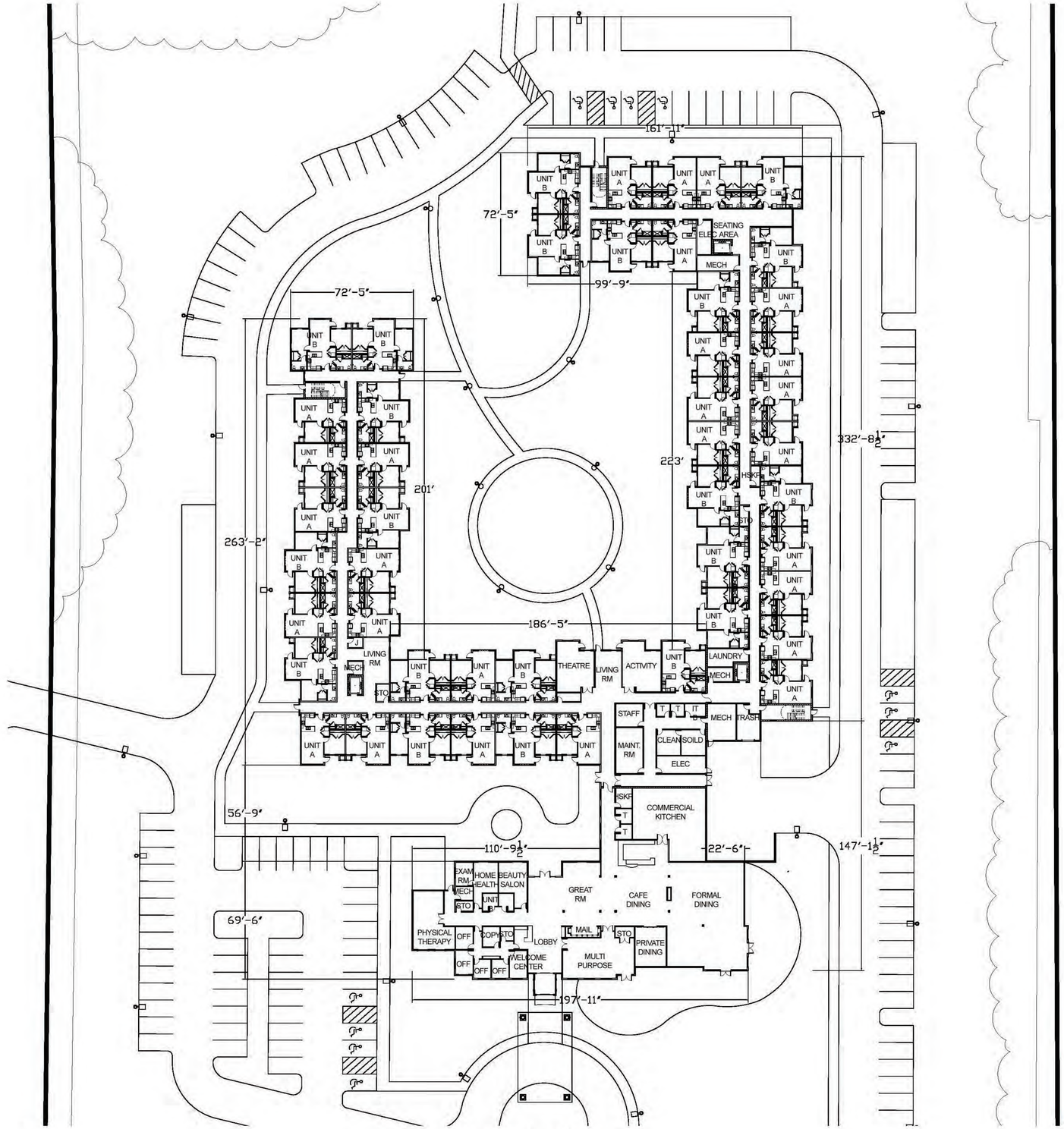

FIRST FLOOR PLAN

SCALE: 1/32" = 1'-0"
0 5' 10' 20'

07/22/2020

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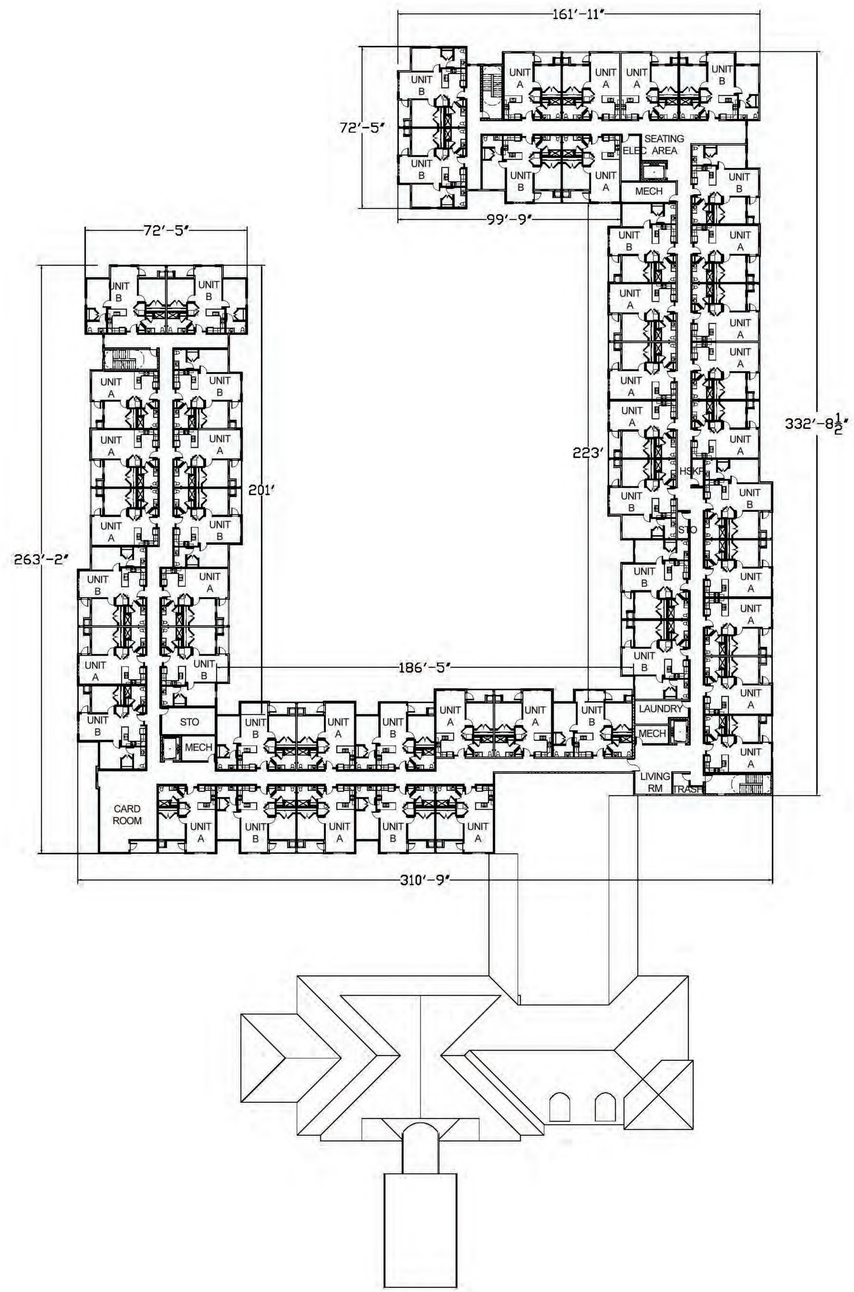

SECOND FLOOR PLAN

SCALE: 1/32" = 1'-0"
0 5' 10' 20'

06/10/2020

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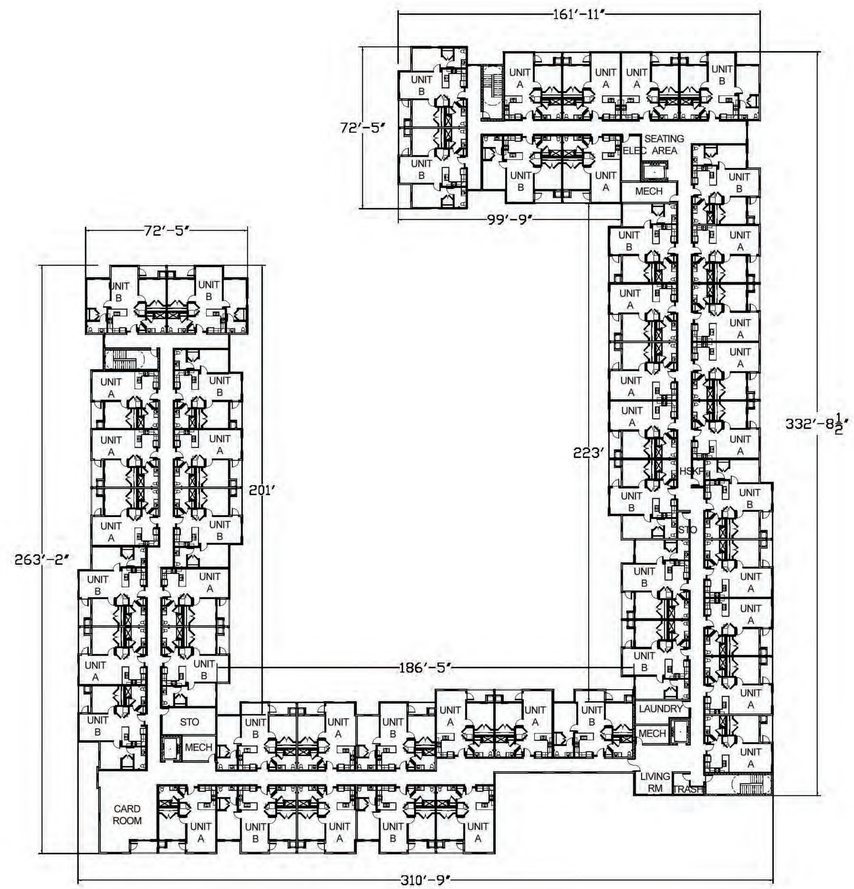

THIRD FLOOR PLAN

SCALE: 1/32" = 1'-0"
0 5' 10' 20'

06/10/2020

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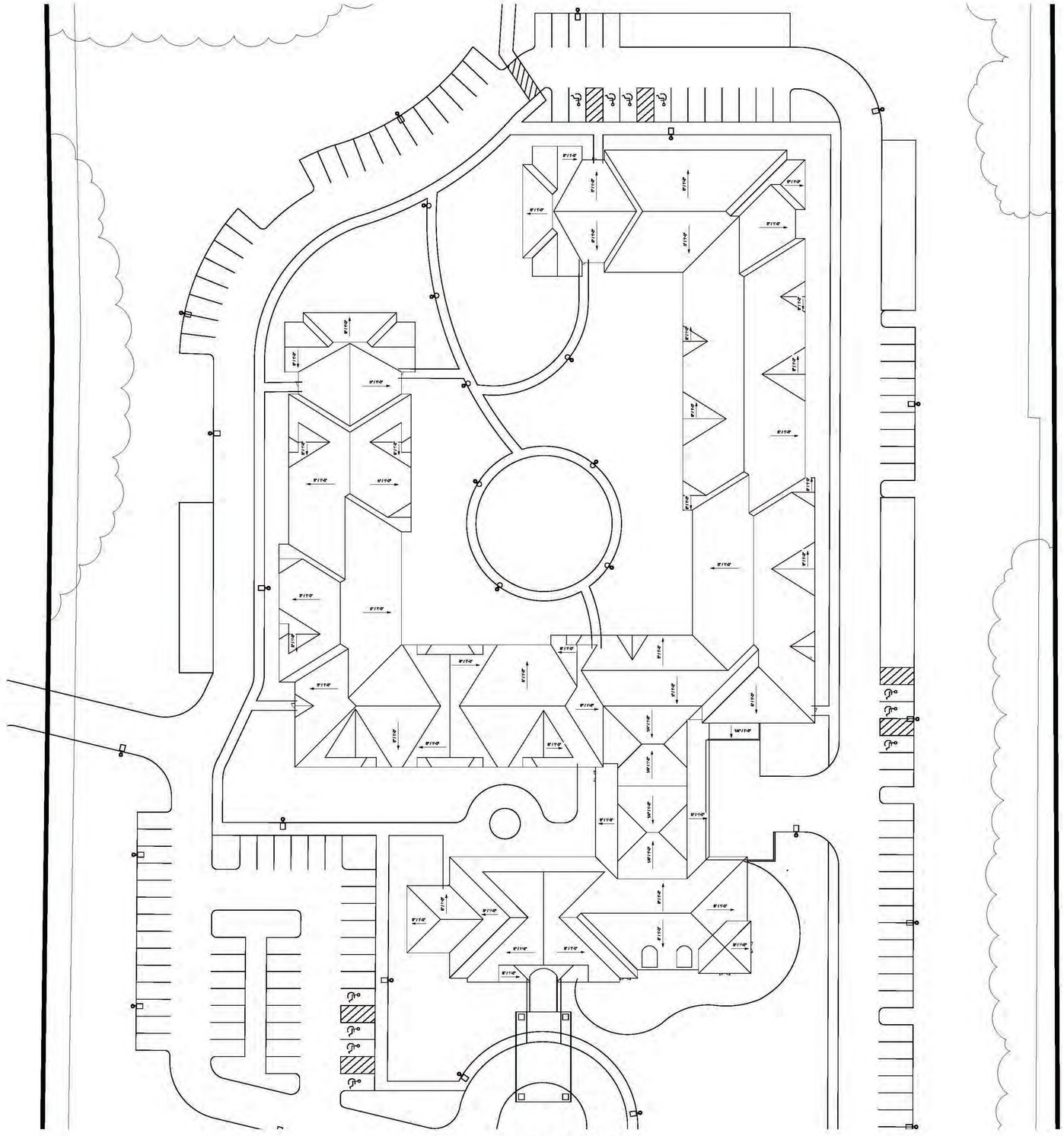

ROOF PLAN

SCALE: 1/32" = 1'-0"
0 5' 10' 20'

07/22/2020

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A-5

SUMMARY -BUILDING TOTAL						
ID	TYPE	NET SF	GROSS SF*	BALCONY/PATIO SF*	% OF UNITS	# OF UNITS
UNIT A - ANSI	ONE BEDROOM (ANSI TYPE B)	686 s/f	746 s/f	55 s/f	52%	75
UNIT A - H.C.	ONE BEDROOM (H.C.)	686 s/f	746 s/f	55 s/f	5%	7
UNIT B - ANSI	TWO BEDROOM (ANSI TYPE B)	915 s/f	989 s/f	55 s/f	41%	60
UNIT B - H.C.	TWO BEDROOM (H.C.)	915 s/f	989 s/f	55 s/f	2%	4

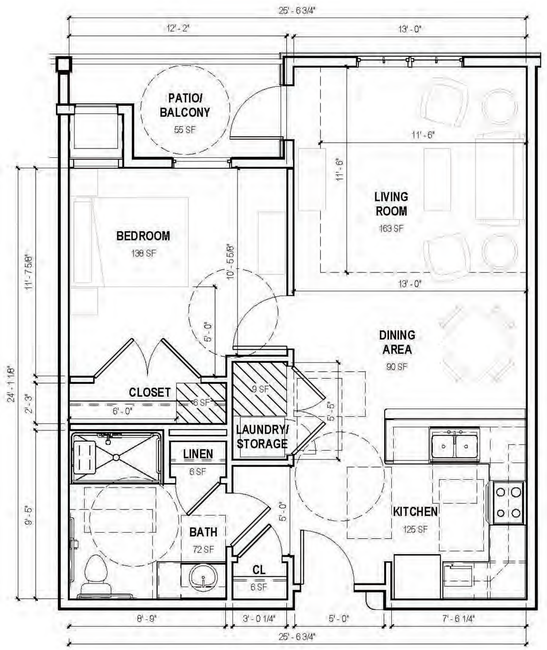
* SQUARE FOOTAGES ARE APPROXIMATE AND MAY VARY DEPENDING ON LOCATION WITHIN OVERALL FLOOR PLANS

TOTAL: 146 UNITS

H.V.

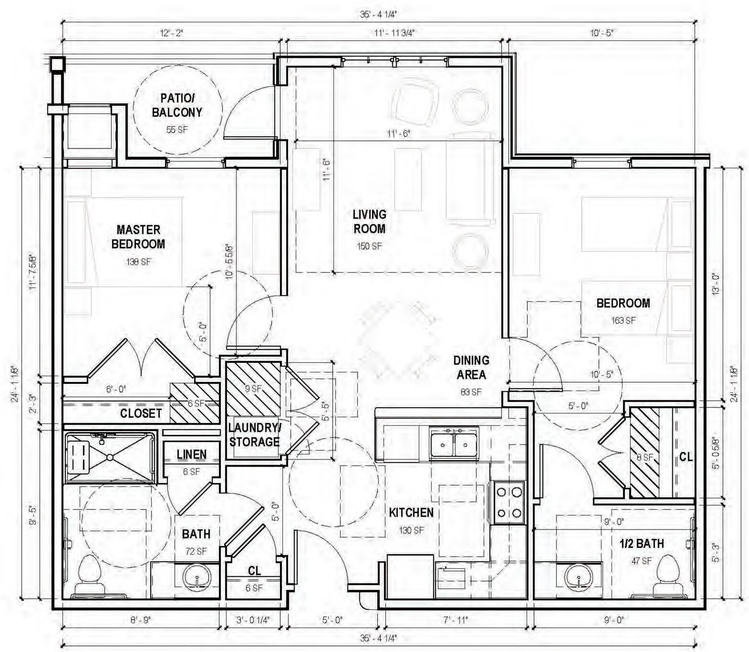
HANDICAP ACCESSIBLE UNITS (5%)
REQUIRED: 8
ALL OTHERS TO BE "ANSI" TYPE "B" UNITS

HEARING AND VISUALLY IMPAIRED UNITS (2%)
REQUIRED: 3



UNIT A
SCALE: 1/4" = 1' - 0"

UNIT A GENERAL STORAGE CALCULATION	
MINIMUM REQUIREMENT:	15 SF
LAUNDRY CLOSET:	9 SF
BEDROOM CLOSET:	6 SF
TOTAL:	15 SF



UNIT B
SCALE: 1/4" = 1' - 0"

UNIT B GENERAL STORAGE CALCULATION	
MINIMUM REQUIREMENT:	18 SF
LAUNDRY CLOSET:	9 SF
BEDROOM CLOSET:	8 SF
MASTER BEDROOM CLOSET:	6 SF
TOTAL:	23 SF

UNIT PLANS

05/20/2020

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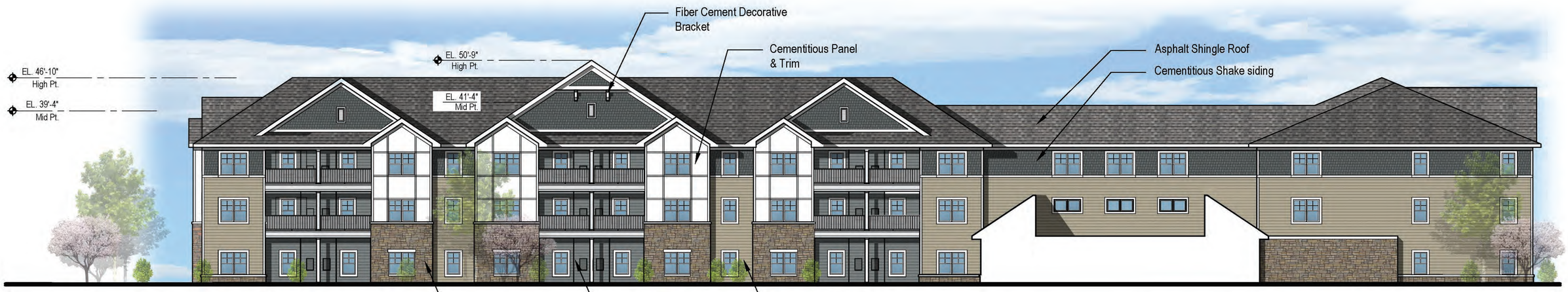
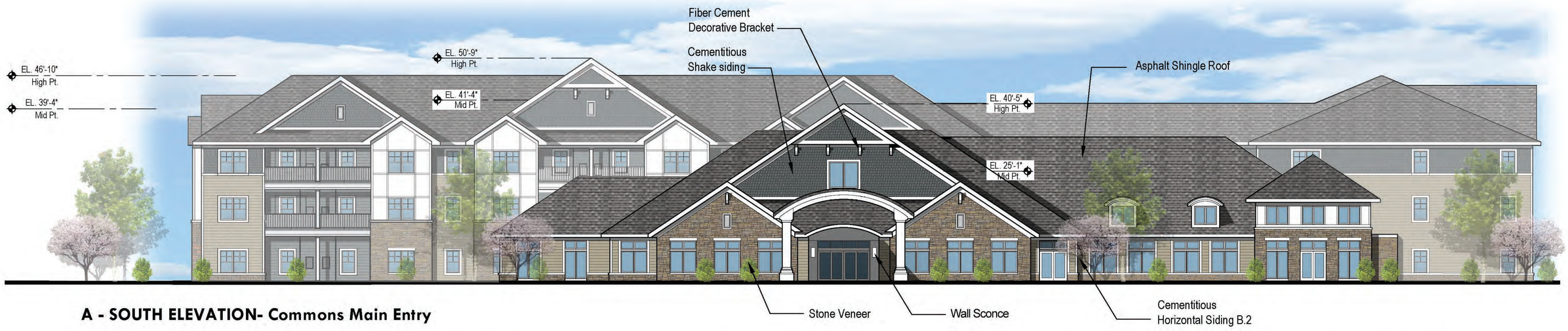


A1- SOUTH ELEVATION- Apartment

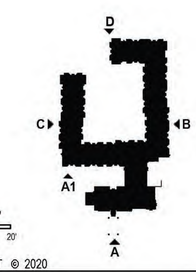


A - SOUTH ELEVATION- Commons Main Entry

SOUTH ELEVATION (COMMONS ONLY)									
MATERIAL:	STONE VENEER	SHAKE SIDING	CEMENT SIDING B.1	CEMENT SIDING B.2	GLASS	CEMENT PANEL.	DOOR/VTAC	FIBERGLASS SHINGLES	STANDING METAL SEAM ROOF
SOUTH	19.7%	10.0%	0.0%	5.3%	15.1%	2.4%	3.3%	39.4%	4.8%

SOUTH ELEVATION COMPOSITE VIEW (WITH APARTMENT BUILDING IN BACKGROUND)									
MATERIAL:	STONE VENEER	SHAKE SIDING	CEMENT SIDING B.1	CEMENT SIDING B.2	GLASS	CEMENT PANEL.	DOOR/VTAC	FIBERGLASS SHINGLES	STANDING METAL SEAM ROOF
SOUTH (A)	10.5%	12.6%	5.3%	12.2%	10.3%	6.1%	1.8%	39.1%	2.1%

NOTE: REFER TO A12 FOR OTHER COMPOSITE FACADE MATERIAL PERCENTAGES



BUILDING ELEVATIONS

SCALE: 3/32" = 1'-0"
0 5' 10' 20'

08/06/2020

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Hartland Township, MI

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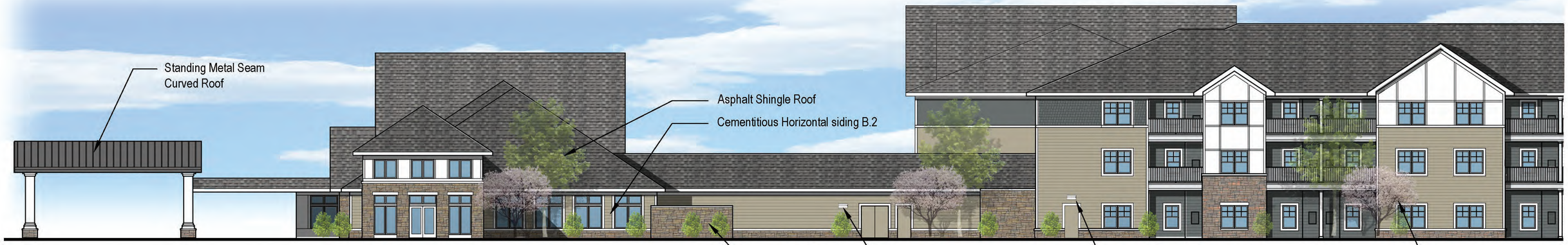
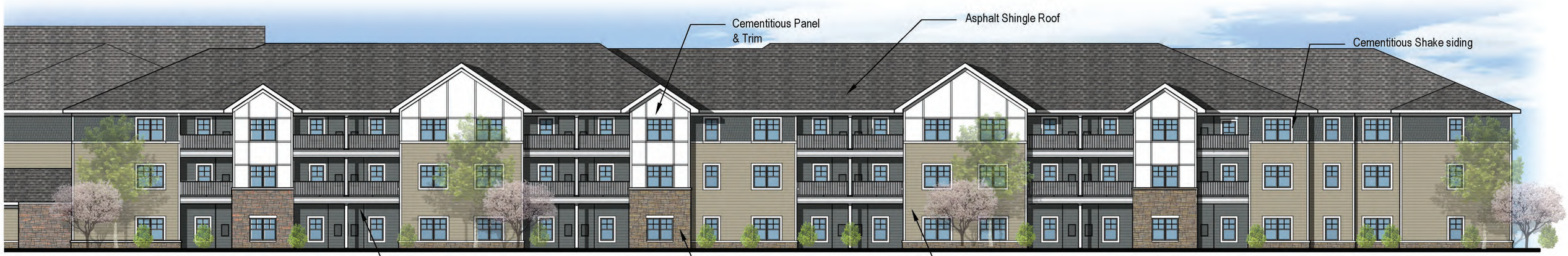
800 WEST ST. CLAIR AVENUE, 4th FLOOR
CLEVELAND, OHIO 44113
T: 216.378.9690

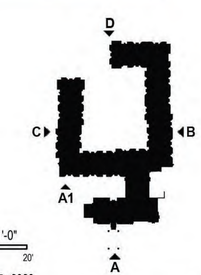
A-7



B - EAST ELEVATION- Commons/Service



B - EAST ELEVATION- Apartment



BUILDING ELEVATIONS

SCALE: 3/32" = 1'-0"
0 5' 10' 20'

06/10/2020

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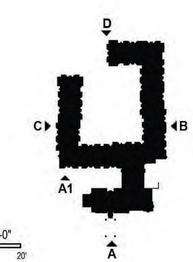
A-8

C - WEST ELEVATION - Commons

C - WEST ELEVATION- Apartment



SCALE: 3/32" = 1'-0"

0 5' 10' 20'

06/01/2020

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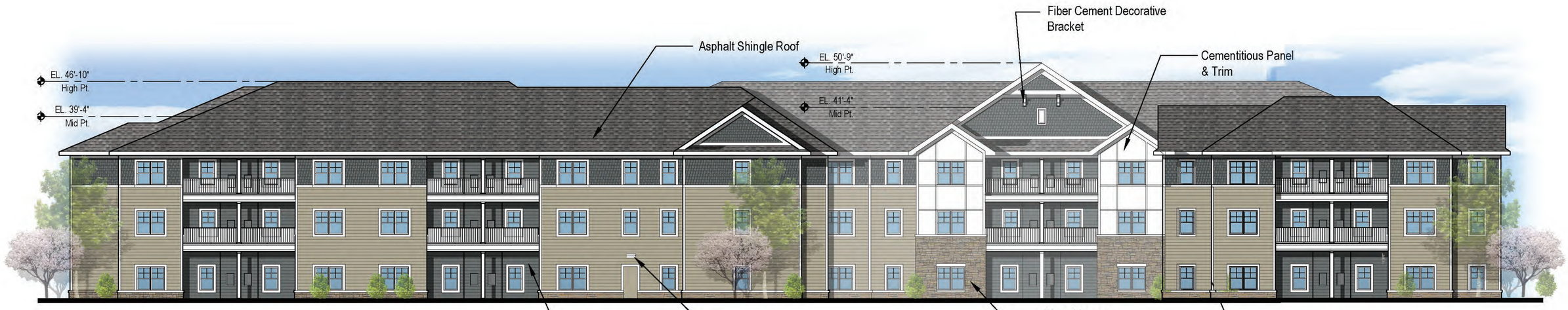
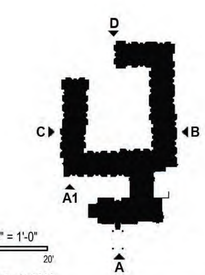
A-9



D - NORTH ELEVATION- Apartment



BUILDING ELEVATIONS

SCALE: 3/32" = 1'-0"
0 5' 10' 20'

06/10/2020

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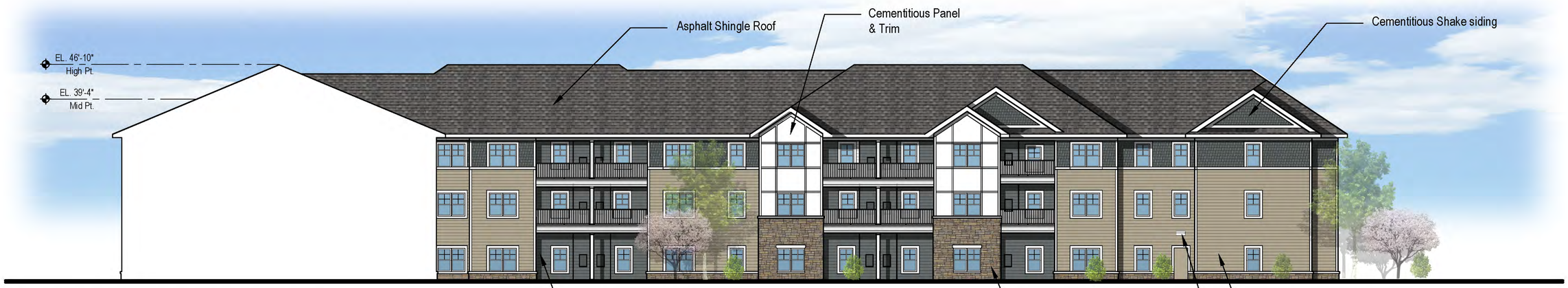
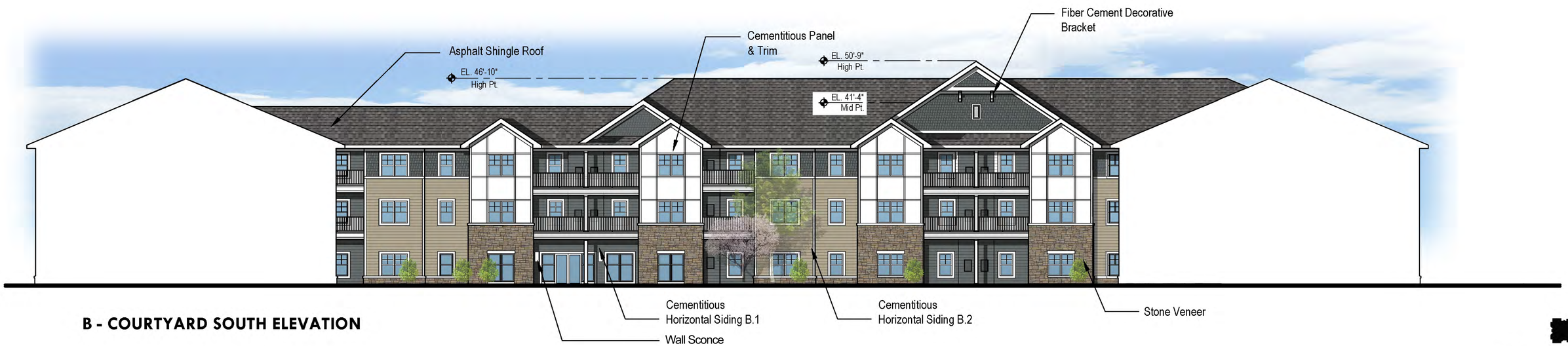
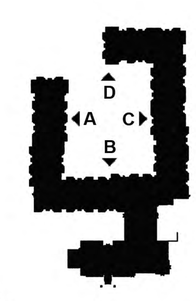
A-10



A - COURTYARD WEST ELEVATION



B - COURTYARD SOUTH ELEVATION



BUILDING ELEVATIONS

SCALE: 3/32" = 1'-0"
0 5' 10' 20'

06/10/2020

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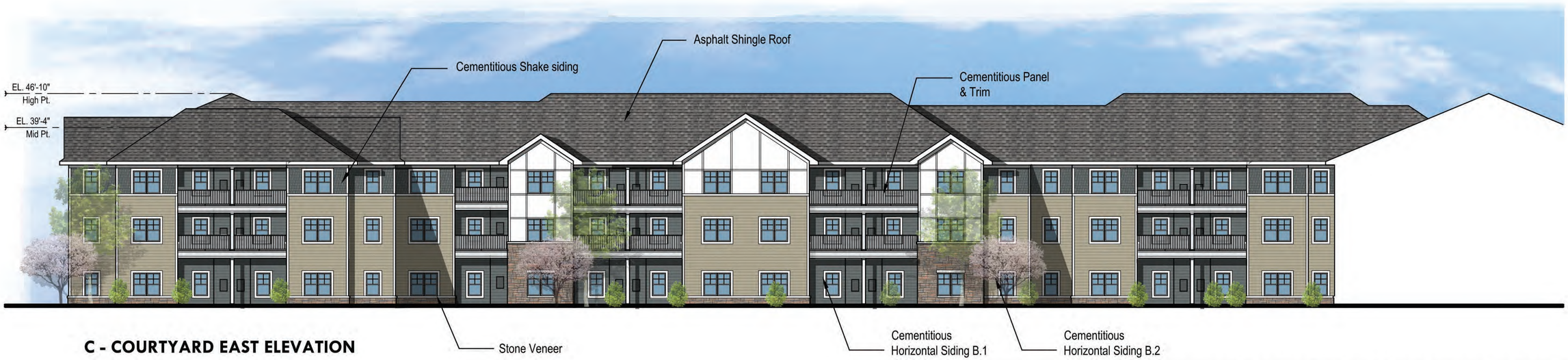
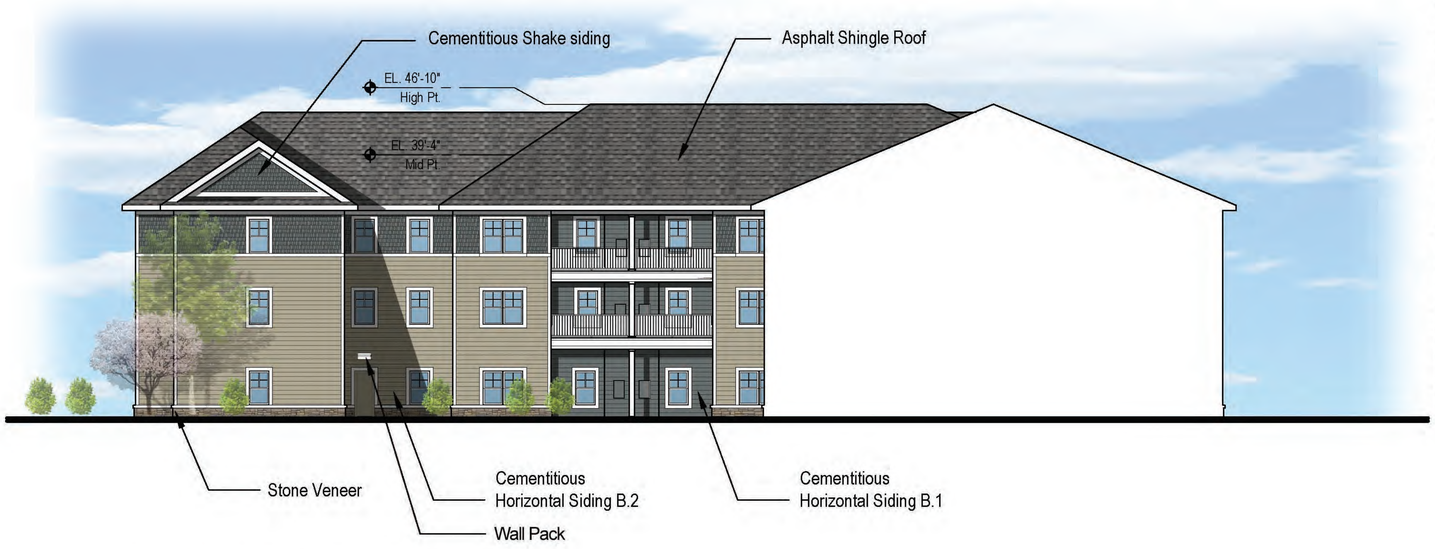
A-11



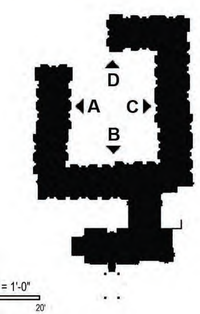
C - COURTYARD EAST ELEVATION

MATERIALS GROUP #1: PROPOSED % FAÇADE MATERIALS BY ELEVATION									
PRIMARY BUILDING ONLY (NUMBERS DO NOT INCLUDE INTERIOR COURTYARD)									
MATERIAL:	STONE VENEER	SHAKE SIDING	CEMENT SIDING B.1	CEMENT SIDING B.2	GLASS	CEMENT PANEL	DOOR/VTAC	FIBERGLASS SHINGLES	STANDING METAL SEAM ROOF
SOUTH (A1)	9.4%	10.1%	15.7%	20.7%	10.9%	7.4%	1.3%	24.5%	x
SOUTH (A)	10.5%	12.6%	5.3%	12.2%	10.3%	6.1%	1.8%	39.1%	2.1%
EAST (B)	7.0%	4.1%	15.6%	21.1%	10.4%	6.9%	1.1%	32.3%	1.5%
WEST (C)	6.1%	6.1%	11.3%	21.0%	9.5%	5.6%	1.6%	37.0%	1.8%
NORTH (D)	2.6%	9.5%	18.3%	31.1%	10.3%	0.0%	1.8%	26.4%	x

MATERIALS GROUP #1: PROPOSED % FAÇADE MATERIALS BY ELEVATION									
INTERIOR COURTYARD									
MATERIAL:	STONE VENEER	SHAKE SIDING	CEMENT SIDING B.1	CEMENT SIDING B.2	GLASS	CEMENT PANEL	DOOR/VTAC	FIBERGLASS SHINGLES	STANDING METAL SEAM ROOF
EAST (C)	4.8%	4.8%	20.1%	22.3%	8.6%	7.9%	0.2%	31.3%	x
NORTH (D)	2.6%	10.8%	13.1%	32.1%	8.4%	x	1.6%	31.4%	x
WEST (A)	6.1%	7.9%	16.8%	22.4%	10.4%	5.0%	1.7%	29.7%	x
SOUTH (B)	9.5%	7.8%	21.8%	10.9%	12.4%	11.8%	2.0%	23.8%	x



D - COURTYARD NORTH ELEVATION



BUILDING ELEVATIONS

SCALE: 3/32" = 1'-0"
0 5' 10' 20'

06/10/2020

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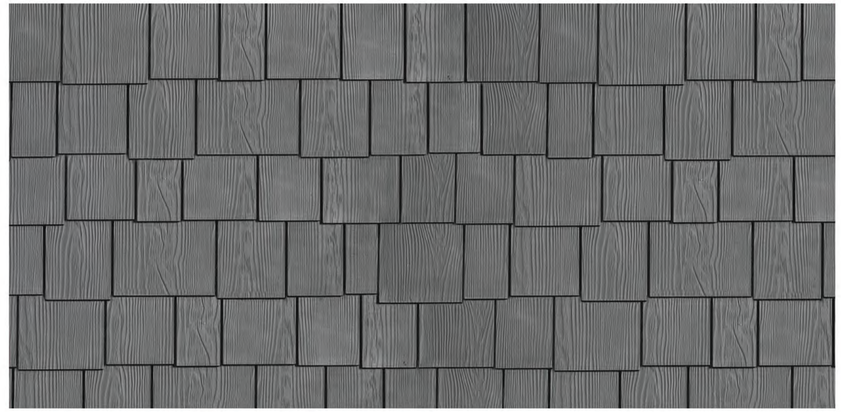
A-12

FIBERGLASS SHINGLE ROOFING
GAF TIMBERLINE ARCHITECTURAL ROOF SHINGLES

COLOR: WEATHERED WOOD



SIDING A: CEMENTITIOUS SHAKE SIDING
ALLURA MULTISHAKE SIDING: 7" STAGGERED EDGE

COLOR: COOL CHARCOAL

CEMENTITIOUS BOARD SIDING
ALLURA FIBER CEMENT SMOOTH VERTICAL PANEL

COLOR: SNOW

PANELIZED STONE VENEER SYSTEM
QUALITY STONE VENEER

STYLE / COLOR: POWDER RIDGE DRYSTACK CLIP

SIDING B.1: CEMENTITIOUS HORIZONTAL SIDING
ALLURA FIBER CEMENT SIDING: 5" LAP SIDING

SIDING B.2: CEMENTITIOUS HORIZONTAL SIDING
ALLURA FIBER CEMENT SIDING: 5" LAP SIDING

COLOR 1: COOL CHARCOAL
COLOR 2: NATURAL CLAY

BALCONY RAILINGS & DECKING
CERTAINTEED EVERNEW RAILING AND DECKING SYSTEM

COLOR: WHITE

MATERIAL BOARD

05/07/2020

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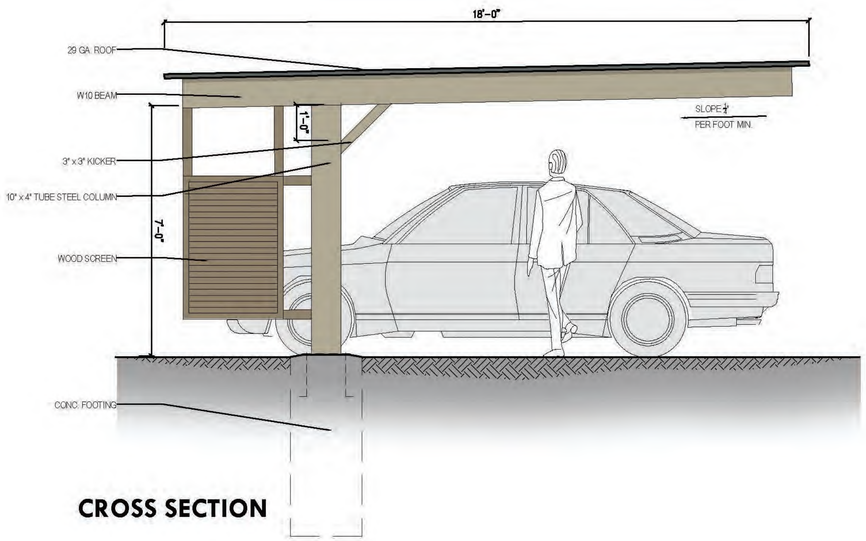
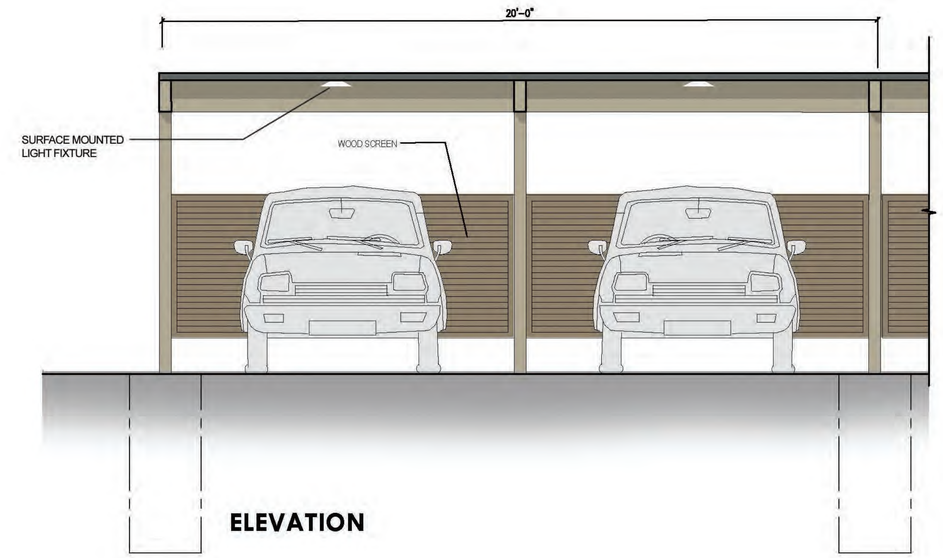
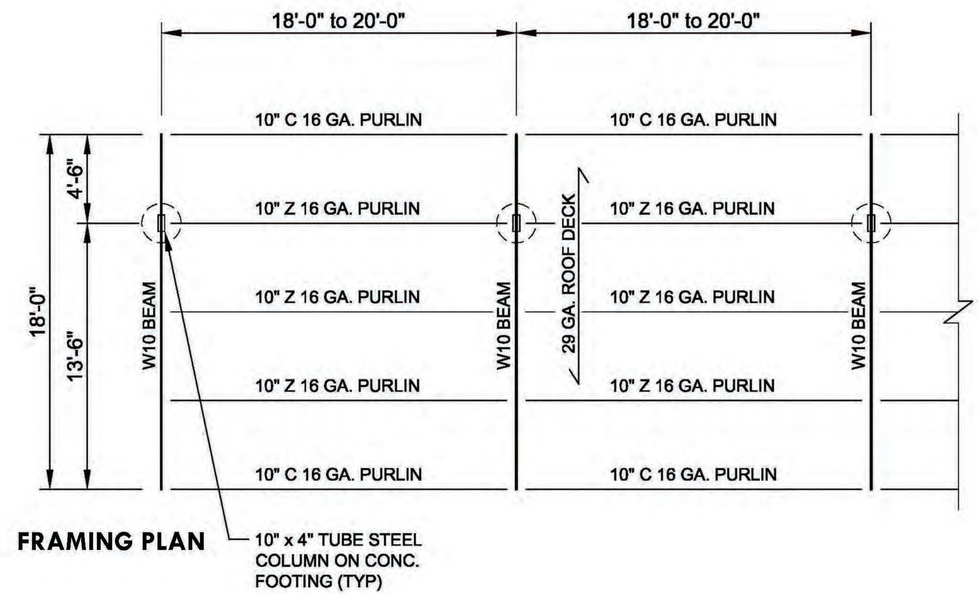
A-13



CROSS SECTION



ELEVATION



FRAMING PLAN

CARPORT SPECIFICATIONS

DESIGN CRITERIA:
SNOW LOAD: 30 PSF
WIND LOAD: 115 MPH

COLUMNS: ASTM A-500 GRADE B TUBULAR STEEL (46 KSI). PRIMED WITH RUST PROHIBITIVE FINISH.

BEAMS: 10" DEEP A-992 GRADE 50 STEEL. PRIMED WITH RUST PROHIBITIVE FINISH.

PURLINS: 16 GA. COLD ROLL GALVANIZED STEEL.

ROOF: ROLLFORMED 29 GAUGE PROFILED STEEL PANELS WITH SILICONIZED POLYESTER FACTORY APPLIED FINISH IN A VARIETY OF COLORS WITH WHITE UNDERSIDE. ATTACHED TO PURLINS AND BEAMS WITH ZINC PLATED CARBON STEEL SCREWS WITH METAL AND NEOPRENE WASHERS.

CARPORT DETAILS

07/22/2020

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A-14

LIVINGSTON LAND CONSERVANCY

To protect the natural heritage & rural character of the greater Livingston County, MI area.

August 20, 2020

VIA EMAIL

Troy Langer
Hartland Township Planning
2655 Clark Road
Hartland, MI 48353

Re: proposed Hartland Senior Living Planned Development

Dear Troy –

We have reviewed the preliminary site plan and documents related to the above-referenced development that were available with the agenda packet for the public hearing taking place this evening. As an adjoining property owner to the north where we are protecting a high quality natural area in the Bullard Lake Nature Preserve, we do have some comments and initial concerns:

We appreciate that the plan reflects that the on-site wetlands will not be physically impacted by the development process. Two of the wetlands are regulated by federal funding rules and one wetland (Wetland B) is regulated by the State of Michigan due to its connection to a wetland on our property. Even though there won't be a direct immediate impact, the stormwater flow over time will undoubtedly impact the quality of the wetlands that are on the receiving end of the surface water movement. Once an invasive plant such as Phragmites or Purple Loosestrife get a foothold, it takes very little time for the colony to spread rapidly through an entire ecosystem. We cannot emphasize this enough: it takes less effort to prevent invasive plants from moving in then it does to try to restore an ecosystem. We are asking that all measures be taken to protect not only the quality of the wetlands on-site but the integrity of the wetlands on our nature preserve. The loss of biodiversity due to a monoculture established by an invasive wetland plant is a very serious concern to native plants and animals. It's a loss of use and habitat, frankly.

It did not appear that a stormwater plan was available to the public yet since it may be under review by the Livingston County Drain Commission. The initial summary in the plan states that the treated site runoff will eventually make its way to the north which would be on to our property. We need to see clear details about where this water will eventually end up and what a large rain event will mean to the integrity of our property as well as what the long-term impacts will be to our high quality natural areas. Per the wetland delineation and assessment by ASTI Environmental,

P.O. Box 236, Brighton, MI 48116-0236 - (810) 229-3290 voice mail - livingstonlandconservancy@gmail.com
Website: www.livingstonlandconservancy.org - Facebook: @livingstonlandconservancy - Instagram: livingston_land_conservancy

there did not appear to be any (or any significant) invasive plants noted in the wetlands in their summary which is important to recognize. The quality of these ecosystems appears to be good with an abundance of native vegetation. Any plan moving forward should protect these ecosystems, and those on our nature preserve, not only from direct impact but from long-term degradation.

Thank you for the consideration.

Sincerely,

Sara E. Thomas

Sara E. Thomas
President

Cc: LLC Board of Directors

Hartland Township Board of Trustees Meeting Agenda Memorandum

Submitted By: Andrew Kumar, Project Coordinator

Subject: Staff Stipend for Personal Data Use ($1,350)

Date: August 26, 2020

Recommended Action
Move to approve a one-time stipend to eligible staff for the usage of personal cellular and internet data, not to exceed a total of $1,350.

Discussion
Hartland Township Hall closed to the public under the Governor's Executive Order 2020-21 in Mid-March, remaining closed to the public until mid-July. Employees worked remotely to continue providing service to the public. During this time staff utilized personal cellular and internet data to answer calls and continue working. A proposed stipend would help cover a portion of the monthly costs for said plans. Eligible part-time staff will receive a proposed one-time stipend of $50, while eligible full-time staff will receive a proposed one-time stipend of $100. All employees that worked remotely continued to work their regular schedules.

The Township's auditors have advised that the staff stipends are considered de minimis fringe benefits and not subject to IRS withholding rules. A budget amendment from contingencies to cover the costs is necessary.

Financial Impact
Is a Budget Amendment Required? ☒Yes ☐No

101-299-890.000	Contingencies	($1,350)
101-172-956.000	Admin Misc.	$1,350

Attachments

Hartland Township Board of Trustees Meeting Agenda Memorandum

Submitted By: Robert West, Director of Public Works

Subject: Township Truck Purchase

Date: August 26, 2020

Recommended Action
Approve the purchase of new Township truck through the MiDeal procurement agreement in an amount not to exceed $23,850 as presented.

Discussion
The Township's 2009 Chevrolet Silverado has been removed from service as a result of a comprehensive claim involving a deer on Fenton Road. The Township insurance company has declared the truck a total loss and has issued a claim in the amount of $9,700.00.

Public Works is seeking a replacement vehicle for Township use and has secured a quotation using the MiDeal cooperative purchase agreement. MiDeal has government contracts pre-bid at pricing substantially lower than any other method of purchasing vehicles.

The quote for a replacement truck resulted in a price of $24,979 (including allocation for toolbox, graphics, and lighting) for a 2020 Ram 1500 quad cab with an MSRP of $35,895. In addition to the MiDeal discount, the purchase of the new truck will be offset by the insurance claim payment of $9,700 reducing the Township's indirect cost to $15,279.

The new truck will take approximately eight weeks to deliver. Public Works is recommending the purchase of the new truck as opposed to a used truck due to the substantial MiDeal discount.

Financial Impact
Is a Budget Amendment Required? ☒Yes ☐No

401-000-970.000	$24,979
401 Fund Balance	($24,979)

Attachments
LaFontaine MiDeal Quote
Insurance Claim

MICHIGAN MUNICIPAL RISK MANAGEMENT AUTHORITY

FORWARD THIS REPORT TO: MMRMA CLAIMS
14001 Merriman, Livonia, MI 48154
Telephone: (734) 513-0300 Fax: (734) 513-0318

AUTO LIABILITY CLAIM / INCIDENT REPORT

Note: Use this form (1) to report occurrences involving any occurrence involving a Member Auto and Claimant's Auto, (2) to report any occurrence involving Member Auto and a Pedestrian, and (3) to report any occurrence involving Member's Auto and Property Damage of Others.

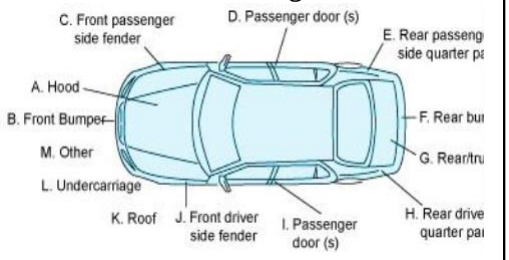
(1) Name of MMRMA Member:	(2) Member Department:	(3) Member Department Phone #:	(4) Reported By:
Hartland Township	Public Works	(810) 632-7498	Robert M. West
(4) Exact Location of Claim/Incident:	(5) Date of Claim/Incident:	(6) Time of Incident:	(8) Date Reported By Department:
Fenton Rd. / Whalen Lake Dr. Intersection	August 6, 2020	9:30 A.M. ■ P.M☐	August 6, 2020

OTHER INVOLVED AUTO

Claim Notice Only

(9) **Other Driver's Name:**	(10) Other Driver's Address:	(11) Other Driver's Telephone #:
No other auto was involved, as the incident involved a Township vehicle deer strike		Cell #: Home #: Work #:
(12) Injury to Claimant Driver? Yes ☐ No ☐	(13) Age: / Date of Birth:	(14) Social Security #:
(15) Body Part Injured:	(16) Describe Injury:	
(17) **Owner of Other Vehicle** Name, Address, Telephone (If Different Than Driver):		
(18) Make of Vehicle:	(19) Model of Vehicle:	
(20) Year of Vehicle:	(21) VIN #:	
(22) Insurance Company Name (Other Vehicle):	(23) Insurance Company Policy # (Other Vehicle):	
(24) Drivable? Yes ☐ No ☐	(25) Possible Total Loss? Yes ☐ No ☐	
(26) Vehicle Location:	(27) Repair Amount: Estimate 1: $ Estimate 2: $	
(28) Describe Damage:		

Circle Area of Damage to Other Car



Passenger in Other Vehicle Involved

Yes No

(29) Passenger(s) Name:	Passenger's Address:	Passenger's Telephone #:
(30) Passenger Injured? Yes ☐ No ☐	(31) Age: / Date of Birth:	(32) Social Security #:
(33) Body Part Injured:	(34) Describe Injury:	

Pedestrian Involved

Yes No

(35) Pedestrian's Name:	Pedestrian's Address:	Pedestrian's Telephone #:
(36) Pedestrian Injured? Yes ☐ No ☐	(37) Age: / Date of Birth:	(38) Social Security #:
(39) Body Part Injured:	(40) Describe Injury:	

Other Property Damage

Yes No

(41) Property Owner's Name:	Property Owner's Address:	Property Owner's Telephone #:
(42) Nature of Damage:		
(43) Estimated Damage: $	(44) Actual Damage Cost: $	

(45) **Name of Witness:**	Witness Address:	Witness Telephone #:

(46) Photographs Taken? Yes ■ No ☐ Photographs Attached? Yes ■ No ☐	(47) Other Supporting Documents? Yes ■ No ☐ Supporting Documents Attached? Yes ■ No ☐	(48) Police Report #: 2003007 Police Report Attached? Yes ■ No ☐

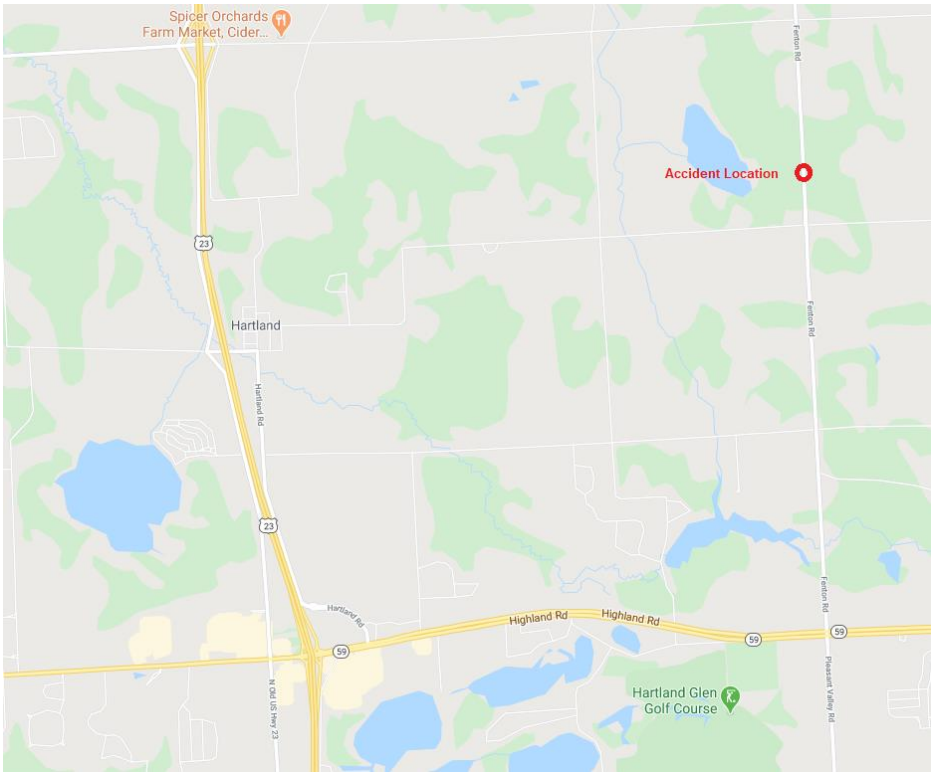
(49) Please describe in detail how the claim/incident occurred (attach any supporting data):

The Public Works seasonal staff were returning from emptying trash cans at Hartland's Hodge Cemetery when they struck a deer on southbound Fenton Road. All employees were fine and did not require nor request medical attention. Livingston County Sheriff provided an accident report. The 2009 Chevrolet Silverado they were driving was undrivable and subsequently towed to the Hartland's water treatment plant pending insurance report.

(50) **LAWSUIT**

A. Date of Service:	D. Please List Employees /Officials of Member who are Identified in the Complaint: 1) 6) 2) 7) 3) 8) 4) 9) 5) 10)
B. Method of Service: In Person Mail	
C. Name of Person Served and Title:	

(51) Submitted By:	(52) Title:	(53) Date:
Robert M. West	Public Works Director	Form Completed 08/11/2020

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LaFontaine CDJR-Lansing
6131 S. Pennsylvania Ave.
Lansing, MI 48911
517-394-1022-Direct
517-394-1205-Fax
mdeacon@lafontaine.com

QUOTATION

Name: Hartland Township
Address:
City: State: Zip:
Contact: Robert West
Phone:
Email: rwest@hartlandtwp.com

Date: 8/27/2020
Quote: 082720

State of Michigan Contract# 071B7700183	
Spec-0081 LDT Ram 1500 Classic St Quad Cab 4X2 140"wb 6'4" box	$19,923.00
EZH 5.7L V8 HEMI	$1,320.00
DFD 8-spd Auto Trans	$455.00
XMF Spray in Bedliner	$541.00
DSA Anti Spin Differential Rear Axle	$456.00
XFH Class IV Reaceiver Hitch	$317.00
Note per contract delivery is available @ $2.00 per one way mileage.	
Total Cost:	$23,012.00

Signed: *Michelle Deacon*