HARTFORD TURNPIKE

CROSS RD

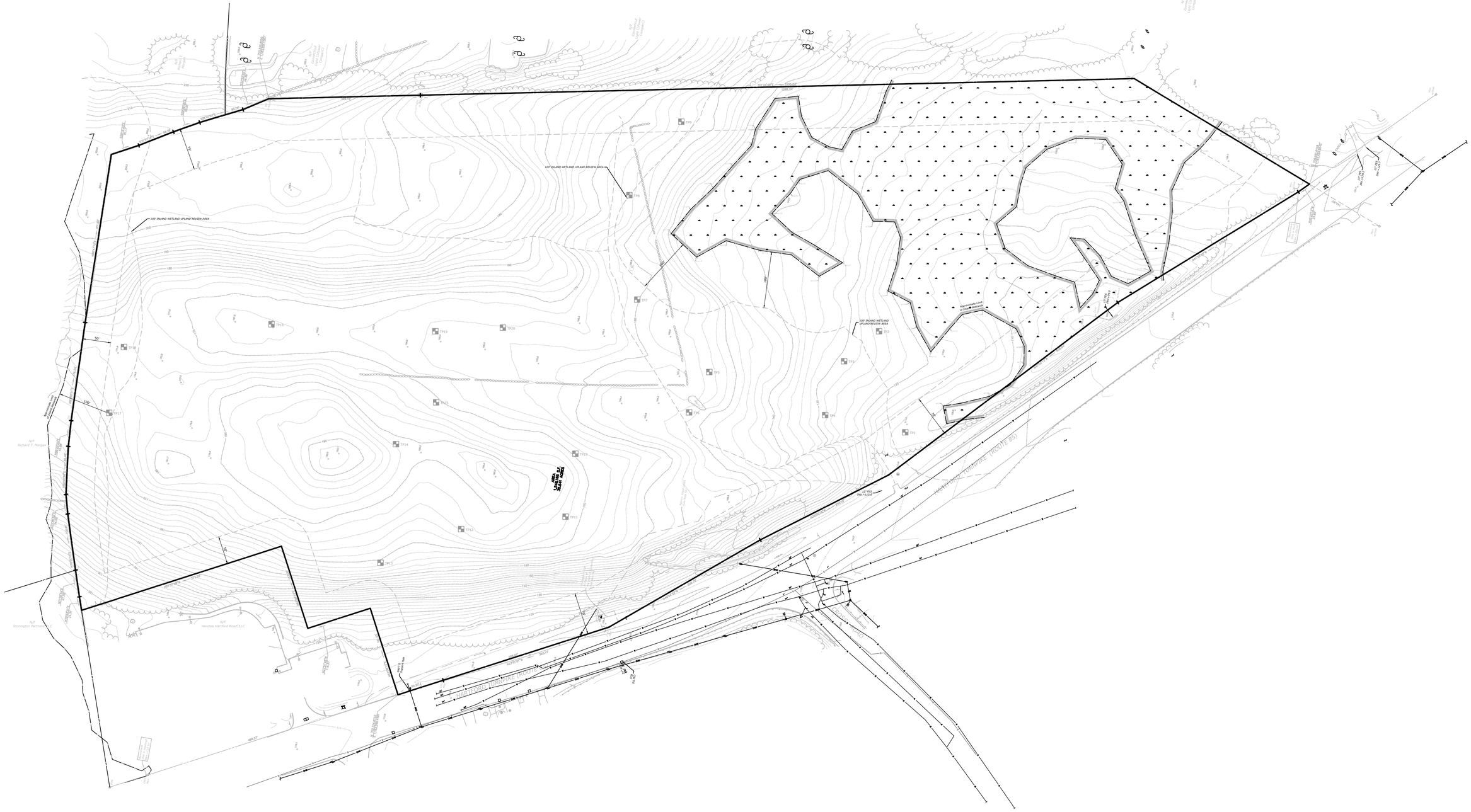
PROPOSED RENDERING

WATERFORD APARTMENT COMMUNITY

969 HARTFORD TURNPIKE
WATERFORD, CONNECTICUT SEPTEMBER 23, 2021

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

0 100' 200' 300' 400' NORTH


100' INLAND WETLAND UPLAND REVIEW AREA
Approximate Limit of Inland Wetlands
N/F
Richard T. Morgan
Stonington Partners, LLC
Hendels Hartford Road,LLC
HARTFORD TURNPIKE (ROUTE 85)
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TP20
50'
100'
200'
75'
3'
5'
8'
10'
12'
15'
20'
25'
30'
35'
40'
45'
50'
55'
60'
65'
70'
75'
80'
85'
90'
95'
100'
105'
110'
115'
120'
125'
130'
135'
140'
145'
150'
155'
160'
165'
170'
175'
180'
185'
190'
195'
200'
205'
210'
215'
220'
225'
230'
235'
240'
245'
250'
255'
260'
265'
270'
275'
280'
285'
290'
295'
300'
305'
310'
315'
320'
325'
330'
335'
340'
345'
350'
355'
360'
365'
370'
375'
380'
385'
390'
395'
400'
405'
410'
415'
420'
425'
430'
435'
440'
445'
450'
455'
460'
465'
470'
475'
480'
485'
490'
495'
500'
505'
510'
515'
520'
525'
530'
535'
540'
545'
550'
555'
560'
565'
570'
575'
580'
585'
590'
595'
600'
605'
610'
615'
620'
625'
630'
635'
640'
645'
650'
655'
660'
665'
670'
675'
680'
685'
690'
695'
700'
705'
710'
715'
720'
725'
730'
735'
740'
745'
750'
755'
760'
765'
770'
775'
780'
785'
790'
795'
800'
805'
810'
815'
820'
825'
830'
835'
840'
845'
850'
855'
860'
865'
870'
875'
880'
885'
890'
895'
900'
905'
910'
915'
920'
925'
930'
935'
940'
945'
950'
955'
960'
965'
970'
975'
980'
985'
990'
995'
1000'
1005'
1010'
1015'
1020'
1025'
1030'
1035'
1040'
1045'
1050'
1055'
1060'
1065'
1070'
1075'
1080'
1085'
1090'
1095'
1100'
1105'
1110'
1115'
1120'
1125'
1130'
1135'
1140'
1145'
1150'
1155'
1160'
1165'
1170'
1175'
1180'
1185'
1190'
1195'
1200'
1205'
1210'
1215'
1220'
1225'
1230'
1235'
1240'
1245'
1250'
1255'
1260'
1265'
1270'
1275'
1280'
1285'
1290'
1295'
1300'
1305'
1310'
1315'
1320'
1325'
1330'
1335'
1340'
1345'
1350'
1355'
1360'
1365'
1370'
1375'
1380'
1385'
1390'
1395'
1400'
1405'
1410'
1415'
1420'
1425'
1430'
1435'
1440'
1445'
1450'
1455'
1460'
1465'
1470'
1475'
1480'
1485'
1490'
1495'
1500'
1505'
1510'
1515'
1520'
1525'
1530'
1535'
1540'
1545'
1550'
1555'
1560'
1565'
1570'
1575'
1580'
1585'
1590'
1595'
1600'
1605'
1610'
1615'
1620'
1625'
1630'
1635'
1640'
1645'
1650'
1655'
1660'
1665'
1670'
1675'
1680'
1685'
1690'
1695'
1700'
1705'
1710'
1715'
1720'
1725'
1730'
1735'
1740'
1745'
1750'
1755'
1760'
1765'
1770'
1775'
1780'
1785'
1790'
1795'
1800'
1805'
1810'
1815'
1820'
1825'
1830'
1835'
1840'
1845'
1850'
1855'
1860'
1865'
1870'
1875'
1880'
1885'
1890'
1895'
1900'
1905'
1910'
1915'
1920'
1925'
1930'
1935'
1940'
1945'
1950'
1955'
1960'
1965'
1970'
1975'
1980'
1985'
1990'
1995'
2000'
2005'
2010'
2015'
2020'
2025'
2030'
2035'
2040'
2045'
2050'
2055'
2060'
2065'
2070'
2075'
2080'
2085'
2090'
2095'
2100'
2105'
2110'
2115'
2120'
2125'
2130'
2135'
2140'
2145'
2150'
2155'
2160'
2165'
2170'
2175'
2180'
2185'
2190'
2195'
2200'
2205'
2210'
2215'
2220'
2225'
2230'
2235'
2240'
2245'
2250'
2255'
2260'
2265'
2270'
2275'
2280'
2285'
2290'
2295'
2300'
2305'
2310'
2315'
2320'
2325'
2330'
2335'
2340'
2345'
2350'
2355'
2360'
2365'
2370'
2375'
2380'
2385'
2390'
2395'
2400'
2405'
2410'
2415'
2420'
2425'
2430'
2435'
2440'
2445'
2450'
2455'
2460'
2465'
2470'
2475'
2480'
2485'
2490'
2495'
2500'
2505'
2510'
2515'
2520'
2525'
2530'
2535'
2540'
2545'
2550'
2555'
2560'
2565'
2570'
2575'
2580'
2585'
2590'
2595'
2600'
2605'
2610'
2615'
2620'
2625'
2630'
2635'
2640'
2645'
2650'
2655'
2660'
2665'
2670'
2675'
2680'
2685'
2690'
2695'
2700'
2705'
2710'
2715'
2720'
2725'
2730'
2735'
2740'
2745'
2750'
2755'
2760'
2765'
2770'
2775'
2780'
2785'
2790'
2795'
2800'
2805'
2810'
2815'
2820'
2825'
2830'
2835'
2840'
2845'
2850'
2855'
2860'
2865'
2870'
2875'
2880'
2885'
2890'
2895'
2900'
2905'
2910'
2915'
2920'
2925'
2930'
2935'
2940'
2945'
2950'
2955'
2960'
2965'
2970'
2975'
2980'
2985'
2990'
2995'
3000'
3005'
3010'
3015'
3020'
3025'
3030'
3035'
3040'
3045'
3050'
3055'
3060'
3065'
3070'
3075'
3080'
3085'
3090'
3095'
3100'
3105'
3110'
3115'
3120'
3125'
3130'
3135'
3140'
3145'
3150'
3155'
3160'
3165'
3170'
3175'
3180'
3185'
3190'
3195'
3200'
3205'
3210'
3215'
3220'
3225'
3230'
3235'
3240'
3245'
3250'
3255'
3260'
3265'
3270'
3275'
3280'
3285'
3290'
3295'
3300'
3305'
3310'
3315'
3320'
3325'
3330'
3335'
3340'
3345'
3350'
3355'
3360'
3365'
3370'
3375'
3380'
3385'
3390'
3395'
3400'
3405'
3410'
3415'
3420'
3425'
3430'
3435'
3440'
3445'
3450'
3455'
3460'
3465'
3470'
3475'
3480'
3485'
3490'
3495'
3500'
3505'
3510'
3515'
3520'
3525'
3530'
3535'
3540'
3545'
3550'
3555'
3560'
3565'
3570'
3575'
3580'
3585'
3590'
3595'
3600'
3605'
3610'
3615'
3620'
3625'
3630'
3635'
3640'
3645'
3650'
3655'
3660'
3665'
3670'
3675'
3680'
3685'
3690'
3695'
3700'
3705'
3710'
3715'
3720'
3725'
3730'
3735'
3740'
3745'
3750'
3755'
3760'
3765'
3770'
3775'
3780'
3785'
3790'
3795'
3800'
3805'
3810'
3815'
3820'
3825'
3830'
3835'
3840'
3845'
3850'
3855'
3860'
3865'
3870'
3875'
3880'
3885'
3890'
3895'
3900'
3905'
3910'
3915'
3920'
3925'
3930'
3935'
3940'
3945'
3950'
3955'
3960'
3965'
3970'
3975'
3980'
3985'
3990'
3995'
4000'
4005'
4010'
4015'
4020'
4025'
4030'
4035'
4040'
4045'
4050'
4055'
4060'
4065'
4070'
4075'
4080'
4085'
4090'
4095'
4100'
4105'
4110'
4115'
4120'
4125'
4130'
4135'
4140'
4145'
4150'
4155'
4160'
4165'
4170'
4175'
4180'
4185'
4190'
4195'
4200'
4205'
4210'
4215'
4220'
4225'
4230'
4235'
4240'
4245'
4250'
4255'
4260'
4265'
4270'
4275'
4280'
4285'
4290'
4295'
4300'
4305'
4310'
4315'
4320'
4325'
4330'
4335'
4340'
4345'
4350'
4355'
4360'
4365'
4370'
4375'
4380'
4385'
4390'
4395'
4400'
4405'
4410'
4415'
4420'
4425'
4430'
4435'
4440'
4445'
4450'
4455'
4460'
4465'
4470'
4475'
4480'
4485'
4490'
4495'
4500'
4505'
4510'
4515'
4520'
4525'
4530'
4535'
4540'
4545'
4550'
4555'
4560'
4565'
4570'
4575'
4580'
4585'
4590'
4595'
4600'
4605'
4610'
4615'
4620'
4625'
4630'
4635'
4640'
4645'
4650'
4655'
4660'
4665'
4670'
4675'
4680'
4685'
4690'
4695'
4700'
4705'
4710'
4715'
4720'
4725'
4730'
4735'
4740'
4745'
4750'
4755'
4760'
4765'
4770'
4775'
4780'
4785'
4790'
4795'
4800'
4805'
4810'
4815'
4820'
4825'
4830'
4835'
4840'
4845'
4850'
4855'
4860'
4865'
4870'
4875'
4880'
4885'
4890'
4895'
4900'
4905'
4910'
4915'
4920'
4925'
4930'
4935'
4940'
4945'
4950'
4955'
4960'
4965'
4970'
4975'
4980'
4985'
4990'
4995'
5000'
5005'
5010'
5015'
5020'
5025'
5030'
5035'
5040'
5045'
5050'
5055'
5060'
5065'
5070'
5075'
5080'
5085'
5090'
5095'
5100'
5105'
5110'
5115'
5120'
5125'
5130'
5135'
5140'
5145'
5150'
5155'
5160'
5165'
5170'
5175'
5180'
5185'
5190'
5195'
5200'
5205'
5210'
5215'
5220'
5225'
5230'
5235'
5240'
5245'
5250'
5255'
5260'
5265'
5270'
5275'
5280'
5285'
5290'
5295'
5300'
5305'
5310'
5315'
5320'
5325'
5330'
5335'
5340'
5345'
5350'
5355'
5360'
5365'
5370'
5375'
5380'
5385'
5390'
5395'
5400'
5405'
5410'
5415'
5420'
5425'
5430'
5435'
5440'
5445'
5450'
5455'
5460'
5465'
5470'
5475'
5480'
5485'
5490'
5495'
5500'
5505'
5510'
5515'
5520'
5525'
5530'
5535'
5540'
5545'
5550'
5555'
5560'
5565'
5570'
5575'
5580'
5585'
5590'
5595'
5600'
5605'
5610'
5615'
5620'
5625'
5630'
5635'
5640'
5645'
5650'
5655'
5660'
5665'
5670'
5675'
5680'
5685'
5690'
5695'
5700'
5705'
5710'
5715'
5720'
5725'
5730'
5735'
5740'
5745'
5750'
5755'
5760'
5765'
5770'
5775'
5780'
5785'
5790'
5795'
5800'
5805'
5810'
5815'
5820'
5825'
5830'
5835'
5840'
5845'
5850'
5855'
5860'
5865'
5870'
5875'
5880'
5885'
5890'
5895'
5900'
5905'
5910'
5915'
5920'
5925'
5930'
5935'
5940'
5945'
5950'
5955'
5960'
5965'
5970'
5975'
5980'
5985'
5990'
5995'
6000'
6005'
6010'
6015'
6020'
6025'
6030'
6035'
6040'
6045'
6050'
6055'
6060'
6065'
6070'
6075'
6080'
6085'
6090'
6095'
6100'
6105'
6110'
6115'
6120'
6125'
6130'
6135'
6140'
6145'
6150'
6155'
6160'
6165'
6170'
6175'
6180'
6185'
6190'
6195'
6200'
6205'
6210'
6215'
6220'
6225'
6230'
6235'
6240'
6245'
6250'
6255'
6260'
6265'
6270'
6275'
6280'
6285'
6290'
6295'
6300'
6305'
6310'
6315'
6320'
6325'
6330'
6335'
6340'
6345'
6350'
6355'
6360'
6365'
6370'
6375'
6380'
6385'
6390'
6395'
6400'
6405'
6410'
6415'
6420'
6425'
6430'
6435'
6440'
6445'
6450'
6455'
6460'
6465'
6470'
6475'
6480'
6485'
6490'
6495'
6500'
6505'
6510'
6515'
6520'
6525'
6530'
6535'
6540'
6545'
6550'
6555'
6560'
6565'
6570'
6575'
6580'
6585'
6590'
6595'
6600'
6605'
6610'
6615'
6620'
6625'
6630'
6635'
6640'
6645'
6650'
6655'
6660'
6665'
6670'
6675'
6680'
6685'
6690'
6695'
6700'
6705'
6710'
6715'
6720'
6725'
6730'
6735'
6740'
6745'
6750'
6755'
6760'
6765'
6770'
6775'
6780'
6785'
6790'
6795'
6800'
6805'
6810'
6815'
6820'
6825'
6830'
6835'
6840'
6845'
6850'
6855'
6860'
6865'
6870'
6875'
6880'
6885'
6890'
6895'
6900'
6905'
6910'
6915'
6920'
6925'
6930'
6935'
6940'
6945'
6950'
6955'
6960'
6965'
6970'
6975'
6980'
6985'
6990'
6995'
7000'
7005'
7010'
7015'
7020'
7025'
7030'
7035'
7040'
7045'
7050'
7055'
7060'
7065'
7070'
7075'
7080'
7085'
7090'
7095'
7100'
7105'
7110'
7115'
7120'
7125'
7130'
7135'
7140'
7145'
7150'
7155'
7160'
7165'
7170'
7175'
7180'
7185'
7190'
7195'
7200'
7205'
7210'
7215'
7220'
7225'
7230'
7235'
7240'
7245'
7250'
7255'
7260'
7265'
7270'
7275'
7280'
7285'
7290'
7295'
7300'
7305'
7310'
7315'
7320'
7325'
7330'
7335'
7340'
7345'
7350'
7355'
7360'
7365'
7370'
7375'
7380'
7385'
7390'
7395'
7400'
7405'
7410'
7415'
7420'
7425'
7430'
7435'
7440'
7445'
7450'
7455'
7460'
7465'
7470'
7475'
7480'
7485'
7490'
7495'
7500'
7505'
7510'
7515'
7520'
7525'
7530'
7535'
7540'
7545'
7550'
7555'
7560'
7565'
7570'
7575'
7580'
7585'
7590'
7595'
7600'
7605'
7610'
7615'
7620'
7625'
7630'
7635'
7640'
7645'
7650'
7655'
7660'
7665'
7670'
7675'
7680'
7685'
7690'
7695'
7700'
7705'
7710'
7715'
7720'
7725'
7730'
7735'
7740'
7745'
7750'
7755'
7760'
7765'
7770'
7775'
7780'
7785'
7790'
7795'
7800'
7805'
7810'
7815'
7820'
7825'
7830'
7835'
7840'
7845'
7850'
7855'
7860'
7865'
7870'
7875'
7880'
7885'
7890'
7895'
7900'
7905'
7910'
7915'
7920'
7925'
7930'
7935'
7940'
7945'
7950'
7955'
7960'
7965'
7970'
7975'
7980'
7985'
7990'
7995'
8000'
8005'
8010'
8015'
8020'
8025'
8030'
8035'
8040'
8045'
8050'
8055'
8060'
8065'
8070'
8075'
8080'
8085'
8090'
8095'
8100'
8105'
8110'
8115'
8120'
8125'
8130'
8135'
8140'
8145'
8150'
8155'
8160'
8165'
8170'
8175'
8180'
8185'
8190'
8195'
8200'
8205'
8210'
8215'
8220'
8225'
8230'
8235'
8240'
8245'
8250'
8255'
8260'
8265'
8270'
8275'
8280'
8285'
8290'
8295'
8300'
8305'
8310'
8315'
8320'
8325'
8330'
8335'
8340'
8345'
8350'
8355'
8360'
8365'
8370'
8375'
8380'
8385'
8390'
8395'
8400'
8405'
8410'
8415'
8420'
8425'
8430'
8435'
8440'
8445'
8450'
8455'
8460'
8465'
8470'
8475'
8480'
8485'
8490'
8495'
8500'
8505'
8510'
8515'
8520'
8525'
8530'
8535'
8540'
8545'
8550'
8555'
8560'
8565'
8570'
8575'
8580'
8585'
8590'
8595'
8600'
8605'
8610'
8615'
8620'
8625'
8630'
8635'
8640'
8645'
8650'
8655'
8660'
8665'
8670'
8675'
8680'
8685'
8690'
8695'
8700'
8705'
8710'
8715'
8720'
8725'
8730'
8735'
8740'
8745'
8750'
8755'
8760'
8765'
8770'
8775'
8780'
8785'
8790'
8795'
8800'
8805'
8810'
8815'
8820'
8825'
8830'
8835'
8840'
8845'
8850'
8855'
8860'
8865'
8870'
8875'
8880'
8885'
8890'
8895'
8900'
8905'
8910'
8915'
8920'
8925'
8930'
8935'
8940'
8945'
8950'
8955'
8960'
8965'
8970'
8975'
8980'
8985'
8990'
8995'
9000'
9005'
9010'
9015'
9020'
9025'
9030'
9035'
9040'
9045'
9050'
9055'
9060'
9065'
9070'
9075'
9080'
9085'
9090'
9095'
9100'
9105'
9110'
9115'
9120'
9125'
9130'
9135'
9140'
9145'
9150'
9155'
9160'
9165'
9170'
9175'
9180'
9185'
9190'
9195'
9200'
9205'
9210'
9215'
9220'
9225'
9230'
9235'
9240'
9245'
9250'
9255'
9260'
9265'
9270'
9275'
9280'
9285'
9290'
9295'
9300'
9305'
9310'
9315'
9320'
9325'
9330'
9335'
9340'
9345'
9350'
9355'
9360'
9365'
9370'
9375'
9380'
9385'
9390'
9395'
9400'
9405'
9410'
9415'
9420'
9425'
9430'
9435'
9440'
9445'
9450'
9455'
9460'
9465'
9470'
9475'
9480'
9485'
9490'
9495'
9500'
9505'
9510'
9515'
9520'
9525'
9530'
9535'
9540'
9545'
9550'
9555'
9560'
9565'
9570'
9575'
9580'
9585'
9590'
9595'
9600'
9605'
9610'
9615'
9620'
9625'
9630'
9635'
9640'
9645'
9650'
9655'
9660'
9665'
9670'
9675'
9680'
9685'
9690'
9695'
9700'
9705'
9710'
9715'
9720'
9725'
9730'
9735'
9740'
9745'
9750'
9755'
9760'
9765'
9770'
9775'
9780'
9785'
9790'
9795'
9800'
9805'
9810'
9815'
9820'
9825'
9830'
9835'
9840'
9845'
9850'
9855'
9860'
9865'
9870'
9875'
9880'
9885'
9890'
9895'
9900'
9905'
9910'
9915'
9920'
9925'
9930'
9935'
9940'
9945'
9950'
9955'
9960'
9965'
9970'
9975'
9980'
9985'
9990'
9995'
10000'


CONNECT TO EXISTING 12" WATER MAIN
CONTRACTOR TO COORDINATE CONSTRUCTION OF GAS MAIN WITH EVERSOURCE
FES 100
INV.=112.0
7'-12" HDPE
S=2.86%
CROSS ROAD

September 20, 2021

Ms. Maureen Fitzgerald
Environmental Planner
Town of Waterford
15 Rope Ferry Road
Waterford, CT 06385

Re: Multifamily Residential Development
969 Hartford Turnpike (Route 85)
Waterford, Connecticut
SLR #141.15901.00004

Dear Maureen,

SLR International Corporation (SLR) is in receipt of a memorandum dated July 20, 2021, addressed to Darin L. Overton, PE, of SLR from Maureen Fitzgerald, Environmental Planner of the Town of Waterford, regarding the above-referenced project. We offer the following responses to the comments contained therein.

Preliminary Comments

C1. The application fee is $160.00 for commercial developments.

R1. The application fee will be provided.

C2. Activities to be reviewed/licensed also include the proposed discharge of treated stormwater to inland wetlands.

R2. Comment noted.

C3. The wetland delineation report indicates no watercourses were delineated on the site, yet the topographic survey plan shows an intermittent watercourse. This should be addressed in the wetland evaluation and impact assessment. Surface water flows into the wetland across the Eversource right-of-way and is fed by treated stormwater discharge from a portion of the Waterford Commons retail center. Approximately 26 acres of drainage area is treated by the stormwater basin easterly of the utility right-of-way and discharged thru a level spreader to the easement.

R3. We acknowledge that a watercourse exists on site. Watercourses were not specifically delineated on site because all are located entirely within the wetland boundary.

C4. The proposed project stormwater discharge point to the wetland appears to be a narrow swale area along the Rte 85 embankment. The potential impacts of the velocity of the concentrated discharge to this location and any need for stabilization measures to prevent erosion, flooding of existing vegetation or measures to promote diffusion of flow through the receiving wetland should be addressed.

R4. The flared end section (FES) 100 discharges to a riprap splash pad into a proposed narrow swale. The narrow swale then discharges into Water Quality Basin #6. However, we will revise to provide a permanent erosion control product, in addition to the splash pad, that facilitates vegetation and combats erosion in high-flow applications. As there is a reduction in peak flows to the narrow swale beyond Water Quality Basin #6 with similar discharge characteristics to existing conditions, we do not anticipate any erosion control problems. Any flooding of existing vegetation should be similar to existing conditions.

C5. Does the project stormwater discharge, in combination with the existing discharge from Waterford Commons pose issues to the capacity of the 18 inch culvert under Rte. 85?

R5. The cross culvert under Route 85 is 36 inches in diameter, not 18 inches. The proposed project will reduce the existing peak-discharge rates to the culvert under Route 85 and will pose no issues regarding capacity.

C6. The receiving wetland of the Jordan Brook mainstem are of very high functional value and support a cold-water trout fishery sensitive to water quality impacts and surface water temperatures. Marbled salamanders have been recorded in the small detention area at this culvert outlet west of the project. Provide a summary of pollutant removal effectiveness of the stormwater treatment train proposed for the development. Is the stormwater anticipated to be detained in the slope wetland prior to discharge downstream of Rte. 85 where additional renovation of temperature may occur? What is the relative elevation difference between the culvert at 99.0 and the adjacent wetland surface?

R6. A simple method for estimating pollutant export from urban development sites has been performed to determine the pollutant removal effectiveness of the proposed stormwater treatment train. The attached results demonstrate that the proposed system will achieve 87 percent Total Suspended Solids (TSS) removal and considerable reductions in the total proposed pollutant loading for nutrients and metals.

After discharging from the detention basins, stormwater will meander toward the 36-inch reinforced concrete pipe (RCP) culvert under Route 85 like existing conditions. Stormwater would only be detained should the existing 36-inch RCP capacity be exceeded. The wetland elevation varies as you move upgradient.

The proposed detention basins detain the first inch of stormwater runoff (Water Quality Volume {WQV}, also referred to as the "first-flush") and, therefore, allow stormwater runoff from a hot surface to sit and cool within the basin before discharging. Stormwater will not infiltrate either as the basins are redesigned with permanent pools. Per the Connecticut Department of Energy & Environmental Protection (CTDEEP), *2004 CT Stormwater Quality Manual*, use of wetland plants and trees for shading and increased pool depths are means to reduce thermal impacts. The detention basins are planted with New England Wetmix, New England Erosion Control/Restoration Mix, Autumn Brilliance Apple Serviceberry trees, and Cherokee Chief Dogwoods to reduce sun exposure. The southern sun exposure of Stormwater Basin 110 is further reduced by the existing mature tree line.

C7. The use of rain gardens to treat the water quality volume from the building roof area is an encouraged LID practice. The stormwater management plan will need a maintenance and inspection schedule for these practices.

R7. A maintenance and inspection schedule for the proposed stormwater practices have been provided on Sheet UT-2.

C8. Upon review of the sizing of WQ basin 3 bottom elevation and the outlet elevation. It appears it holds 0.3 feet of runoff which may not meet the WQ volume from building #3. Is the bottom deeper than it appears on the utility and grading plan?

R8. The top of frame elevation of the overflow outlet riser has been corrected to an elevation of 173.0 feet to match the sizing computations. The bottom is correctly shown at an elevation of 172.0 feet.

C9. Provide the total impervious area of the proposed development and the calculated water quality volume. I found only the computations for the roof areas and the sizing of the rain gardens. What is the WQV from the roadways and parking areas and how much is treated by the stormwater detention areas? Please provide details on the retention storage volumes & water quality storage volumes provided in basins 110, 120 and 130.

R9. The calculations for the required WQV from the roads and parking areas as well as the total provided retention volume in each of the detention areas is provided on the first and second pages of Attachment E. The calculations do not include the impervious areas from the building rooftops as those areas are treated separately by the proposed water quality basins.

C10. Provide information on the anticipated stormwater treatment function and performance of stormwater basins.

R10. Basins 110 and 120 are to be Micropool Extended Detention (ED) ponds while Basin 130 is to be a pocket pond. Both are stormwater ponds and considered primary stormwater treatment practices in the *CT Stormwater Quality Manual*. These treatment practices can provide high-levels of water quality treatment by capturing and treating the WQV and removing at least 80 percent of the average annual total suspended solids (TSS) load. These basins will maintain a permanent pool of water and extended detention. The permanent pool of water in these systems enhances pollutant removal through mechanisms such as sedimentation, biological uptake, microbial breakdown, gas exchange, volatilization, and decomposition. Micropool ED ponds and pocket ponds were selected due to limited contributing drainage area. The basins will maximize the permanent pool depth to 100 percent of the WQV as explained in R6 to reduce thermal impacts. Table 11-P1-2 of the *Stormwater Quality Manual* outlines the percent of water quality volume allowed for pond designs.

C11. Are the forebays sized to treat 10% of the WQV from the contributing impervious surface areas?

R11. The size of forebays has been verified, and they have a storage volume that is equal to at least 10 percent of the WQV. See attached for revised calculation.

C12. The drainage report indicates the basins will retain stormwater and create a water quality feature, the details indicate they will be lawn. Have wet basin designs per the CT DEEP Manual been considered for additional stormwater renovation?

R12. The detail will be revised to refer to the landscaping plan for planting the basins. In addition, see R10 above.

C13. Basins 110 and 120 are in 10 ft. +/- cuts, exceeding the depth of the test pits performed in those areas. If they end up maintaining permanent pools, will this potentially impact the storage volumes and water quality treatment of the basins?

R13. We will design these basins with permanent pools as Micropool ED ponds as explained in R10. This will not impact the storage volumes and water quality treatment of the basins as these are primary treatment practices.

C14. The sequence and timing for conversion of the rain gardens and basins from temporary sediment traps to the permanent stabilized stormwater control and treatment features needs to be included in the stormwater management report and plan detail notes.

R14. This will be added to the E&S plans as this is where the future contractor will see the instructions.

C15. A construction phasing plan is recommended to minimize the extent and length of site exposure. The plan should indicate the extent of clearing and grading for each phase, the temporary sediment controls, construction stormwater management controls and stabilization measures.

R15. The title sheet has the construction sequence while Sheets SE-1 and SE-2 are phased sediment and erosion control plans that indicate the clearing and grading for the two phases as well as the temporary sediment controls. The construction manager, when selected, will be required to generate a construction phasing plan to execute the work.

Please feel free to contact me should you need any further information.

Sincerely,

SLR International Corporation

Darin L. Overton, PE
Principal Civil Engineer

Enclosures

141.15901.00004.s2021.ltr.docx