GRAZ Engineering, L.L.C.

323 West Lake Road • Fitzwilliam, NH 03447 • Telephone (603) 585-6959 • Fax (603) 585-6960

Transmittal

To: Planning Board
Company: Town of Leicester
Address: 3 Washburn Square
City/State: Leicester, MA 01524

Subject: Revised Parker Street (North) Definitive Plans
Date: September 9, 2021
Transmitted: ☐ **Mail** ☑ **Email** ☑ **Hand**

- ☑ **For Your Approval**
- ☑ **For Your Review**
- ☐ **For Your Signature**
- ☑ **For Your Information**
- ☐ **For Your Files**

- ☑ **Which You requested**
- ☐ **Approved**
- ☐ **Approved As Noted**
- ☐ **Revise And Resubmit**
- ☐ **Not Approved**

3	copies	Parker Street (North) - Definitive Subdivision Revision Letter dated 9/9/2021
2	copies	Parker Street (North) - Revised Definitive Subdivision Plans, 9/8//21 (Full Size Plans)
1	copies	Parker Street (North) - Revised Definitive Subdivision Plans, 9/8/21 (11 x 17 Plans)
3	copies	Parker Street (North) - Final Proposed HydroCAD Stormwater Analysis, 9/8/21
1	email	Revised PDF Digital Copy of Submittal Materials, 9/9/21
	copies	
	copies	

Comments: Enclosed are the revised plans and associated documentation for the Parker Street (North) Definitive Subdivision located off from Pine Street.

Should you have any questions or require any additional information, please call my cell at 508-769-9084.

Respectfully yours,
GRAZ Engineering, L.L.C.

Brian MacEwen, PLS, BSCE
Project Manager

cc: Matt Schold, Applicant/Owner

GRAZ Engineering, L.L.C.

323 West Lake Road • Fitzwilliam, NH 03447 • Telephone (603) 585-6959 • Fax (603) 585-6960

September 9, 2021

Michelle Buck, Planner
Leicester Planning Board
3 Washburn Square
Leicester, MA 01524

Subject: **Parker Street (North)**
Definitive Subdivision Revision #2

Dear Ms. Buck:

GRAZ Engineering, L.L.C. (GRAZ) has received and reviewed the following letters regarding technical review and comments of the proposed Parker Street (North) Definitive Subdivision to be located off Pine Street.

- Quinn Engineering, Inc. (QEI), dated September 1, 2021, received via email by Mr. Kevin Quinn, P.E.

On behalf of Schold Development, LLC (Matt Schold) and in response to the above noted letters and subsequent comments received during the Leicester Planning Board (LPB) public hearings to date, GRAZ submits the following responses and the revised subdivision plans for final review and approval of the LPB. For simplicity, GRAZ will provide comment on only the items for which revisions have been made for this submittal.

<u>Quinn Engineering, Inc. Letter</u>

<u>Hydrology and Stormwater:</u>

6. *The Engineer has provided logs of soils testing conducted per Massachusetts Stormwater Management Policy. Results of soils tests indicates that infiltration basin B1 does not comply with required separation between the basin floor and estimated seasonal high groundwater table of 2 feet.*

   The plans have been revised by moving the proposed infiltration basin B1 horizontally perpendicular to the existing topography in a northeasterly direction (a downgradient slope) while keeping the same proposed basin design grades from elevation 858 to the basin rim of 862.3. In addition, the basin bottom elevation contour of 857 was revised to meet the required 2-foot offset for the estimated seasonal high groundwater table while maintaining the same stage storage area as originally designed. Therefore there is no change in the final proposed stormwater hydrology analysis (see attached copy).

<u>Final Plan Revisions based on Public Hearings & Discussions with the Town Planner:</u>

1. **Sheet 1: The waiver request for overhead utilities in lieu of underground utilities has been removed.**

   Revised waiver request for street trees to allow waiving street trees on the easterly side of the proposed roadway.

2. **Sheet 2: No Changes**
3. **Sheet 3: Added drainage easement detail to include the drainage swale along the easterly side of the existing Parker Street right-of-way located on the lands of the Y.W.C.A. and updated the easement area notation.**
4. **Sheet 4: Updated Infiltration Basin B1 location and grading as noted in Hydrology & Stormwater #6 above.**
5. **Sheet 5: No Changes.**
6. **Sheet 6: Updated Infiltration Basin B1 location and grading as noted in Hydrology & Stormwater #6 above.**

Updated Soil Test Pit Data table to indicate the existing ground and estimated seasonal high groundwater elevations.

Revised roadway subdrain location & elevations.

Added proposed street trees along the westerly side of the proposed roadway for the that portion of the roadway located within the limits of the Applicant's land.

Added proposed lot/street lights at the conceptual driveway locations along the westerly side of the proposed roadway.

7. **Sheet 7: Added additional construction details related to the water quality swale, level spreader diaphragm, subdrain & cleanouts, utility trench, stone check dams, and slope stabilization locations and design elevations.**

8. **Sheet 8: Removed construction details for subdrain & cleanouts and the slope stabilization. These details have been revised and moved to Sheet 7.**

I trust that this information will assist the Planning Board in their finalization of the "Decision" and "Conditions of Approval" of the Applicant's application for "Definitive Subdivision Approval". Should you have any other questions or require additional information prior to the next meeting please call me as soon as possible.

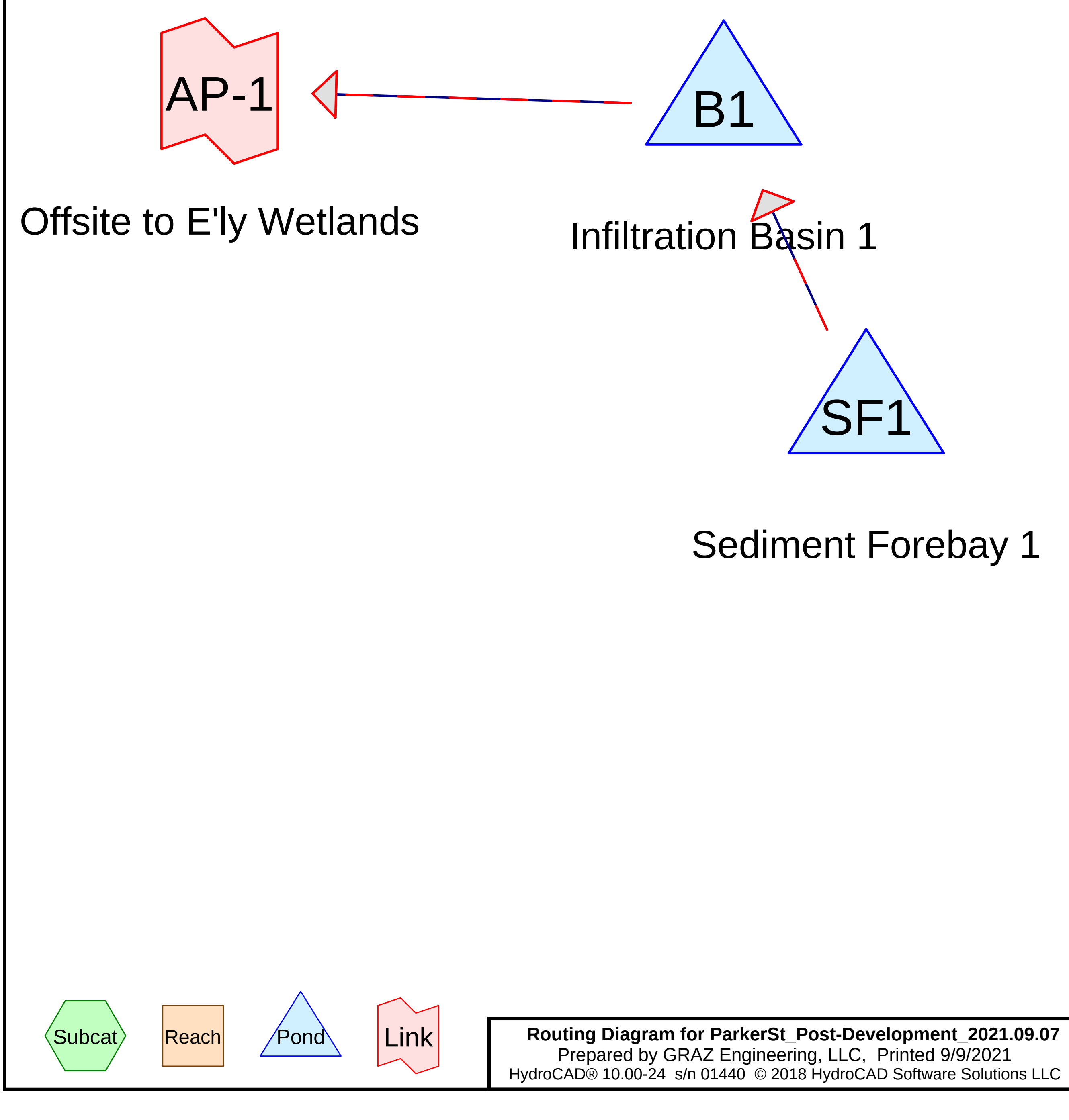
Respectfully yours,
GRAZ Engineering, L.L.C.

Brian MacEwen, PLS, BSCE
Project Manager

Paul Grasewicz, PE, PLS

BCM/PFG/bcm

cc: Matt Schold, Schold Development, LLC
Paul Grasewicz, GRAZ Engineering, LLC



Routing Diagram for ParkerSt_Post-Development_2021.09.07
Prepared by GRAZ Engineering, LLC, Printed 9/9/2021

Summary for Pond B1: Infiltration Basin 1

Inflow Area =	671,826 sf,	5.50% Impervious,	Inflow Depth = 1.00"	for 2 yr event
Inflow =	10.99 cfs @	12.42 hrs, Volume=	56,079 cf	
Outflow =	7.67 cfs @	12.69 hrs, Volume=	54,589 cf,	Atten= 30%, Lag= 16.1 min
Discarded =	0.05 cfs @	12.69 hrs, Volume=	2,614 cf	
Primary =	7.61 cfs @	12.69 hrs, Volume=	51,975 cf	
Secondary =	0.00 cfs @	1.00 hrs, Volume=	0 cf	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-32.00 hrs, dt= 0.01 hrs
Peak Elev= 858.66' @ 12.69 hrs Surf.Area= 8,637 sf Storage= 10,821 cf
Flood Elev= 862.30' Surf.Area= 30,981 sf Storage= 57,273 cf

Plug-Flow detention time= 65.6 min calculated for 54,589 cf (97% of inflow)
Center-of-Mass det. time= 50.8 min (944.2 - 893.3)

Volume	Invert	Avail.Storage	Storage Description
#1	856.50'	57,273 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
856.50	0	0	0
857.00	2,226	557	557
858.00	7,592	4,909	5,466
859.00	9,175	8,384	13,849
860.00	10,816	9,996	23,845
861.00	12,512	11,664	35,509
862.00	16,710	14,611	50,120
862.30	30,981	7,154	57,273

Device	Routing	Invert	Outlet Devices
#1	Primary	851.20'	**24.0" Round Culvert** L= 74.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 851.20' / 850.00' S= 0.0162 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	857.30'	**70.0 deg x 2.30' rise Sharp-Crested Vee/Trap Weir X 2.00** Cv= 2.52 (C= 3.15)
#3	Device 1	860.60'	**1.2" x 7.3" Horiz. Orifice/Grate X 3.00 columns** X 11 rows C= 0.600 in 25.7" x 25.7" Grate (44% open area) Limited to weir flow at low heads
#4	Secondary	860.60'	**170.5 deg x 5.0' long x 1.00' rise Sharp-Crested Vee/Trap Weir** Cv= 2.46 (C= 3.08)
#5	Discarded	856.50'	**0.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.05 cfs @ 12.69 hrs HW=858.66' (Free Discharge)
└─**5=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=7.61 cfs @ 12.69 hrs HW=858.66' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 7.61 cfs of 38.45 cfs potential flow)
  ├─**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 7.61 cfs @ 2.94 fps)
  └─**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=856.50' TW=0.00' (Dynamic Tailwater)
└─**4=Sharp-Crested Vee/Trap Weir** (Controls 0.00 cfs)

Summary for Pond SF1: Sediment Forebay 1

Inflow Area = 671,826 sf, 5.50% Impervious, Inflow Depth = 1.04" for 2 yr event
Inflow = 11.03 cfs @ 12.40 hrs, Volume= 58,456 cf
Outflow = 10.99 cfs @ 12.42 hrs, Volume= 56,079 cf, Atten= 0%, Lag= 1.3 min
Primary = 10.99 cfs @ 12.42 hrs, Volume= 56,079 cf
Secondary = 0.00 cfs @ 1.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 1.00-32.00 hrs, dt= 0.01 hrs
Peak Elev= 860.83' @ 12.42 hrs Surf.Area= 2,579 sf Storage= 3,573 cf
Flood Elev= 862.00' Surf.Area= 4,327 sf Storage= 7,539 cf

Plug-Flow detention time= 32.5 min calculated for 56,060 cf (96% of inflow)
Center-of-Mass det. time= 10.4 min (893.3 - 882.9)

Volume	Invert	Avail.Storage	Storage Description
#1	857.80'	7,539 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
857.80	0	0	0
858.00	416	42	42
859.00	804	610	652
860.00	1,588	1,196	1,848
861.00	2,784	2,186	4,034
861.50	3,456	1,560	5,594
862.00	4,327	1,946	7,539

Device	Routing	Invert	Outlet Devices
#1	Primary	860.30'	**143.1 deg x 8.0' long Sharp-Crested Vee/Trap Weir** Cv= 2.47 (C= 3.09)
#2	Secondary	861.30'	**12.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=10.99 cfs @ 12.42 hrs HW=860.83' TW=858.26' (Dynamic Tailwater)
└─**1=Sharp-Crested Vee/Trap Weir** (Weir Controls 10.99 cfs @ 2.17 fps)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=857.80' TW=856.50' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link AP-1: Offsite to E'ly Wetlands

Inflow Area =	709,418 sf,	7.21% Impervious,	Inflow Depth = 0.96"	for 2 yr event	
Inflow =	7.84 cfs @	12.68 hrs,	Volume=	57,042 cf	
Primary =	7.84 cfs @	12.68 hrs,	Volume=	57,042 cf,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-32.00 hrs, dt= 0.01 hrs

Summary for Pond B1: Infiltration Basin 1

Inflow Area = 671,826 sf, 5.50% Impervious, Inflow Depth = 2.17" for 10 yr event
Inflow = 24.51 cfs @ 12.39 hrs, Volume= 121,555 cf
Outflow = 21.81 cfs @ 12.51 hrs, Volume= 120,033 cf, Atten= 11%, Lag= 7.6 min
Discarded = 0.06 cfs @ 12.51 hrs, Volume= 2,914 cf
Primary = 21.75 cfs @ 12.51 hrs, Volume= 117,119 cf
Secondary = 0.00 cfs @ 1.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 1.00-32.00 hrs, dt= 0.01 hrs
Peak Elev= 859.37' @ 12.51 hrs Surf.Area= 9,782 sf Storage= 17,353 cf
Flood Elev= 862.30' Surf.Area= 30,981 sf Storage= 57,273 cf

Plug-Flow detention time= 40.1 min calculated for 119,994 cf (99% of inflow)
Center-of-Mass det. time= 32.9 min (899.2 - 866.4)

Volume	Invert	Avail.Storage	Storage Description
#1	856.50'	57,273 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
856.50	0	0	0
857.00	2,226	557	557
858.00	7,592	4,909	5,466
859.00	9,175	8,384	13,849
860.00	10,816	9,996	23,845
861.00	12,512	11,664	35,509
862.00	16,710	14,611	50,120
862.30	30,981	7,154	57,273

Device	Routing	Invert	Outlet Devices
#1	Primary	851.20'	**24.0" Round Culvert** L= 74.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 851.20' / 850.00' S= 0.0162 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	857.30'	**70.0 deg x 2.30' rise Sharp-Crested Vee/Trap Weir X 2.00** Cv= 2.52 (C= 3.15)
#3	Device 1	860.60'	**1.2" x 7.3" Horiz. Orifice/Grate X 3.00 columns** X 11 rows C= 0.600 in 25.7" x 25.7" Grate (44% open area) Limited to weir flow at low heads
#4	Secondary	860.60'	**170.5 deg x 5.0' long x 1.00' rise Sharp-Crested Vee/Trap Weir** Cv= 2.46 (C= 3.08)
#5	Discarded	856.50'	**0.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.06 cfs @ 12.51 hrs HW=859.37' (Free Discharge)
└─**5=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=21.74 cfs @ 12.51 hrs HW=859.37' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 21.74 cfs of 40.50 cfs potential flow)
  ├─**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 21.74 cfs @ 3.63 fps)
  └─**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=856.50' TW=0.00' (Dynamic Tailwater)
└─**4=Sharp-Crested Vee/Trap Weir** (Controls 0.00 cfs)

Summary for Pond SF1: Sediment Forebay 1

Inflow Area = 671,826 sf, 5.50% Impervious, Inflow Depth = 2.21" for 10 yr event
Inflow = 24.59 cfs @ 12.37 hrs, Volume= 123,933 cf
Outflow = 24.51 cfs @ 12.39 hrs, Volume= 121,555 cf, Atten= 0%, Lag= 1.1 min
Primary = 24.51 cfs @ 12.39 hrs, Volume= 121,555 cf
Secondary = 0.00 cfs @ 1.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 1.00-32.00 hrs, dt= 0.01 hrs
Peak Elev= 861.15' @ 12.39 hrs Surf.Area= 2,992 sf Storage= 4,480 cf
Flood Elev= 862.00' Surf.Area= 4,327 sf Storage= 7,539 cf

Plug-Flow detention time= 17.9 min calculated for 121,516 cf (98% of inflow)
Center-of-Mass det. time= 6.8 min (866.4 - 859.6)

Volume	Invert	Avail.Storage	Storage Description
#1	857.80'	7,539 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
857.80	0	0	0
858.00	416	42	42
859.00	804	610	652
860.00	1,588	1,196	1,848
861.00	2,784	2,186	4,034
861.50	3,456	1,560	5,594
862.00	4,327	1,946	7,539

Device	Routing	Invert	Outlet Devices
#1	Primary	860.30'	**143.1 deg x 8.0' long Sharp-Crested Vee/Trap Weir** Cv= 2.47 (C= 3.09)
#2	Secondary	861.30'	**12.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=24.51 cfs @ 12.39 hrs HW=861.15' TW=859.24' (Dynamic Tailwater)
└─**1=Sharp-Crested Vee/Trap Weir** (Weir Controls 24.51 cfs @ 2.72 fps)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=857.80' TW=856.50' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link AP-1: Offsite to E'ly Wetlands

Inflow Area = 709,418 sf, 7.21% Impervious, Inflow Depth = 2.14" for 10 yr event
Inflow = 22.42 cfs @ 12.50 hrs, Volume= 126,526 cf
Primary = 22.42 cfs @ 12.50 hrs, Volume= 126,526 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-32.00 hrs, dt= 0.01 hrs

Summary for Pond B1: Infiltration Basin 1

Inflow Area = 671,826 sf, 5.50% Impervious, Inflow Depth = 3.20" for 25 yr event
Inflow = 36.29 cfs @ 12.37 hrs, Volume= 179,230 cf
Outflow = 32.79 cfs @ 12.49 hrs, Volume= 177,693 cf, Atten= 10%, Lag= 6.9 min
Discarded = 0.07 cfs @ 12.49 hrs, Volume= 3,147 cf
Primary = 32.72 cfs @ 12.49 hrs, Volume= 174,546 cf
Secondary = 0.00 cfs @ 1.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 1.00-32.00 hrs, dt= 0.01 hrs
Peak Elev= 859.79' @ 12.49 hrs Surf.Area= 10,466 sf Storage= 21,576 cf
Flood Elev= 862.30' Surf.Area= 30,981 sf Storage= 57,273 cf

Plug-Flow detention time= 32.6 min calculated for 177,693 cf (99% of inflow)
Center-of-Mass det. time= 27.4 min (881.3 - 853.9)

Volume	Invert	Avail.Storage	Storage Description
#1	856.50'	57,273 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
856.50	0	0	0
857.00	2,226	557	557
858.00	7,592	4,909	5,466
859.00	9,175	8,384	13,849
860.00	10,816	9,996	23,845
861.00	12,512	11,664	35,509
862.00	16,710	14,611	50,120
862.30	30,981	7,154	57,273

Device	Routing	Invert	Outlet Devices
#1	Primary	851.20'	**24.0" Round Culvert** L= 74.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 851.20' / 850.00' S= 0.0162 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	857.30'	**70.0 deg x 2.30' rise Sharp-Crested Vee/Trap Weir X 2.00** Cv= 2.52 (C= 3.15)
#3	Device 1	860.60'	**1.2" x 7.3" Horiz. Orifice/Grate X 3.00 columns** X 11 rows C= 0.600 in 25.7" x 25.7" Grate (44% open area) Limited to weir flow at low heads
#4	Secondary	860.60'	**170.5 deg x 5.0' long x 1.00' rise Sharp-Crested Vee/Trap Weir** Cv= 2.46 (C= 3.08)
#5	Discarded	856.50'	**0.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.07 cfs @ 12.49 hrs HW=859.79' (Free Discharge)
└─**5=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=32.72 cfs @ 12.49 hrs HW=859.79' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 32.72 cfs of 41.66 cfs potential flow)
  ├─**2=Sharp-Crested Vee/Trap Weir** (Orifice Controls 32.72 cfs @ 4.42 fps)
  └─**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=856.50' TW=0.00' (Dynamic Tailwater)
└─**4=Sharp-Crested Vee/Trap Weir** (Controls 0.00 cfs)

Summary for Pond SF1: Sediment Forebay 1

Inflow Area = 671,826 sf, 5.50% Impervious, Inflow Depth = 3.24" for 25 yr event
Inflow = 36.36 cfs @ 12.36 hrs, Volume= 181,608 cf
Outflow = 36.29 cfs @ 12.37 hrs, Volume= 179,230 cf, Atten= 0%, Lag= 0.8 min
Primary = 35.77 cfs @ 12.37 hrs, Volume= 178,977 cf
Secondary = 0.53 cfs @ 12.37 hrs, Volume= 252 cf

Routing by Dyn-Stor-Ind method, Time Span= 1.00-32.00 hrs, dt= 0.01 hrs
Peak Elev= 861.36' @ 12.37 hrs Surf.Area= 3,273 sf Storage= 5,137 cf
Flood Elev= 862.00' Surf.Area= 4,327 sf Storage= 7,539 cf

Plug-Flow detention time= 13.5 min calculated for 179,172 cf (99% of inflow)
Center-of-Mass det. time= 5.7 min (853.9 - 848.2)

Volume	Invert	Avail.Storage	Storage Description
#1	857.80'	7,539 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
857.80	0	0	0
858.00	416	42	42
859.00	804	610	652
860.00	1,588	1,196	1,848
861.00	2,784	2,186	4,034
861.50	3,456	1,560	5,594
862.00	4,327	1,946	7,539

Device	Routing	Invert	Outlet Devices
#1	Primary	860.30'	**143.1 deg x 8.0' long Sharp-Crested Vee/Trap Weir** Cv= 2.47 (C= 3.09)
#2	Secondary	861.30'	**12.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=35.76 cfs @ 12.37 hrs HW=861.36' TW=859.66' (Dynamic Tailwater)
└─**1=Sharp-Crested Vee/Trap Weir** (Weir Controls 35.76 cfs @ 3.00 fps)

Secondary OutFlow Max=0.52 cfs @ 12.37 hrs HW=861.36' TW=859.66' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 0.52 cfs @ 0.68 fps)

Summary for Link AP-1: Offsite to E'ly Wetlands

Inflow Area = 709,418 sf, 7.21% Impervious, Inflow Depth = 3.17" for 25 yr event
Inflow = 33.72 cfs @ 12.48 hrs, Volume= 187,567 cf
Primary = 33.72 cfs @ 12.48 hrs, Volume= 187,567 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-32.00 hrs, dt= 0.01 hrs

Summary for Pond B1: Infiltration Basin 1

Inflow Area = 671,826 sf, 5.50% Impervious, Inflow Depth = 5.46" for 100 yr event
Inflow = 61.42 cfs @ 12.36 hrs, Volume= 305,646 cf
Outflow = 51.61 cfs @ 12.51 hrs, Volume= 304,092 cf, Atten= 16%, Lag= 9.2 min
Discarded = 0.08 cfs @ 12.51 hrs, Volume= 3,541 cf
Primary = 44.86 cfs @ 12.51 hrs, Volume= 295,920 cf
Secondary = 6.67 cfs @ 12.51 hrs, Volume= 4,631 cf

Routing by Dyn-Stor-Ind method, Time Span= 1.00-32.00 hrs, dt= 0.01 hrs
Peak Elev= 860.99' @ 12.51 hrs Surf.Area= 12,501 sf Storage= 35,428 cf
Flood Elev= 862.30' Surf.Area= 30,981 sf Storage= 57,273 cf

Plug-Flow detention time= 25.7 min calculated for 304,092 cf (99% of inflow)
Center-of-Mass det. time= 22.5 min (859.6 - 837.2)

Volume	Invert	Avail.Storage	Storage Description
#1	856.50'	57,273 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
856.50	0	0	0
857.00	2,226	557	557
858.00	7,592	4,909	5,466
859.00	9,175	8,384	13,849
860.00	10,816	9,996	23,845
861.00	12,512	11,664	35,509
862.00	16,710	14,611	50,120
862.30	30,981	7,154	57,273

Device	Routing	Invert	Outlet Devices
#1	Primary	851.20'	**24.0" Round Culvert** L= 74.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 851.20' / 850.00' S= 0.0162 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	857.30'	**70.0 deg x 2.30' rise Sharp-Crested Vee/Trap Weir X 2.00** Cv= 2.52 (C= 3.15)
#3	Device 1	860.60'	**1.2" x 7.3" Horiz. Orifice/Grate X 3.00 columns** X 11 rows C= 0.600 in 25.7" x 25.7" Grate (44% open area) Limited to weir flow at low heads
#4	Secondary	860.60'	**170.5 deg x 5.0' long x 1.00' rise Sharp-Crested Vee/Trap Weir** Cv= 2.46 (C= 3.08)
#5	Discarded	856.50'	**0.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.08 cfs @ 12.51 hrs HW=860.99' (Free Discharge)
└─**5=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=44.86 cfs @ 12.51 hrs HW=860.99' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 44.86 cfs @ 14.28 fps)
 ├─**2=Sharp-Crested Vee/Trap Weir** (Passes < 51.05 cfs potential flow)
 └─**3=Orifice/Grate** (Passes < 6.06 cfs potential flow)

Secondary OutFlow Max=6.67 cfs @ 12.51 hrs HW=860.99' TW=0.00' (Dynamic Tailwater)
└─**4=Sharp-Crested Vee/Trap Weir** (Weir Controls 6.67 cfs @ 1.74 fps)

Summary for Pond SF1: Sediment Forebay 1

Inflow Area = 671,826 sf, 5.50% Impervious, Inflow Depth = 5.50" for 100 yr event
Inflow = 61.58 cfs @ 12.35 hrs, Volume= 308,024 cf
Outflow = 61.42 cfs @ 12.36 hrs, Volume= 305,646 cf, Atten= 0%, Lag= 0.4 min
Primary = 54.55 cfs @ 12.36 hrs, Volume= 297,008 cf
Secondary = 6.89 cfs @ 12.37 hrs, Volume= 8,639 cf

Routing by Dyn-Stor-Ind method, Time Span= 1.00-32.00 hrs, dt= 0.01 hrs
Peak Elev= 861.66' @ 12.37 hrs Surf.Area= 3,726 sf Storage= 6,151 cf
Flood Elev= 862.00' Surf.Area= 4,327 sf Storage= 7,539 cf

Plug-Flow detention time= 9.4 min calculated for 305,646 cf (99% of inflow)
Center-of-Mass det. time= 4.5 min (837.2 - 832.7)

Volume	Invert	Avail.Storage	Storage Description
#1	857.80'	7,539 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
857.80	0	0	0
858.00	416	42	42
859.00	804	610	652
860.00	1,588	1,196	1,848
861.00	2,784	2,186	4,034
861.50	3,456	1,560	5,594
862.00	4,327	1,946	7,539

Device	Routing	Invert	Outlet Devices
#1	Primary	860.30'	**143.1 deg x 8.0' long Sharp-Crested Vee/Trap Weir** Cv= 2.47 (C= 3.09)
#2	Secondary	861.30'	**12.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

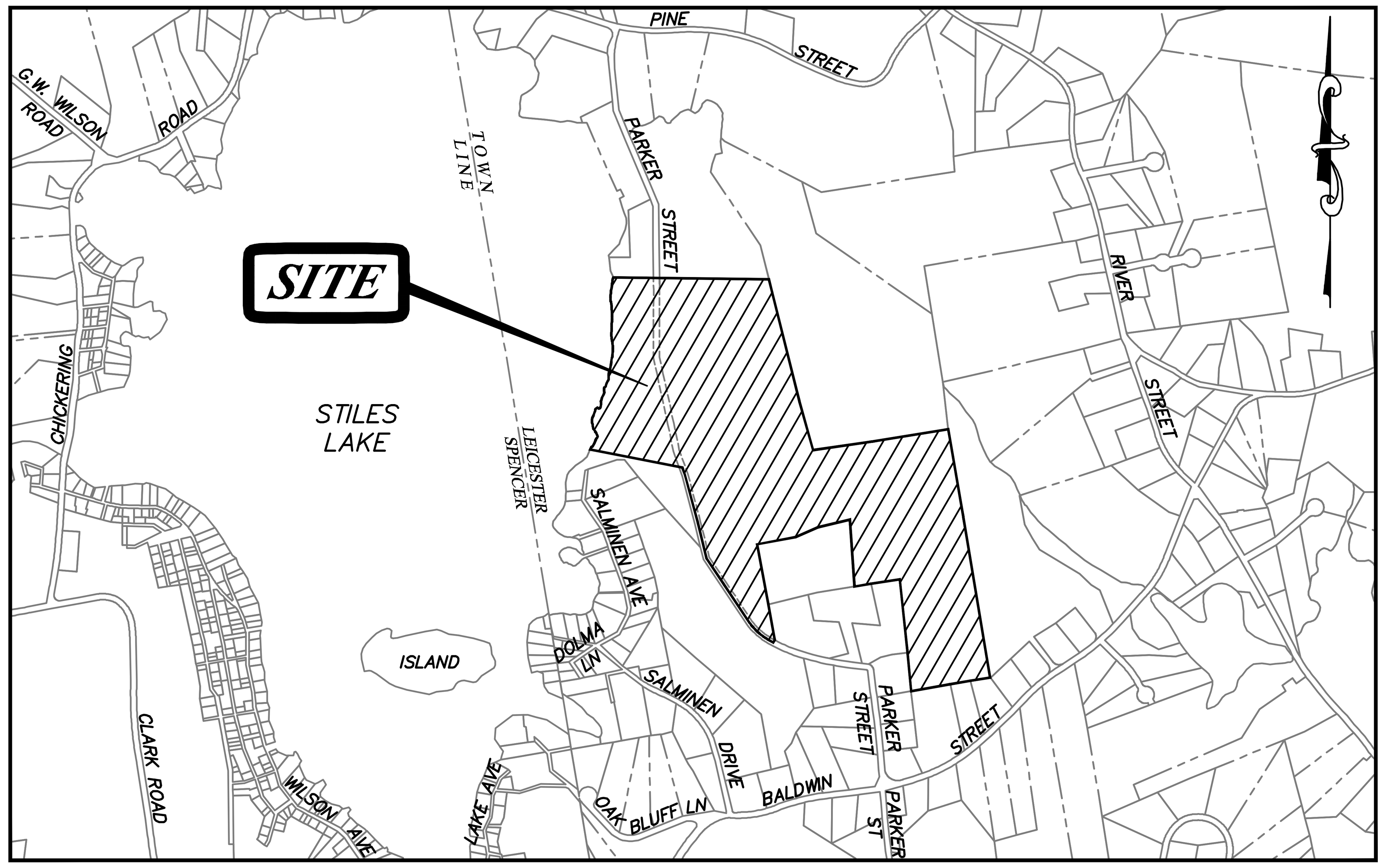
Primary OutFlow Max=54.41 cfs @ 12.36 hrs HW=861.65' TW=860.54' (Dynamic Tailwater)
└─**1=Sharp-Crested Vee/Trap Weir** (Weir Controls 54.41 cfs @ 3.33 fps)

Secondary OutFlow Max=6.89 cfs @ 12.37 hrs HW=861.66' TW=860.63' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 6.89 cfs @ 1.62 fps)

Summary for Link AP-1: Offsite to E'ly Wetlands

Inflow Area = 709,418 sf, 7.21% Impervious, Inflow Depth = 5.43" for 100 yr event
Inflow = 52.87 cfs @ 12.51 hrs, Volume= 321,196 cf
Primary = 52.87 cfs @ 12.51 hrs, Volume= 321,196 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-32.00 hrs, dt= 0.01 hrs



LOCUS PLAN

SCALE: 1" = 750'

PARKER STREET (NORTH)
DEFINITIVE SUBDIVISION
LEICESTER, MASSACHUSETTS

APPLICANT & OWNER:
SCHOLD DEVELOPMENT, LLC, 77 CHICKERING ROAD, SPENCER, MA 01562

ENGINEER & SURVEYOR:
GRAZ ENGINEERING, L.L.C., 323 WEST LAKE ROAD, FITZWILLIAM, NH 03447

ENVIRONMENTAL CONSULTANT
EBT ENVIRONMENTAL CONSULTING, 2 WELLINGTON ROAD, OXFORD, MA 01540

GENERAL PROPERTY DATA

LEICESTER PROPERTY

ASSESSORS PARCELS:	MAP 42, PARCELS A1.0 & B1.0
LOT ADDRESS:	PARKER STREET & 89 PARKER STREET
OWNER OF RECORD:	SCHOLD DEVELOPMENT, LLC
LOCUS DEED:	BOOK 60004, PAGE 48
PLAN REFERENCE:	PLAN BOOK 800, PLAN 29 - PARCELS A & C

PROJECT ZONING REQUIREMENTS

	LEICESTER SUBURBAN-AGRICULTURAL (SA)
LOT AREA	80,000 SQ. FT
FRONTAGE & WIDTH	200 FT
FRONT SETBACK	40 FT
SIDE SETBACK	40 FT
REAR SETBACK	40 FT
MAX. BLDG. HEIGHT	35 FT.
MAX. NO. STORIES	2-1/2
MAX. LOT COVERAGE	30%

ZONING DISTRICT SOURCES:

TOWN OF LEICESTER ZONING BYLAWS AS ACCEPTED ON MAY 12, 1986 AND AMENDED THROUGH JUNE 2, 2020.

PROJECT STATISTICS

- TOTAL LAND AREA: ± 3,195,623 SQ. FT. (± 73.36141 ACRES)
- TOTAL LOT AREA: ± 243,802 SQ. FT. (± 5.59693 ACRES)
- REMAINING LAND: ± 2,912,178 SQ. FT. (± 66.85441 ACRES)
- RIGHT-OF-WAY AREA: ± 50,322 SQ. FT. (± 1.15523 ACRES)
- EASEMENT AREA: ± 78,429 SQ. FT. (± 1.80049 ACRES)

LIST OF DRAWINGS

1 COVER SHEET
2 KEY PLAN AND NOTES
3 LOT LAYOUT PLAN
4 EROSION CONTROL PLAN
5 PARKER STREET PLAN & PROFILE (SHT 1 OF 2)
6 PARKER STREET PLAN & PROFILE (SHT 2 OF 2)
7 CONSTRUCTION NOTES & DETAILS
8 DRAINAGE DETAILS

LEICESTER PLANNING BOARD WAIVERS REQUESTED

SECTION V.A.2.a & SECTION VI.A.2 – MINIMUM WIDTH OF TRAVELLED WAY, 28' MIN. REQUIRED:
TO ALLOW A TRAVELLED WAY WIDTH OF 20'.

SECTION V.A.4.a – MAXIMUM LENGTH OF DEAD–END CUL–DE–SAC, 500' MIN. REQUIRED:
TO ALLOW DEAD–END STREET LENGTH OF 22+05.33' & RIGHT–OF–WAY LENGTH OF 22+15.33' BOTH AS MEASURED FROM SOUTHERLY EDGE OF PINE STREET.

SECTION VI.E.3 – STREET LIGHTING SHALL BE REQUIRED.
TO ALLOW STREET LIGHTING TO BE INSTALLED AS STIPULATED IN THE WRITTEN PLANNING BOARD DECISION AND AS DEPICTED ON THE FINAL APPROVED PLANS.

SECTION VI.G.1 – SIDEWALKS SHALL BE INSTALLED ON BOTH SIDES OF THE ROADWAY.
TO ALLOW FOR NO SIDEWALKS INSTALLATION.

SECTION VI.L – STREET SHADE TREES SHALL BE INSTALLED ON BOTH SIDES OF THE ROADWAY.
TO ALLOW FOR STREET TREE PLANTINGS TO BE INSTALLED ONLY ON THE WESTERLY SIDE OF THE PROPOSED ROADWAY AS DEPICTED ON THE FINAL APPROVED PLANS AND AS STIPULATED IN THE CONDITIONS OF THE WRITTEN PLANNING BOARD DECISION.

FOR REGISTRY USE ONLY

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET THE REGISTRY OF DEEDS REQUIREMENTS AND ARE NOT A CERTIFICATION TO THE TITLE OR OWNERSHIP OF THE PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE SHOWN ACCORDING TO THE CURRENT TOWNS OF LEICESTER & SPENCER ASSESSOR'S RECORDS.

I CERTIFY THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

COMMONWEALTH OF MASSACHUSETTS BRIAN C. MARTINEN No. 37138 PROFESSIONAL LAND SURVEYOR

CONDITIONS OF APPROVAL ARE CONTAINED IN THE WRITTEN DECISION OF THE PLANNING BOARD ENTITLED, "CERTIFICATE OF APPROVAL OF A DEFINITIVE SUBDIVISION PLAN", DATED __________, 2019 AND RECORDED IN THE WORCESTER DISTRICT REGISTRY OF DEEDS IN BOOK ______, PAGE ____.

THE CONSTRUCTION OF WAYS AND INSTALLATION OF SERVICES SHOWN ON THIS PLAN ARE SECURED BY WAY OF A COVENANT, DATED ______________ TO BE RECORDED HEREWITH.

APPROVAL OF THE LEICESTER PLANNING BOARD IS FOR ___ YEARS ONLY. IN THE EVENT THE WAYS AND SERVICES SHOWN ON THIS PLAN ARE NOT CONSTRUCTED AND INSTALLED WITHIN ___ YEARS FROM THE DATE OF ENDORSEMENT, THE BOARD'S APPROVAL IS RESCINDED, AND THIS PLAN IS AND SHALL BE NULL AND VOID.

CERTIFICATE OF NO APPEAL

THIS IS TO CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE LEICESTER PLANNING BOARD WAS RECEIVED AND RECORDED AT THIS OFFICE ON ______________ AT ______AND NO APPEAL WAS RECEIVED DURING THE 20 DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK – LEICESTER

DATE ____________

APPROVED UNDER THE SUBDIVISION CONTROL LAW PLANNING BOARD OF LEICESTER

DATE: ____________

SCALE: AS NOTED	DRAWN: BCM	CHECKED: PFG & BCM	PLAN DATE: JUNE 8, 2021

REV.	DATE	DESCRIPTION	BY
1	8/24/21	REVS PER QUINN ENG. TECH. REVIEW & LPB	BCM
2	9/8/21	REVS PER QUINN ENG. TECH. REVIEW & LPB	BCM

COMMONWEALTH OF MASSACHUSETTS PAUL F. GRASEWICZ CIVIL No. 36306 REGISTERED PROFESSIONAL ENGINEER

SHEET 1 OF 8
REGISTRY SHEET 1 OF 3

GENERAL NOTES

1) THE EXISTING TOPOGRAPHY, SITE FEATURES, AND UTILITIES DEPICTED HEREON ARE BASED ON AERIAL PHOTOGRAMMETRY PREPARED BY COL–EAST, INC. FROM AERIAL PHOTOGRAPHS TAKEN IN 2004.

2) THE EXISTING BOUNDARY LINES AND THE AERIAL PHOTOGRAMMETRY INFORMATION DEPICTED HEREON ARE THE RESULT OF THE RESULT OF AN ACTUAL ON THE GROUND FIELD SURVEY PERFORMED BY THE BSC GROUP, INC. IN JUNE THROUGH JULY 2005 AND MARCH 2005 AND COMPILATION OF THE DEEDS AND PLANS OF RECORD CITED HEREON.

3) THE HORIZONTAL AND VERTICAL DATUMS WERE ESTABLISHED BY NETWORK–RTK GNSS GPS PERFORMED AT THE SITE.

HORIZONTAL DATUM & BEARING BASIS = MASSACHUSETTS MAINLAND GRID (NAD83)

VERTICAL DATUM = NAVD88 (REFER TO PLAN FOR LOCATION OF BENCHMARKS SET DURING SURVEY)

NOTE: THE NGVD 1929 DATUM IS 0.68 FEET HIGHER THAN THE NAVD 1988 DATUM.
1929 NGVD DATUM ELEV = 378.49'

4) THE TOWN LINE DEPICTED HEREON WAS DETERMINED BY NETWORK RTK–GNSS LOCATION OF THE TOWN BOUNDS (MASSACHUSETTS MAINLAND GRID, NAD 83).

5) THE WETLANDS WERE FIELD DELINEATED BY EBT ENVIRONMENTAL CONSULTING, INC. IN OCTOBER 2005 AND WERE LOCATED BY THE FIELD SURVEY CITED ABOVE.

6) THE PORTION OF THE SITE ADJOINING THE EASTERLY SIDE OF STILES LAKE LIES WITHIN ZONE A, SPECIAL FLOOD HAZARD AREA WITH NO ELEVATIONS DETERMINED AS SET FORTH ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOE INSURANCE RATE MAP (FIRM) 25027C0780E WITH THE REMAINDER OF THE SITE BEING IN ZONE X, MINIMAL FLOOD HAZARD AS SET FORTH ON THE FIRM 25027C0783E, BOTH MAPS BEARING EFFECTIVE DATES OF JULY 4, 2011.

7) THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON, ARE APPROXIMATE AND ARE BASED ON THE FIELD LOCATION OF THE OBSERVABLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER GATES, ETC. AND THE COMPILATION OF INFORMATION OBTAINED FROM VARIOUS UTILITY COMPANIES, AND GOVERNMENT AGENCIES. THE ENGINEER DOES NOT GUARANTEE THAT ALL UTILITIES AND SUB–SURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION, AND INVERT ELEVATIONS OF THE UTILITIES AND STRUCTURES, AS REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES ARE OBSERVED BETWEEN THE EXISTING CONDITIONS DEPICTED HEREON AND THE ACTUAL CONDITIONS.

8) IN ACCORDANCE WITH CHAPTER 82, SECTION 40, INCLUDING AMENDMENTS, ALL CONTRACTORS SHALL NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO ANY EXCAVATION WORK AND CALL DIG–SAFE AT 1–888–344–7233 72 HOURS BEFORE ANY EXCAVATION.

9) A FIFTEEN FOOT (15') WIDE TEMPORARY SLOPE AND CONSTRUCTION EASEMENT SHALL BE PROVIDED PARALLEL AND ALONG THE ENTIRE PROPOSED RIGHT–OF–WAY ACROSS THE FRONTAGE OF EACH LOT. THE TEMPORARY SLOPE AND CONSTRUCTION EASEMENT SHALL BE EXTINGUISHED UPON ACCEPTANCE OF THE ROADWAY BY THE TOWN OF LEICESTER.

10) THE DRAINAGE AND UTILITY EASEMENTS DEPICTED HEREON ARE REQUIRED BY THE TOWN OF LEICESTER DEPARTMENT OF PUBLIC WORKS IN ORDER TO MAINTAIN THE DRAINAGE INFRASTRUCTURE (SWALES, PONDS, ETC.) AND SHALL BE GRANTED TO THE TOWN OF LEICESTER.

GRAPHIC SCALE

(FEET) 250 0 125 250 500 750

(METERS) 76.2 0 38.1 76.2 152.4 228.6

1 inch = 250 ft.

APPROVED UNDER THE SUBDIVISION CONTROL LAW PLANNING BOARD OF LEICESTER

DATE: ____________

CERTIFICATE OF NO APPEAL

THIS IS TO CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE LEICESTER PLANNING BOARD WAS RECEIVED AND RECORDED AT THIS OFFICE ON ____________ AT ________ AND NO APPEAL WAS RECEIVED DURING THE 20 DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK – LEICESTER

DATE ____________

FOR REGISTRY USE ONLY

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET THE REGISTRY OF DEEDS REQUIREMENTS AND ARE NOT A CERTIFICATION TO THE TITLE OR OWNERSHIP OF THE PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE SHOWN ACCORDING TO THE CURRENT TOWNS OF LEICESTER & SPENCER ASSESSOR'S RECORDS.

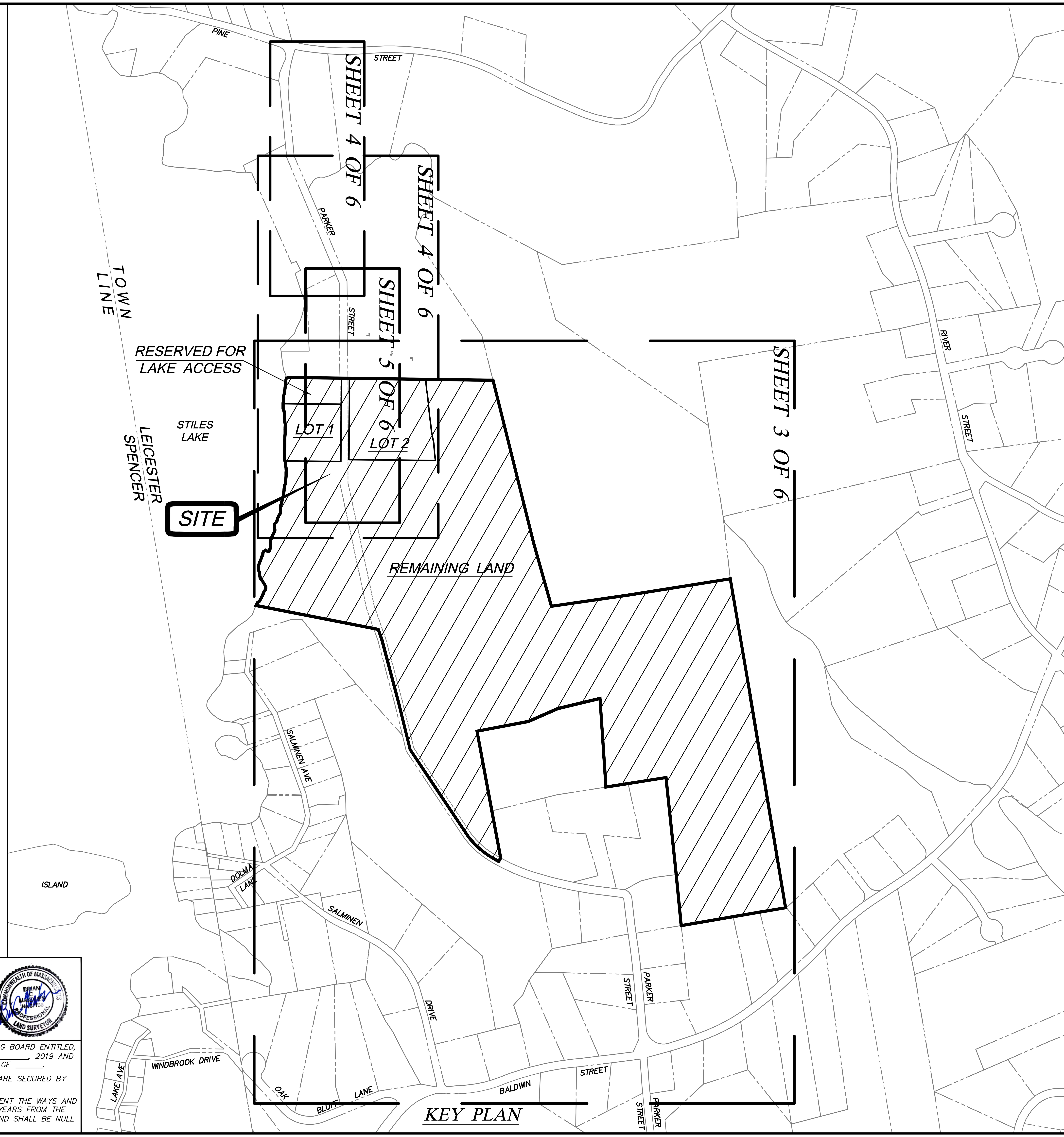
I CERTIFY THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

COMMONWEALTH OF MASSACHUSETTS BRIAN C. MASTINEN No. 31736 PROFESSIONAL LAND SURVEYOR

CONDITIONS OF APPROVAL ARE CONTAINED IN THE WRITTEN DECISION OF THE PLANNING BOARD ENTITLED, "CERTIFICATE OF APPROVAL OF A DEFINITIVE SUBDIVISION PLAN", DATED ____________, 2019 AND RECORDED IN THE WORCESTER DISTRICT REGISTRY OF DEEDS IN BOOK ________, PAGE ______.

THE CONSTRUCTION OF WAYS AND INSTALLATION OF SERVICES SHOWN ON THIS PLAN ARE SECURED BY WAY OF A COVENANT, DATED ____________ TO BE RECORDED HEREWITH.

APPROVAL OF THE LEICESTER PLANNING BOARD IS FOR ___ YEARS ONLY. IN THE EVENT THE WAYS AND SERVICES SHOWN ON THIS PLAN ARE NOT CONSTRUCTED AND INSTALLED WITHIN ___ YEARS FROM THE DATE OF ENDORSEMENT, THE BOARD'S APPROVAL IS RESCINDED, AND THIS PLAN IS AND SHALL BE NULL AND VOID.



KEY PLAN

GRAZ Engineering, L.L.C.
323 West Lake Road, Fitzwilliam, NH 03447
Phone: (603) 585-6959 Fax: (603) 585-6960

PARKKER STREET (NORTH) - DEFINITIVE SUBDIVISION
LEICESTER, MASSACHUSETTS

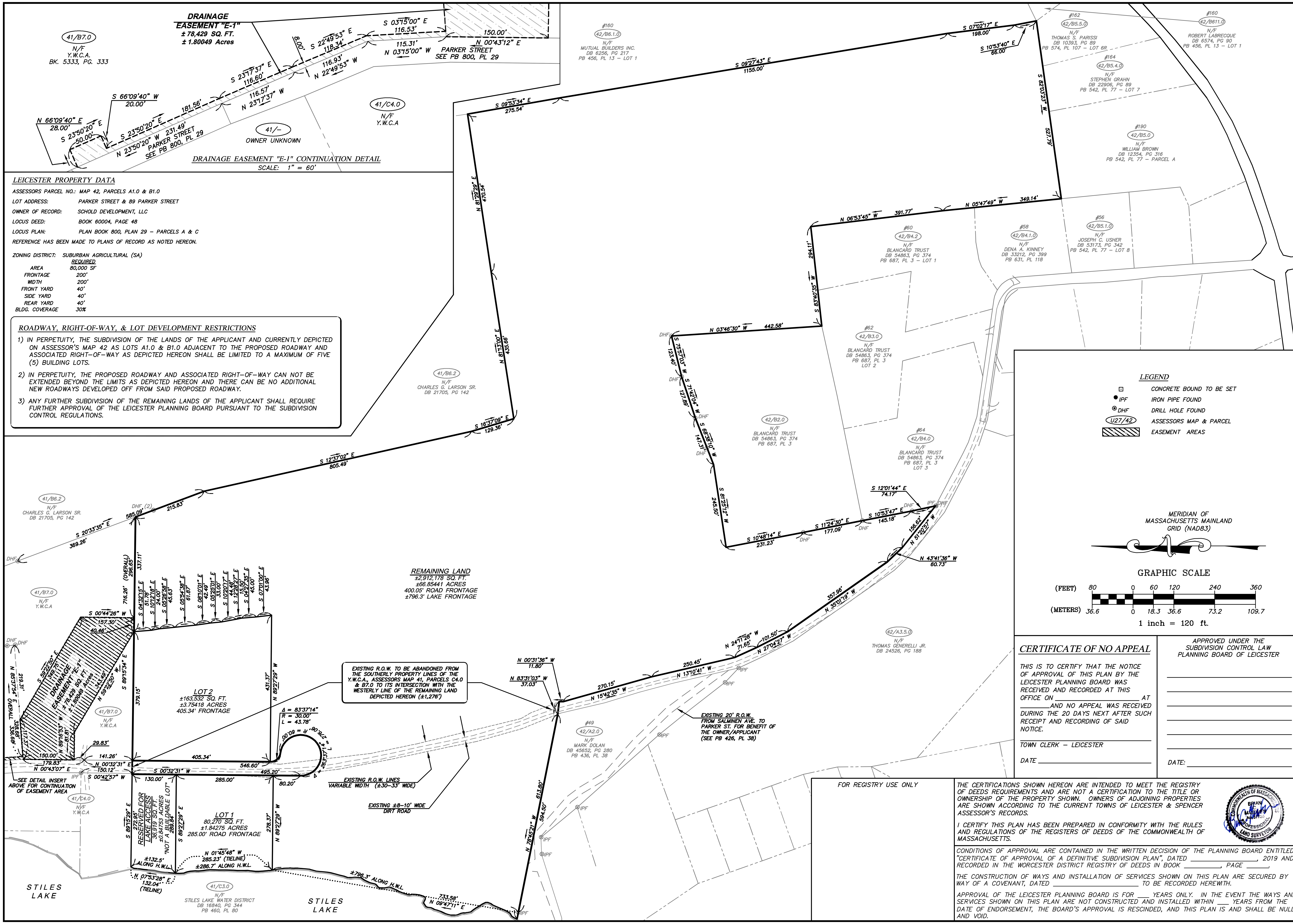
KEY PLAN & NOTES
PREPARED FOR: SCHOLD DEVELOPMENT, LLC (OWNER/APPLICANT)
77 CHICKERING ROAD, SPENCER, MA 01562

SCALE: AS NOTED	DRAWN: BCM	CHECKED: PFG & BCM	PLAN DATE: JUNE 8, 2021

REV.	DATE	DESCRIPTION	BY
1	8/24/21	REVS PER QUINN ENG. TECH. REVIEW & LPB	BCM
2	9/8/21	REVS PER QUINN ENG. TECH. REVIEW & LPB	BCM

COMMONWEALTH OF MASSACHUSETTS PAUL F. GRASEWICZ CIVIL No. 36300 PROFESSIONAL ENGINEER

SHEET 2 OF 8
REGISTRY SHEET 2 OF 3



LEICESTER PROPERTY DATA

ASSESSORS PARCEL NO.: MAP 42, PARCELS A1.0 & B1.0
LOT ADDRESS: PARKER STREET & 89 PARKER STREET
OWNER OF RECORD: SCHOLD DEVELOPMENT, LLC
LOCUS DEED: BOOK 60004, PAGE 48
LOCUS PLAN: PLAN BOOK 800, PLAN 29 – PARCELS A & C
REFERENCE HAS BEEN MADE TO PLANS OF RECORD AS NOTED HEREON.

ZONING DISTRICT: SUBURBAN AGRICULTURAL (SA)

	REQUIRED
AREA	80,000 SF
FRONTAGE	200'
WIDTH	200'
FRONT YARD	40'
SIDE YARD	40'
REAR YARD	40'
BLDG. COVERAGE	30%

ROADWAY, RIGHT-OF-WAY, & LOT DEVELOPMENT RESTRICTIONS

1) IN PERPETUITY, THE SUBDIVISION OF THE LANDS OF THE APPLICANT AND CURRENTLY DEPICTED ON ASSESSOR'S MAP 42 AS LOTS A1.0 & B1.0 ADJACENT TO THE PROPOSED ROADWAY AND ASSOCIATED RIGHT-OF-WAY AS DEPICTED HEREON SHALL BE LIMITED TO A MAXIMUM OF FIVE (5) BUILDING LOTS.
2) IN PERPETUITY, THE PROPOSED ROADWAY AND ASSOCIATED RIGHT-OF-WAY CAN NOT BE EXTENDED BEYOND THE LIMITS AS DEPICTED HEREON AND THERE CAN BE NO ADDITIONAL NEW ROADWAYS DEVELOPED OFF FROM SAID PROPOSED ROADWAY.
3) ANY FURTHER SUBDIVISION OF THE REMAINING LANDS OF THE APPLICANT SHALL REQUIRE FURTHER APPROVAL OF THE LEICESTER PLANNING BOARD PURSUANT TO THE SUBDIVISION CONTROL REGULATIONS.

LEGEND

- CONCRETE BOUND TO BE SET
- IPF IRON PIPE FOUND
- DHF DRILL HOLE FOUND
- U27/42 ASSESSORS MAP & PARCEL
- EASEMENT AREAS

CERTIFICATE OF NO APPEAL

THIS IS TO CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE LEICESTER PLANNING BOARD WAS RECEIVED AND RECORDED AT THIS OFFICE ON ________________ AT ________ AND NO APPEAL WAS RECEIVED DURING THE 20 DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK – LEICESTER

DATE ________________

APPROVED UNDER THE SUBDIVISION CONTROL LAW PLANNING BOARD OF LEICESTER

DATE:

FOR REGISTRY USE ONLY

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET THE REGISTRY OF DEEDS REQUIREMENTS AND ARE NOT A CERTIFICATION TO THE TITLE OR OWNERSHIP OF THE PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE SHOWN ACCORDING TO THE CURRENT TOWNS OF LEICESTER & SPENCER ASSESSOR'S RECORDS.

I CERTIFY THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

CONDITIONS OF APPROVAL ARE CONTAINED IN THE WRITTEN DECISION OF THE PLANNING BOARD ENTITLED, "CERTIFICATE OF APPROVAL OF A DEFINITIVE SUBDIVISION PLAN", DATED ________________, 2019 AND RECORDED IN THE WORCESTER DISTRICT REGISTRY OF DEEDS IN BOOK ________, PAGE ______.

THE CONSTRUCTION OF WAYS AND INSTALLATION OF SERVICES SHOWN ON THIS PLAN ARE SECURED BY WAY OF A COVENANT, DATED ________________ TO BE RECORDED HEREWITH.

APPROVAL OF THE LEICESTER PLANNING BOARD IS FOR ___ YEARS ONLY. IN THE EVENT THE WAYS AND SERVICES SHOWN ON THIS PLAN ARE NOT CONSTRUCTED AND INSTALLED WITHIN ___ YEARS FROM THE DATE OF ENDORSEMENT, THE BOARD'S APPROVAL IS RESCINDED, AND THIS PLAN IS AND SHALL BE NULL AND VOID.

COMMONWEALTH OF MASSACHUSETTS BRIAN ... PROFESSIONAL LAND SURVEYOR

COMMONWEALTH OF MASSACHUSETTS PAUL F. GRASEWICZ CIVIL No. ... PROFESSIONAL ENGINEER

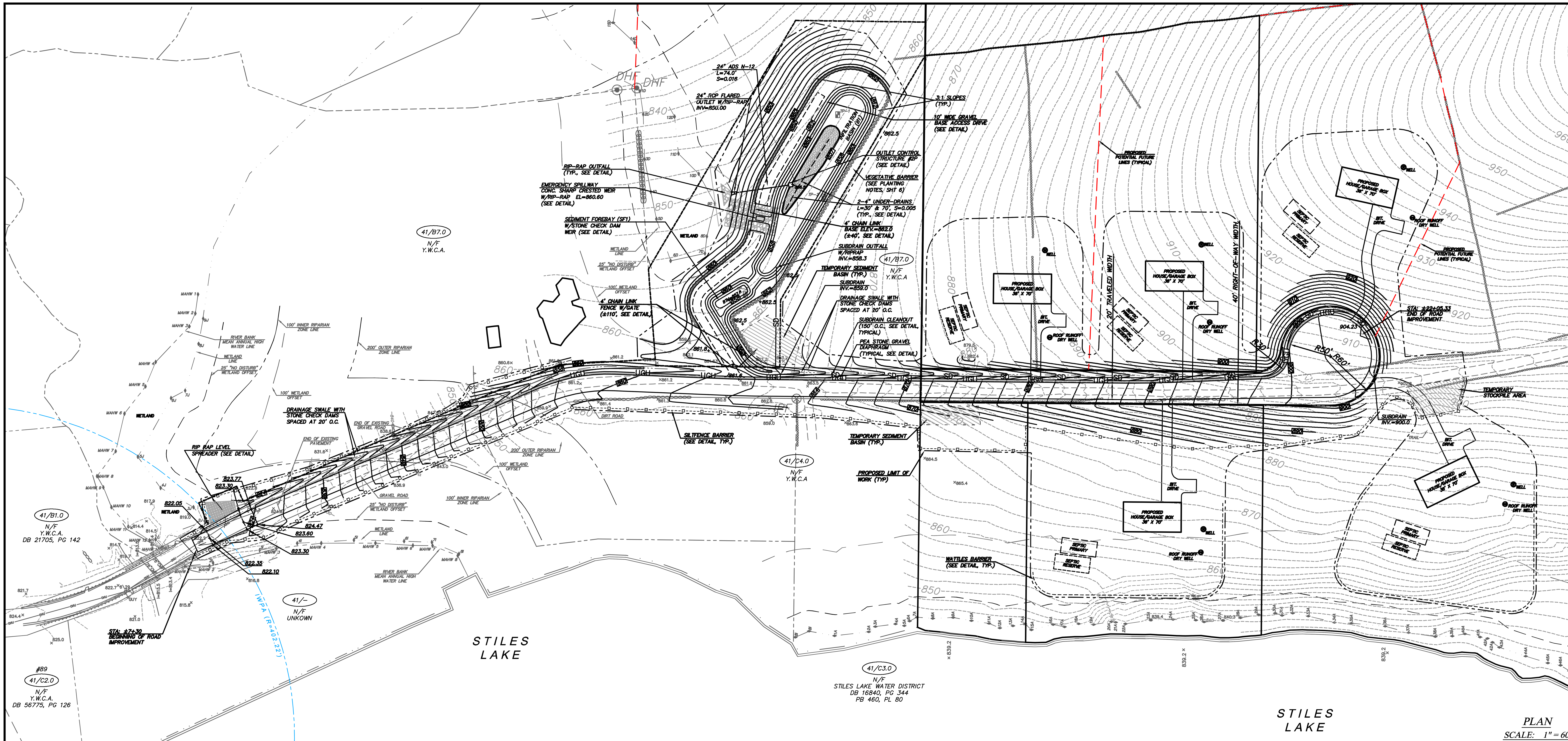
GRAZ Engineering, L.L.C.
323 West Lake Road, Fitzwilliam, NH 03447
Phone: (603) 585-6959 Fax: (603) 585-6960

PARKER STREET (NORTH) - DEFINITIVE SUBDIVISION
LEICESTER, MASSACHUSETTS

LOT LAYOUT PLAN
PREPARED FOR: SCHOLD DEVELOPMENT, LLC (OWNER/APPLICANT)
77 CHICKERING ROAD, SPENCER, MA 01562

PLAN DATE: JUNE 8, 2021 | CHECKED: PFG & BCM | DRAWN: BCM | SCALE: AS NOTED

REV.	DATE	DESCRIPTION	BY
1	8/24/21	REVS PER QUINN ENG. TECH. REVIEW & LPB	BCM
2	9/8/21	REVS PER QUINN ENG. TECH. REVIEW & LPB	BCM



EROSION CONTROL NOTES

1) AS THIS PROJECT SHALL ALTER OVER ONE ACRE OF LAND, IT WILL REQUIRE FILING A NOTICE OF INTENT WITH THE EPA UNDER THE NPDES PHASE II PROGRAM AND WILL REQUIRE A STORMWATER POLLUTION PREVENTION PLAN (SWPP) TO BE FILED PRIOR TO ANY LAND DISTURBANCE. THE SWPP SHALL BE PROVIDED TO THE SITE CONTRACTOR PRIOR TO CONSTRUCTION AND SHALL BE ACCESSIBLE ON SITE DURING ALL CONSTRUCTION ACTIVITY.
2) THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL REQUIREMENTS OF THE PROJECT "ORDER OF CONDITIONS" AS ISSUED BY THE TOWN OF LEICESTER CONSERVATION COMMISSION. THE CONTRACTOR AND ALL SUB-CONTRACTORS ARE TO BE MADE AWARE OF THE ORDER OF CONDITIONS AS GRANTED BY THE LEICESTER CONSERVATION COMMISSION AND ITS REGULATIONS APPLICABLE TO THIS PROJECT. A COPY OF THIS ORDER IS TO BE READILY AVAILABLE ON SITE AT ALL TIMES.
3) THE SEDIMENTATION AND EROSION CONTROLS DEPICTED HEREON ARE THE MINIMUM REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER MAINTENANCE OF ALL EROSION CONTROLS AND SHALL INSTALL ADDITIONAL MITIGATION MEASURES AS MAY BE NECESSARY TO ENSURE PROTECTION OF ALL THE WETLAND RESOURCES.
4) PRIOR TO THE START OF ANY CONSTRUCTION, ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED AS DEPICTED HEREON. THE CONTRACTOR SHALL MAINTAIN THESE MEASURES UNTIL ALL WORK IS COMPLETED AND ALL AREAS HAVE BEEN STABILIZED.
5) AT NO TIME SHOULD HEAVY EQUIPMENT CROSS THE EROSION CONTROL BARRIERSE OR OPERATE BEYOND THE LIMIT OF WORK DEPICTED HEREON. ALL FUELING OF CONSTRUCTION EQUIPMENT IS TO BE DONE IN THE UPLANDS OUTSIDE OF THE 100' BUFFER ZONE.
6) TEMPORARY STABILIZATION OF DISTURBED AREAS IS TO LIMIT EROSION TOWARD THE WETLAND AREAS. ALL TRENCHES ARE TO BE FILLED ON A DAILY BASIS WITH SPECIAL CARE TAKEN TO AVOID ROUTING RAINFALL THROUGH GULLIES TOWARD THE WETLAND AREAS. TEMPORARY DETENTION BASINS ARE TO BE INSTALLED IN AREAS PRONE TO CHANNEL FLOWS DURING PERIODS OF HIGH INTENSITY RAINFALL.
7) THE CONTRACTOR IS TO USE PROPER JUDGMENT RELATIVE TO CONSTRUCTION PRACTICES DURING ADVERSE WEATHER CONDITIONS OR PERIODS OF HIGH GROUNDWATER. NO WORK IS TO BE PERFORMED NEAR THE WETLAND AREAS DURING PERIODS OF HEAVY RAINFALL.
8) PERIODIC MAINTENANCE OF THE EROSION CONTROL MEASURES IS REQUIRED IN ORDER TO INSURE THE PROPER PROTECTION OF THE RESOURCE AREAS. ALL EROSION CONTROL STRUCTURES ARE TO BE INSPECTED ON A WEEKLY BASIS OR WHENEVER THERE IS A STORM EVENT EXCEEDING 1/2" OF RAIN IN TWENTY FOUR HOURS.
9) THE TREE CLEARING REMOVAL LIMITS SHALL NOT EXTEND BEYOND THE SILTFENCE/ HAYBALE EROSION CONTROL BARRIERS AND THE LIMIT OF WORK. AREAS OF EXISTING VEGETATION TO REMAIN ARE TO BE PROTECTED THROUGHOUT CONSTRUCTION.
10) THE BASE OF ALL STOCKPILES SHALL BE CONTAINED WITHIN THE EROSION CONTROL MEASURES LIMITS. STOCKPILES TO BE LEFT OVER 30 DAYS SHALL BE SEEDED WITH ANNUAL RYE GRASS.
11) THE FUNCTIONING OF THE TEMPORARY SEDIMENT CONTROLS OR CONSTRUCTION OPERATIONS SHALL NOT CAUSE NOTICEABLE SEDIMENT PLUMES. IF PLUMES OCCUR, THE CONTRACTOR SHALL STOP WORK AND INSTALL ADDITIONAL SEDIMENTATION CONTROLS IMMEDIATELY TO PREVENT FURTHER SEDIMENTATION.
12) THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ACCUMULATED SEDIMENT AS REQUIRED BY THE CONSERVATION COMMISSION OR AS DIRECTED BY THE ENGINEER.
13) AFTER THE CONSTRUCTION/INSTALLATION OF THE PERMANENT DRAINAGE INFRA-STRUCTURE, THE CONTRACTOR SHALL INSTALL AND MAINTAIN THE APPROPRIATE SEDIMENTATION CONTROLS TO PROTECT THE INTEGRITY OF THE STRUCTURES DURING THE ONGOING CONSTRUCTION. ALL CATCH BASINS SHALL HAVE A STREAMGUARD TYPE II-S CBF CATCH BASIN FILTER INSTALLED. THE FILTERS SHALL BE MAINTAINED AND/OR REPLACED AS NECESSARY UNTIL THE CONSTRUCTION IS COMPLETED.
14) ALL DISTURBED NON-PAVED AREAS WITHIN THE PROJECT LIMIT OF WORK SHALL BE DRESSED WITH A MINIMUM OF FOUR INCHES (4") OF SCREENED LOAM AND SHALL BE SEEDED WITH AN APPROVED GRASS MIX AND MULCHED AS SOON AS POSSIBLE IN ORDER TO INSURE THE RAPID STABILIZATION OF THE EROSION PRONE AREAS. A CONSERVATION SEED MIXTURE OF 20% ANNUAL RYEGRASS, 30% CREEPING RED FESCUE, 30% CHEWINGS FESCUE AND 20% PERENNIAL RYEGRASS IS RECOMMENDED. IF PERMANENT SEEDING CAN NOT BE INSTALLED IMMEDIATELY AFTER FINAL GRADING, THE AREAS ARE TO BE TEMPORARILY MULCHED TO STABILIZE ALL SLOPES UPON COMPLETION OF WORK TO PREVENT EROSION OF SOILS INTO THE RESOURCE AREAS AND THEIR ASSOCIATED BUFFER ZONES. DURING THE GROW-IN PERIOD, TEMPORARY EROSION CONTROLS (I.E. BARK MULCH OR STRAW) IS TO BE USED TO PREVENT EROSION DURING PERIODS OF RAINFALL OR SNOW MELT. WHERE PRACTICAL DURING CONSTRUCTION, DISTURBED AREAS SHALL BE STABILIZED BY TEMPORARILY SEEDING OR MULCHING.
15) ALL DISTURBED AREAS TO BE LEFT DORMANT FOR MORE THAN 60 DAYS SHALL BE STABILIZED BY TEMPORARILY SEEDING OR MULCHING.
16) DEWATERING OPERATIONS, IF REQUIRED SHALL DISCHARGE ONTO STABILIZED AREAS AND ALL DISCHARGE WATER IS TO PASS THROUGH SEDIMENTATION CONTROL DEVICES TO PREVENT IMPACTS UPON THE WETLAND RESOURCES, DRAINAGE SYSTEMS, AND ABUTTING PROPERTIES.
17) ALL TEMPORARY SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE REMOVED IN THEIR ENTIRETY AFTER FINAL SITE STABILIZATION AND ISSUANCE OF THE FINAL CERITFCATE OF COMPLIANCE BY THE CONSERVATION COMMISSION.
18) THE APPLICANT IS TO NOTIFY THE LEICESTER CONSERVATION COMMISSION ONCE THE JURISDICTIONAL WORK HAS BEEN COMPLETED AND THE ENTIRE SITE HAS BEEN PROPERLY STABILIZED. UPON APPROVAL OF THE WORK SUBJECT TO THE ORDER OF CONDITIONS, THE APPLICANT IS TO RECEIVE A CERTIFICATE OF COMPLIANCE THAT IS TO BE RECORDED AT THE WORCESTER REGISTRY OF DEEDS.

GENERAL CONSTRUCTION SEQUENCE

ADVANCEMENT OF ROADWAY CONSTRUCTION AND ASSOCIATED INFRASTRUCTURE SHALL FOLLOW THE GENERAL SEQUENCE NOTED BELOW.

1) THE LIMITS OF CLEARING SHALL BE STAKED OUT PRIOR TO ANY CONSTRUCTION.
2) INSTALL EROSION CONTROL BARRIERS AS DEPICTED HEREON.
3) THE CONTRACTOR SHALL COORDINATE A SITE MEETING WITH THE TOWN LEICESTER PLANNING BOARD AGENT (QUINN ENGINEERING, INC.), CONSERVATION COMMISSION REPRESENTATIVE, HIGHWAY DEPARTMENT, AND GRAZ ENGINEERING, LLC. FOR REVIEW AND APPROVAL OF THE EROSION CONTROLS & LIMIT OF WORK FOR THE PROJECT PRIOR TO ANY TREE CLEARING AND CODNSTRUCTION ACTIVITIES.
4) CLEAR THE AREAS FOR THE TEMPORARY SEDIMENT BASINS AND TEMPORARY SWALES FOR THE PROJECT AND START CONSTRUCTION OF EACH.
5) COMPLETE CLEARING WITHIN LIMITS OF WORK FOR PROJECT.
6) STRIP AND STOCKPILE TOPSOIL FOR WITHIN ROADWAY AND DRAINAGE BASIN AREAS. STABILIZE TOPSOIL NOT SUBJECT TO IMMEDIATE USE WITH A TEMPORARY SEEDING MIXTURE. ALL STOCKPILES SHALL BE RINGED WITH SILT FENCE.
7) MASS GRADING – PERFORM EARTHWORK CUT TO FILLS FOR ROADWAY AND DRAINAGE BASIN AS DEPICTED HEREON. STABILIZE DISTURBED AREAS BY HAY AND SEED IN ACCORDANCE WITH THE ORDER OF CONDITIONS.
8) INSTALL INFRASTRUCTURE IMPROVEMENTS FOR THE PROJECT (INCLUDING ROADWAY & RIGHT-OF-WAY GRADING, STORM WATER BASIN, ETC.) AS DEPICTED HEREON.
9) LOT DEVELOPMENT AND HOME-BUILDING.

MERIDIAN OF MASSACHUSETTS MAINLAND GRID (NAD83)

GRAPHIC SCALE

(FEET) 60 0 30 60 120 180

(METERS) 18.3 0 6.1 18.3 36.6 54.9

1 inch = 60 ft.

LEGEND

328	EXISTING CONTOURS
328	MASS GIS CONTOURS 5K_ARC
328	DESIGN CONTOURS
+867.0	DESIGN GRADES
	SILTFENCE
	WATTLES
	LIMIT OF WORK

APPROVED UNDER THE SUBDIVISION CONTROL LAW PLANNING BOARD OF LEICESTER

DATE:

GRAZ Engineering, L.L.C.

323 West Lake Road, Fitzwilliam, NH 03447
Phone: (603) 585-6959 Fax: (603) 585-6960

PARKKER STREET (NORTH) - DEFINITIVE SUBDIVISION
LEICESTER, MASSACHUSETTS

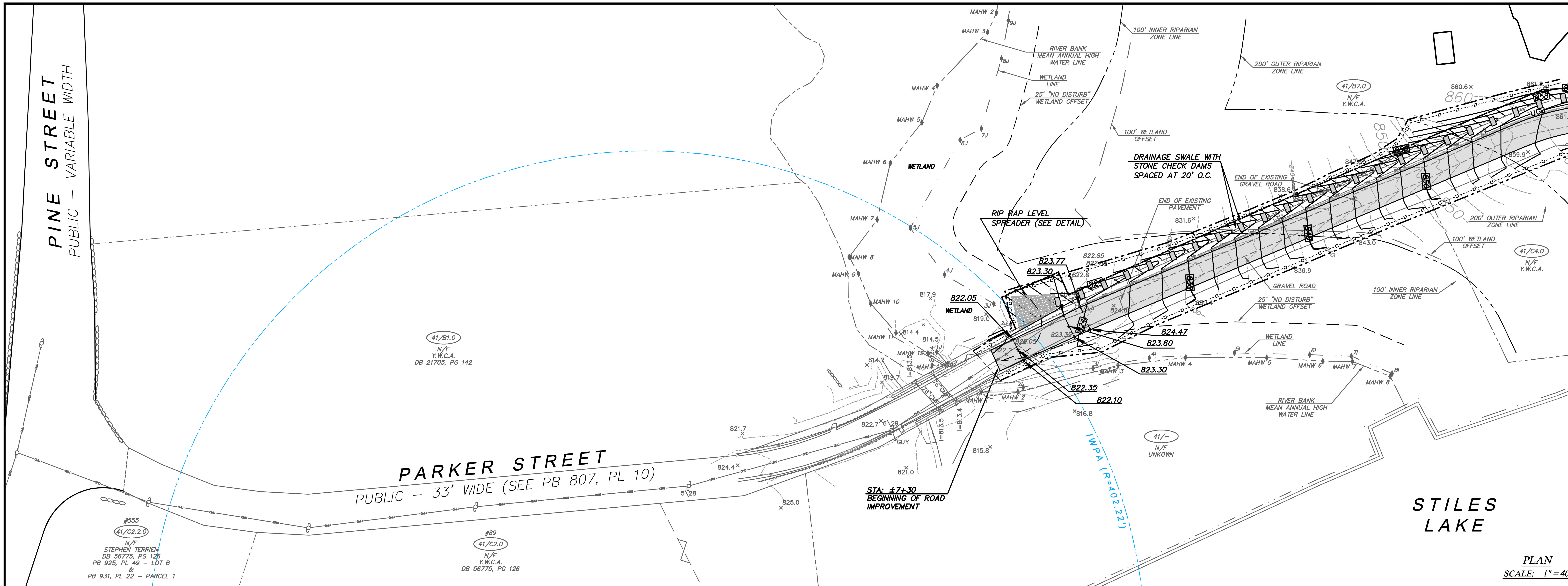
EROSION CONTROL PLAN

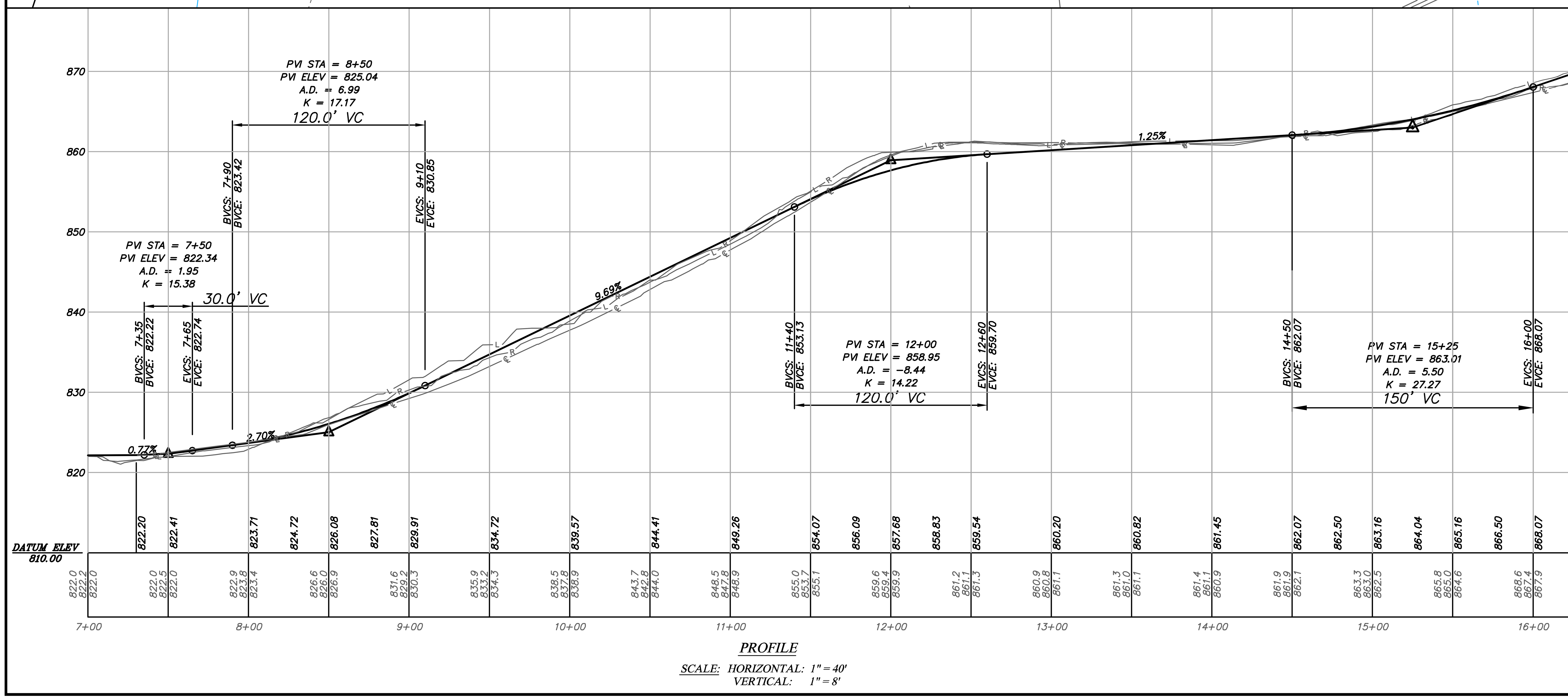
PREPARED FOR: SCHOLD DEVELOPMENT, LLC (OWNER/APPLICANT)
77 CHICKERING ROAD, SPENCER, MA 01562

SCALE: AS NOTED | DRAWN: BCM | CHECKED: PFG & BCM | PLAN DATE: JUNE 8, 2021

REV.	DATE	DESCRIPTION	BY
1	8/24/21	REVS PER QUINN ENG. TECH. REVIEW & LPB	BCM
2	9/8/21	REVS PER QUINN ENG. TECH. REVIEW & LPB	BCM

COMMONWEALTH OF MASSACHUSETTS PAUL F. GRASEWICZ CIVIL No. 35306 REGISTERED PROFESSIONAL ENGINEER





LEGEND

– – 328 – –	EXISTING CONTOURS
—328—	DESIGN CONTOURS
+867.0	DESIGN GRADES
	SILTFENCE
	WATTLES
	LIMIT OF WORK
	PROPOSED TREE LINE
	LOT/STREET LIGHT

MERIDIAN OF MASSACHUSETTS MAINLAND GRID (NAD83)

GRAPHIC SCALE

(FEET) 40 0 20 40 80 120

(METERS) 12.2 0 6.1 12.2 24.4 36.6

1 inch = 40 ft.

PROPOSED GRADE CENTERLINE

EXISTING GRADE 25' RIGHT

EXISTING GRADE CENTERLINE

EXISTING GRADE 25' LEFT

PROFILE LEGEND

APPROVED UNDER THE SUBDIVISION CONTROL LAW PLANNING BOARD OF LEICESTER

DATE: ____________

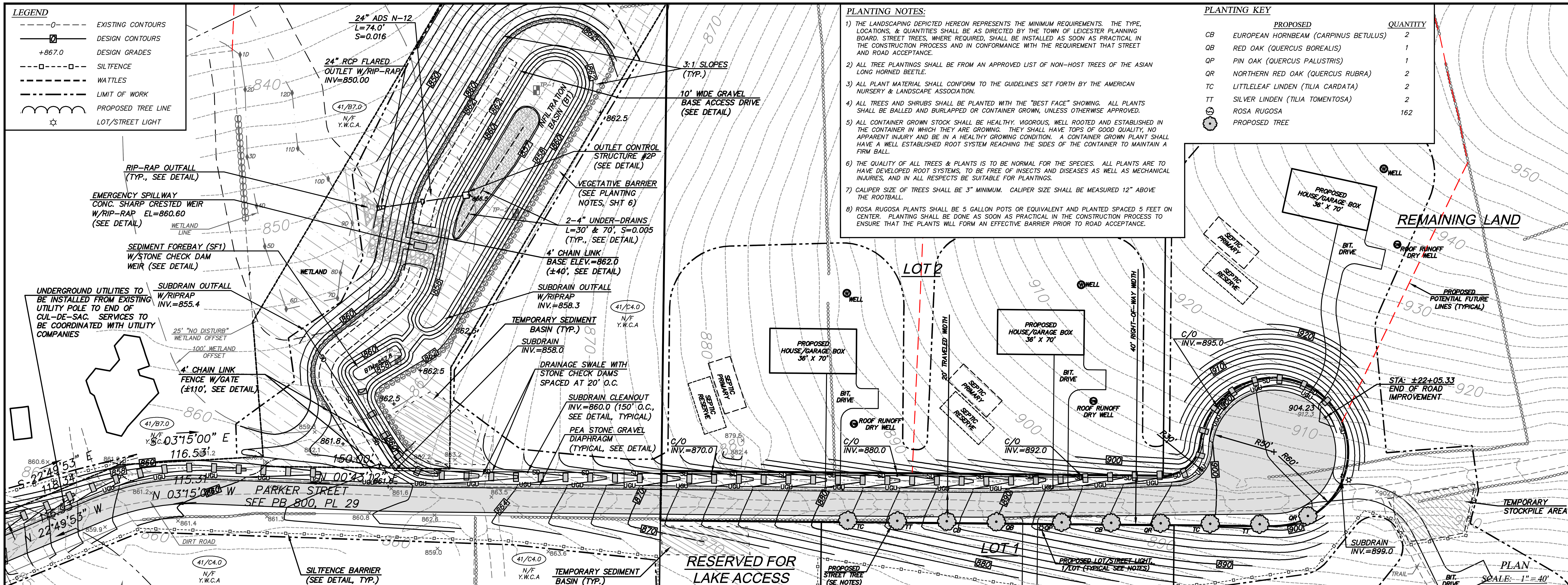
GRAZ Engineering, L.L.C.
323 West Lake Road, Fitzwilliam, NH 03447
Phone: (603) 585-6959 Fax: (603) 585-6960

PARKER STREET (NORTH) - DEFINITIVE SUBDIVISION
LEICESTER, MASSACHUSETTS

PARKER STREET - PLAN & PROFILE (SHEET 1 OF 2)
PREPARED FOR: SCHOLD DEVELOPMENT, LLC (OWNER/APPLICANT)
77 CHICKERING ROAD, SPENCER, MA 01562

SCALE: AS NOTED	DRAWN: BCM	CHECKED: PFG & BCM	PLAN DATE: JUNE 8, 2021	
REV.	DATE	DESCRIPTION		BY
1	8/24/21	REVS PER QUINN ENG. TECH. REVIEW & LPB		BCM
2	9/8/21	REVS PER QUINN ENG. TECH. REVIEW & LPB		BCM

SHEET 5 OF 8

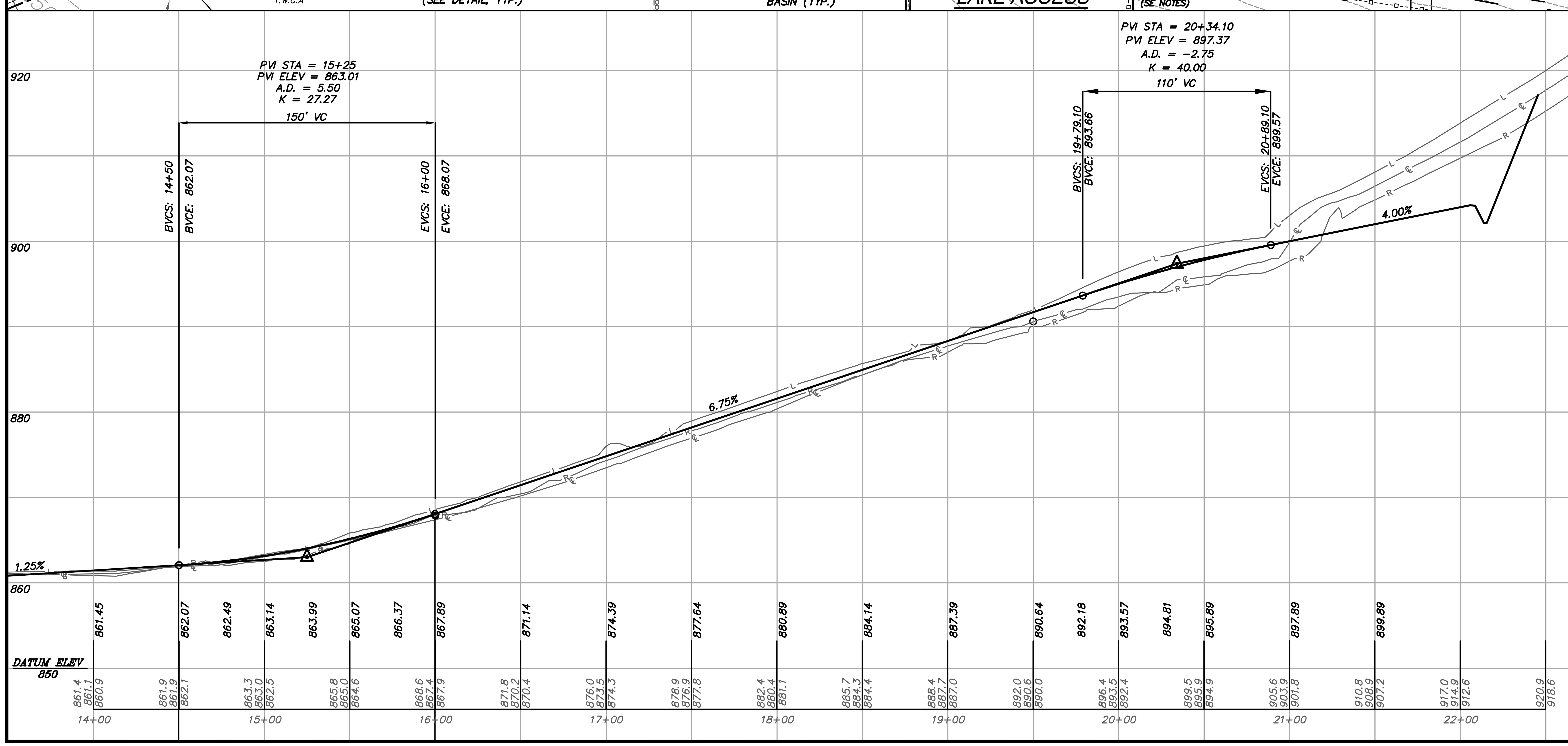


PLANTING NOTES:

1) THE LANDSCAPING DEPICTED HEREON REPRESENTS THE MINIMUM REQUIREMENTS. THE TYPE, LOCATIONS, & QUANTITIES SHALL BE AS DIRECTED BY THE TOWN OF LEICESTER PLANNING BOARD. STREET TREES, WHERE REQUIRED, SHALL BE INSTALLED AS SOON AS PRACTICAL IN THE CONSTRUCTION PROCESS AND IN CONFORMANCE WITH THE REQUIREMENT THAT STREET AND ROAD ACCEPTANCE.
2) ALL TREE PLANTINGS SHALL BE FROM AN APPROVED LIST OF NON-HOST TREES OF THE ASIAN LONG HORNED BEETLE.
3) ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES SET FORTH BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
4) ALL TREES AND SHRUBS SHALL BE PLANTED WITH THE "BEST FACE" SHOWING. ALL PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN, UNLESS OTHERWISE APPROVED.
5) ALL CONTAINER GROWN STOCK SHALL BE HEALTHY. VIGOROUS, WELL ROOTED AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE GROWING. THEY SHALL HAVE TOPS OF GOOD QUALITY, NO APPARENT INJURY AND BE IN A HEALTHY GROWING CONDITION. A CONTAINER GROWN PLANT SHALL HAVE A WELL ESTABLISHED ROOT SYSTEM REACHING THE SIDES OF THE CONTAINER TO MAINTAIN A FIRM BALL.
6) THE QUALITY OF ALL TREES & PLANTS IS TO BE NORMAL FOR THE SPECIES. ALL PLANTS ARE TO HAVE DEVELOPED ROOT SYSTEMS, TO BE FREE OF INSECTS AND DISEASES AS WELL AS MECHANICAL INJURIES, AND IN ALL RESPECTS BE SUITABLE FOR PLANTINGS.
7) CALIPER SIZE OF TREES SHALL BE 3" MINIMUM. CALIPER SIZE SHALL BE MEASURED 12" ABOVE THE ROOTBALL.
8) ROSA RUGOSA PLANTS SHALL BE 5 GALLON POTS OR EQUIVALENT AND PLANTED SPACED 5 FEET ON CENTER. PLANTING SHALL BE DONE AS SOON AS PRACTICAL IN THE CONSTRUCTION PROCESS TO ENSURE THAT THE PLANTS WILL FORM AN EFFECTIVE BARRIER PRIOR TO ROAD ACCEPTANCE.

PLANTING KEY

	PROPOSED	QUANTITY
CB	EUROPEAN HORNBEAM (CARPINUS BETULUS)	2
QB	RED OAK (QUERCUS BOREALIS)	1
QP	PIN OAK (QUERCUS PALUSTRIS)	1
QR	NORTHERN RED OAK (QUERCUS RUBRA)	2
TC	LITTLELEAF LINDEN (TILIA CARDATA)	2
TT	SILVER LINDEN (TILIA TOMENTOSA)	2
	ROSA RUGOSA	162
	PROPOSED TREE	



STREET/LOT LIGHTING

1) EACH LOT SHALL BE PROVIDED WITH A STANDARD LAMP POST LIGHT ON THE LOT NEAR THE INTERSECTION OF DRIVEWAY WITH THE STREET RIGHT-OF-WAY LINE. THE TYPE AND INSTALLATION SHALL BE AS DIRECTED BY THE TOWN OF LEICESTER PLANNING BOARD AND IN ACCORDANCE WITH THE STATE ELECTRICAL CODES.

PARKER STREET (NORTH) - LEICESTER, MA

TABLE OF SOIL TEST PIT DATA

Testing Date: 08/16/21

Performed by: Brian MacEwen, SE#1430, GRAZ Engineering, LLC

TP#	LOCATION	DEPTH	HORIZON	TEXTURE	EG EL.	ESHGWT	ESHGWT EL.	NOTES
		(inches)				(inches)		
1	B1	0-5	A	F.S.L.	854.0			
		5-22	Bc	F.S.L.				
		22-48	Cd	F.S.L.		28	851.7	Moist, No Refusal
2	B1	0-7	A	F.S.L.	859.7			
		7-21	Bc	F.S.L.				
		21-46	Cd	F.S.L.		34	856.9	Moist, No Refusal
3	SF1	0-6	A	F.S.L.	858.4			
		6-26	Bc	F.S.L.				
		26-40	Cd	F.S.L.		32	855.7	Moist, No Refusal

MERIDIAN OF MASSACHUSETTS MAINLAND GRID (NAD83)

GRAPHIC SCALE

(FEET) 40 0 20 40 80 120

(METERS) 12.2 0 6.1 12.2 24.4 36.6

1 inch = 40 ft.

APPROVED UNDER THE SUBDIVISION CONTROL LAW PLANNING BOARD OF LEICESTER

DATE:

GRAZ Engineering, L.L.C.
323 West Lake Road, Fitzwilliam, NH 03447
Phone: (603) 585-6959 Fax: (603) 585-6960

PARKER STREET (NORTH) - DEFINITIVE SUBDIVISION
LEICESTER, MASSACHUSETTS

PARKER STREET - PLAN & PROFILE (SHEET 2 OF 2)
PREPARED FOR: SCHOLD DEVELOPMENT, LLC (OWNER/APPLICANT)
77 CHICKERING ROAD, SPENCER, MA 01562

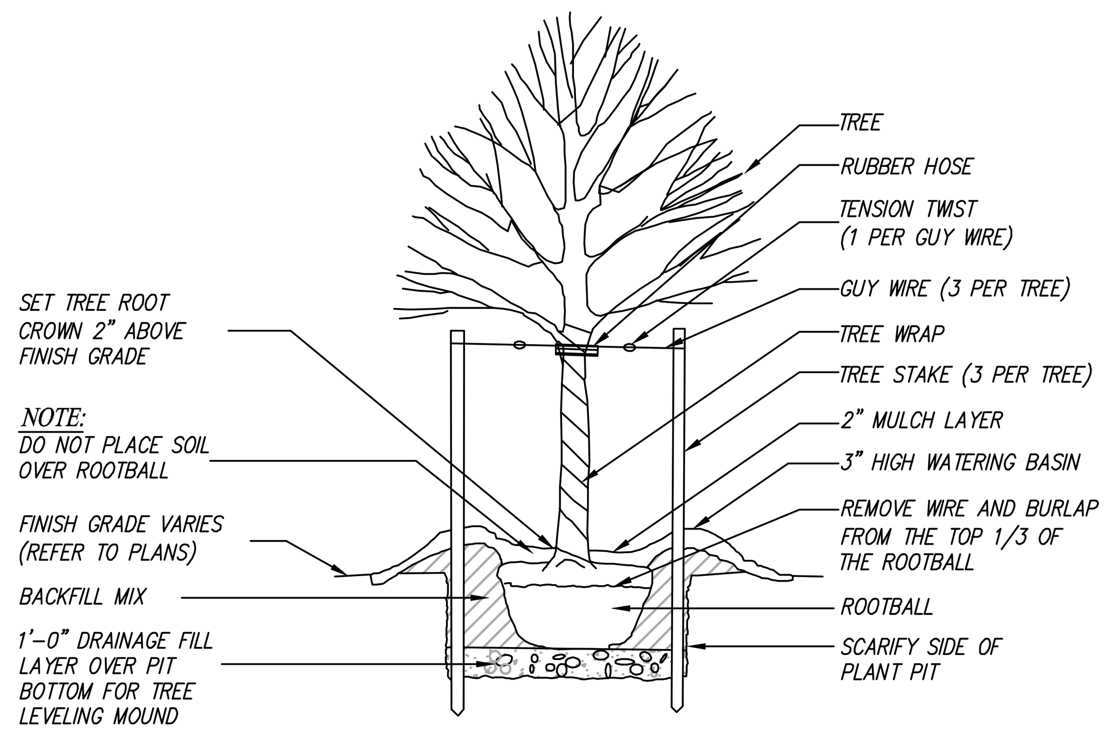
SCALE:	DRAWN:	CHECKED:	PLAN DATE:	
AS NOTED	BCM	PFG & BCM	JUNE 8, 2021	
REV.	DATE	DESCRIPTION		BY
1	8/24/21	REVS PER QUINN ENG. TECH. REVIEW & LPB		BCM
2	9/8/21	REVS PER QUINN ENG. TECH. REVIEW & LPB		BCM

GENERAL CONSTRUCTION NOTES

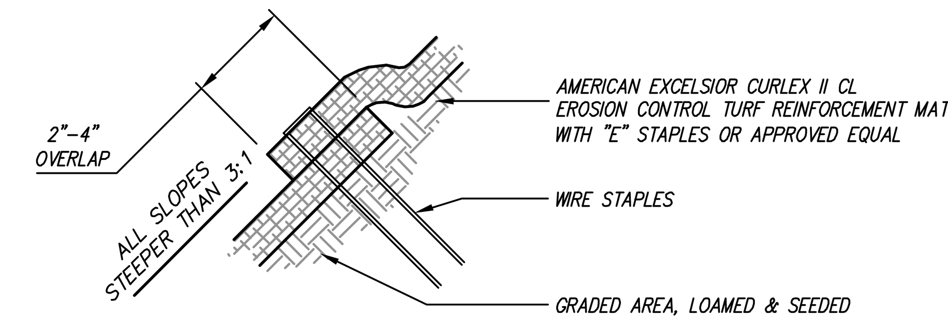
1) ALL REQUIRED PERMITS SHALL BE SECURED PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES.
2) THE TOWN OF LEICESTER CONSERVATION COMMISSION'S ORDER OF CONDITIONS ARE HEREBY MADE CONDITIONS OF THE JURISDICTIONAL WORK FOR THIS PROJECT.
3) AT LEAST 10 DAYS PRIOR TO COMMENCING ANY CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE TOWN LEICESTER PLANNING BOARD, CONSERVATION COMMISSION, BUILDING DEPARTMENT, HIGHWAY DEPARTMENT, & BOARD OF HEALTH, GRAZ ENGINEERING, LLC, AND QUINN ENGINEERING, INC.
4) IN ACCORDANCE WITH CHAPTER 82, SECTION 40, INCLUDING AMENDMENTS, ALL CONTRACTORS SHALL NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO ANY EXCAVATION WORK AND CALL DIG-SAFE AT 1-888-344-7233, 72 HOURS BEFORE ANY EXCAVATION.
5) THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON, ARE APPROXIMATE AND ARE BASED ON THE FIELD LOCATION OF THE OBSERVABLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER GATES, ETC. AND THE COMPILATION OF INFORMATION OBTAINED FROM VARIOUS UTILITY COMPANIES, AND GOVERNMENT AGENCIES. THE ENGINEER DOES NOT GUARANTEE THAT ALL UTILITIES AND SUB-SURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION, AND INVERT ELEVATIONS OF THE UTILITIES AND STRUCTURES, PRIOR TO THE START OF CONSTRUCTION.
6) ALL WORK AND MATERIALS SHALL CONFORM TO THE TOWN OF LEICESTER SUBDIVISION RULES & REGULATIONS, ZONING BYLAWS, PLANNING BOARD DECISIONS, CONSERVATION COMMISSION ORDERS, & HIGHWAY DEPARTMENT STANDARDS, AND THE LATEST EDITION OF THE MASSACHUSETTS HIGHWAY DEPARTMENT OF PUBLIC WORKS (MHDPW) CONSTRUCTION STANDARDS AND THE MHDPW "STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES" AND ALL OF THEIR RESPECTIVE AMENDMENTS, UNLESS OTHERWISE SPECIFIED BY THE LOCAL AUTHORITY OR THE ENGINEER.
7) THE CONTRACTOR SHALL COORDINATE ALL UTILITY AND ROADWAY CONSTRUCTION WITHIN THE TOWN RIGHT-OF-WAYS WITH THE HIGHWAY DEPARTMENT SUPERINTENDENT AND/OR THE APPROPRIATE UITILITY COMPANY.
8) THE CONTRACTOR SHALL PROVIDE EVERYTHING NECESSARY TO CONSTRUCT THE UTILITIES AND ROADWAY WITHIN THE SPECIFIED PARAMETERS AND IN A WORKMANSHIP LIKE MANNER.
9) THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES ARE OBSERVED BETWEEN THE EXISTING CONDITIONS DEPICTED HEREON AND THE FIELD VERIFIED CONDITIONS.
10) THE CONTRACTOR SHALL CONTROL AIRBORNE DUST WITH USE OF SPRAYED WATER AS REQUIRED TO MINIMIZE THE IMPACTS TO NEIGHBORING PROPERTIES. THE USE OF CALCIUM CHLORIDE OR OTHER CHEMICALS ARE PROHIBITED.
11) THIS ROADWAY PROJECT SHALL BE BUILT ALL IN ONE PHASE. IF AT ANY TIME SHOULD THE DEVELOPER DECIDE TO CONSTRUCT THE PROJECT IN PHASES, A CONSTRUCTION SEQUENCING PLAN SHALL BE SUBMITTED TO THE PLANNING BOARD FOR REVIEW AND APPROVAL PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES.
12) ALL PROPOSED LOTS ARE TO BE SERVICED BY PRIVATE ON-SITE SEPTIC AND WELLS.
13) THE TEST PITS FOR THE PROPOSED STORMWATER INFILTRATION BASIN SHALL BE PERFORMED PRIOR THE COMMENCEMENT OF ANY ROADWAY CONSTRUCTION.
14) BACK FILL FOR UTILITY TRENCHES SHALL BE PLACED IN 12-INCH LOOSE LIFTS AND COMPACTED TO 95 PERCENT DRY DENSITY, IN ACCORDANCE WITH ASTM DESIGNATION 1557-70 METHOD D.
15) "GRAVEL BASE" MATERIALS SHALL CONFORM WITH THE CURRENT TOWN SUBDIVISION REGULATIONS AND THE 1997 MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES. M1.03.0 TYPE "B" GRAVEL SHALL BE USED AND PLACED IN CONFORMANCE WITH MASS DOT SECTION 401.
16) TOP COURSE, BINDER COURSE, & MODIFIED CAPE COD BERM SHALL BE BE CLASS 1, TYPE I-1 (M3.11.0 & M3.12.0), PLACED IN ACCORDANCE WITH MASS DOT SECTION 460.
17) PLACE 4" OF LOAM AND SEED IN ALL DISTURBED AREAS OF THE PROJECT NOT OTHERWISE IMPROVED (E.G. PAVED, RIP-RAPPED, ETC.).
18) ALL PROPOSED GRADES SHALL BE GRADED SMOOTHLY AND EVENLY NTO THE EXISTING GRADES AND PROVIDE POSITIVE DRAINAGE. THE TOPS AND BOTTOMS OF ALL SLOPES SHALL BE ROUNDED OFF.
19) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE RECORDS OF THE LOCATION AND ELEVATION OF ALL WORK INSTALLED, INCLUDING TIES TO SERVICE LATERALS, AND SUBMIT ONE SET OF RED-LINED AS BUILT DRAWINGS TO THE ENGINEER OF RECORD.
20) FINAL DRIVEWAY LOCATIONS SHALL BE DETERMINED BY DEVELOPER DURING CONSTRUCTION. CURB CUTS AND DRIVEWAY OPENINGS SHALL BE COORDINATED WITHE THE HIGHWAY DEPARMENT SUPERINTENDENT AND COMPLY WITH THE TOWN DPW & SUBDIVISION REGULATIONS.

DEMOLITION NOTES

1) THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICES. ANY DAMAGE TO THE EXISTING UTILITIES BY THE CONTRACTOR'S OPERATION SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT THE CONTRACTOR'S EXPENSE.
2) THE CONTRACTOR SHALL SAW CUT THE EXISTING BITUMINOUS PAVEMENT ON PARKER STREET WHERE REQUIRED TO CONSTRUCT AND SMOOTHLY BLEND THE PROPOSED ROADWAY AND WITH THE EXISTING PAVEMENT.
3) ALL EXISTING FEATURES TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY AND DISPOSED OF LEGALLY OFF SITE UNLESS NOTED OTHERWISE.
4) THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE GOVERNMENT AGENCIES AND UTILITY COMPANIES FOR DETAILS ON THE TEMPORARY REMOVAL, RELOCATION, AND ABANDONMENT OF ALL OVERHEAD AND UNDERGROUND UTILITY SERVICES INCLUDING ELECTRICAL, COMMUNICATIONS, WATER, SEWER, DRAINAGE, CATV, AND GAS.
5) THE TREE CLEARING LIMITS SHALL NOT EXTEND BEYOND THE HAYBALE/SILT FENCE BARRIER. AREAS OF EXISTING VEGETATION TO REMAIN ARE TO BE PROTECTED THROUGHOUT CONSTRUCTION. REVIEW THE ACTUAL LIMITS OF CLEARING WITH THE OWNER, AND SELECTIVELY CLEAR AND PRUNE AS REQUIRED TO REMOVE DEAD, DISEASED, OR POORLY FORMED VEGETATION.

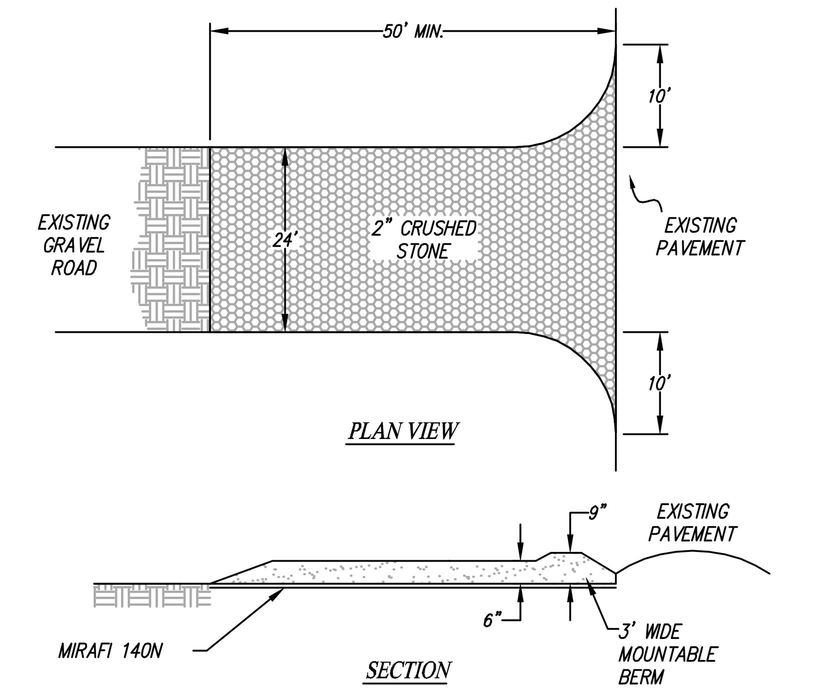


TREE PLANTING/ WITHOUT DRAINAGE
N.T.S.

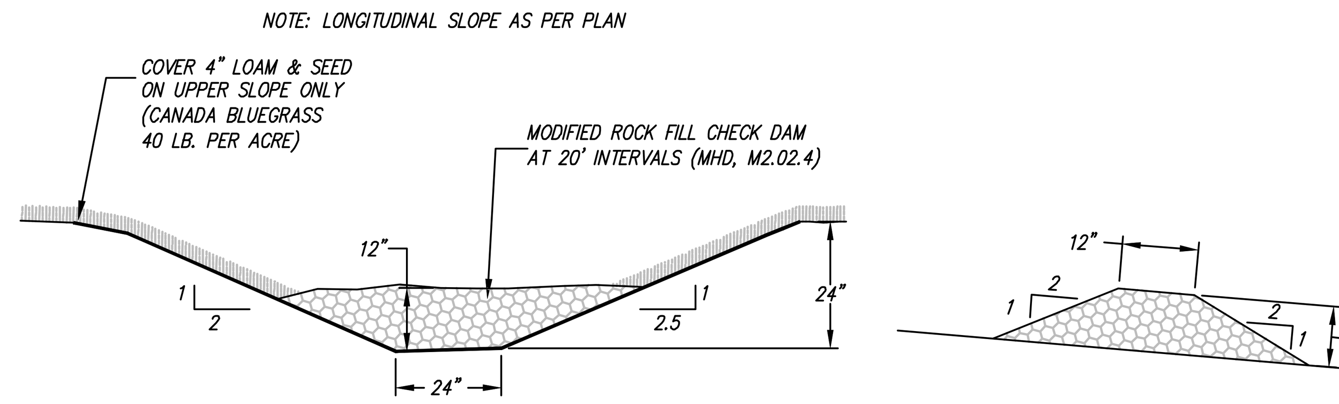


INSTALLATION NOTES:
1. RECOMMENDED STAPLES ARE MINIMUM 4" BIODEGRADABLE E-STAPLE AS PROVIDED BY AMERICAN EXCELSIOR CO., OR 6" WIRE FOR COHESIVE SOILS OR 8" WIRE FOR NON-COHESIVE SOILS.
2. INSERT STAPLES SO THAT HEADS ARE PARALLEL TO THE FLOW OF THE WATER.
3. UPSLOPE BLANKET LAPS OVER DOWNSLOPE BLANKETS IN A SHINGLE AFFECT.
4. SEE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR OTHER CONSTRUCTION REQUIREMENTS.)

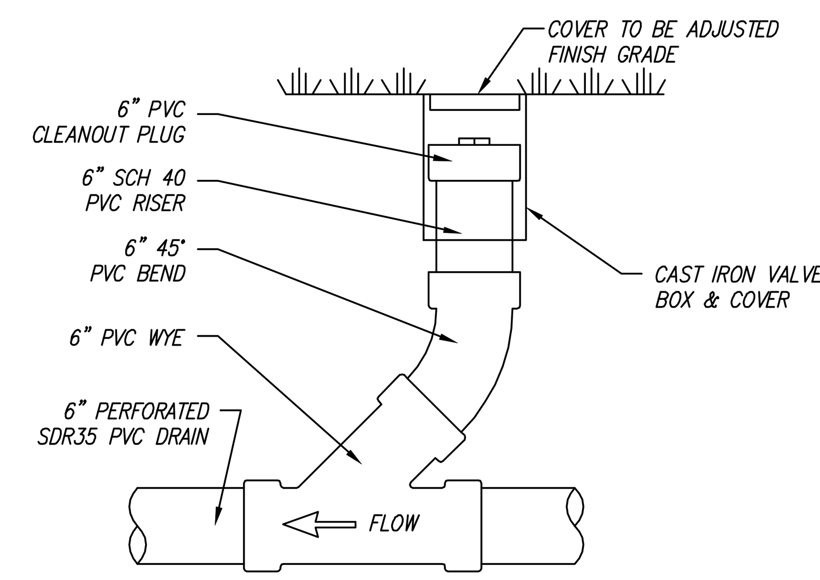
SLOPE STABILIZATION EROSION BLANKET
N.T.S



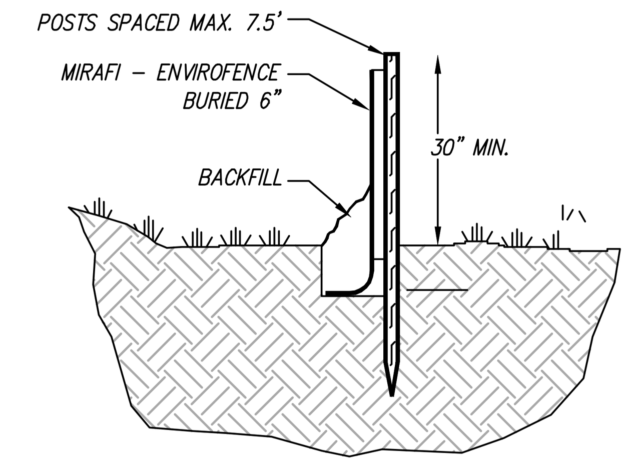
STABILIZED CONSTRUCTION ENTRANCE AT BALDWIN STREET
N.T.S.



WATER QUALITY SWALE STONE CHECK DAM DETAIL
N.T.S.

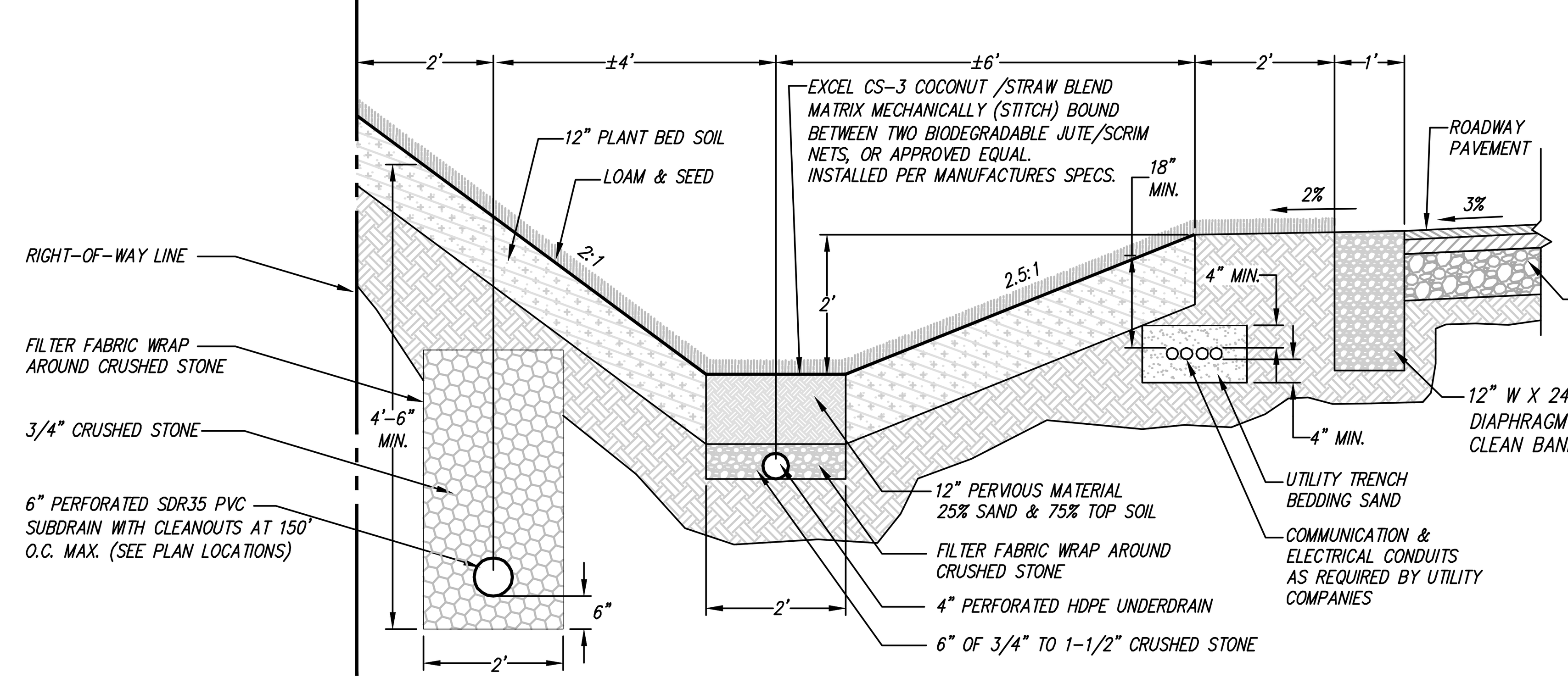


SUBDRAIN CLEANOUT DETAIL
N.T.S.



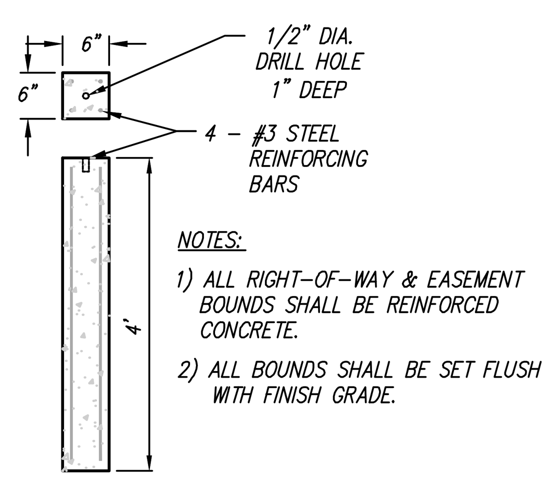
NOTES:
1) SILT FENCE SHALL BE THE SOLE EROSION CONTROL BARRIER AT ALL LOCATIONS WITH UPGRADIENT SLOPES OF EQUAL OR GREATER THAN 10% AND AROUND ALL STOCKPILES.
2) DIG A TRENCH 4" DEEP X 4" WIDE WHERE SILT FENCE IS TO BE INSTALLED.
3) SEAT THE SILT FENCE AGAINST THE DOWNGRADIENT SIDE OF THE TRENCH WITH THE BASE OF THE FENCING FABRIC SEATED INTO BOTTOM OF THE TRENCH.
4) STAKE WITH WOODEN STAKES AT 7.5' MAXIMUM ON CENTER.
5) FOOT TAMP THE EXCAVATED SOIL ALONG THE ENTIRE UPSLOPE SIDE THE SILT FENCE TO PREVENT DRAINAGE FROM ROUTING BENEATH THE BARRIER.

SILT FENCE EROSION CONTROL BARRIER DETAIL
N.T.S.



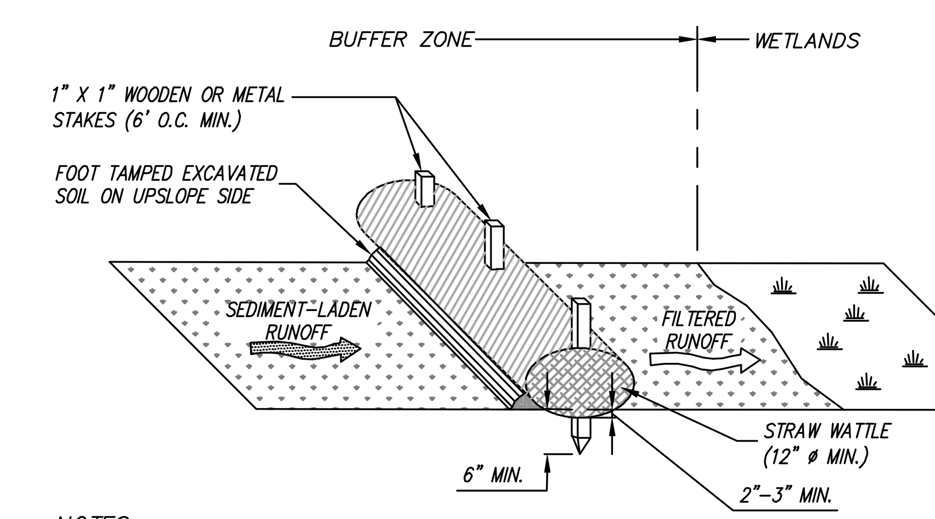
NOTES:
1) PROVIDE STONE CHECK DAMS AT 20' O.C. IN GRASSED SWALE
2) SUBDRAIN INSTALLATION FROM STA ±14+75 TO 21+50, EAST SIDE

WATER QUALITY SWALE, SUBDRAIN, & UTILITY TRENCH DETAIL
N.T.S.



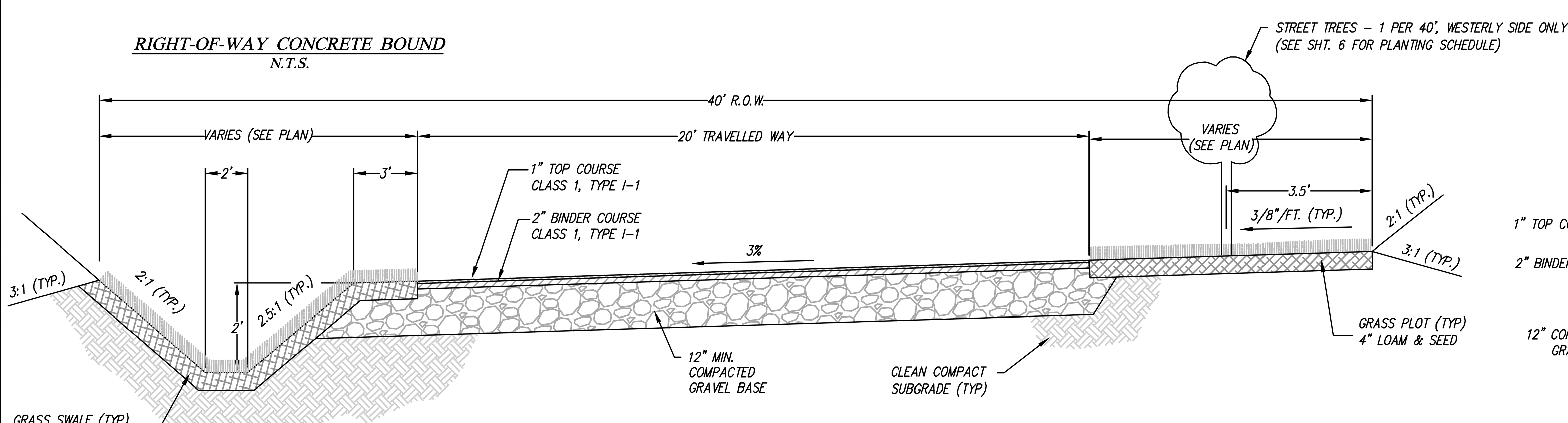
NOTES:
1) ALL RIGHT-OF-WAY & EASEMENT BOUNDS SHALL BE REINFORCED CONCRETE.
2) ALL BOUNDS SHALL BE SET FLUSH WITH FINISH GRADE.

RIGHT-OF-WAY CONCRETE BOUND
N.T.S.



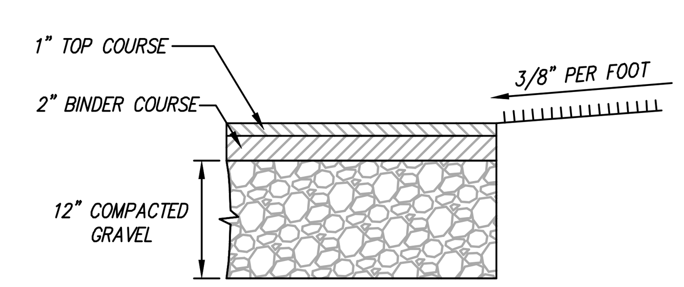
NOTES:
1) SHEATHING FOR STRAW WATTLES SHALL BE 100% BIODGRADABLE AND WITHOUT FIXED DIAMETER OPENINGS.
2) WATTLES SHALL BE AS THE SOLE EROSION CONTROL BARRIER AT ALL LOCATIONS WITH UPGRADIENT SLOPES OF LESS THAN 10%
3) DIG A TRENCH 2"-3" DEEP X 9" WIDE WHERE WATTLES ARE TO BE INSTALLED.
4) SEAT WATTLE FIRMLY INTO TRENCH AND STAKE WITH WOODEN STAKES AT 6' O.C. MINIMUM.
5) FOOT TAMP THE EXCAVATED SOIL ALONG THE ENTIRE UPSLOPE SIDE THE WATTLES TO PREVENT DRAINAGE FROM ROUTING BENEATH THE BARRIER.

STRAW WATTLE EROSION CONTROL BARRIER DETAIL
N.T.S.

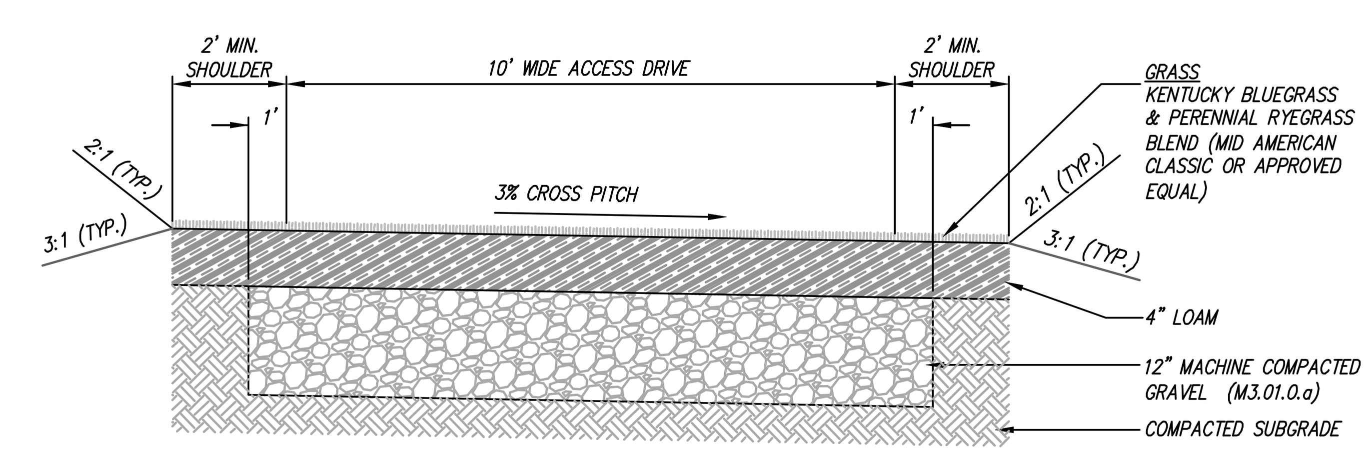


NOTE: ALL UNSUITABLE SUBGRADE & MATERIALS WITHIN R.O.W. TO BE REMOVED

STANDARD ROADWAY CROSS- SECTION
N.T.S.



ROADWAY PAVEMENT CROSS SECTION
N.T.S.

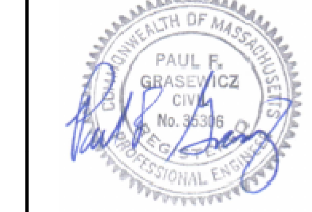


NOTE: ALL UNSUITABLE SUBGRADE & MATERIALS WITHIN PROPOSED DRIVE CROSS-SECTION SHALL BE REMOVED

ACCESS & STORM WATER BASIN BERM DRIVE CROSS-SECTION
N.T.S.

APPROVED UNDER THE SUBDIVISION CONTROL LAW PLANNING BOARD OF LEICESTER

DATE:



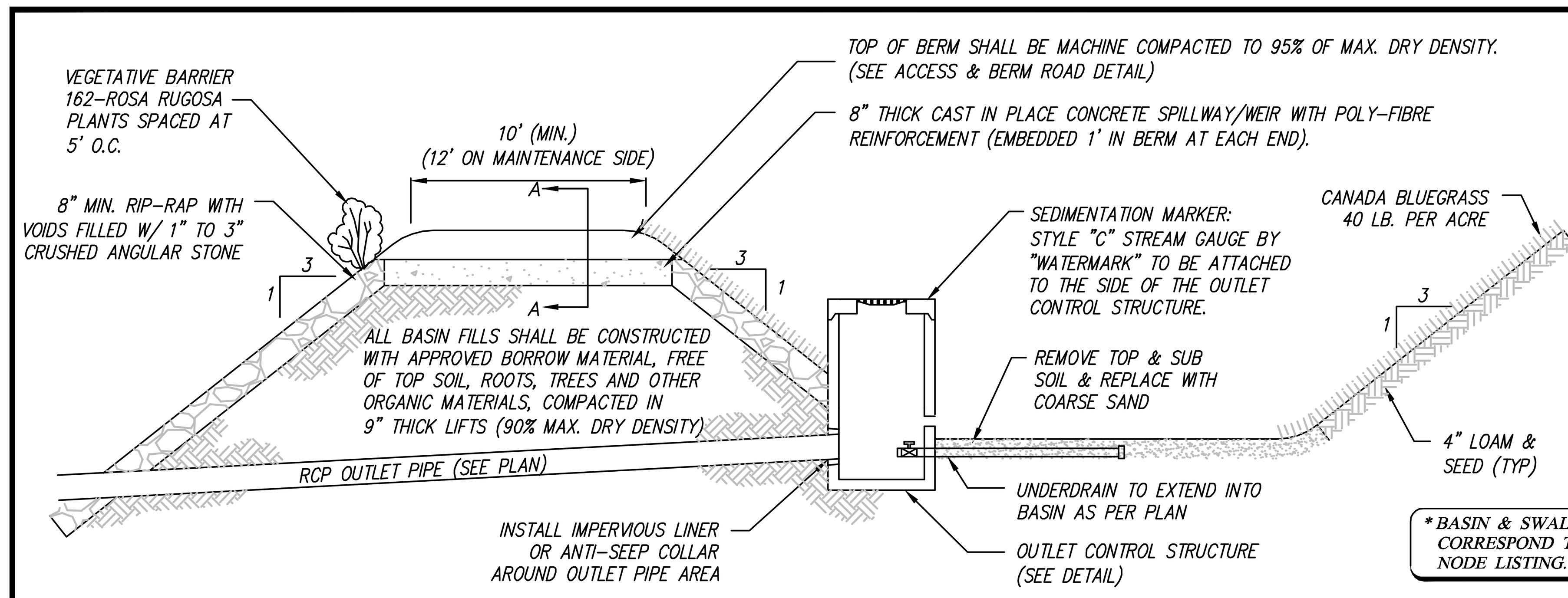
GRAZ Engineering, L.L.C.
323 West Lake Road, Fitzwilliam, NH 03447
Phone: (603) 585-6959 Fax: (603) 585-6960

PARKKER STREET (NORTH) - DEFINITIVE SUBDIVISION
LEICESTER, MASSACHUSETTS

CONSTRUCTION NOTES & DETAILS
PREPARED FOR: SCHOLD DEVELOPMENT, LLC (OWNER/APPLICANT)
77 CHICKERING ROAD, SPENCER, MA 01562

SCALE: AS NOTED	DRAWN: BCM	CHECKED: PFG & BCM	PLAN DATE: JUNE 8, 2021

REV.	DATE	DESCRIPTION	BY
1	8/24/21	REVS PER QUINN ENG. TECH. REVIEW & LPB	BCM
2	9/8/21	REVS PER QUINN ENG. TECH. REVIEW & LPB	BCM

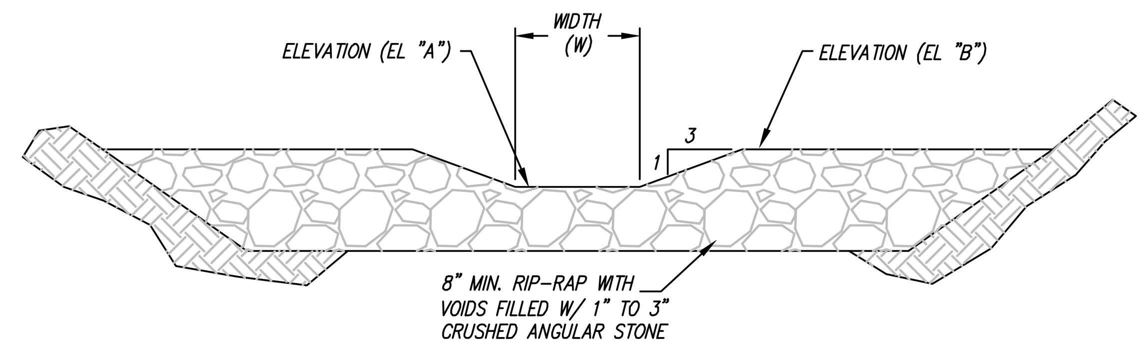


*BASIN & SWALE NUMBERS DEPICTED HEREON CORRESPOND TO THE HYDROLOGY REPORT NODE LISTING.

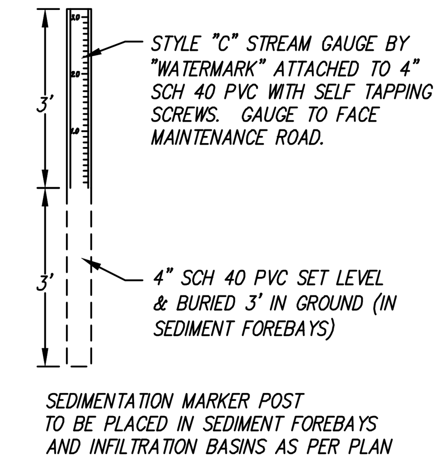
STORMWATER BASIN CROSS SECTION
N.T.S.

TABLE OF SEDIMENT FOREBAY WEIR DIMENSIONS

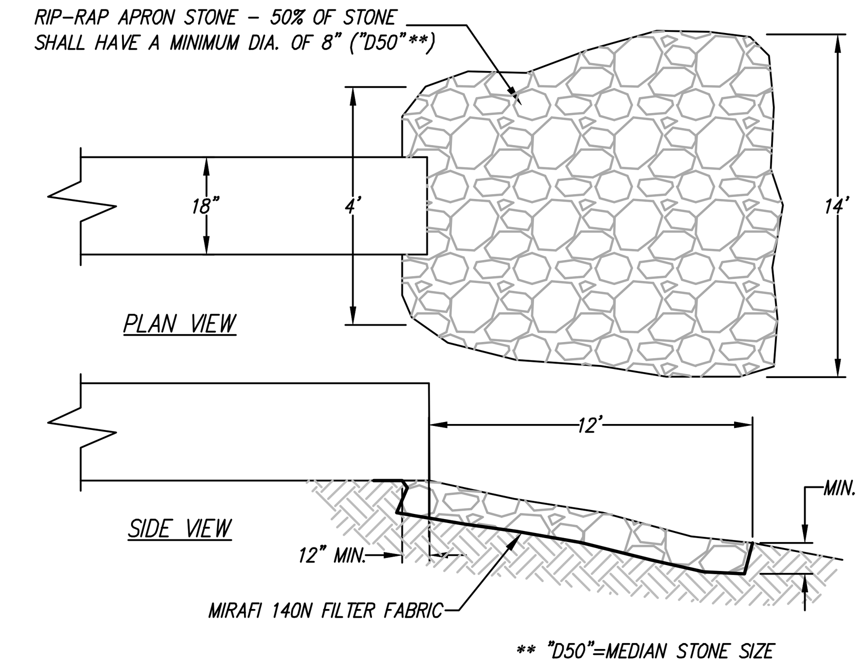
BASIN #*	EL "A"	EL "B"	W
SF1	860.30	861.30	4'



SEDIMENT FOREBAY WEIR SECTION A-A
N.T.S.



SEDIMENTATION MARKER POST
N.T.S.



FLARED OUTLET & RIP-RAP APRON DETAIL
N.T.S.

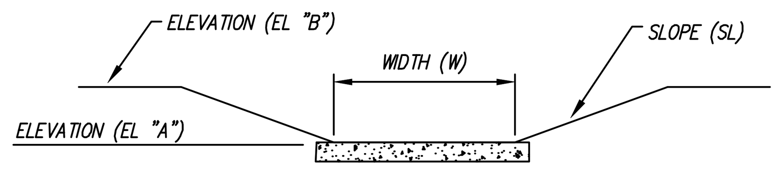


TABLE OF STORMWATER BASIN OVERFLOW WEIR DIMENSIONS

BASIN #*	EL "A"	EL "B"	W	SL
B1	860.60	862.30	5'	12:1

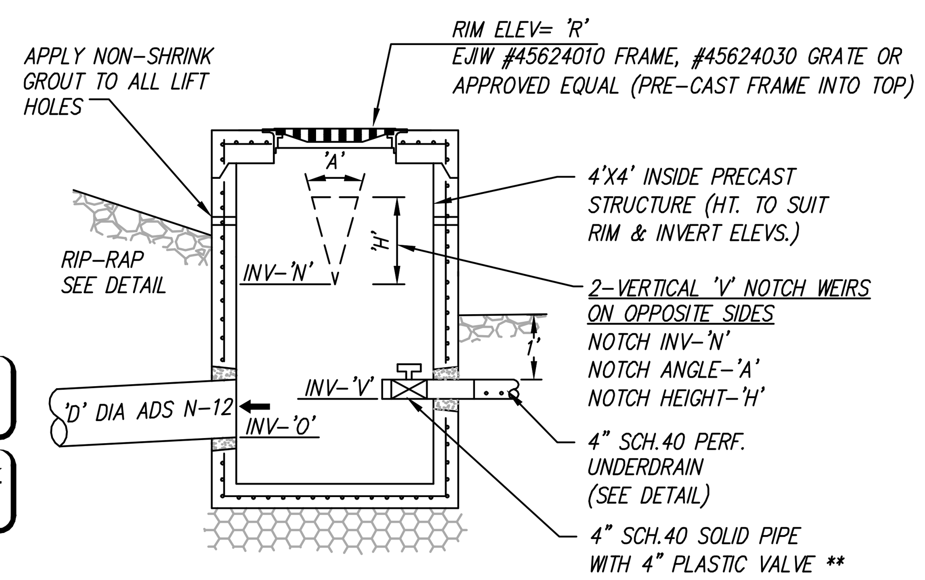
STORMWATER BASIN WEIR SECTION A-A
N.T.S.

TABLE OF OUTLET CONTROL STRUCTURE DIMENSIONS

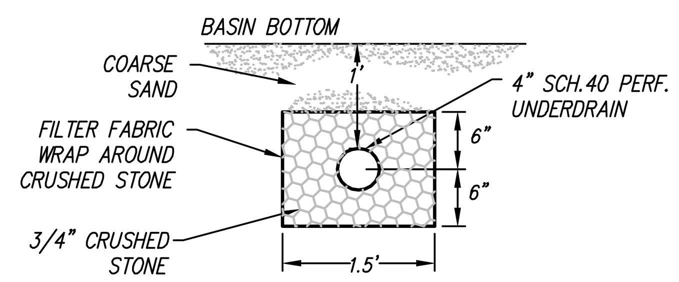
ELEMENT	BASIN #* B1
PIPE – 'D'	24"
INV – 'O'	851.20
INV – 'N'	857.30
ANGLE – 'A'	70°
HEIGHT – 'H'	1.5'
NO. OF NOTCHES	2
RIM – 'R'	860.60
INV – 'V'	855.00

*BASIN NUMBERS DEPICTED HEREON CORRESPOND TO THE HYDROLOGY REPORT NODE LISTING.

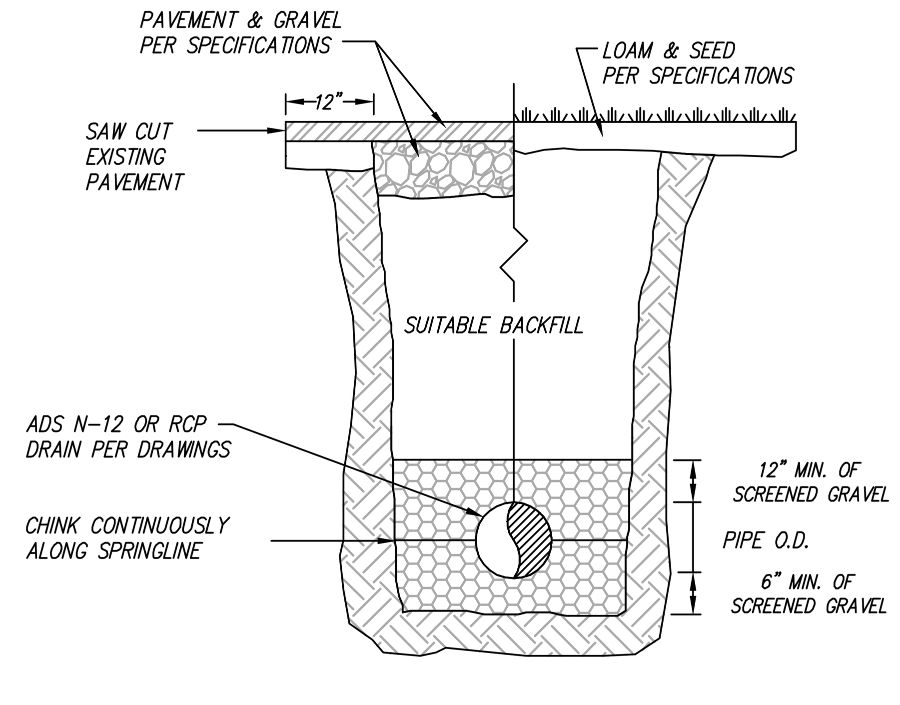
** VALVE TO BE INSTALLED IN THE CLOSED POSITION. VALVE IS FOR DRAIN DOWN PURPOSES ONLY.



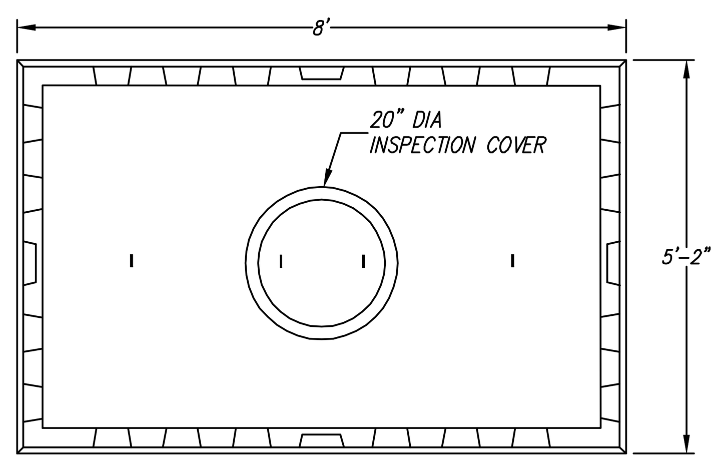
STORMWATER OUTLET CONTROL STRUCTURE
N.T.S.



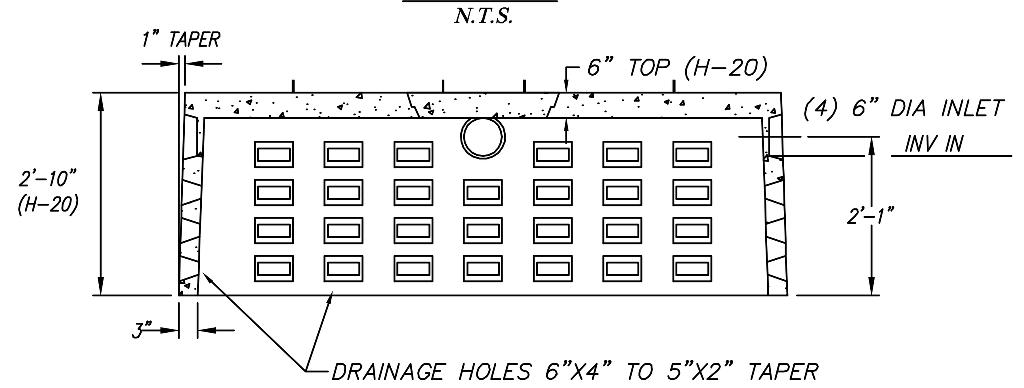
STORMWATER BASIN UNDERDRAIN DETAIL
N.T.S.



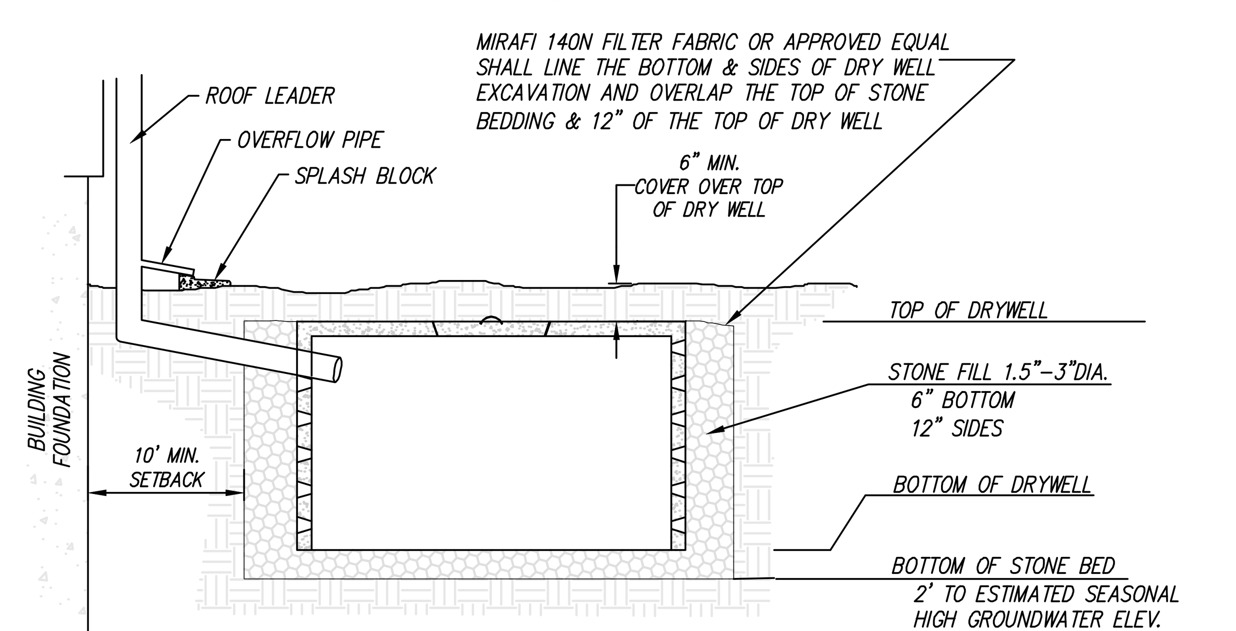
DRAIN TRENCH SECTION
N.T.S.



PLAN VIEW
N.T.S.

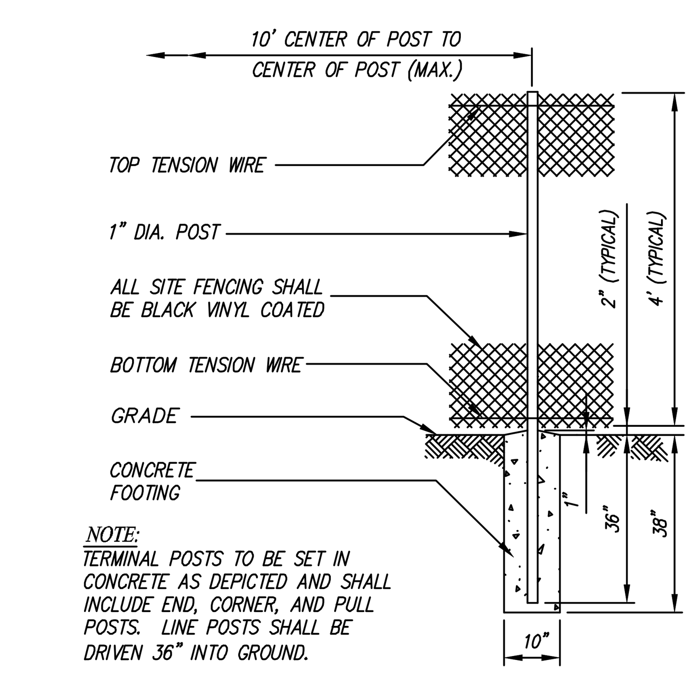


SECTION VIEW
N.T.S.



NOTES
1) DRYWELLS SHALL BE INSTALLED IN STONE BED AS DEPICTED HEREON FOR THE INDIVIDUAL LOTS FOR STORMWATER RECHARGE WHEREVER THE FIELD CONDITIONS MAKE IT POSSIBLE. EACH LOT SHALL BE EVALUATED BASED ON A SITE SOIL EVALUATION OF THE ESTIMATED SEASONAL HIGH GROUNDWATER ELEVATION AT THE TIME OF LOT CONSTRUCTION.
2) THE DRYWELLS SHALL BE SHEA CONCRETE PRODUCTS 500 GALLON SHALLOW RECTANGULAR OR APPROVED EQUAL.
3) THE DRYWELLS SHALL BE RATED FOR H20 LOADING.

ROOF DRAIN & DRYWELL CONNECTION DETAIL
N.T.S.



NOTE:
TERMINAL POSTS TO BE SET IN CONCRETE AS DEPICTED AND SHALL INCLUDE END, CORNER, AND PULL POSTS. LINE POSTS SHALL BE DRIVEN 36" INTO GROUND.

CHAIN LINK FENCE
N.T.S.

APPROVED UNDER THE SUBDIVISION CONTROL LAW PLANNING BOARD OF LEICESTER

DATE: ____________

GRAZ Engineering, L.L.C.
323 West Lake Road, Fitzwilliam, NH 03447
Phone: (603) 585-6959 Fax: (603) 585-6960

PARKKER STREET (NORTH) - DEFINITIVE SUBDIVISION
LEICESTER, MASSACHUSETTS

DRAINAGE DETAILS
PREPARED FOR: SCHOLD DEVELOPMENT, LLC (OWNER/APPLICANT)
77 CHICKERING ROAD, SPENCER, MA 01562

SCALE: AS NOTED | DRAWN: BCM | CHECKED: PFG & BCM | PLAN DATE: JUNE 8, 2021

REV.	DATE	DESCRIPTION	BY
1	8/24/21	REVS PER QUINN ENG. TECH. REVIEW & LPB	BCM
2	9/8/21	REVS PER QUINN ENG. TECH. REVIEW & LPB	BCM