Town of Reading
16 Lowell Street, Reading, MA 01867

Community Planning & Development Commission
Andrew MacNichol *Community Development Director*
Direct: 781-942-6670
amacnichol@ci.reading.ma.us
readingma.gov/community-planning-and-development-commission

August 14, 2023

Preliminary Subdivision Plan
DECISION of APPROVAL

45 Beacon Street
Proposed Street Name: TBD

To the Town Clerk:
This is to certify, that at a public hearing of the Reading Community Planning and Development Commission (CPDC), which was opened on March 13, 2023 and closed on XXX, by a motion duly made and seconded, it was voted:

"We, the CPDC, as requested by Angelo Salamone, under the Town of Reading's Subdivision Rules & Regulations, and MGL Chapter 41 Sections 81K through 81GG, to consider the 3-Lot Preliminary Subdivision Plan for property located at 45 Beacon Street (Assessors Map 27, Lot 411), as shown on the plans prepared by PGC Engineering, PLLC and GA Consultants, Inc., originally dated July 24, 2023, and most recently revised August 3 2023, in support of an application filed on January 16, 2023, do hereby vote XXX to _____ the said plans, inclusive of the waivers listed herein, subject to the Findings and Conditions below."

MATERIALS:
The following documents and plans were submitted into the public record:

1. Form B: Application for Preliminary Subdivision Approval, dated 1/16/23.
2. Certified List of Abutters, dated 2/9/23.
3. Legal Notice, published in Daily Times Chronicle on 2/22/23 and 3/1/23.
4. Original Materials for the March 13, 2023 Meeting:
    a. List of Requested Waivers from Reading Subdivision Regulations, dated 3/17/22.
    b. Summary Letter to CPDC, received 1/18/23.
    c. Proposed Plan of Lots, Assessors Map 27 Lot 411, 45 Beacon Street, Reading MA, prepared for: Angelo Salamone, prepared by: GA Consultants, Inc.
    d. Comments from Reading Fire Department, dated 2/13/23.

5. Public Comment:

a. Email, Resident of 17 Bethesda Lane, received 3/8/23
b. Email, Resident of 99 Beacon Street, received 3/10/23

6. Revised Materials for the August 14, 2023 Meeting:
    a. Email from Project Engineer to Senior Planner with revised list of requested waivers, dated 8/3/23.
    b. Plan Set by PGC Engineering PLLC and GA Consultants, Inc.
        i. Cover Sheet, dated 7/24/23
        ii. Topography, dated 8/3/23
        iii. Existing Conditions, dated 7/24/23
        iv. Concept Plan, dated 8/3/23
        v. Proposed Plan of Lots, dated 7/24/23 and last revised 8/3/23
        vi. Proposed Improvements, dated 8/3/23
        vii. Proposed Improvements including Topography, dated 7/23/23
        viii. Roadway Profile, dated 7/29/22
7. Draft Decision, dated 3/13/23, revised 8/14/23.

FINDINGS:

1. **Existing Conditions:** Beacon Street is an existing 40' wide Private Way. The development tract is comprised of 45 Beacon Street, an existing 59,476sf parcel with approximately 138.3 linear feet of frontage along the T shaped terminus of Beacon Street. The parcel maintains an existing single-family dwelling. A portion of the lot fronts the currently paved Beacon St roadway, part of it fronts the unimproved paper street, and the balance currently sits behind other lots that face Beacon St. The site is entirely within the S-15 Zoning District.
2. **Proposal:** The Applicant is proposing to subdivide the lot into three separate lots, for a net of two buildable lots and a lot that would maintain the existing dwelling. The Applicant proposes to extend the right of way of Beacon Street as a 24' paved roadway terminating in a 45' radius paved cul-de-sac. The right of way improvement and extension would provide the necessary frontage required for the two new single-family dwellings proposed on the tract.
3. **Zoning:** The site is within the S-15 Zoning District and the proposed lots will comply with the bulk frontage and area requirements of the S-15 Zoning District. A minimum total of 15,000sf of area, 12,000sf of upland area, and 100' linear feet of frontage is required. Lot One is proposed to maintain 15,190sf of area and 101.84 linear feet of frontage; Lot Two is proposed to maintain 16,343sf of area and 150.73 linear feet of frontage; Lot Three will maintain 16,520sf of area and 185.64 linear feet of frontage. It is anticipated that the proposed homes will comply with the dimensional and bulk requirements of the S-15 Zoning District.
4. **Proof of Concept:** The proposed concept plan depicts a 60' right of way extension with a termination at a 60-foot radius cul-de-sac bulb. All lots meet the district zoning requirements in this concept plan.
5. **Proposed Right-of-Way:** The proposed right-of-way layout will improve the existing 40-foot layout of Beacon Street and extend it into a cul-de-sac. It includes an improvement of the existing paper street into a paved 24-ft wide roadway terminating which extends into a new 45' paved cul-de-sac. A waiver request to pave only 24' rather than 30' of roadway was included in the application. A waiver request for sidewalks was included in the application. A waiver request for installing bituminous curbs rather than granite curbs was included in the application.

6. **Traffic:** A full Traffic Study is not required under Preliminary Subdivision Plans and at this time a waiver request has not been submitted as part of this application. A Traffic Study is required under a future Definitive Subdivision Application and the Applicant at that time may request, and provide reasoning for, a waiver from such requirement.
7. **Trees/Landscaping/Screening:** The proposed improvements include retaining walls on several places on the site including: the west side of the improved section of the Beacon Street right-of-way, on the north side of the proposed cul-de-sac and the north side of the proposed driveway for the home on Lot 2. No landscaping plan has been proposed or approved, nor any waivers requested as part of this preliminary application.
8. **Lighting:** No street lighting has been proposed nor any waiver requested as part of this preliminary plan.
9. **Utilities:** Both Town water and sewer are proposed to be extended and connected to the proposed house lot. Electric, Telephone and Cable service shall also be provided. All utilities are proposed to be underground and extended through the proposed right of way extension.
10. **Drainage:** No detailed drainage specifications were included with this Preliminary Application. The proposed improvements include mockups of where drains and outflows could conceivably be placed within the confines of the site plan. No drainage design has been approved as part of this Preliminary application.
11. **Stormwater Permit:** A stormwater permit application will be required with a Definitive application.
12. **Easements:** There is an existing sewer and drain easement within Beacon Street right of way. Abutting structures and fencing are located on the property, and if to be maintained easements for such shall be provided in a Definitive application.
13. **Rooftop Solar:** The Applicant shall consider orienting the homes so that future owners can benefit from potential rooftop solar installations and/or passive heating.

<u>WAIVERS</u>:

The Applicant has requested, and the Commission has voted the following waivers from the Town of Reading Subdivision Regulations, with guidance:

1. A waiver from Section 7.1.1a requiring a right of way width of 60-feet.
    a. *The existing layout of Beacon Street is 40-feet wide and the Applicant proposes to extend the layout of Beacon Street at the 40-foot width, because of such the Applicant requests relief of this requirement.*

2. A waiver from Section 7.1.3 that cross sections conform to Figure One.
    a. *The Applicant requests a waiver of the requirement due to the proposed 24-foot pavement width and request for no sidewalk and concrete curbing.*

3. A waiver from Section 7.1.5(b) requiring the maximum slope of a cul-de-sac be 3%.
    a. *The Applicant requests a waiver to construct the cul-de-sac with a grade of 5% due to the steepness of the land.*

4. A waiver from Section 7.1.5(e) requiring a landscaped island within the cul-de-sac.
    a. *The Applicant requests that such requirement be waived.*

5. A waiver from Section 7.1.7 requiring vertical granite curbing to be installed.
    a. *Due to the limited scope of the project the Applicant requests a waiver of this requirement and to install bituminous concrete curbs rather than granite.*

6. A waiver from Section 7.2 requiring sidewalks along both sides of the roadway.
    a. *It has been requested that sidewalks be waived as no sidewalks exist along Beacon Street.*

CONDITIONS:

General:

1. **Definitive Subdivision:** Should the Applicant wish to proceed with this project, Definitive Subdivision Plans shall be submitted to the Town within 7 months of the preliminary application filed on January 16, 2023, in conformance with Chapter 41A Section 81Q of the Subdivision Control Law. The application shall conform to the submittal and design requirements of the Reading Subdivision Rules and Regulations.
    a. This condition does not preclude the applicant from submitting a Definitive Application at a later date than what is listed above.
2. **Plan Revisions**:
    a. Existing right of ways shall be noted as Public or Private ways (as applicable) and shall also be noted with existing pavement width.
    b. Citation by name and case number of existing Special Permits and/or Variances granted shall be noted on the plan.
    c. A list of deed and plan references used to formulate the plan shall be noted.
3. **Driveway Design:** No driveways are approved herein. The Applicant shall receive approval from necessary departments as may be required, included but not limited to, the Engineering Department, Planning Department and Reading Select Board.
4. **Drainage Design:** No drainage design is approved herein. The Definitive Plans shall include any LID or conventional stormwater management features proposed on-site, along with relevant calculations and documentation as may be required by the Town Engineer.
5. **Stormwater Permit Application:** The Applicant shall file a Stormwater Permit Application for review with the Community Development Director, Conservation Administrator, and Town Engineer.
6. **Utilities:** The Applicant shall work with the DPW and RMLD to ensure compliance with all utility extension requirements. Utilities for the new homes are required to be undergrounded.
7. **Other Permits:** The Applicant is responsible for obtaining all other required Federal, State and Local permits, including but not limited to: Definitive Subdivision Plan Approval from the CPDC, a NPDES Permit; Stormwater Permit, utility permits for sewer, water, electric,

etc.; curb cut, driveway, MassDOT and Jackie's Law excavation permits; Board of Health approvals; and an Order of Conditions from the Conservation Commission.

8. **Health Division:** As appropriate, prior to submitting a Definitive Subdivision Plan, the Applicant shall ensure compliance with applicable requirements of the Health Department.
9. **Snow Storage:** The Applicant shall coordinate with the Conservation Commission, Engineering Department, and DPW Department, to determine the most appropriate location on-site for snow storage.
10. **Electric Utility**: The electric utility plan shall be submitted and approved by the Reading Municipal Light Department (RMLD). Locations of light poles, transformers, etc. shall be added to the plans and approved by RMLD.
11. **Property Maintenance:** The Applicant shall maintain the property in a neat and orderly fashion while the development is pending, and during construction.

Signed as to the accuracy of the vote as reflected in the minutes:

_____

Andrew MacNichol, Community Development Director Date

Cc: Applicant, Town Clerk, CPDC, Development Review Team, Building Inspector, planning file

Waiver Requests for Plan Entitled

Proposed Plan of Lots
45 Beacon Street
Prepared by
GA Consultants
March 17, 2022

Mr. Angelo Salamone is asking that certain portions of the Subdivision and the Stormwater Management Regulations be waived so that the proposed two unit project can be approved without excessive costs and time delays. Specifically, Mr. Salamone is asking the following subsections of **Section 7.0 Design Standards** of the Subdivision Regulations be waived

7.1.1 Width and Grade of Ways

7.1.3 Street Cross Section

7.1.5 Dead End Streets/Cul-de-sacs

7.1.7 Curbing

7.2 Sidewalks

Additionally, Mr. Salamone is requesting that the fees required by **Section3.6 Fees** of the Subdivision Regulations be waived, as well as Subsections **3.6.3.1** and **3.6.4**

Also included here is a request for waiver of fees required by the Stormwater Management and Erosion Control Regulations section **3 PERMIT FEES,** particularly subsection **3.1 Permit Application Fee** and subsection **3.2 Consultant Fee**

Waiver Requests from Sections Subdivision Regulations Design Standards Listed Below

Because the project as proposed consists of only two units of housing and for practical purposes the extension of Beacon Street to provide access is comparable to a driveway and a turnaround for emergency vehicles has been provided and the right of way width of Beacon Street is already laid out we ask that the following sections of the Design Standards be waived.

7.1.1 Width and Grade of Ways

a The width of street rights-of-way shall be sixty (60) feet. Cul-de-sac terminations of street rights-of-way shall consist of a right-of-way circle with a radius of sixty (60) feet, the center of which radius shall coincide with the centerline of the roadway. Where appropriate for the needs of vehicular access and public safety, the CPDC may require a greater right-of-way width or radius.

The current right of way of Beacon Street is only 40 feet and it is not possible to widen it to 60 feet and request that the right of way width be waiver to 40 feet

b Grades of all streets shall be the reasonable minimum, but not less than one percent (1%) nor more than six percent (6%) for principal streets, nor more than ten percent (10%) for minor streets. General slope of grades at all intersections shall be a maximum of two (2) % percent for a distance of at least

sixty-four (64) feet from beginning of intersection. Proposed roads shall have a slight negative grade when intersecting with existing roads at or within 50 feet of the beginning of the intersection.

Because of the steepness of the land and the existing street the 2% requirement cannot be met and the negative slope requirement cannot be met.

7.1.3 Street Cross Section

The following shall be the minimum provided for streets. The Commission may require additional lanes, widths, and other dimensions where the use requires such increases. Cross sections shall conform to Figure 1, “Typical Cross Section for a Sixty-Foot Street”, in the Appendix.

a At least a 30 foot travel way completely paved and uniformly graded from the crown of the roadway to the granite curbing at three-eighths of an inch (3/8") per foot;

b The dimensions of the roadway, curbing, tree lawns, and sidewalks shall conform to the cross section shown in Figure 1;

It is requested that the roadway width be limited to 20 feet and curbing and sidewalks be eliminated

7.1.5 Dead End Streets/Cul-de-sacs

c Those dead end ways which shall eventually carry traffic to another way shall have a temporary turning circle having an outside pavement radius of not less than forty-five (45) feet.

It is requested that the turning circle in the cul-de-sac be waived

e An island within the cul-de-sac shall be required; it shall have a maximum outside radius of twenty (20) feet.

7.1.7 Curbing

a Vertical granite curb shall be used throughout the subdivision. It shall be Type

VA-4 as defined in the 1988 Commonwealth of Massachusetts Department of

Public Works "Standard Specifications for Highways and Bridges."

b Granite curb inlets shall be provided at all catch basins.

c Granite curb corners (Type B) shall be provided at all driveways.

d Granite transition curb shall be provided at all wheelchair ramps

It is requested that curbing be waived

7.2 Sidewalks

a Sidewalks shall be constructed on both sides of the street. Bituminous concrete shall be used in all areas of Town except for the area generally bounded by Lowell, Salem, John, Washington, Willow, Summer and Prescott Streets (see figure 2, “Area Requiring Cement Concrete Sidewalks”) where cement concrete sidewalks shall be used.

It is requested that sidewalks be waived

Waiver Request of Fees listed below as Required by the Subdivision Regulations and the Stormwater Management and Erosion Control Regulations.

The waiver of fees is being requested because this project is a plan developed as a compromise with the Town to reduce a project from a previously approved ten unit project to a two unit project. The review of this two unit project can easily be done by the Engineering Department of the Town and outside consultants are not needed. While the project will incorporate appropriate Stormwater Management Practices and Erosion Control, review of such a small project by an outside consultant would place undo expenses on the proponent. This is especially true when considering that the MassDEP only requires Stormwater Best Management Practices to be applied to projects of four units or greater and only when a project is within or discharges 100 feet of a wetland resource area.

Sections of the Subdivision Regulations

3.6 Fees

Application and Inspection Fees as described below shall be payable to the Town of Reading, by certified check only, at the time of filing of a subdivision plan pursuant to these Regulations. Any application not accompanied by the appropriate fee payment at the time of application shall be considered improper and incomplete in accordance with Section 3.7. hereof. No fees are refundable in whole or in part under any circumstances**.**

3.6.3.1 In cases where no Preliminary Subdivision Plan had been filed $500.00 plus $30.00 per lot shown on the plan

3.6.4 Review Costs

In addition to all other fees and charges specified herein, if the Commission in the course of review of an application, determines in its sole and absolute discretion that review of all or any part of a proposed project by (an) outside independent consultant(s) of the Commission's sole choosing is necessary for proper evaluation of the proposed project or its possible effects on any matter of public interest under the jurisdiction of the Subdivision Control Law, then the applicant shall provide immediately to the Town, by way of the Town Planner, (a) certified check(s) payable to such consultant(s) in an amount equal to the estimated cost of the relevant services of such consultant(s). No Building Permit or Certificate of Occupancy shall be issued for said project until all such review fees that may be so imposed have been paid in full.

Sections of the Stormwater Management and Erosion Control Regulations

3 PERMIT FEES

3.1 Permit Application Fee

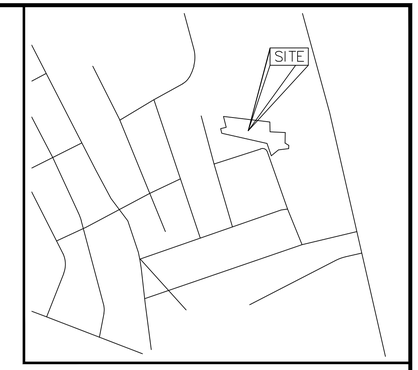
3.1.1 Each Application shall be accompanied by the appropriate Permit Application Fee as set forth in the Stormwater Permit Fee Schedule promulgated by the CPDC. The Permit Application Fee is non-refundable.

3.2 Consultant Fee

3.2.1 Pursuant to Section 7.9.5.6 of the Bylaw and Chapter 44, Section 53G of the Massachusetts General Laws, each Stormwater Permit Application may also be subject to a Consultant Fee, which will be determined after an administratively complete Application is received by the Planning Division.

3.2.2 Determination of Need for Consultant Review, Selection of Consultant and Determination of Initial Consultant Fee

It is requested that as part of the settlement all fees and the requirement of an outside consultant be waived



VICINITY PLAN
SCALE: 1" = 500'

MAP 27 LOT 412 ??

MAP 27 LOT 395
43 CHESTNUT ROAD
N/F JOSEPH A. & ANASTASIA DASILVA
BK. 63558 PG. 132

MAP 27 LOT 387
37 CHESTNUT ROAD
N/F MARK J. & WHITNEY GOODHUE
BK. 41088 PG. 311

MAP 27 LOT 368
101 BEACON STREET
N/F LOREEN M. BEVERE
BK. 41766 PG. 37

MAP 27 LOT 369
99 BEACON STREET
N/F PHILLIP M. & PHOEBE M. JOHNSON
BK. 31772 PG. 314

MAP 27 LOT 370
89 BEACON STREET
N/F MICHAEL E. DECROTEAU
BK. 65729 PG. 490

MAP 27 LOT 371
36 BEACON STREET
N/F BEACON STREET 2012 REALTY TRUST
JOHN L. CHSOLITO, JR. TRUSTEE

MAP 27 LOT 404
4 COLDSPRING ROAD
N/F PENNY A. JEAN
BK. 49389 PG. 45

MAP 27 LOT 397
590 MAIN STREET
N/F MARY ELIZABETH & JOHN JOYCE
BK. 25762 PG. 537

MAP 27 LOT 386
17 BETHESDA LANE
N/F DAKIS S. & KIMBERLY A. KOUTOUVIDES
BK. 67624 PG. 315
PLAN: BK. 26835 PL. 160

MAP 27 LOT 378
39 BEACON STREET
N/F CHRISTOPHER K. & SARAH WILMER
BK. 57188 PG. 116

GRANDVIEW ROAD
BEACON STREET
BETHESDA LANE
ACCESS ROAD
RIGHT OF WAY
UTILITY EASEMENT
SWALE ORTHO 100'
M.S.D.R.D. PLAN 1160 of 1998

LOT 1
15,190 S.F.±

LOT 2
16,343 S.F.±

LOT 3
16,520 S.F.±

PROPOSED SINGLE FAMILY RESIDENCE
GAR. FL. = 148.0
T.O.F. = 154.00

PROPOSED SINGLE FAMILY RESIDENCE
GAR. FL. = 155.0
T.O.F. = XXX.X

EXISTING SINGLE FAMILY RESIDENCE
#45

PROPOSED PAVEMENT

ZONING SETBACK LINE, TYP.

I. ROD FOUND

I. ROD FOUND, HELD

CHAIN LINK FENCE

VINYL FENCE

GRAVEL

PAVED

TOW=144.00
TOW=146.00
TOW=164.00
TOW=154.00
TOW=156.00

S 74°00'36" E
N 04°53'10" W 51.99'
25.00'
N 04°53'10" W 76.99'
S 50°48'56" E 120.97'
N 85°06'50" E 40.00'
N 04°53'10" W 32.72'
N 68°04'41" W 99.54'
S 34°40'01" E 99.54'
N 68°04'41" W 276.83'
N 68°04'41" W 52.81'
S 21°55'19" W 43.55'
N 09°31'00" W 94.46'
N 09°31'00" W 90.72'
S 78°23'14" E 106.22'
S 07°17'06" W 68.47'
S 09°59'36" W 73.73'
S 48°28'04" E 30.14'
S 09°59'36" W 23.15'
N87°44'38"W 72.35'
S 59°41'13" W 65.25'
R = 60.00
L = 156.96
Δ = 301°52'29"
Δ = 149°53'23"
L = 101.84
Δ = 97°15'00"
R=225.00'
L=27.43'
L=14.44'
R=15.00'
L=23.56'
R=60.00'
L=23.56'
Δ=90°00'00"
L=72.00'
L=29.41'

TOTAL PARCEL AREA
59,746 S.F.±
1.372 ACRES

ZONING DATA:

ZONING DISTRICT – SINGLE FAMIL S-15

MINIMUM LOT AREA	15,000 SQ. FT.
MINIMUM LOT FRONTAGE	100 FT.
MINIMUM FRONT YARD	20 FT.
MINIMUM SIDE YARD	15 FT.
MINIMUM REAR YARD	20 FT.
MAXIMUM LOT COVERAGE	25 %
MAXIMUM BUILDING HEIGHT	35 FT.

SITE PLAN
SCALE: 1" = 20'

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

PROPOSED PLAN OF LOTS
ASSESSOR'S MAP 27, LOT 411
45 BEACON STREET
READING, MASSACHUSETTS

OWNER & APPLICANT:
ANGELO SALAMONE
45 BEACON STREET, READING MA MA 01867

DATE: 10/13/22

GA CONSULTANTS, INC. PROFESSIONAL ENGINEERS & LAND SURVEYORS
10 STATE STREET, NEWBURYPORT, MA 01950 TEL. 978-502-5197

Benedetto, Mary

From: Phil Christiansen <philchristiansen.pe@gmail.com>
Sent: Thursday, August 3, 2023 1:38 PM
To: Benedetto, Mary; John Hargreaves
Cc: salamone_angelo@yahoo.com
Subject: Re: preliminary plan Angelo Salamone
Attachments: sheet 1 supplemental.pdf; rev sheet 3.pdf; Sheet 2 supplemental.pdf; SHEET 3 SUPPLEMENTAL.pdf

Mary

In response to you email of July 27,2023 I offer the following responses and the attached pdfs

Item1. I have shown on the attached supplemental Sheet 1 an area where the applicant could widen the right of way to 60 feet. Such a widening of the right of way would require a variance from the frontage setback for 45 Beacon street and would provide the only 60 foot width in the entire street. Does not seem to be a reasonable requirement in an established neighborhood.

Item 2. I have included a lot width designation on the lots as shown on the attached revised Sheet 3 of the original submittal

Item 3 I have added a supplemental sheet 2 that shows the topography 100 feet beyond the property line

Item 4. I have shown the adjacent houses on Supplemental Sheet 1. I hope it will be easier to see the houses.

Item 5 I have provided a supplemental sheet 3 that shows the improvements without the topography as you requested

The waivers we are requesting include

1. Constructing the new roadway within the existing 40 ft wide layout rather than expand it to 60 feet
2. Provide a pavement width of 24 feet rather than 30 feet
3. Install bituminous curbs rather than granite curbs
4. Not install sidewalks
5. Construct the cul-de-sac with a 5% grade rather than a 3% grade.

Phil
Philip G. Christiansen P.E.
10 Chase Street
West Newbury MA 01985

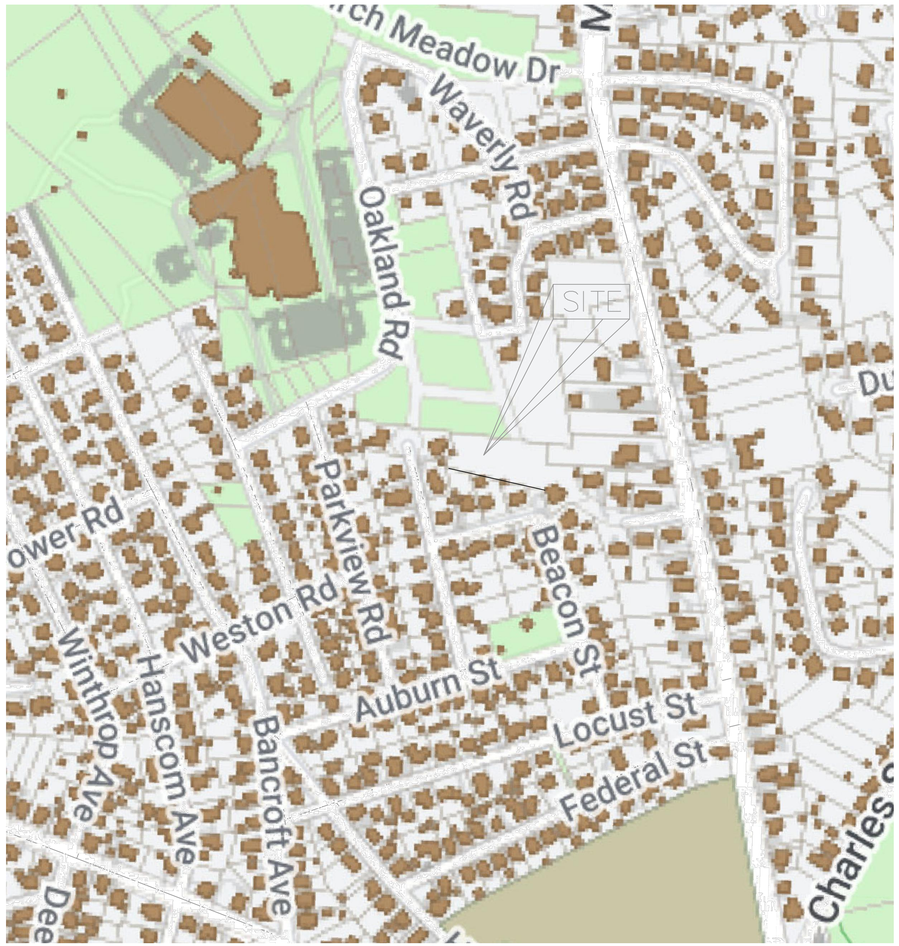
978-994-4550

On Thu, Jul 27, 2023 at 2:55 PM Benedetto, Mary <mbenedetto@ci.reading.ma.us> wrote:

LEGEND

PROPOSED PAVEMENT
PROPOSED FLARED END
PROPOSED CATCH BASIN
PROPOSED DOUBLE CATCH BASIN
PROPOSED WALL
PROPOSED HYDRANT
PROPOSED WATER VALVE
PROPOSED SEWER MANHOLE
PW — PROPOSED WATER
PROPOSED INFILTRATION AREA
160 — PROPOSED CONTOUR
PROPOSED CAPE COD CURB
FM — PROPOSED CAPE COD CURB
160 EXISTING CONTOUR
PROPOSED DRAIN

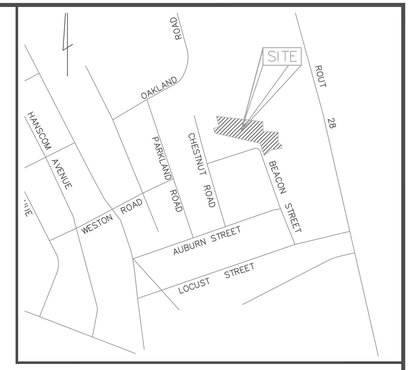
M.S.D.R.D. "DAN 1150 of 1996"



GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.



VICINITY PLAN
SCALE: 1" = 500'

PROJECT DESCRIPTION

The property at 45 Becon Street is a 1.37 acre parcel containing a single family house. The section of Beacon Street in front of the house is unimproved.

The parcel lies within the R15 zoning district which requires 15,000 square feet per lot with a minimum of 100 feet of frontage.

It is the intent of the proposed work to pave and extend Beacon street into s cul-de sac to provide frontage for two additional lots.

LEGEND

ZONING DATA:

ZONING DISTRICT – SINGLE FAMIL S-15

MINIMUM LOT AREA	15,000 SQ. FT.
MINIMUM LOT FRONTAGE	100 FT.
MINIMUM FRONT YARD	20 FT.
MINIMUM SIDE YARD	15 FT.
MINIMUM REAR YARD	20 FT.
MAXIMUM LOT COVERAGE	25 %
MAXIMUM BUILDING HEIGHT	35 FT.

BEACON STREET EXTENSION

COMMONWEALTH OF MASSACHUSETTS
JAMES D. CHRISTIANSEN
Civil
No. 39356
REGISTERED PROFESSIONAL ENGINEER

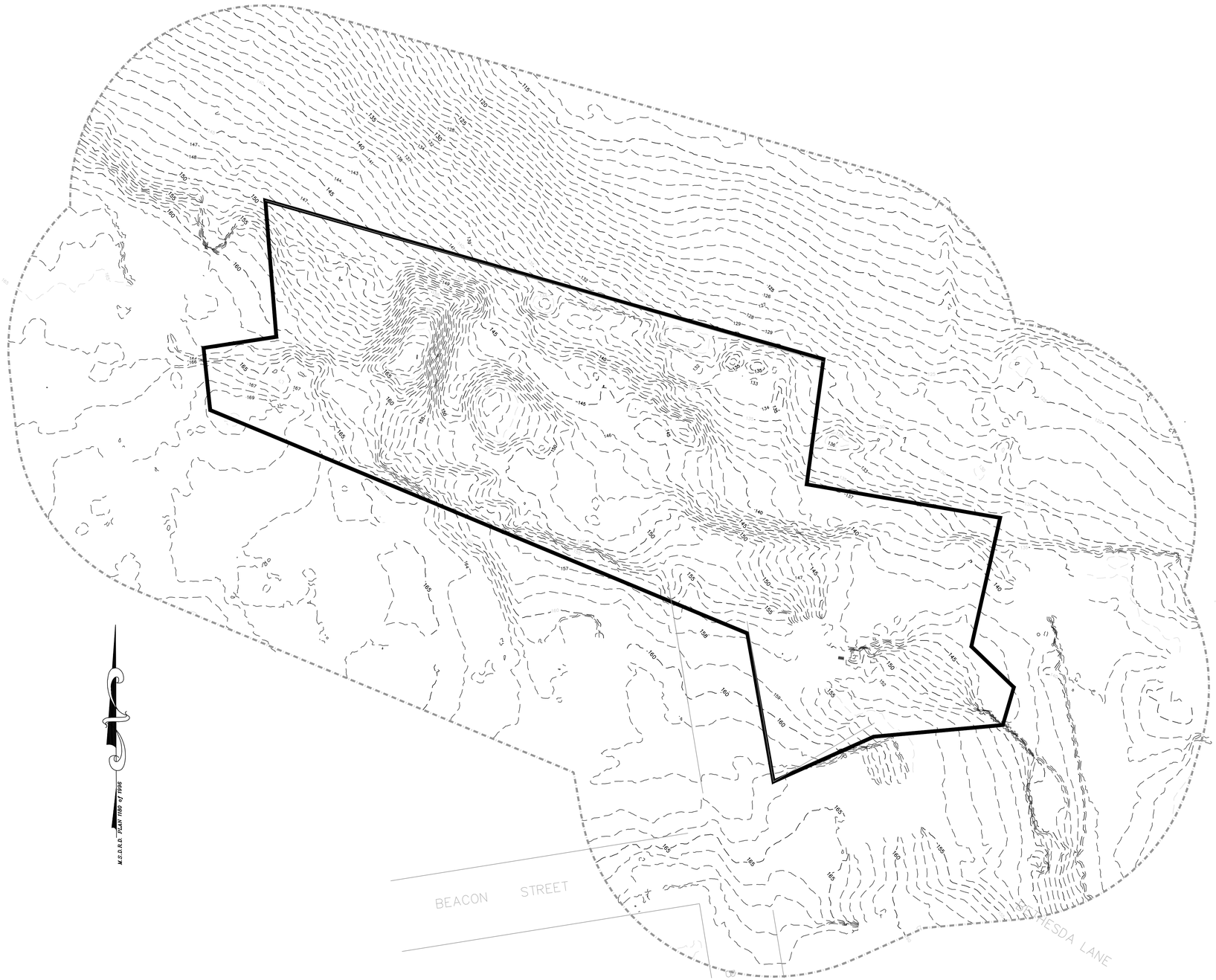
DATE: 7.24.2023

SHEET 1 OF 5

COVER SHEET
ASSESSOR'S MAP 27, LOT 411
45 BEACON STREET
READING, MASSACHUSETTS

OWNER & APPLICANT:
ANGELO SALAMONE
45 BEACON STREET, READING MA MA 01867

PGC ENGINEERING PLLC. PROFESSIONAL ENGINEERS & LAND SURVEYORS
10 CHASE STREET, WEST NEWBURY, MA 01985 TEL. 978-991-4550



TOPOGRAPHY WITHIH 100 FEET OF PROPERTY

GRAPHIC SCALE

15 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

BEACON STREET EXTENSION
SUPPLEMENTAL INFORMATION

COMMONWEALTH OF MASSACHUSETTS
Joseph G. Christiansen
CIVIL
No. 28505
REGISTERED PROFESSIONAL ENGINEER

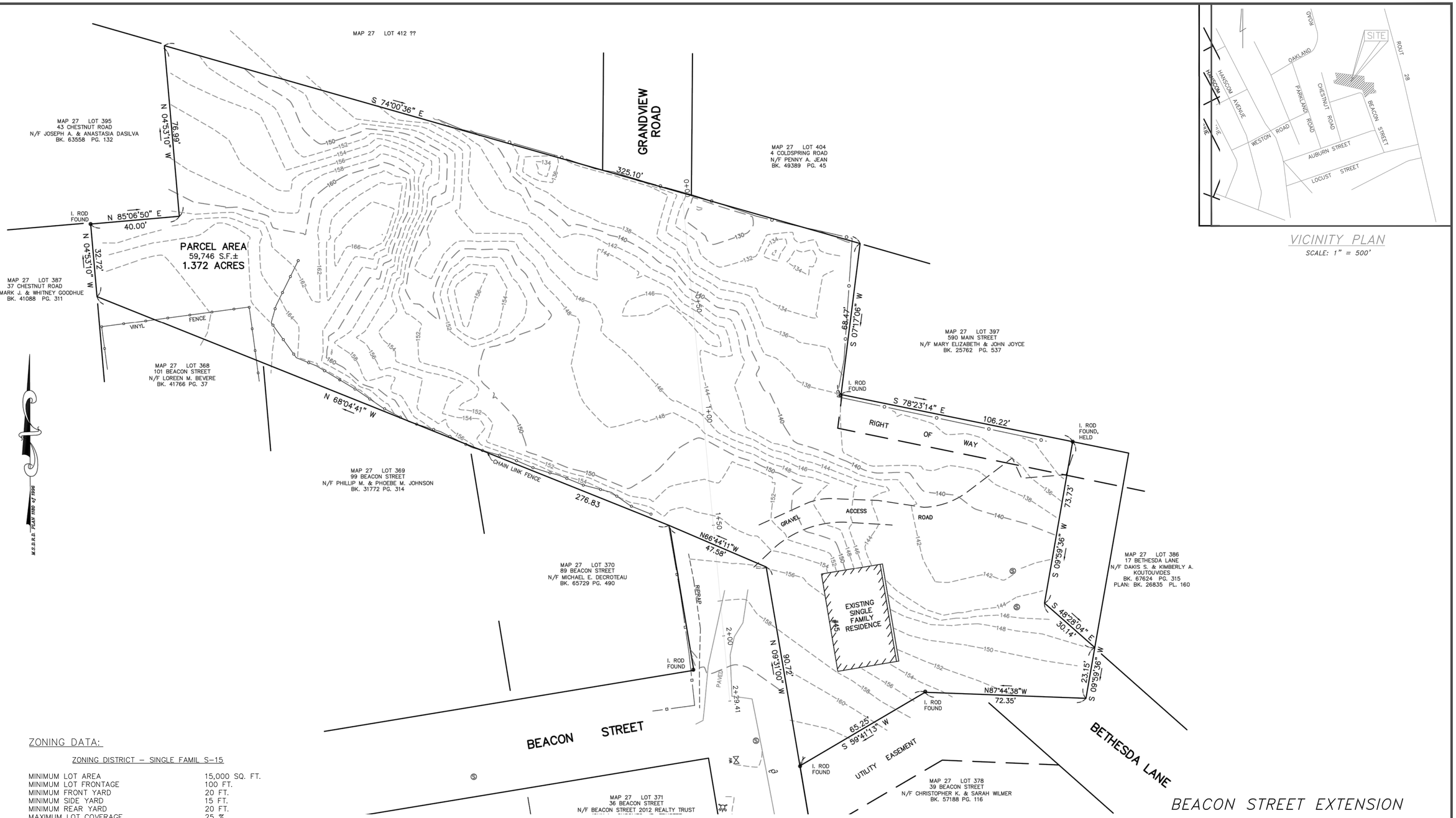
DATE: 8.03.2023

SHEET 2 OF 3

TOPOGRAPHY
ASSESSOR'S MAP 27, LOT 411
45 BEACON STREET
READING, MASSACHUSETTS

OWNER & APPLICANT:
ANGELO SALAMONE
45 BEACON STREET, READING MA MA 01867

PGC ENGINEERING PLLC. PROFESSIONAL ENGINEERS & LAND SURVEYORS
10 CHASE STREET, WEST NEWBURY, MA 01985 TEL. 978-991-4550



VICINITY PLAN

SCALE: 1" = 500'

ZONING DATA:

ZONING DISTRICT – SINGLE FAMIL S–15

MINIMUM LOT AREA	15,000 SQ. FT.
MINIMUM LOT FRONTAGE	100 FT.
MINIMUM FRONT YARD	20 FT.
MINIMUM SIDE YARD	15 FT.
MINIMUM REAR YARD	20 FT.
MAXIMUM LOT COVERAGE	25 %
MAXIMUM BUILDING HEIGHT	35 FT.

SITE PLAN

SCALE: 1" = 20'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

BEACON STREET EXTENSION

COMMONWEALTH OF MASSACHUSETTS
DAVID J. CHRISTIANSEN
CIVIL
No. 26895
REGISTERED
PROFESSIONAL ENGINEER

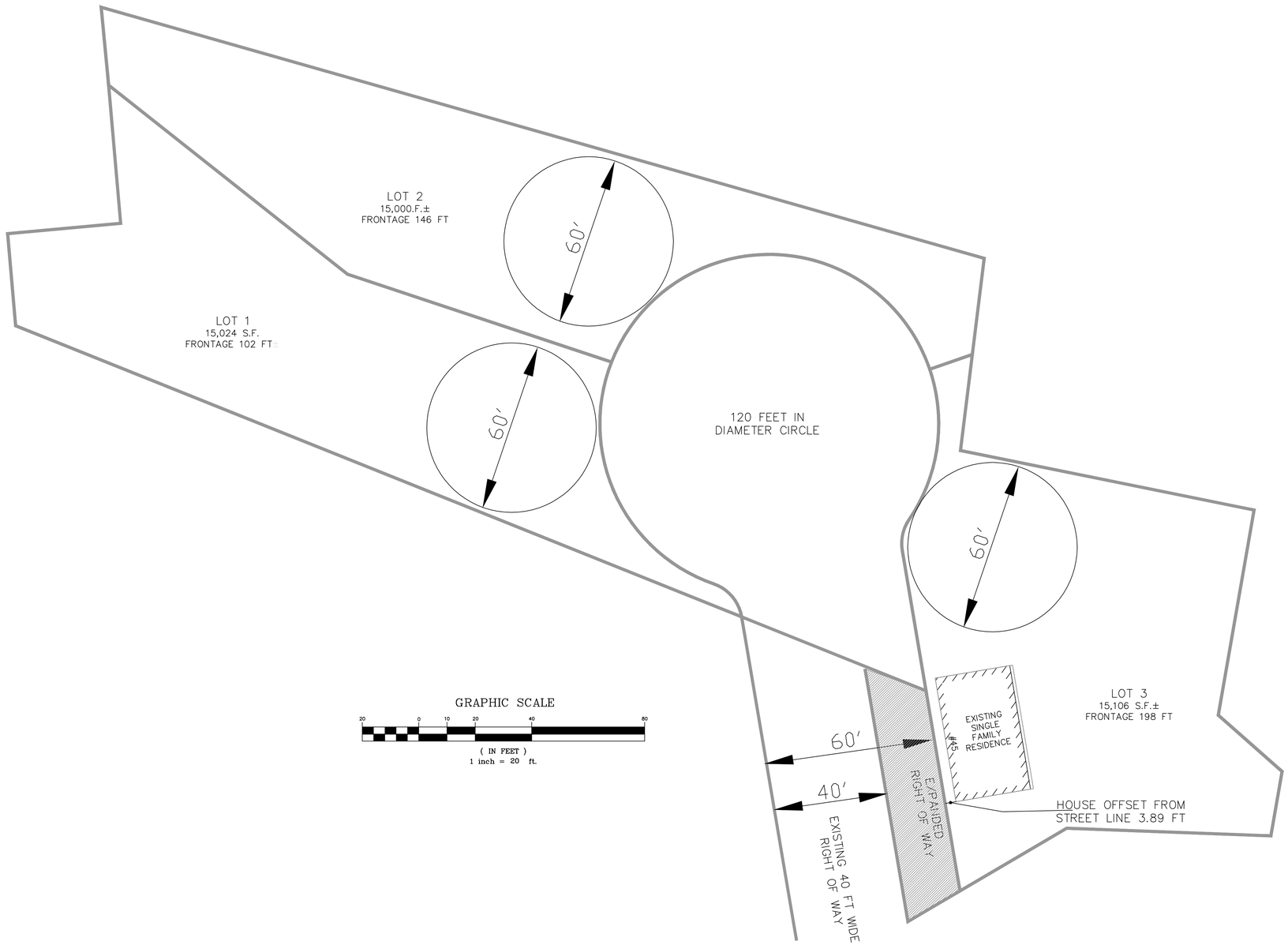
DATE: 7.24.2023

SHEET 2 OF 5

EXISTING CONDITIONS
ASSESSOR'S MAP 27, LOT 411
45 BEACON STREET
READING, MASSACHUSETTS

OWNER & APPLICANT:
ANGELO SALAMONE
45 BEACON STREET, READING MA MA 01867

GA CONSULTANTS, INC
PROFESSIONAL ENGINEERS & LAND SURVEYORS
10 STATE STREET, NEWBURYPORT, MA 01950 TEL. 978-502-5197



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

M.G.L.A.O. TITLE VIII CHAPTER 41 SECTION 81 of 1996

EXPANSION OF ROADWAY WIDTH

Beacon Street is currently laid out as a Right of Way of 40 feet in width.South of the site the street starts at Locust Street and extends approximately 600 feet to the site and extends as a 40 ft right of way for nearly 300 feet to the West.The Applicant only has control of 94 feet of the eastern sideline of that right of way.

The area highlighted by the hatch in the plan is the only area in which the applicant could expand the Right of Way to 60 feet. In doing so it would require a zoning variance for a front yard setback for the existing house.

It would not be illogical to have a 94 ft length of a road be 60 feet in width and the remaining 810 feet to be a 40 foot width.

BEACON STREET EXTENSION

SUPPLEMENTAL INFORMATION

COMMONWEALTH OF MASSACHUSETTS
Daniel C. Christiansen
No. 26026
REGISTERED PROFESSIONAL ENGINEER

CONCEPT PLAN
ASSESSOR'S MAP 27, LOT 411
45 BEACON STREET
READING, MASSACHUSETTS

OWNER & APPLICANT:
ANGELO SALAMONE
45 BEACON STREET, READING MA MA 01867

DATE: 8.03.2023

SHEET A

PGC ENGINEERING PLLC. *PROFESSIONAL ENGINEERS & LAND SURVEYORS*
10 CHASE STREET, WEST NEWBURY, MA 01985 TEL. 978-991-4550

MAP 27 LOT 412 ??

MAP 27 LOT 395
43 CHESTNUT ROAD
N/F JOSEPH A. & ANASTASIA DASILVA
BK. 63558 PG. 132

MAP 27 LOT 387
37 CHESTNUT ROAD
N/F MARK J. & WHITNEY GOODHUE
BK. 41088 PG. 311

MAP 27 LOT 368
101 BEACON STREET
N/F LOREEN M. BEVERE
BK. 41766 PG. 37

MAP 27 LOT 369
99 BEACON STREET
N/F PHILLIP M. & PHOEBE M. JOHNSON
BK. 31772 PG. 314

MAP 27 LOT 370
89 BEACON STREET
N/F MICHAEL E. DECROTEAU
BK. 65729 PG. 490

MAP 27 LOT 371
36 BEACON STREET
N/F BEACON STREET 2012 REALTY TRUST
JOHN L.. CHSOLITO, JR. TRUSTEE

MAP 27 LOT 404
4 COLDSPRING ROAD
N/F PENNY A. JEAN
BK. 49389 PG. 45

MAP 27 LOT 397
590 MAIN STREET
N/F MARY ELIZABETH & JOHN JOYCE
BK. 25762 PG. 537

MAP 27 LOT 386
17 BETHESDA LANE
N/F DAKIS S. & KIMBERLY A. KOUTOUVIDES
BK. 67624 PG. 315
PLAN: BK. 26835 PL. 160

MAP 27 LOT 378
39 BEACON STREET
N/F CHRISTOPHER K. & SARAH WILMER
BK. 57188 PG. 116

GRANDVIEW ROAD

BEACON STREET

BETHESDA LANE

LOT 1
15,190 S.F.±

LOT 2
16,343 S.F.±

LOT 3
16.520 S.F.±

EXISTING SINGLE FAMILY RESIDENCE #45

S 74°00'36" E 325.10'

S 50°48'56" E 120.97'

S 73°44'31" E 99.54'

N 04°53'10" W 25.00'

N 04°53'10" W 51.99'

N 04°53'10" W 76.99'

N 85°06'50" E 40.00'

N 04°53'10" W 32.72'

N 68°04'41" W 276.83

N66°44'11"W 52.81'

47.58'

S 07°17'06" W 68.47'

S 78°23'14" E 106.22'

S 09°59'36" W 73.73'

S 48°28'04" E 30.14'

S 09°59'36" W 23.15'

N87°44'38"W 72.35'

S 59°41'13" W 65.25'

N 09°31'00" W 94.46'

N 09°31'00" W 90.72'

150.73 R=60'

101.84 R=60'

63.55 R=60'

60'

60'

I. ROD FOUND

I. ROD FOUND, HELD

RIGHT OF WAY

CHAIN LINK FENCE

VINYL FENCE

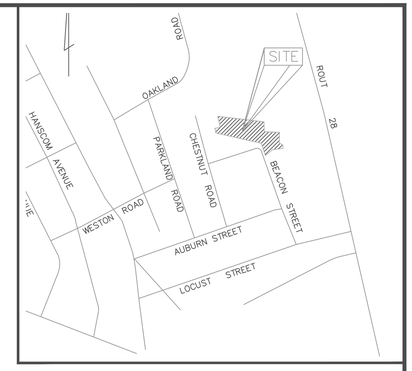
GRAVEL ACCESS ROAD

PAVED

UTILITY EASEMENT

M.S.D.R.R. PLAN 1160 of 1996

VICINITY PLAN
SCALE: 1" = 500'



TOTAL PARCEL AREA
59,746 S.F.±
1.372 ACRES

ZONING DATA:

ZONING DISTRICT – SINGLE FAMIL S–15

MINIMUM LOT AREA	15,000 SQ. FT.
MINIMUM LOT FRONTAGE	100 FT.
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MINIMUM SIDE YARD	15 FT.
MINIMUM REAR YARD	20 FT.
MAXIMUM LOT COVERAGE	25 %
MAXIMUM BUILDING HEIGHT	35 FT

SITE PLAN
SCALE: 1" = 20'

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER J. CHRISTIANSEN
CIVIL
No. 26835
REGISTERED PROFESSIONAL ENGINEER

DATE: 7.24.2023 REV 8/3/23

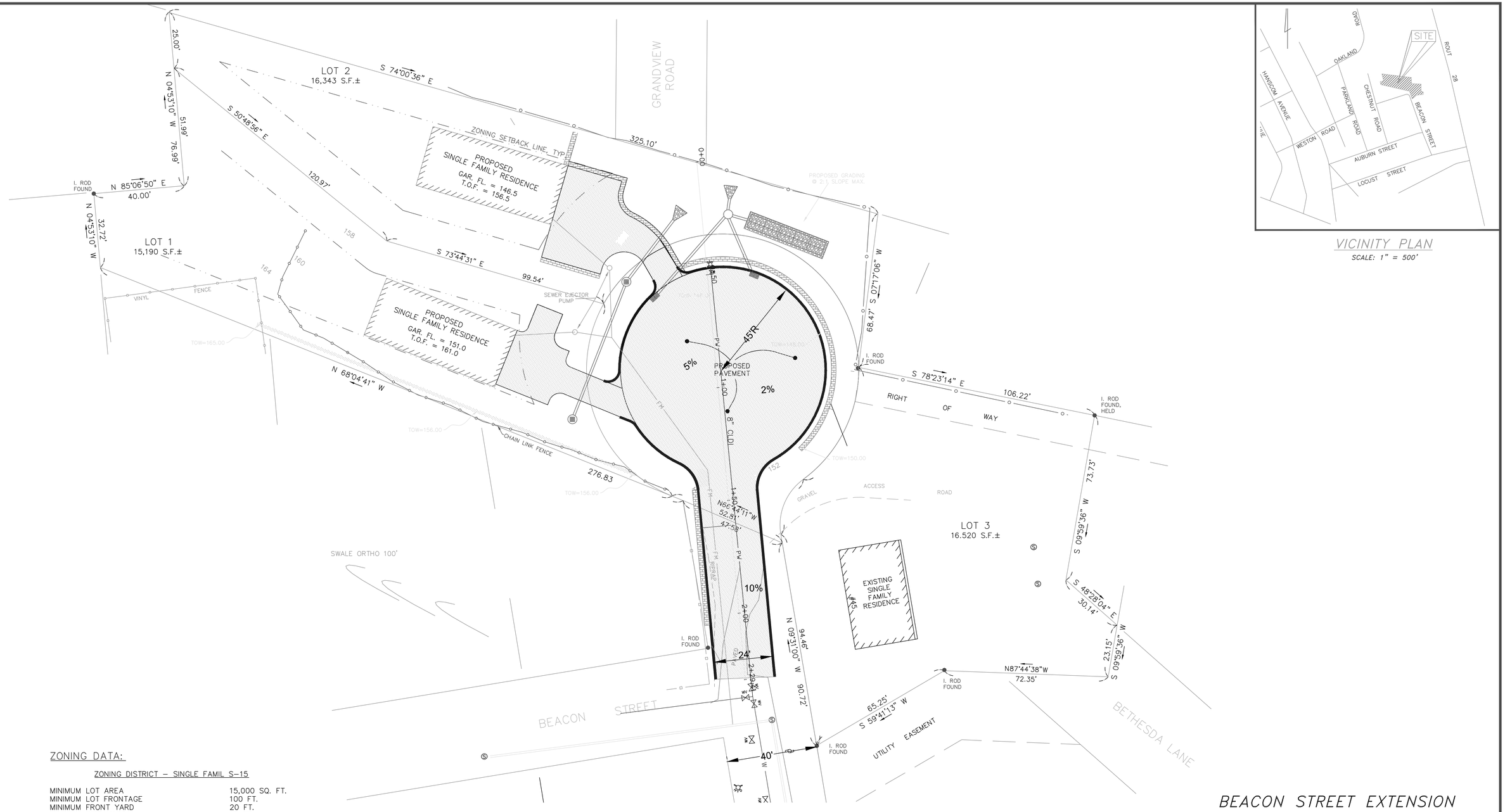
SHEET 3 OF 5

BEACON STREET EXTENSION

PROPOSED PLAN OF LOTS
ASSESSOR'S MAP 27, LOT 411
45 BEACON STREET
READING, MASSACHUSETTS

OWNER & APPLICANT:
ANGELO SALAMONE
45 BEACON STREET, READING MA MA 01867

GA CONSULTANTS, INC PROFESSIONAL ENGINEERS & LAND SURVEYORS
10 STATE STREET, NEWBURYPORT, MA 01950 TEL. 978-502-5197



VICINITY PLAN
SCALE: 1" = 500'

ZONING DATA:

ZONING DISTRICT – SINGLE FAMIL S–15

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MAXIMUM BUILDING HEIGHT	35 FT.

SITE PLAN
SCALE: 1" = 20'

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

BEACON STREET EXTENSION
SUPPLEMENTAL INFORMATION

COMMONWEALTH OF MASSACHUSETTS
Peter J. Hansen
Civil
No. 28295
REGISTERED PROFESSIONAL ENGINEER

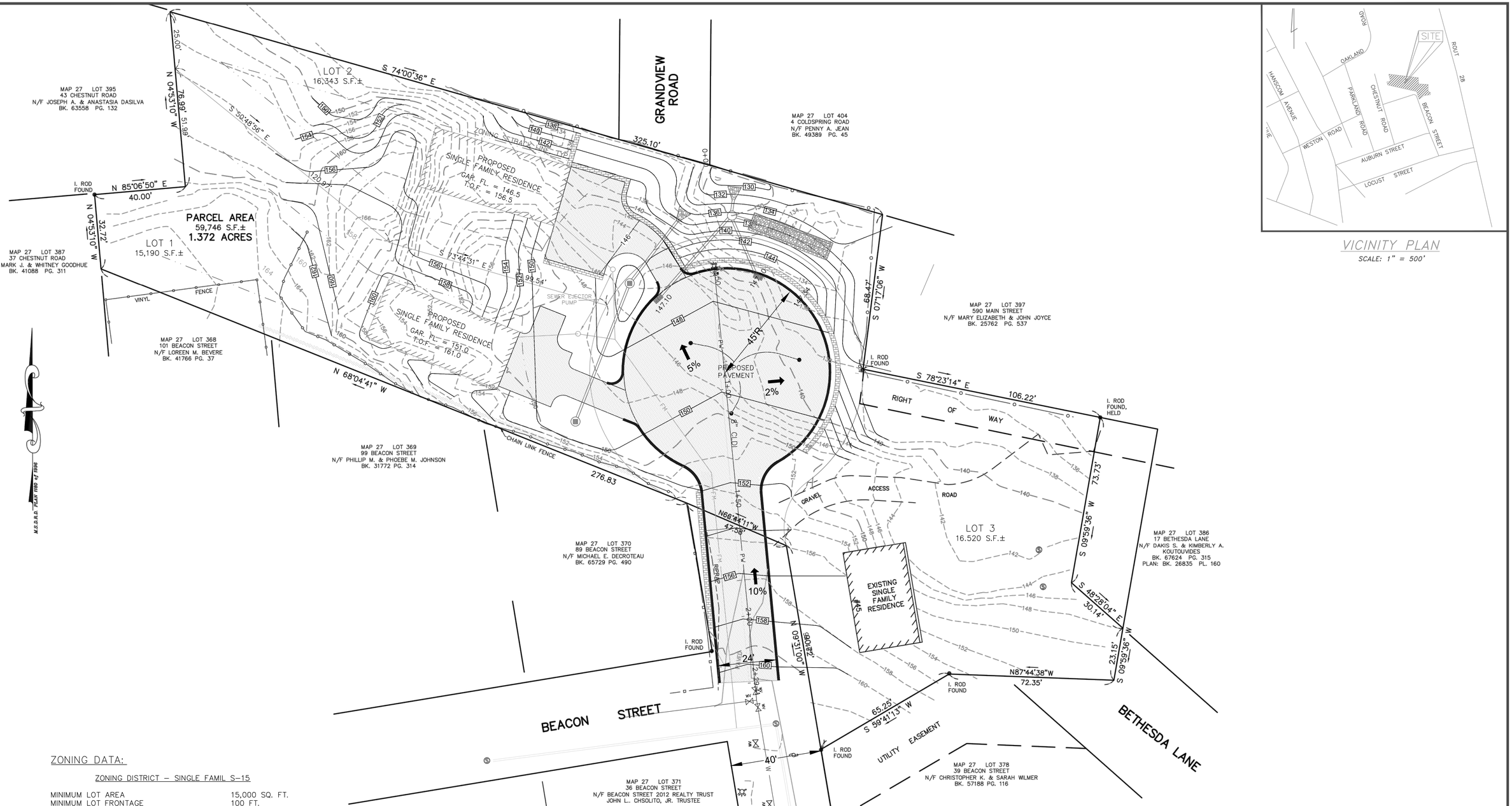
DATE: 8.03.2023

SHEET 3 OF 3

PROPOSED IMPROVEMENTS
ASSESSOR'S MAP 27, LOT 411
45 BEACON STREET
READING, MASSACHUSETTS

OWNER & APPLICANT:
ANGELO SALAMONE
45 BEACON STREET, READING MA MA 01867

PGC ENGINEERING PLLC
PROFESSIONAL ENGINEERS & LAND SURVEYORS
10 CHASE STREET, WEST NEWBURY, MA 01985 TEL. 978-994-4550



VICINITY PLAN

SCALE: 1" = 500'

ZONING DATA:

ZONING DISTRICT – SINGLE FAMIL S–15

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MINIMUM REAR YARD	20 FT.
MAXIMUM LOT COVERAGE	25 %
MAXIMUM BUILDING HEIGHT	35 FT.

SITE PLAN

SCALE: 1" = 20'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

M.S.D.R.D. PLAN 1980 of 1996

BEACON STREET EXTENSION

COMMONWEALTH OF MASSACHUSETTS
Christopher J. Olsen
CIVIL
No. 28895
REGISTERED PROFESSIONAL ENGINEER

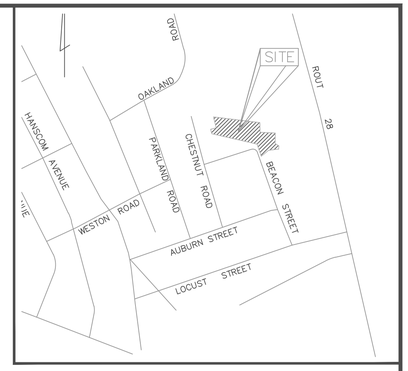
DATE: 7.24.2023

SHEET 4 OF 5

PROPOSED IMPROVEMENTS
ASSESSOR'S MAP 27, LOT 411
45 BEACON STREET
READING, MASSACHUSETTS

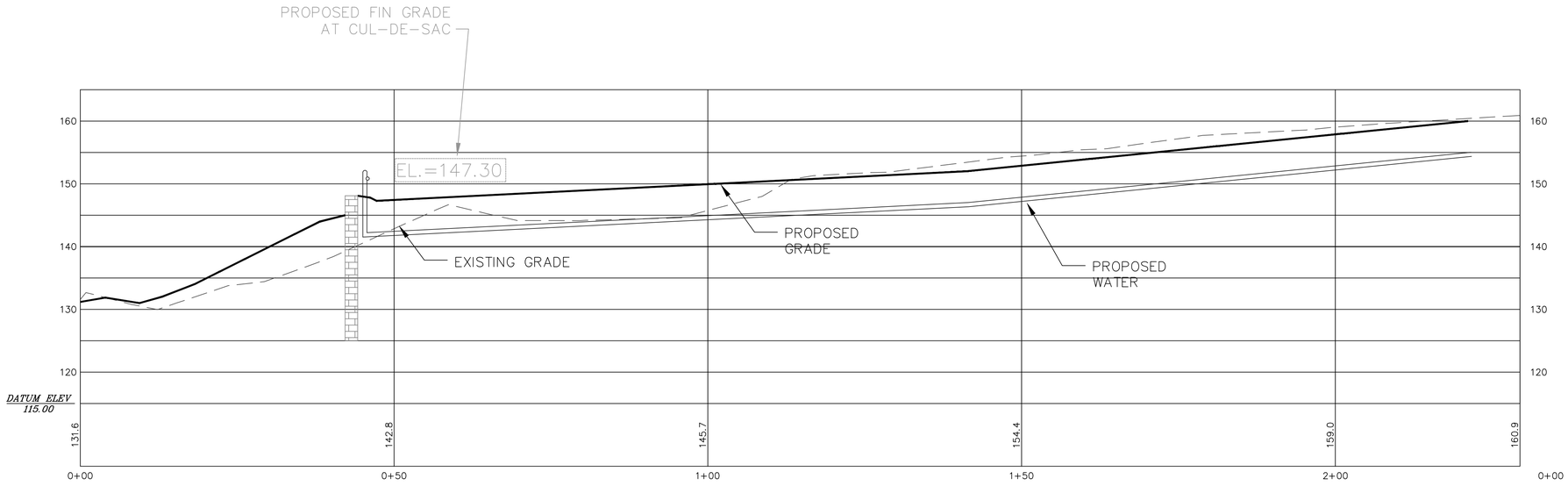
OWNER & APPLICANT:
ANGELO SALAMONE
45 BEACON STREET, READING MA MA 01867

PGC ENGINEERING PLLC
PROFESSIONAL ENGINEERS & LAND SURVEYORS
10 CHASE STREET, WEST NEWBURY, MA 01985 TEL. 978–994–4550



VICINITY PLAN

SCALE: 1" = 500'



ROADWAY PROFILLE

SCALE: HOR 1" = 10'
VER 1" = 10'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

BEACON STREET EXTENSION

COMMONWEALTH OF MASSACHUSETTS
PHILIP C. CHRISTIANSEN
CIVIL
No. 28095
REGISTERED
PROFESSIONAL ENGINEER

DATE: 7.29.2022

SHEET 5 OF 5

ROADWAY PROFILE
ASSESSOR'S MAP 27, LOT 411
45 BEACON STREET
READING, MASSACHUSETTS

OWNER & APPLICANT:
ANGELO SALAMONE
45 BEACON STREET, READING MA MA 01867

PGC ENGINEERING PLLC PROFESSIONAL ENGINEERS & LAND SURVEYORS
10 CHASE STREET, WEST NEWBURY, MA 01985 TEL. 978-502-5197

Town of Reading
16 Lowell Street, Reading, MA 01867

Community Planning & Development Commission
Andrew MacNichol *Community Development Director*
Direct: 781-942-6670
amacnichol@ci.reading.ma.us
readingma.gov/community-planning-and-development-commission

August 14, 2023

Major Modification to a Definitive Subdivision Plan
DECISION of APPROVAL

Land of: 4 Cold Spring Road
Proposed Street Name: Grandview Road Extension

To the Town Clerk:
This is to certify, that at a public hearing of the Reading Community Planning and Development Commission (CPDC), which was opened on May 15, 2023, continued discussion on June 12, 2023, July 10, 2023 and closed on XXX, 2023, by a motion duly made and seconded, it was voted:

"We, the CPDC, as requested by Michael Salamone, under the Town of Reading's Subdivision Rules & Regulations, and MGL Chapter 41 Sections 81K through 81GG, and under the Town of Reading General Bylaw Section 7.9 and CPDC Stormwater Management and Erosion Control Regulations, to consider the Major Modification to the previously approved 4-Lot Definitive Subdivision Plan for property located at 4 Cold Spring Road (Assessors Map 27, Lot 404), as shown on the plans prepared by Fodera Engineering dated April 20, 2023, and last revised July 27, 2023 in support of an application filed on May 1, 2023, do hereby vote X-0-0 to _ the said plans, inclusive of the waivers listed herein, subject to the Findings and Conditions below."

MATERIALS:
The following documents and plans were submitted into the public record:

1. Form B: Application for a Definitive Subdivision Plan, filed with the Town Clerk 5/1/2023.
2. Form G: Designer's Certificate, dated 4/3/2023.
3. Modification Summary memo from Fodera Engineering, dated 3/10/2023.
4. Certified List of Abutters, dated 4/3/2023.
5. Legal Notice, published in Daily Times Chronicle on 4/25/2023 and 5/3/2023.
6. Major Site Plan Modification Plan Set for Grandview Road Extension, for the land located on 4 Cold Spring Road, Reading, MA 01867, prepared for: Michael Salamone, prepared by: Fodera Engineering, dated 4/20/2023, and revised 6/20/23, including the following:
    a. Sheet C-0: Cover Sheet, dated 4/20/2023, last revised 7/26/23
    b. Sheet SV-1: Existing Conditions Plan of Land, prepared by PFS Land Surveying Inc., dated 7/8/2020;

c. Sheet C-1: Plan of Land, dated 4/20/2023, last revised 7/27/23
d. Sheet C-2: Site and Tree Preservation, dated 4/20/2023, last revised 7/27/23
e. Sheet C-3: Erosion and Sediment Control Plan, dated 4/20/2023, last revised 7/27/23
f. Sheet C-4: Grading and Drainage Plan, dated 4/20/2023, last revised 7/27/23
g. Sheet C-5: Utility and Roadway Profile Plan, dated 4/20/2023, last revised 7/27/23
h. Sheet C-6: Details Sheet 1, dated 4/20/2023, last revised 7/27/23
i. Sheet C-7: Details Sheet 2, dated 4/20/2023, last revised 7/27/23

7. Stormwater Management Report, 4-Lot Residential Subdivision, Grandview Road Extension, prepared by Fodera Engineering, dated 3/10/2023
8. HydroCAD Report, dated 6/20/23
9. Memo from Town Engineer to Community Development Director, dated 5/3/23
10. Memo from Conservation Administrator to Community Development Director, dated 5/10/23
11. Memo from Fodera Engineering to Senior Planner, dated 6/20/23
12. Memo from Town Engineer to Community Development Director, dated 7/6/23
13. Draft Decision, dated 5/15/2023, revised 7/10/23, revised 8/14/23
14. Stormwater Permit Application, received 6/20/23

FINDINGS:

1. **Original Approval:** On February 8, 2021 the CPDC approved a Definitive Subdivision Plan for a 4-lot residential subdivision on the land of 4 Cold Spring Road. The existing single-family dwelling was to be retained within a new lot boundary and a net of 3 new house lots and homes created.

2. **Proposal:** Based on changes made in conjunction with the existing occupant the Applicant is proposing the following modifications to their previously approved plan:

    a. **Lot Usage:** Lot 2, the lot directly abutting the pre-existing home at 4 Cold Spring Road, will not be built at this time, though the lot remains approved as a buildable lot and the impervious surface area of the lot (i.e. driveway) has been included in the stormwater calculations and drainage design for the modification.

    b. **Building footprints and backyards:** The building footprints for Lots 3 & 4 have each increased from 1,925sf to 2,200sf. Both Lot 3's and Lot 4's "Area of Tree Removal" have increased to provide larger backyards than originally approved. Wooded area to be removed increased from -29,734sf to -34,287sf; total new grass space to be included has increased from 8,050sf to 13,423sf.

    c. **Grading and Drainage:** The roadway was regraded to create a low point at the end of the cul-de-sac. The grading of the road has dropped approximately 2-feet from the original approval. There are two double catch basins at the low point of the cul-de-sac. Stormwater flow from the right of way is directed to the low point through vertical granite curbing previously approved. The catch basins will gravity convey runoff to a newly proposed open infiltration basin through an added sediment forebay.

    The roadway lowering allows for the use of a stormwater detention pond/infiltration basin instead of the previously approved stormwater subsurface infiltration system. The grading to the open basin is located entirely within Lot 2 and Lot 3 and is setback 10.4-feet from the eastern property line and more than 10-feet from the dwelling on Lot 3. The basin is an open basin pond design and is sloped no steeper than 4H:1V, with a maximum depth of 4-feet. The detention pond's overflow weir is located on the northeast portion of the basin, directing any possible overflow to the northern low

point of the site on Lot 2. Stormwater runoff calculations have been revised and updated in conjunction with the above listed changes.

Roof drainage from the home on Lot 4 will direct directly into the drain manhole and will not daylight.

Previously approved Lot 2 impervious driveway area is included in the stormwater calculations. However, if Lot 2 is developed in the future, roof drainage will require a separate dry well system and would not be directed to the detention pond.

d. **Private easements:** The proposed drainage easement has also been revised accordingly with the new proposed detention/infiltration basin.

e. **Trees/Landscaping/Screening:** By increasing the size of Lot 3 and 4's backyard area the area of tree preservation dropped from 24,282sf to 19,600sf and the estimated number of trees preserved dropped from 353 to 70.

f. **Retaining Wall:** A retaining wall has been added to the southern portion of the site. It will be two tiered 3' high walls and will not require disturbing the abutting property. A fence has been added to the top of the retaining wall directly next to the driveway for Lot 4.

3. **Stormwater Permit Applicability:** Any activity that results in disturbance of one (1) or more acres of land and any land-disturbing activity that is part of a Common Plan of Development or Sale that will ultimately result in the disturbance of one (1) or more acres of land, shall be subject to the requirements of the Stormwater Management and Erosion Control Bylaw and Regulations. The project proposes to disturb and develop over one acre of land area.
4. **Conservation:** The proposed changes to the previously approved grading and stormwater infiltration design will require review and approval from the Conservation Commission.
5. **Board of Health:** In accordance with M.G.L. Ch. 41 Section 81U, a copy of the Form B and plans were submitted to the Board of Health. The Health Agent indicated that the proposed modifications do not warrant any additional requirements or actions from the Health Department.

WAIVERS:

No new waivers were requested or granted as part of this Modification Process.

The Applicant had previously requested, and the Commission had approved the following waivers from the Town of Reading Subdivision Regulations:

1. A waiver from Section 6.1.1.d.3 requiring the submittal of a full traffic study.

   The development results in three (3) newly created single-family dwellings that would be located on a dead-end street. The Applicant feels that the additional vehicular demand can be determined to have an insignificant impact to the surrounding neighborhood.

2. A waiver from Section 6.1.1.d.4 requiring the submission of an Environmental Impact Report.

   A protected resource area on-site is found in the buffer zone of an inland vegetated wetland. The Applicant states that minor site grading will be performed no closer than ~75' from the wetland area and will be performed in accordance with local and state regulations. Stormwater control will be properly mitigated on site. There are no

Historical properties within 500' of the site and the Applicant feels it can be determined that the project will have an insignificant impact on the protected environment.

3. A waiver from Section 7.1.1(a) requiring the layout width of a right-of-way to be a minimum of 60'. A waiver has been requested to **reduce the right-of-way layout from 60' to 40'.**

   The project is proposing to develop the existing unimproved way known as Grandview Avenue that has a width of 40'. The right-of-way will remain at 40' but the Applicant is proposing a cul-de-sac that satisfies the subdivision regulation requirements.

4. A waiver from Section 7.1.2(a) requiring centerlines of opposing streets to be spaced a minimum of 150' apart. **A waiver has been requested to reduce the minimum spacing of 150' to 130'.**

   The Applicant states that Ridge Road is located 130' east, however, the existing ways have been in existence prior to the Subdivision Regulations.

5. A waiver from Section 7.1.3(a) requiring a minimum of a 30' wide paved way. A waiver has been requested to **reduce the minimum width requirement of 30' to 25'.**

   The Applicant states the 25' roadway width would accommodate the existing 40' right-of-way best by allowing the inclusion of a one-sided 5' sidewalk and 5' wide vegetated strip. The remaining 5' within the right-of-way will be on the west side of the proposed roadway and be graded out onto the Town-owned land.

6. A waiver from Section 7.1.3(b) requiring dimensions of the proposed roadway, curbing, tree lawns, and sidewalks be conforming to the cross section shown in Figure 1 of the Subdivision Regulations has been requested.

   Figure 1 of the Subdivision Regulations displays a 60' wide right-of-way with two 5' sidewalks, two 10' wide vegetated strips and a 30' wide paved roadway. The Applicant states conforming to Figure 1 is unfeasible due to the proposed 40' right-way-way width.

7. A waiver from Section 7.1.3(e) requiring side slopes, outside of the exterior street lines, be a maximum allowable slope of one foot horizontal to one foot vertical (1:1) has been requested.

   The Applicant proposes to grade outside of right-of-way limits and onto Town-owned land. The proximity of the proposed road and grading plan prove that it would require a retaining wall to avoid this waiver request and the Applicant feels that grading into the Town property is more practical and beneficial.

8. A waiver from Section 7.1.4(b) requiring that curb lines at all intersections provide a radius of not less than 30'. A waiver has been requested to **provide a 24' radius curb line at the northeastern corner of the proposed roadway intersection and to provide a 15' radius curb line at the western intersecting side.**

   The Applicant states that the existing intersection at Cold Spring Road and the proposed road is limited in radial width due to the corner property boundary of 4

Cold Spring Road. The Applicant feels the 15' radius on the western intersecting side will be satisfactory due to the absence of a western roadway intersection.

9. A waiver from Section 7.1.5(e) requiring a landscape island to be installed within the cul-de-sac has been requested.

   The Applicant states that a fully paved cul-de-sac turnaround will be provided for emergency access and feels that a landscaped island presents maintenance and plowing concerns.

10. A waiver from Section 7.2(a) requiring sidewalks to be constructed on both sides of the proposed street. The Applicant is proposing **a sidewalk on one side of the proposed street**.

    The Applicant states that due to the proposed 40' right-of-way sidewalks on both sides are not practical and that a sidewalk will be provided on one side of the proposed road.

11. A waiver from Section 7.5.4 requiring a 20' slope easement to be provided beyond the road layout for appropriate grading behind the sidewalk. A waiver has been requested to **increase the easement from 20' to 30' on the west side of the road and into the Town owned land abutting the project site.**

    The Applicant states that this waiver would benefit the proposed grading discussed in Waiver #7 above.

<u>CONDITIONS</u>:

General:

1) **Plan Modification:** Upon approval of a Major Modification, the Applicant shall submit one (1) paper copy and one (1) electronic copy, in a format acceptable to the Building Inspector, of the modified plan, as well as a letter issued by a registered professional engineer, registered architect or registered landscape architect certifying, under pains and penalties of perjury, that the modified plan is consistent in all aspects with the approved modification and that all conditions of approval have been satisfied.
2) **February 8, 2021 Approval:** All conditions listed in the February 8, 2021 approval remain in full force and effect to the extent that they are not rendered obsolete by the Major Modification herein.
3) **Conservation:** The Applicant shall coordinate with the Conservation Administrator to comply with the requests and conditions imposed of/by the Conservation Commission.

Stormwater Permit Conditions:

1) The Applicant shall notify the Community Development Director and Town Engineer before significant site milestones, such as installation of erosion and sediment control measures or completion of site clearing.
2) The Applicant shall conduct and document periodic inspections of all control measures (before, during and/or after construction) and submit reports to the Community Development Director and Town Engineer.

3) The Applicant shall post, before the start of land disturbance activity, a cash bond or other surety to secure the performance of the Permittee's obligations under the Stormwater Permit.
4) The Applicant shall record notice of the Operation & Maintenance Plan with the Registry of Deeds (or the Land Court for registered land).
5) The Applicant shall establish a dedicated source of funding for long-term operation and maintenance of stormwater control measures, if not conducted by the Town.
6) The Applicant shall submit, to the Community Development Director and Town Engineer, an annual certification documenting the work that has been done over the last 12 months to properly operate and maintain the stormwater control measures.
7) The Applicant shall notify the CPDC in writing of any change or alteration of a land-disturbing activity authorized in a Stormwater Permit before the change or alteration occurs. If the proposed change or alteration is minor, the Community Development Director, after coordinating with the Town Engineer, may authorize such change or alteration in writing with a copy to the CPDC. Otherwise, the Community Development Director shall forward the notification of change or alteration to the CPDC. If the CPDC determines that the change or alteration is significant, it may require the Permittee to apply for an amendment to the Stormwater Permit.
8) The Approval of the Stormwater Permit shall lapse two (2) years after the date of its issuance if construction pursuant thereto has not begun; provided however, that the CPDC may grant an extension of the two (2) year period, for a maximum of one (1) year, upon a finding of good cause, including the need to obtain other local, state, and federal permits duly applied for, at the written request of the applicant, if submitted to the CPDC at least thirty (30) days prior to the expiration of the two (2) year period.
9) The CPDC may, upon application by the Permittee, amend a Stormwater Permit. Any such amendment shall conform to the requirements of the Stormwater Management and Erosion Control Bylaw and Regulations.
10) Within 60 days of the completion of construction of the project, the Permittee shall submit to the Community Development Director and Town Engineer a record plan detailing the actual stormwater management system as installed. The as-built plan must depict all on-site controls, both structural and non-structural, designed to manage the stormwater associated with the completed site. Such plan shall be provided both in hard copy and as an electronic file. Upon review of the as-built plan, the Community Development Director and Town Engineer may approve it or may direct the Permittee to take any actions necessary to correct the plan or to comply with any outstanding requirements of the Stormwater Permit.

Prior to Plan Endorsement:

1) **Plan Revisions**: The Applicant shall revise the Site Plan pursuant to any conditions imposed herein and submit 2 full-size (24x36) copies of the revised plans to the Community Development Director for review and approval prior to the issuance of a Building Permit. Revisions include but are not limited to:
2) **Mylars:** The Applicant shall submit two (2) complete sets of mylar plans, and an electronic version, to the Community Development Director for endorsement by the CPDC.

3) **Electric Utility and Easement:** The proposed changes to the electric utility plan shall be approved by the Reading Municipal Light Department (RMLD). Locations of light poles, transformers, etc. shall be added to the plans and approved by RMLD.

Prior to the Commencement of Site Work, Road Work or Utility Work:

1) **Other Permits:** The Owner/Applicant is responsible for meeting all other requirements and obtaining all other permits as needed including but not limited to: Order of Conditions from the Conservation Commission, utility connections, street opening, and Jackie's Law excavation permits from the Engineering Department (prior to excavation).
2) **Recorded Plans:** The Applicant shall provide electronic copies of the recorded plans and all other recorded documents to the Community Development Director.
3) **Engineering Comments:** The Applicant shall coordinate with the Town Engineer to resolve any necessary outstanding comments.

Prior to the Issuance of a Building Permit:

1) **Lot Two Conveyance:** The Applicant shall provide recorded proof to the Community Development Director that Lot 2 has been conveyed to the property owner of 4 Cold Spring Road to the Community Development Director.

Prior to the Issuance of Occupancy for Any Lot:

1) **Access Easement:** The Applicant shall provide a copy of the executed and recorded Access and Utility Easement established between Lot Three and Lot Four.
2) **Closing Documents for Homeowners:** Additional reference to the Stormwater Operation and Management Plan shall include language that no structure, trees, fill and/or blockage of the stormwater detention pond within Lot Three shall be allowed. Additional language as to the maintenance, cleaning and responsibilities to ensure the detention pond works as designed shall be included.

    a. If deemed required, prior to the issuance of an Occupancy Permit for the future construction of a dwelling on Lot 2 draft documents prescribing Lot 2 to join the established Homeowners Association shall be submitted to the Community Development Director for review and approval.

Signed as to the accuracy of the vote as reflected in the minutes:

_____

Andrew MacNichol, Community Development Director Date

Cc: Applicant, Town Clerk, CPDC, Development Review Team, Building Inspector, planning file

FOR REGISTRY USE ONLY

SITE PLAN SET

MAJOR SITE PLAN MODIFICATION

GRANDVIEW ROAD SUBDIVISION – PRIVATE WAY

GRANDVIEW ROAD EXTENSION

PROJECT LOCATION:

LOTS 2, 3, and 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867

SHEET INDEX

PROPERTY INFORMATION

ADDRESS
LOTS 2, 3, & 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867

RECORD OWNER
GRANDVIEW, LLC
45 BEACON STREET
READING, MA 01867

LOT SIZE
COMBINED LOTS 2, 3, & 4
45,132 S.F. (1.04 AC.±)

ZONING DISTRICT
SINGLE FAMILY 15 (S-15)

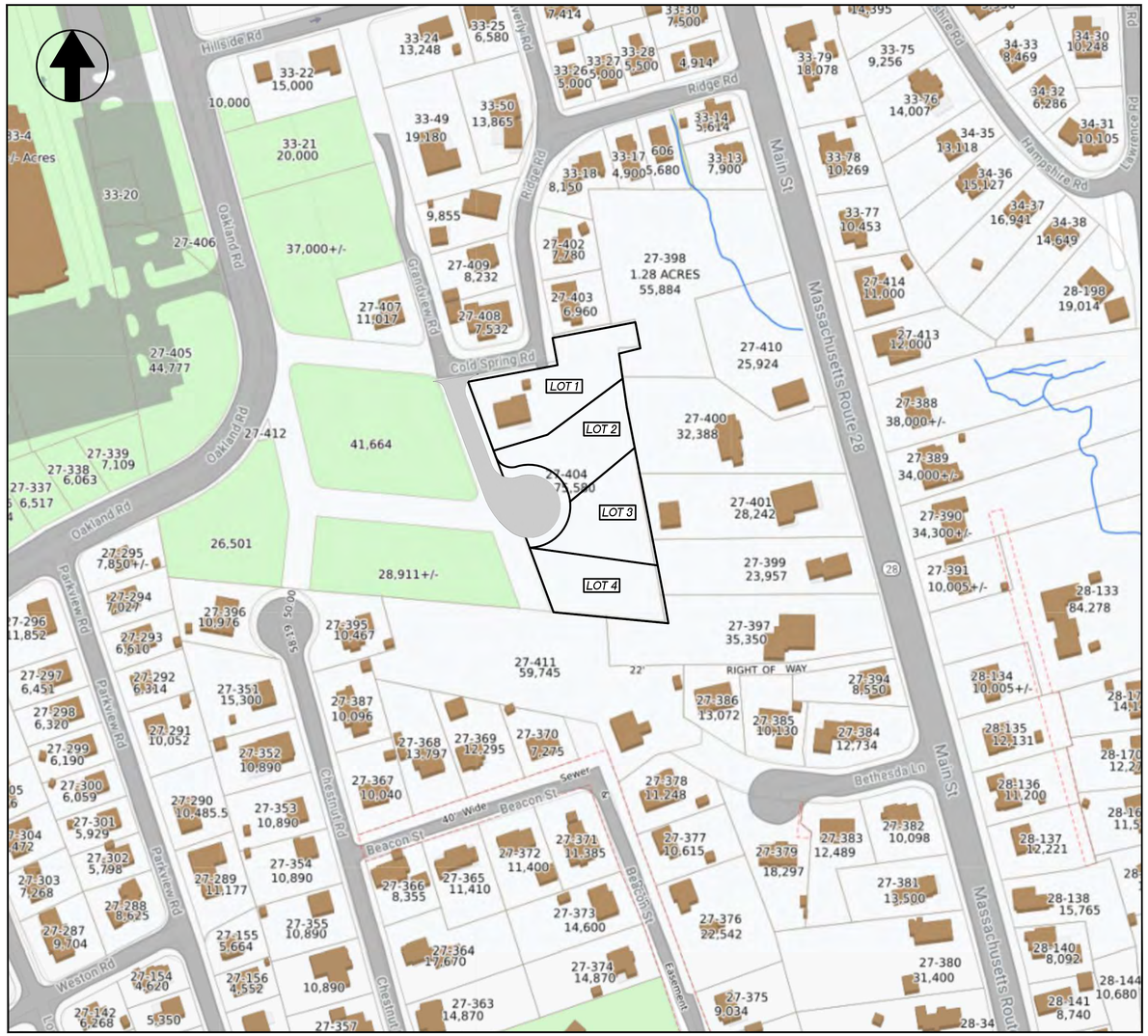
PARCEL ID
PART OF MAP 27, LOT 404

PLAN REFERENCES

1. BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY PFS LAND SURVEYING, INC., DRAWING NUMBER SV-1, DATED 7/8/2020.
2. MIDDLESEX SOUTH REGISTRY OF DEEDS PLAN 754 OF YEAR 2022.

GENERAL NOTES

1. THE SUBDIVISION OF LAND FOR THIS PROJECT WAS APPROVED AND ENDORSED BY THE READING COMMUNITY PLANNING AND DEVELOPMENT COMMISSION (CPDC), AND THE SUBDIVISION WAS RECORDED WITH THE REGISTRY OF DEEDS AS PLAN 754 OF YEAR 2022.
2. THIS PLAN SET IS FOR THE APPROVAL OF A MAJOR SITE PLAN MODIFICATION. MODIFICATIONS INCLUDE REDESIGNING THE STORMWATER SYSTEM WITH ASSOCIATED SITE GRADING. EASEMENTS HAVE BEEN ADJUSTED AND THEREFORE WILL REQUIRE A NEW ENDORSED SET FOR RECORDING WITH THE REGISTRY.
3. TOPOGRAPHIC DATA IS ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
4. UTILITY INFORMATION OBTAINED FROM THE REFERENCE SURVEY PLAN.
5. SOIL TESTS BY DEEP OBSERVATION HOLES WERE COMPLETED AND REPORTED BY ARMAND J. PORRAZZO (SE#1958) IN JULY 2020. SITE SOILS FROM THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) ONLINE WEB SOIL SURVEY DETERMINE THE SITE TO CONTAIN TWO (2) SOIL TYPES IDENTIFIED AS CANTON-CHARLTON-URBAN LAND COMPLEX WITH A HYDROLOGIC SOIL GROUP (HSG) "A" AND PAXTON FINE SANDY LOAM WITH A HSG "C".
6. THE SITE DOES NOT CONTAIN AREAS SUBJECT TO 1% ANNUAL CHANCE OF FLOODING AND IS IN ZONE "X" AS DETERMINED BY FEMA FLOOD INSURANCE RATE MAP (FIRM) 25017C0311E WITH AN EFFECTIVE DATE OF 6/4/2010.
7. THE SITE IS INLAND AND NOT LOCATED NEAR OR WITHIN THE FOLLOWING PROTECTED RESOURCE AREAS AS DETERMINED BY THE STATE OF MASSACHUSETTS ONLINE GIS MAPPING SYSTEM "OLIVER".
   - NATURAL HERITAGE OF ENDANGERED SPECIES
   - RIVERFRONT
   - CERTIFIED VERNAL POOLS
   - WELLHEAD PROTECTION ZONES
8. THE SITE DOES CONTAIN A SMALL PORTION OF BORDERING VEGETATED WETLANDS AND WERE DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS, INC. IN JUNE 2020.



LOCUS MAP
SCALE: 1" = 100'

PREPARED FOR:
(APPLICANT)
MICHAEL SALAMONE
45 BEACON STREET
READING, MA 01867

PREPARED BY:
FODERA ENGINEERING
28 HARBOR STREET, SUITE 204
DANVERS, MA 01923
(617) 877-3293

ABUTTER'S LIST (NOW OR FORMERLY)

PARCEL ID	ADDRESS	OWNER
27-367	105 BEACON ST.	L & J FAMILY TRUST BRIAN F DESMOND TRUSTE
27-368	101 BEACON ST.	BEVERE LOREEN M
27-369	99 BEACON ST.	JOHNSON PHILLIP M PHOEBE M JOHNSON
27-370	89 BEACON ST.	DECROTEAU MICHAEL EUGENE
27-371	36 BEACON ST.	CUSOLITO JOHN LINCOLN JR ETA BEACON ST 2012 REALTY TR
27-372	98 BEACON ST.	KELLETT JAY S JOYCE A KELLETT
27-377	33 BEACON ST.	DICLEMENTE MICHAEL C DICLEMENTE JAMIE
27-378	39 BEACON ST.	WILMER CHRISTOPHER K SARA WILMER
27-379	14 BETHESDA	LN. BRETCHKO PAVEL TITOVA ELENA
27-384	882 MAIN ST.	MOREIRA GREGORY C ERIN B MORIERA
27-385	11 BETHESDA LN.	SICILIANO ROBERT L SICILIANO STEPHANIE A
27-386	17 BETHESDA LN.	KOUTOUVIDES DAKIS S KOUTOUVIDES KIMBERLY A
27-387	37 CHESTNUT RD.	GOODHUE MARK J WHITNEY GOODHUE
27-394	884 MAIN ST.	GEORGE JENNIFER L DANIEL F DECARPIS
27-395	43 CHESTNUT RD.	DASILVA JOSEPH A DASILVA ANASTASIA
27-397	890 MAIN ST.	JOYCE MARY ELIZABETH JOHN JOYCE
27-398	MAIN ST.	MILLER KEITH L
27-399	896 MAIN ST.	SANDBERG ELLEN L
27-400	908 MAIN ST.	CHEN I-CHEI
27-401	900 MAIN ST.	READING KOREAN CHURCH OF THE NAZARENE
27-402	26 RIDGE RD.	KERR CHRISTOPHER A LESLIE N KERR
27-403	32 RIDGE RD.	BEAUCHER ROBERT A BARBARA L BEAUCHER
27-404	4 COLDSPRING RD.	JEAN PENNY A
27-405	OAKLAND RD.	TOWN OF READING READING MEMORIAL HIGH
27-407	23 GRANDVIEW RD.	CUSOLITO ROBERT P JOANNE CUSOLITO
27-408	31 RIDGE RD.	CORAM GEOFFREY SUSAN G CORAM
27-409	25 RIDGE RD.	FONG ELAINE
27-410	912 MAIN ST.	HATCH WILLIAM G
27-411	45 BEACON ST.	SALAMONE ANGELO
33-13	930 MAIN ST.	RICCI ANTHONY J JANET K GALLAGHER RICCI
33-14	934 MAIN ST.	CROSBY JO ANN
33-15	RIDGE RD.	TOWN OF READING
33-16	8 RIDGE RD.	YAO RYAN S
33-17	10 RIDGE RD.	ALLEN KATHERINE D
33-18	14 RIDGE RD.	HEGARTY GERALD P ETAL TRS GERALD P HEGARTY REVOC
33-19	OAKLAND RD.	TOWN OF READING SCHOOL DEPT.
33-23	23 RIDGE RD.	MESSINA-PEREZ KAREN E
33-49	10 GRANDVIEW RD.	DRUID DAVID A PATRICIA E DRUID
33-50	2 WAVERLY RD.	HILDRETH JOHN W JUDITH D HILDRETH

UTILITIES AND CONTACTS

CABLE
COMCAST CABLE CORPORATION
5 OMNI WAY
CHELMSFORD, MA 01824
ATTN: TED QUINT
978-848-5163
ted_quint@comcast.com

ELECTRIC
READING MUNICIPAL LIGHT DEPARTMENT
230 ASH ST.
READING, MA 01867
ATTN: PETER PRICE
781-942-6429
pprice@rmld.com

GAS
NATIONAL GRID GAS
40 SYLVAN ROAD
WALTHAM, MA 02451
ATTN: MELISSA OWENS
781-907-2845
melissa.owens@nationalgrid.com

TELEPHONE
VERIZON
385 MYLES STANDISH BLVD.
TAUNTON, MA 02780
ATTN: KAREN MEALEY
774-409-3160
karen.m.mealey@verizon.com

WATER AND SEWER
READING DPW
16 LOWELL ST.
READING, MA 01867
781-942-9077

DEPARTMENT OF PUBLIC WORKS
READING DPW ENGINEERING DIVISION
16 LOWELL ST.
READING, MA 01867
781-942-9082

CONSULTANTS

CIVIL ENGINEER
FODERA ENGINEERING
28 HARBOR ST., SUITE 204
DANVERS, MA 01923
ATTN: GIOVANNI FODERA, P.E.
617-877-3293
gfodera@foderaengineering.com

LAND SURVEYOR
PFS LAND SURVEYING, INC.
20 BALCH AVE.
GROVELAND, MA 01834
ATTN: BRYAN PARMENTER, P.L.S.
508-446-0781
bryan@pfsland.com

DATE:
APRIL 20, 2023

TOWN OF READING COMMUNITY PLANNING AND DEVELOPMENT COMMISSION	
DATE:	

REVISION BLOCK

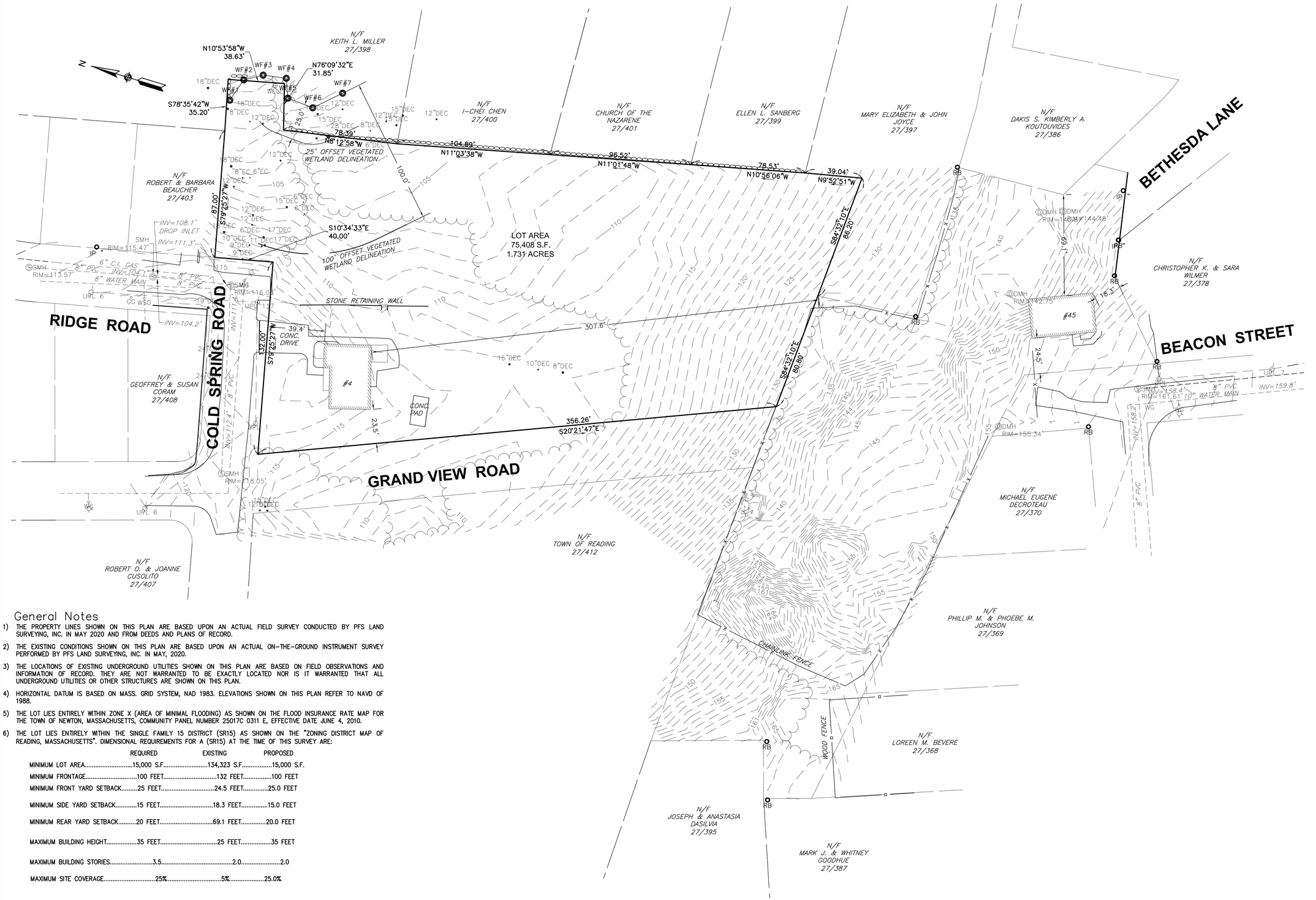
REVISION SET	REVISION DATE	COMPLETED BY
–	–	–
–	–	–
–	–	–
–	–	–
–	–	–
–	–	–

PROFESSIONAL SEAL:
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54684
REGISTERED PROFESSIONAL ENGINEER

JOB NO.: 20160-149

SHEET TITLE:
COVER SHEET

SHEET NUMBER:
C-0



PFS Land Surveying, Inc.

20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com

LEGEND

BM #	BENCHMARK
	BOUND (CONC, STONE, LAND COURT, ETC.)
CB	CATCH BASIN - SQUARE
CB	CATCH BASIN - ROUND
DSK	DISK (CA/T, USC&GS, LAND COURT, ETC.)
DH	DRILL HOLE
D	DRAIN MANHOLE
EHH	ELECTRIC HANDHOLE
E	ELECTRIC MANHOLE
EM	ELECTRIC METER
GG	GAS GATE
GM	GAS METER
	HANDICAP SYMBOL
	GUY WIRE ANCHOR
	FIRE HYDRANT
	LIGHT
OHW	OVERHEAD WIRE
MAG	MAG NAIL
MB	MAIL BOX
	OTHER MANHOLE
PB	PULL BOX
PED	PEDESTRIAN SIGNAL
S	SEWER MANHOLE
T	TELEPHONE MANHOLE
TRFM	TRANSFORMER
12	# OF PARKING SPACES
TS	TRAFFIC SIGNAL
TS	TRAFFIC SIGNAL MAST ARM/SPAN WIRE POLE
	SIGN
ULT#	UTILITY POLE W/ LIGHT
UPL#	UTILITY POLE
WG	WATER GATE
WSO	WATER SHUTOFF
	CHAIN LINK FENCE
	WOOD FENCE

General Notes

1) THE PROPERTY LINES SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL FIELD SURVEY CONDUCTED BY PFS LAND SURVEYING, INC. IN MAY 2020 AND FROM DEEDS AND PLANS OF RECORD.

2) THE EXISTING CONDITIONS SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY PFS LAND SURVEYING, INC. IN MAY, 2020.

3) THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD OBSERVATIONS AND INFORMATION OF RECORD. THEY ARE NOT WARRANTED TO BE EXACTLY LOCATED NOR IS IT WARRANTED THAT ALL UNDERGROUND UTILITIES OR OTHER STRUCTURES ARE SHOWN ON THIS PLAN.

4) HORIZONTAL DATUM IS BASED ON MASS. GRID SYSTEM, NAD 1983. ELEVATIONS SHOWN ON THIS PLAN REFER TO NAVD OF 1988.

5) THE LOT LIES ENTIRELY WITHIN ZONE X (AREA OF MINIMAL FLOODING) AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR THE TOWN OF NEWTON, MASSACHUSETTS, COMMUNITY PANEL NUMBER 25017C 0311 E, EFFECTIVE DATE JUNE 4, 2010.

6) THE LOT LIES ENTIRELY WITHIN THE SINGLE FAMILY 15 DISTRICT (SR15) AS SHOWN ON THE "ZONING DISTRICT MAP OF READING, MASSACHUSETTS". DIMENSIONAL REQUIREMENTS FOR A (SR15) AT THE TIME OF THIS SURVEY ARE:

	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	15,000 S.F.	134,323 S.F.	15,000 S.F.
MINIMUM FRONTAGE	100 FEET	132 FEET	100 FEET
MINIMUM FRONT YARD SETBACK	25 FEET	24.5 FEET	25.0 FEET
MINIMUM SIDE YARD SETBACK	15 FEET	18.3 FEET	15.0 FEET
MINIMUM REAR YARD SETBACK	20 FEET	69.1 FEET	20.0 FEET
MAXIMUM BUILDING HEIGHT	35 FEET	25 FEET	35 FEET
MAXIMUM BUILDING STORIES	3.5	2.0	2.0
MAXIMUM SITE COVERAGE	25%	5%	25.0%

7) THE WETLANDS SHOWN HEREON WERE FLAGGED BY LEC ENVIRONMENTAL IN JUNE 2020 AND LOCATED BY PFS LAND SURVEYING INC, IN JUNE 2020.

No.	Revision	Date	Appvd.
2	added tree locations in buffer zone	2-04-2021	BGP
1	updated well location	12-09-2020	BGP

Designed by BGP | Drawn by BGP | Checked by BGP
CAD checked by BGP | Approved by BGP
Scale 1"=30' | Date 7/8/2020

Project Title
Existing Conditions
4 Cold Spring Rd
Reading, MA

Issued for
Review

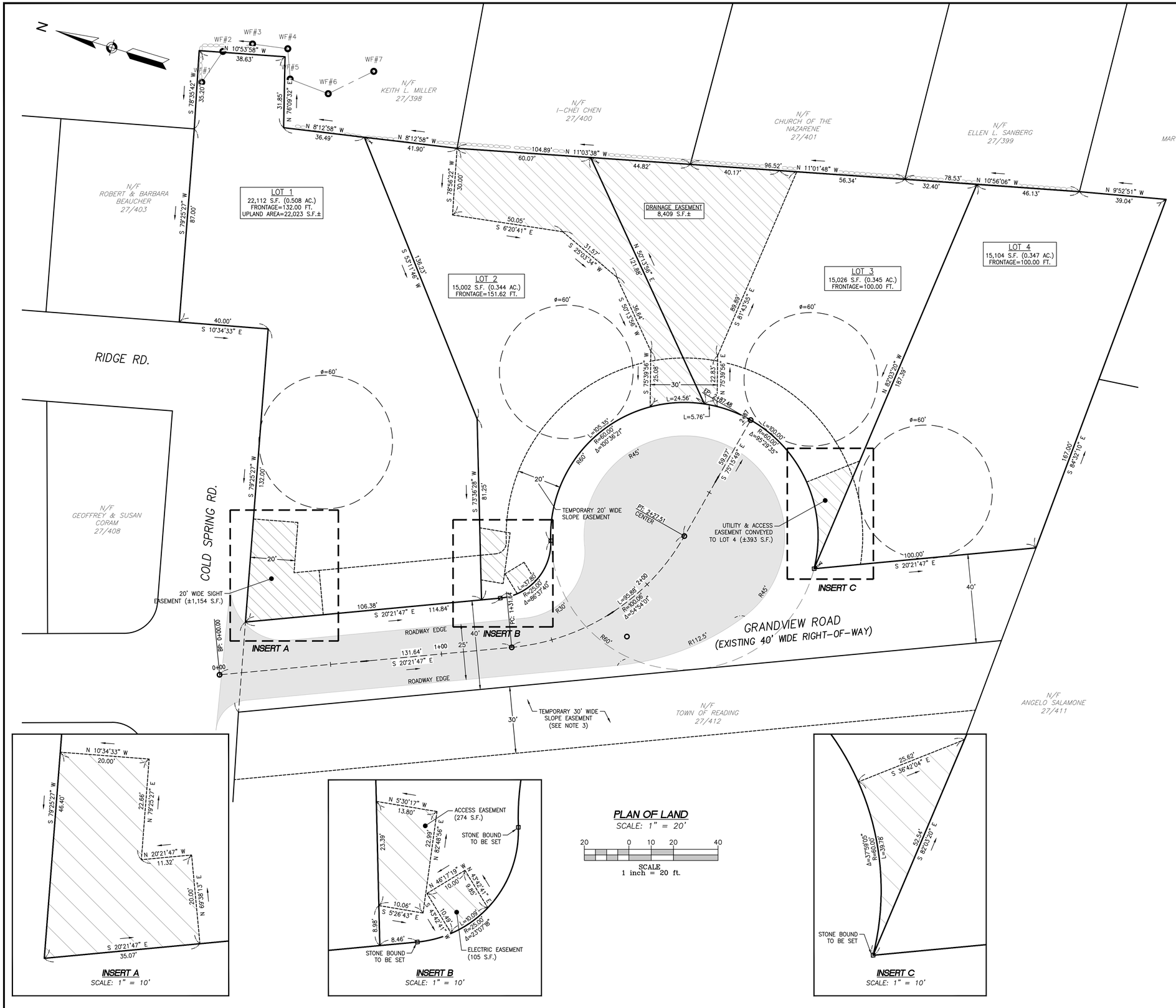
Drawing Title
Existing Conditions
Plan of Land

COMMONWEALTH OF MASSACHUSETTS
BRIAN G. PAQUETTE
NO. 48193
REGISTERED
PROFESSIONAL LAND SURVEYOR

Drawing Number
SV-1

Sheet
1 of 1

Project Number



INSERT A
SCALE: 1" = 10'

INSERT B
SCALE: 1" = 10'

PLAN OF LAND
SCALE: 1" = 20'

20 0 10 20 40
SCALE
1 inch = 20 ft.

INSERT C
SCALE: 1" = 10'

RIGHT-OF-WAY STATEMENT

THE RIGHT-OF-WAY (ROW), SOUTH OF THE INTERSECTION FROM COLD SPRING ROAD AND GRANDVIEW ROAD, IS AS A PRIVATE WAY FOR ALL LAND OWNERS IN AND ABUTTING THE SUBDIVISION, AND WILL REMAIN NAMED AS GRANDVIEW ROAD.

LEGEND

- PROPERTY LINE
- EASEMENT LINE
- WETLAND BOUNDARY
- RXX' RADIUS MEASUREMENT
- WF# WETLAND FLAG
- STONE BOUND WITH DRILL HOLE

GENERAL NOTES

1. WETLANDS WERE FLAGGED BY LEC ENVIRONMENTAL CONSULTANTS IN JUNE 2020.
2. THE PROJECT IS LOCATED OUTSIDE OF ANY PROTECTED RESOURCE AREAS AND FLOOD ZONES AS DETERMINED BY THE MOST RECENTLY PUBLISHED DATA FROM THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION AND FEMA.
3. IN LIEU OF A RETAINING WALL LOCATED IN THE RIGHT-OF-WAY ALONG THE WESTERN BOUNDARY OF GRAND VIEW ROAD, A TEMPORARY THIRTY (30) FOOT WIDE SLOPE EASEMENT IS PROPOSED ON TOWN PROPERTY AND SHALL BE APPROVED BY THE TOWN. SEE SHEET C-5 FOR GRADING.

PLAN REFERENCES

1. BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY PFS LAND SURVEYING.

PROPERTY INFORMATION

ADDRESS: LOTS 2, 3, & 4 GRANDVIEW ROAD EXTENSION READING, MA 01867
TAX MAP, LOT: PART OF MAP 27, LOT 404
LOT SIZE: 45,132 S.F. (1.04 AC.)

RECORD OWNERS

LOTS 2, 3, & 4
GRANDVIEW, LLC
45 BEACON STREET
READING, MA 01867

APPLICANT

MICHAEL SALAMONE
45 BEACON ST.
READING, MA 01867

ZONING SUMMARY

ZONING DISTRICT: SINGLE FAMILY 15 (S15)

	REQUIRED	LOT 1	LOT 2	LOT 3	LOT 4
MIN. LOT WIDTH	60'	>60'	>60'	>60'	>60'
MIN. LOT AREA (SF)	15,000	22,112	15,002	15,026	15,104
MIN. FRONTAGE	100'	132.00	151.62	100.00	100.00
RELIEF REQUIRED	–	N	N	N	N

CALL BEFORE YOU DIG 1-888-344-7233 MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

APRIL 20, 2023

SITE PLAN PERMIT SET

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com

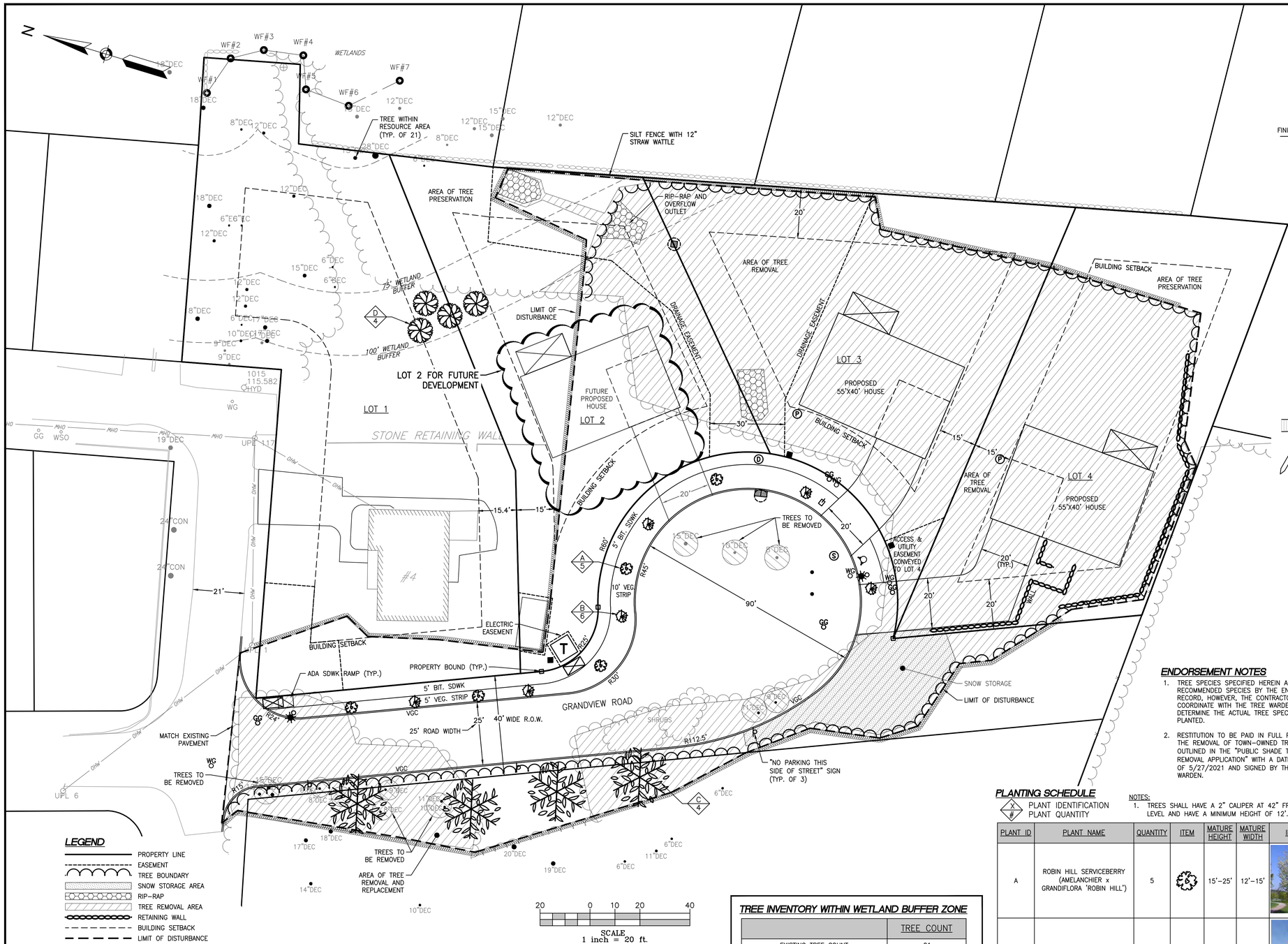
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
PLAN OF LAND

SHEET NUMBER:
C-1



SCALE
1 inch = 20 ft.

SITE AND TREE PRESERVATION PLAN

SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- EASEMENT
- TREE BOUNDARY
- SNOW STORAGE AREA
- RIP-RAP
- TREE REMOVAL AREA
- RETAINING WALL
- BUILDING SETBACK
- LIMIT OF DISTURBANCE
- WETLAND BOUNDARY
- WETLAND BUFFER
- WF# WETLAND FLAG
- VGC VERTICAL GRANITE CURB
- MAILBOX
- (P) SEWER PUMP
- (S) FORCE MAIN FLUSHING GATE
- FORCE SERVICE BALL VALVE
- CB CATCH BASIN
- (D) DMH MANHOLE
- OOS OVERFLOW OUTLET STRUCTURE
- WG WATER VALVE
- GG GAS VALVE
- T ELECTRIC TRANSFORMER & EASEMENT
- ELECTRIC SERVICE PULLBOX
- ELECTRIC MANHOLE

TREE INVENTORY WITHIN WETLAND BUFFER ZONE

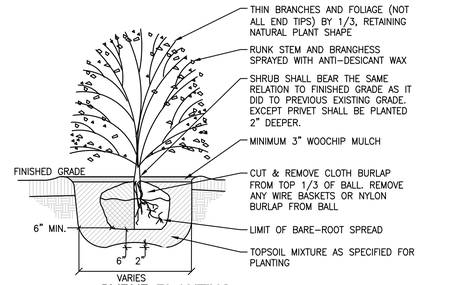
	TREE COUNT
EXISTING TREE COUNT	21
TREES TO BE REMOVED	0
TOTAL TREES TO REMAIN	21

TREE PRESERVATION CALCULATIONS

	LOT 1	LOT 2	LOT 3	LOT 4	Grand View Rd.	TOTALS
LOT AREA, S.F.	22,112	15,002	15,026	15,104	22,164	89,408
NEW IMPERVIOUS, S.F.	0	2,388	2,526	2,998	12,572	23,549
SUM: OPEN SPACE, S.F.	*19,047	12,614	12,500	12,106	9,592	65,859
**REQUIRED # OF TREES	10	7	7	7	N/A	31
AREA OF TREE REMOVAL, S.F.	0	3,605	13,325	11,140	6,217	34,287
AREA OF TREE PRESERVED, S.F.	7,948	3,260	1,590	3,970	2,832	19,600
***ESTIMATED # OF TREES PRESERVED	20	14	7	17	12	70

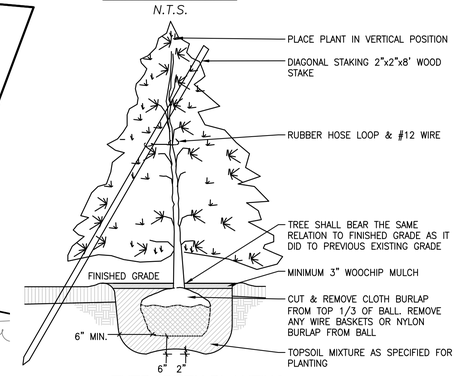
* SUBTRACTED EXISTING IMPERVIOUS AREA OF 3,065 SF.
** BASED ON 1 TREE PER 2,000 S.F. OF OPEN SPACE PER SECTION 7.6.2.2 OF THE TOWN OF READING SUBDIVISION REGULATIONS.
*** ESTIMATED BASED ON 1 TREE PER 225 S.F. (15'X15')

PERMANENT GRASS SEED MIX	SEED, POUNDS PER 1,000 S.F.
LITTLE BLUESTEM OR BROOMSEDGE	0.25
TUMBLE LOVEGRASS	0.10
SWITCHGRASS	0.10
BUSH CLOVER	0.10
RED TOP	0.10



SHRUB PLANTING

N.T.S.



EVERGREEN PLANTING

N.T.S.

GENERAL NOTES

1. ALL PLANT STOCK SHALL CONFORM TO ANSI Z260.1 – NURSERY STOCK, LATEST EDITION (AMERICAN ASSOCIATION OF NURSERYMEN, INC.).
2. NO TREES OR SHRUBS SHALL BE PLANTED AT THE STREET INTERSECTION WHERE THEY COULD BECOME A TRAFFIC HAZARD BY OBSTRUCTING VISION.
3. ALL TREES SHALL BE GUARANTEED BY THE DEVELOPER FOR THEIR ERECTNESS AND GOOD HEALTH FOR TWO (2) YEARS AFTER PLANTING.
4. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED AND SEEDED. LOAM DEPTH SHALL BE A MINIMUM OF 4 INCHES. ALL LOAM PLACED SHALL BE pH CORRECTED AND FREE OF CLODS, LUMPS, STONES AND OTHER DELETERIOUS MATERIAL.
5. ANY DEAD VEGETATION SHALL BE REMOVED IMMEDIATELY AND REPLACED IN ACCORDANCE WITH THE SPECIFICATION ON PLAN.
6. OWNER SHALL MAINTAIN LANDSCAPE PLANTINGS TO ENSURE THE AESTHETIC APPEARANCE AND OVERALL PLANT HEALTHINESS IS RETAINED. THIS INCLUDES INSPECTING AND REPLACING PLANTINGS AS NECESSARY, WEEKLY MOWING AND MULCHING.
7. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
8. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
9. THE CONSTRUCTION SITE SHALL BE SECURED IN A MANNER SO AS TO PREVENT INJURY OR PROPERTY DAMAGE TO THE RESIDENTS OF THE TOWN.
10. AN APPROVED SITE AS-BUILT SHALL BE SUBMITTED TO THE ENGINEERING DIVISION WITHIN 60 DAYS OF CERTIFICATE OF OCCUPANCY. THE AS-BUILT SHALL BE SUBMITTED IN MYLAR AND ELECTRONIC ACAD FORMAT.

ENDORSEMENT NOTES

1. TREE SPECIES SPECIFIED HEREIN ARE SIMPLY RECOMMENDED SPECIES BY THE ENGINEER OF RECORD, HOWEVER, THE CONTRACTOR SHALL COORDINATE WITH THE TREE WARDEN TO DETERMINE THE ACTUAL TREE SPECIES TO BE PLANTED.
2. RESTITUTION TO BE PAID IN FULL PRIOR TO THE REMOVAL OF TOWN-OWNED TREES AS OUTLINED IN THE "PUBLIC SHADE TREE REMOVAL APPLICATION" WITH A DATE OF ACTION OF 5/27/2021 AND SIGNED BY THE TREE WARDEN.

PLANTING SCHEDULE

X/# PLANT IDENTIFICATION / PLANT QUANTITY

NOTES:
1. TREES SHALL HAVE A 2" CALIPER AT 42" FROM GROUND LEVEL AND HAVE A MINIMUM HEIGHT OF 12'.

PLANT ID	PLANT NAME	QUANTITY	ITEM	MATURE HEIGHT	MATURE WIDTH	IMAGE
A	ROBIN HILL SERVICEBERRY (AMELANCHIER x GRANDIFLORA 'ROBIN HILL')	5		15'-25'	12'-15'	
B	GOLDSPIRE GINKGO (GINKGO BILOBA "GOLDSPIRE")	6		15'	5'-6'	
*C	SUGAR MAPLE TREE (ACER SACCHARUM)	4		60'-75'	40'-50'	
D	HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM)	4		6'-12'	8'-12'	

* TREE SPECIES TO BE REPLANTED IN TOWN OWNED PROPERTY SHALL BE APPROVED BY THE TREE WARDEN.

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1-888-344-7233
MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:

MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SITE PLAN PERMIT SET

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

ENGINEER:
FODERA ENGINEERING
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gfodera@foderaengineering.com
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PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
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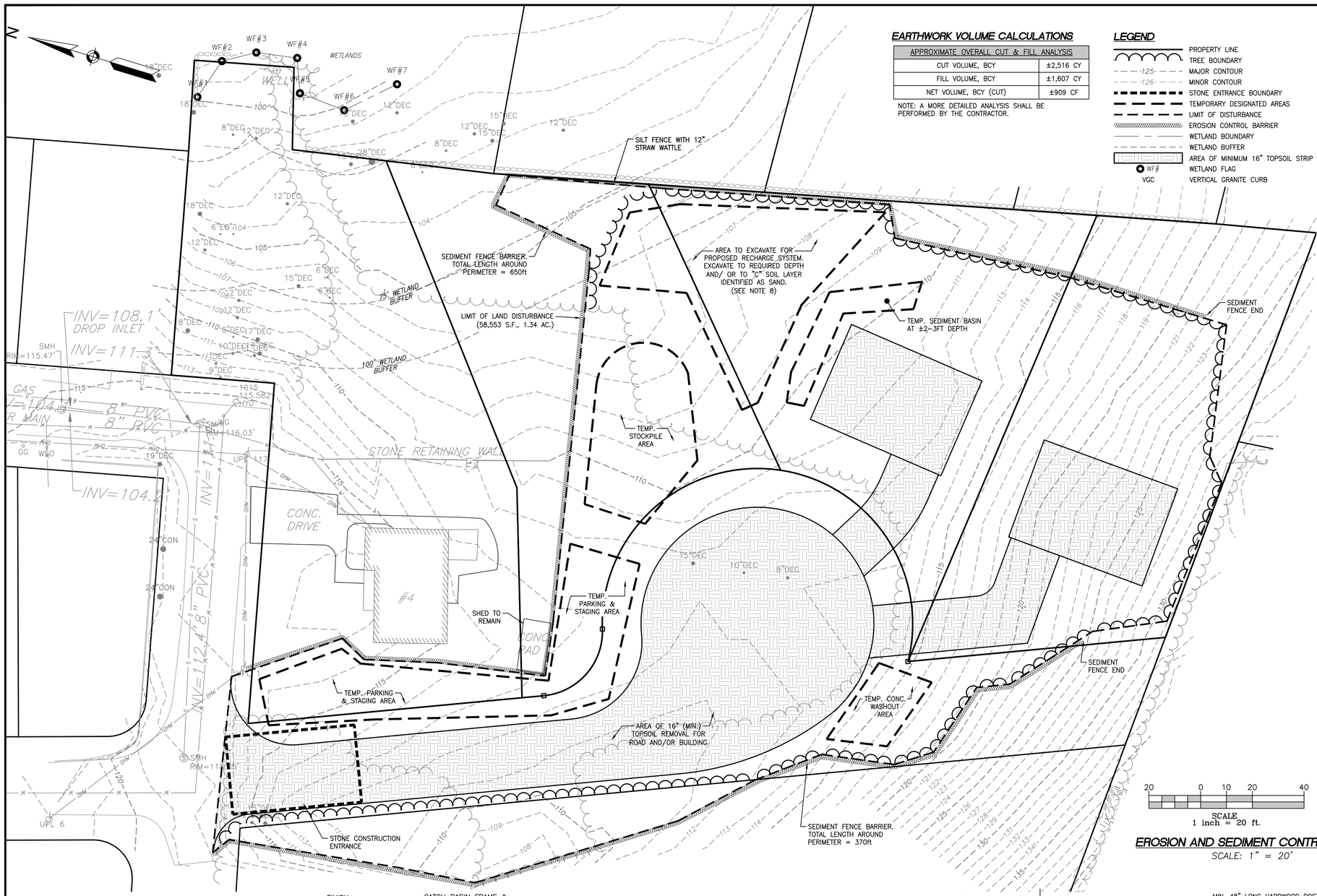
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
SITE AND TREE PRESERVATION

SHEET NUMBER:
C-2



EARTHWORK VOLUME CALCULATIONS

APPROXIMATE OVERALL CUT & FILL ANALYSIS	
CUT VOLUME, BCY	±2,516 CY
FILL VOLUME, BCY	±1,607 CY
NET VOLUME, BCY (CUT)	±909 CF

NOTE: A MORE DETAILED ANALYSIS SHALL BE PERFORMED BY THE CONTRACTOR.

LEGEND

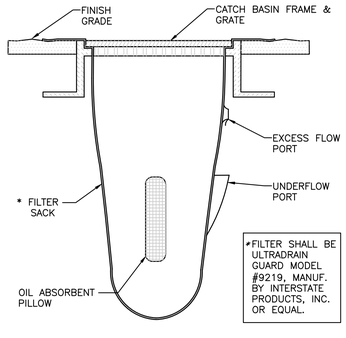
- PROPERTY LINE
- TREE BOUNDARY
- 125 MAJOR CONTOUR
- 126 MINOR CONTOUR
- STONE ENTRANCE BOUNDARY
- TEMPORARY DESIGNATED AREAS
- LIMIT OF DISTURBANCE
- EROSION CONTROL BARRIER
- WETLAND BOUNDARY
- WETLAND BUFFER
- AREA OF MINIMUM 16" TOPSOIL STRIP
- WF# WETLAND FLAG
- VGC VERTICAL GRANITE CURB

EROSION CONTROL NOTES

1. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS.
2. INSTALL SEDIMENTATION AND EROSION CONTROL MEASURES PRIOR TO CLEARING GRADING AND DEMOLITION WORK. MAINTAIN ALL SEDIMENT AND EROSION CONTROL, AND TREE PROTECTION MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
3. ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATIONS AT THE DIRECTION OF THE TOWN'S DPW ENGINEERING DEPARTMENT.
4. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE. CONTRACTOR SHALL MAINTAIN CONSTRUCTION ENTRANCE UNTIL SITE PAVING IS COMPLETE.
5. INLET PROTECTIONS SHALL BE INSTALLED ON ALL EXISTING CATCH BASINS AS INDICATED ON THE PLAN, AND IMMEDIATELY AFTER THE INSTALLATION OF ALL NEWLY INSTALLED INLETS.
6. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO THE ACCESSING ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED BY VEHICLE OFF-SITE ONTO THE ROADWAY OR INTO STORM DRAINS MUST BE REMOVED.
7. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
8. ADD EROSION BARRIER AROUND PERIMETER OF PROPOSED RECHARGE AREA IF THE EXCAVATED PIT WILL REMAIN EXPOSED FOR MORE THAN TWO (2) DAYS, WEATHER PERMITTING. THE EXCAVATED PIT SHALL BE CLEAN OF ALL SEDIMENT.
9. EROSION CONTROL DEVICES SHALL BE INSTALLED BEFORE GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
10. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UPSTREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVES HAVE BEEN PAVED.
11. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE IMPROVEMENTS ARE BEING MADE. TRAFFIC CONTROL MEASURES TO BE IN ACCORDANCE WITH LOCAL REGULATIONS AND OR MASSDOT.
12. ALL SILT BARRIERS MUST BE PLACED AS ACCESS IS OBTAINED DURING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION AND DETENTION FACILITIES, IF REQUIRED, ARE CONSTRUCTED.
13. CONTRACTOR SHALL PERFORM EROSION CONTROL INSPECTIONS REGULARLY AND IMMEDIATELY FOLLOWING HEAVY RAIN STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY. REPAIR OR REPLACE FAILED SYSTEMS AT THE EARLIEST POSSIBLE DATE.
14. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING.
15. ALL DISTURBED AREAS, WITH NO SPECIFIED GROUND COVER ARE TO BE RESTORED WITH MINIMUM FOUR (4) INCHES OF TOPSOIL AND SEEDING.
16. PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO ENSURE INTEGRITY. IF DISTURBED, THEY SHALL BE REPLACED BY A REGISTERED SURVEYOR AT THE CONTRACTOR'S EXPENSE.
17. ALL EXCAVATION SHALL INCLUDE CLEARING, STRIPPING AND STOCKPILING TOPSOIL, REMOVING UNSUITABLE MATERIALS, THE CONSTRUCTION OF EMBANKMENTS, CONSTRUCTION FILLS, AND THE FINAL SHAPING AND TRIMMING TO THE LINES AND GRADES SHOWN ON THE PLANS.
18. ALL TREES, BRUSH, AND ORGANIC TOPSOIL AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED, UNLESS OTHERWISE SPECIFIED, AND DISPOSED OF AT AN OFF-SITE LOCATION, WITH THE EXCEPTION THAT ENOUGH TOPSOIL SHALL BE RETAINED FOR RE-SPREAD AND GENERAL LANDSCAPING. AREAS WHICH ARE TO BE FILLED SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D1557, METHOD C) COMPACTION TEST IN THE PAVED AREAS AND 90% IN THE OTHER AREAS.
19. SWEEP CLEAN THE BINDER COURSE PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE. EXCESSIVE CLEANING OF THE BINDER COURSE THAT MAY BE REQUIRED, AND IS NOT THE FAULT OF THE PAVING CONTRACTOR, SHALL BE PAID FOR ON A TIME AND MATERIAL BASIS BY PRIOR AGREEMENT WITH THE GENERAL CONTRACTOR.
20. THE TOWN'S ENGINEERING DIVISION SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION TO MARK OUT TOWN UTILITIES.
21. ALL WATER, SEWER, CURB CUT, STREET OPENING AND JACKIE'S LAW EXCAVATION PERMITS SHALL BE OBTAINED AT THE ENGINEERING DIVISION PRIOR TO ANY EXCAVATIONS.
22. ALL SITE WORK SHALL BE INSPECTED BY THE ENGINEERING DIVISION. THE APPLICANT\OWNER'S CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE OF PROPOSED WORK. ALL INSPECTIONS SHALL BE SCHEDULED 48 HOURS IN ADVANCE

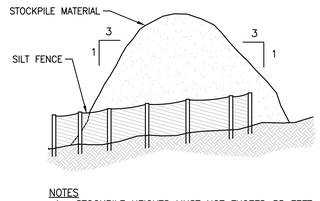
EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1" = 20'



CATCH BASIN INLET PROTECTION

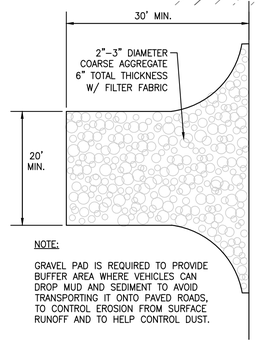
N.T.S.



NOTES
1. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET.
2. STOCKPILE SLOPES MUST BE 3:1 OR FLATTER.

STOCKPILE DETAIL

N.T.S.

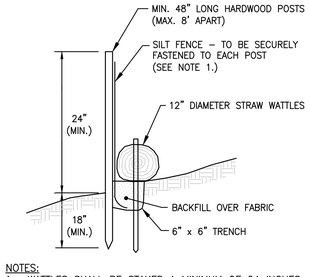


NOTE:

GRAVEL PAD IS REQUIRED TO PROVIDE BUFFER AREA WHERE VEHICLES CAN DROP MUD AND SEDIMENT TO AVOID TRANSPORTING IT ONTO PAVED ROADS, TO CONTROL EROSION FROM SURFACE RUNOFF AND TO HELP CONTROL DUST.

STONE CONSTRUCTION ENTRANCE

N.T.S.



NOTES:
1. WATTLES SHALL BE STAKED A MINIMUM OF 24 INCHES INTO THE GROUND WITH 2 INCHES OR LESS OF STAKE EXPOSED ABOVE WATTLE. STAKE SHALL BE A MAXIMUM OF 4 FEET APART AND WITHIN 2 FEET OF END OF WATTLE SECTIONS.

SILT FENCE/ STRAW WATTLE BARRIER

N.T.S.

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REVISION	DATE	BY

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

APRIL 20, 2023

SITE PLAN PERMIT SET

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION

DATE: _____

FOR REGISTRY USE ONLY

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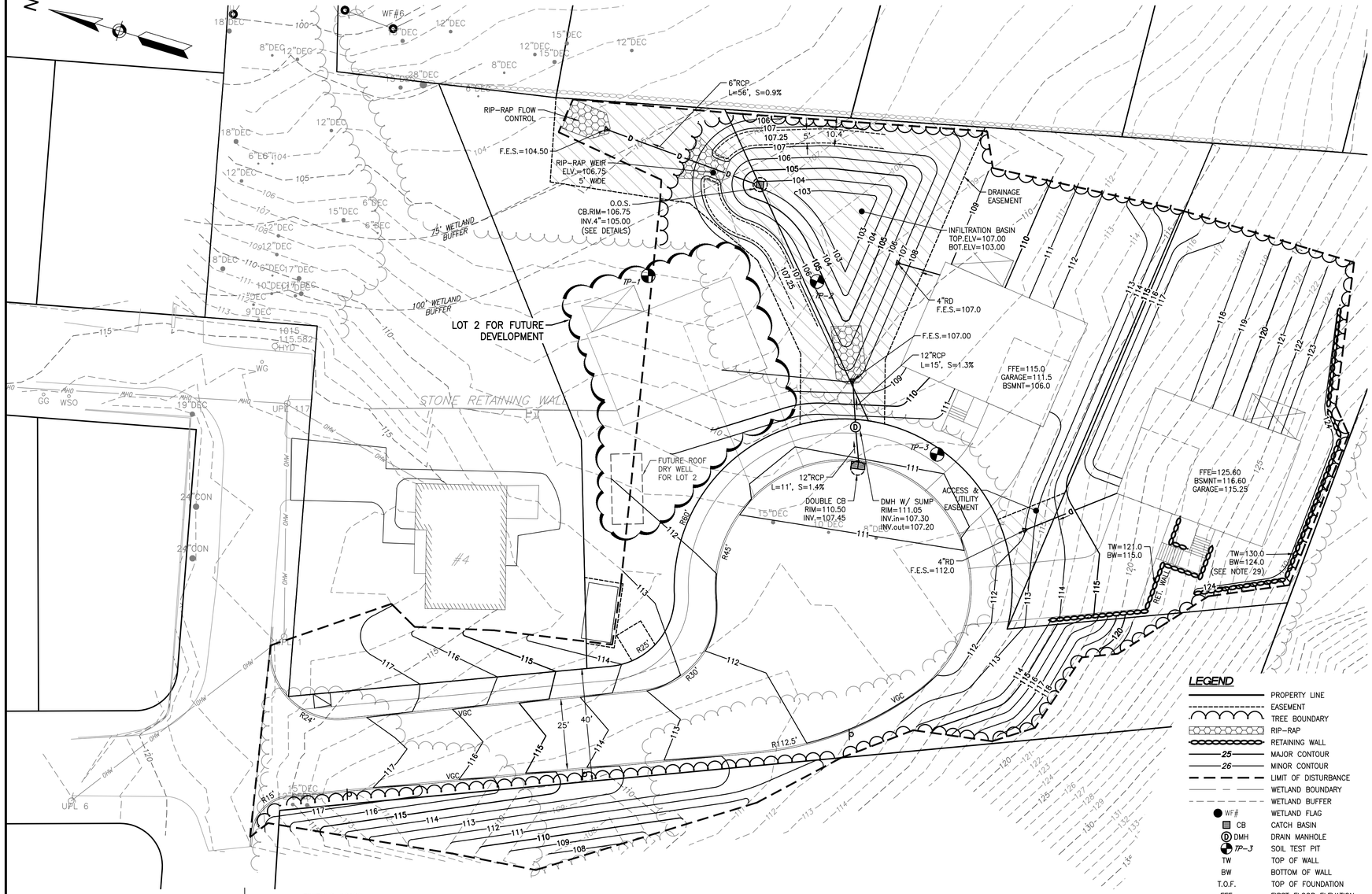
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
EROSION + SEDIMENT CONTROL PLAN

SHEET NUMBER:
C-3



GRADING AND DRAINAGE NOTES

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE TO THE TOWN'S LATEST CONSTRUCTION SPECIFICATIONS AND DETAILS.
2. GRADING IN THE RIGHT-OF-WAY SHALL IN ACCORDANCE WITH LOCAL REGULATIONS, UNLESS OTHERWISE APPROVED BY THE TOWN.
3. THE CONTRACTOR SHALL NOTIFY DIG SAFE AND THE TOWN A MINIMUM OF 72 HOURS PRIOR TO THE START OF ANY EXCAVATIONS.
4. INSTALL ALL APPROPRIATE TREE PROTECTION MEASURES PRIOR TO GRADING AND EXCAVTION.
5. EXACT LOCATIONS OF SAW-CUTTING MAY BE FIELD DETERMINED BASED ON EXISTING PAVEMENT CONDITIONS.
6. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, REFERENCE POINTS AND STAKES.
7. EROSION CONTROL MEASURES SHALL BE STABILIZED IN PLACE BEFORE BEGINNING SITE WORK. THESE MEASURES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
8. ALL INDICATED ELEVATIONS ARE FINISHED ELEVATIONS.
9. LOCATE AND PROTECT ALL UTILITIES ASSOCIATED WITH THE PROJECT PRIOR TO CONSTRUCTION.
10. ALL EXCAVATION SHALL INCLUDE CLEARING, STRIPPING AND STOCKPILING TOPSOIL, REMOVING UNSUITABLE MATERIALS, THE CONSTRUCTION OF EMBANKMENTS, CONSTRUCTION FILLS, AND THE FINAL SHAPING AND TRIMMING TO THE LINES AND GRADES SHOWN ON THE PLANS.
11. ALL TREES, BRUSH, AND ORGANIC TOPSOIL AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED, UNLESS OTHERWISE SPECIFIED, AND DISPOSED OF AT AN OFF-SITE LOCATION, WITH THE EXCEPTION THAT ENOUGH TOPSOIL SHALL BE RETAINED FOR RE-SPREAD AND GENERAL LANDSCAPING. AREAS WHICH ARE TO BE FILLED SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D1557, METHOD C) COMPACTION TEST IN THE PAVED AREAS AND 90% IN THE OTHER AREAS.
12. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE TO ALL INLETS AND CATCH BASINS. AREAS OF SURFACE PONDING SHALL BE CORRECTED BY CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
13. IF AREAS ARE DISTURBED BEYOND PROPOSED GRADES BY NEGLIGENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY REGRADING OR REPAIR TO MATCH ORIGINAL EXISTING CONDITIONS.
14. SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. SHORING SHALL BE IN ACCORDANCE WITH ALL O.S.H.A AND LOCAL REGULATIONS.
15. CONTRACTOR SHALL ADJUST GRADES BY VARYING THE PAVEMENT SECTIONS ACCORDINGLY. EXISTING COMPACTED SUBGRADE TO BE DISTURBED AS LITTLE AS POSSIBLE.
16. ALL PROPOSED SPOT ELEVATIONS SHOWN INDICATE FINISHED GRADED ELEVATIONS AT EDGE OF PAVEMENT AND/OR GRADE BREAKS, UNLESS OTHERWISE NOTED.
17. MAINTAIN PROPER SITE DRAINAGE AT ALL TIMES DURING THE COURSE OF CONSTRUCTION, AND PREVENT STORM WATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS.
18. SPREAD AND COMPACT UNIFORMLY TO THE DEGREE SPECIFIED ALL EXCESS TRENCH SPOIL AFTER COMPLETION OF THE UNDERGROUND IMPROVEMENTS (EARTHWORK CONTRACTOR SHALL MAKE APPROPRIATE ADJUSTMENTS IN ROUGH GRADING TO ACCOMMODATE TRENCH SPOIL).
19. PROVIDE WATER TO ADD TO DRY MATERIAL IN ORDER TO ADJUST THE MOISTURE CONTENT FOR THE PURPOSE OF ACHIEVING THE SPECIFIED COMPACTION.
20. UNSUITABLE MATERIAL SHALL BE CONSIDERED AS MATERIAL WHICH IS NOT SUITABLE FOR THE SUPPORT OF PAVEMENT AND BUILDING CONSTRUCTION, AND IS ENCOUNTERED BELOW NORMAL TOPSOIL DEPTHS AND THE PROPOSED SUB-GRADE ELEVATION. THE DECISION TO REMOVE SAID MATERIAL, AND TO WHAT EXTENT, SHALL BE MADE BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.
21. REPAIR ANY BASE COURSE AND BINDER COURSE FAILURES PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE.
22. SWEEP CLEAN THE BINDER COURSE PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE. EXCESSIVE CLEANING OF THE BINDER COURSE THAT MAY BE REQUIRED, AND IS NOT THE FAULT OF THE PAVING CONTRACTOR, SHALL BE PAID FOR ON A TIME AND MATERIAL BASIS BY PRIOR AGREEMENT WITH THE GENERAL CONTRACTOR.
23. CONFIRM INVERTS OF ALL EXISTING STORM INLETS AND SANITARY SEWER MANHOLES BEFORE COMMENCING CONSTRUCTION.
24. A GEOTEXTILE MATTING (LANDLOCK TRM 450 OR EQUIVALENT) SHALL BE USED FOR EROSION CONTROL AN ALL SLOPES GREATER THAN 3H:1V IF NECESSARY.
25. DRAINAGE STRUCTURES AND UNDERGROUND INFILTRATION FACILITIES SHALL BE INSPECTED SEMIANNUALLY TO ENSURE PROPER WORKING ORDER.
26. UNSUITABLE EXISTING SOILS, SILT, AND DEBRIS SHALL BE ADEQUATELY REMOVED FROM THE AREA OF THE PROPOSED INFILTRATION BASIN. REMOVE ALL ORGANICS.
27. IF THE CONTRACTOR IN THE COURSE OF WORK FINDS ANY DISCREPANCIES BETWEEN THE PLANS AND THE PHYSICAL CONDITIONS OF THE LOCALITY, OR ANY ERRORS OR OMISSIONS IN THE PLANS OR IN THE LAYOUT AS GIVEN BY THE ENGINEER, IT SHALL BE HIS DUTY TO IMMEDIATELY INFORM THE ENGINEER, IN WRITING AND THE ENGINEER WILL PROMPTLY VERIFY THE SAME. ANY WORK DONE AFTER SUCH A DISCOVERY, UNTIL AUTHORIZED, WILL BE AT THE CONTRACTOR'S RISK.
28. ANNUAL O&M REPORTS SHALL BE DELIVERED TO THE OFFICE OF THE TOWN ENGINEER BY JANUARY 15 OF EACH YEAR.
29. ANY RETAINING WALL OVER FOUR (4) FEET IN RETAINED HEIGHT SHALL REQUIRE AN ENGINEERED DESIGN FROM A DESIGN PROFESSIONAL.

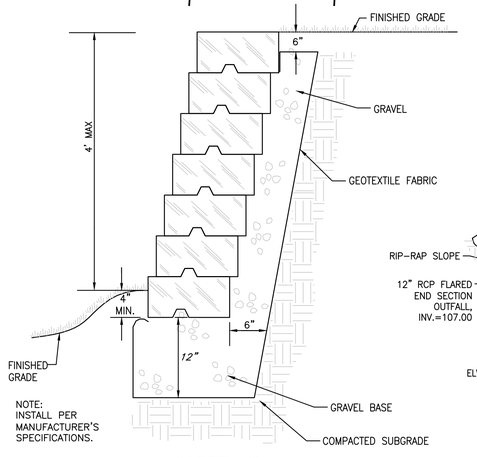
LEGEND

- PROPERTY LINE
- EASEMENT
- TREE BOUNDARY
- RIP-RAP
- RETAINING WALL
- 25 MAJOR CONTOUR
- 26 MINOR CONTOUR
- LIMIT OF DISTURBANCE
- WETLAND BOUNDARY
- WETLAND BUFFER
- WF# WETLAND FLAG
- CB CATCH BASIN
- D DMH DRAIN MANHOLE
- TP-3 SOIL TEST PIT
- TW TOP OF WALL
- BW BOTTOM OF WALL
- T.O.F. TOP OF FOUNDATION
- FFE FIRST FLOOR ELEVATION
- RIM RIM ELEVATION
- INV INVERT ELEVATION
- O.O.S. OVERFLOW OUTLET STRUCTURE
- F.E.S. FLARED END SECTION

GRADING AND DRAINAGE PLAN

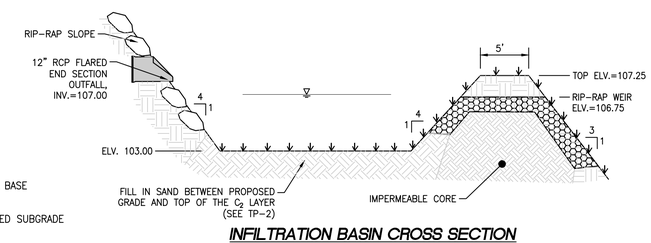
SCALE: 1" = 20'

SCALE
1 inch = 20 ft.



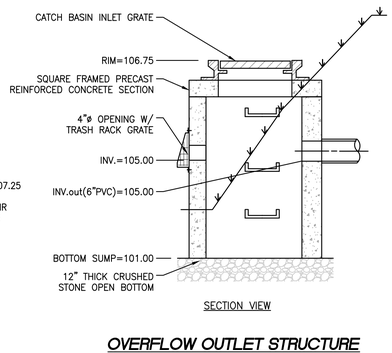
4ft MAX HIGH RETAINING WALL

N.T.S.



INFILTRATION BASIN CROSS SECTION

N.T.S.



OVERFLOW OUTLET STRUCTURE

N.T.S.

SOIL TEST RESULTS

TEST DATE: 7/6/2020
WEATHER: 65'F, SUNNY/ DRY
SOIL EVALUATOR: ARMAND PORRAZZO
LICENCE #: 1958

TP-1

ELV.	DPT.	Soil Data
106	0"-9"	A_p (0"-9") Sandy Loam 10YR 3/2
105	9"-24"	B (9"-24") Sandy Loam 10YR 7/6
104		
103		
102		
101		
100		C (24"-108") Loamy Sand 2.5Y 4/3
99		
98		
97		
96	108"-	

NO REFUSAL
NO WEEPING
REDOX @ 60"
ESHWT = 101.0

TP-2

ELV.	DPT.	Soil Data
108	0"-12"	A (0"-12") Sandy Loam 10YR 3/2
107		
106		
105	12"-36"	B_w (12"-36") Sandy Loam 10YR 7/6
104		
103		
102		C_1 (36"-80") Loamy Sand 2.5Y 5/2
101		
100	80"-	
99		
98	120"-	C_2 (80"-120") Sand Gravel 2.5Y 4/3

NO REFUSAL
NO WEEPING
NO REDOX

TP-3

ELV.	DPT.	Soil Data
112	0"-8"	A (0"-8") Sandy Loam 10YR 3/2
111		
110	8"-27"	B_w (8"-27") Sandy Loam 10YR 7/6
109		
108		
107		C (27"-66") Loamy Sand 2.5Y 5/2
106	66"-	
105		
104		
103		

NO REFUSAL
NO WEEPING
NO REDOX

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MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY

PROJECT LOCATION:
LOTS 2, 3, + 4
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READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)
SITE PLAN PERMIT SET

APRIL 20, 2023

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

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JOB NO.: 20160-149

SHEET TITLE:
GRADING AND DRAINAGE PLAN

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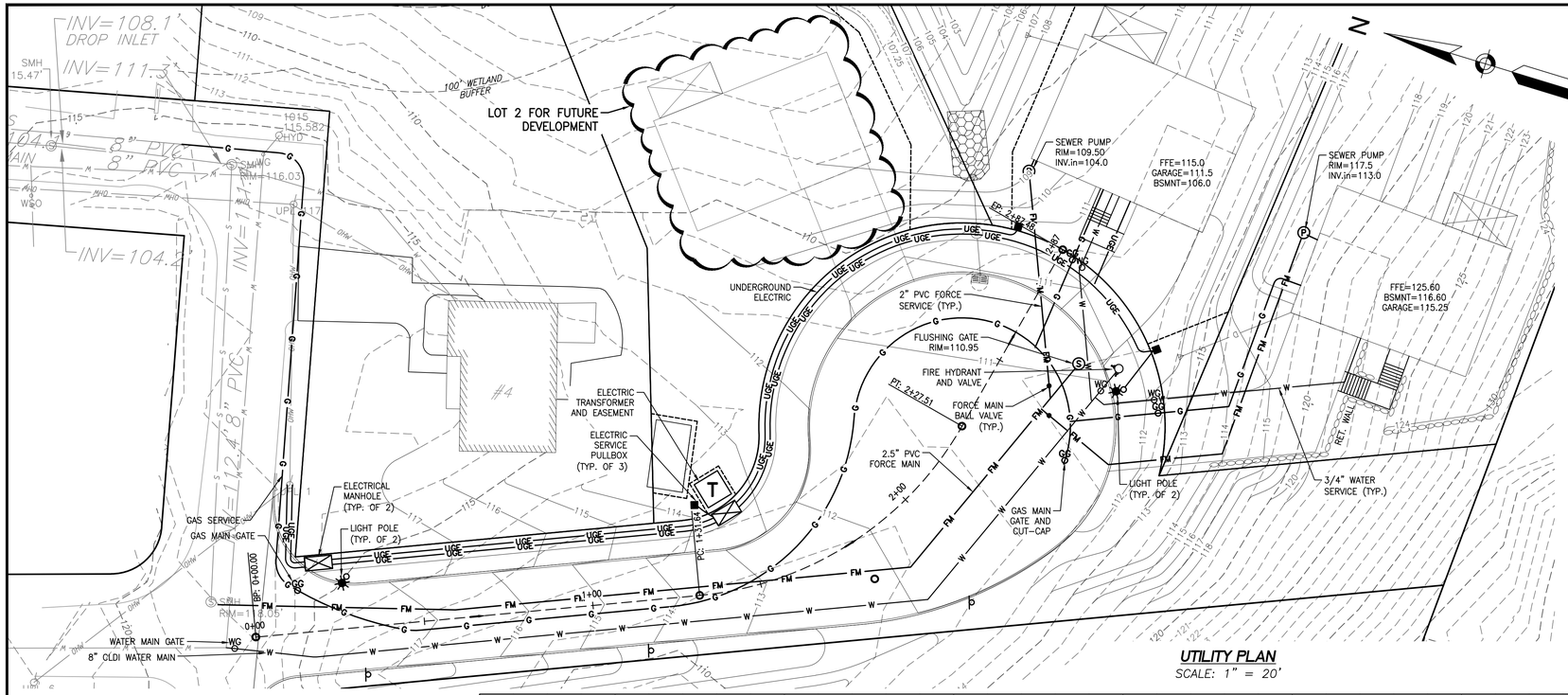
C-4



UTILITY PLAN
SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- RIP-RAP
- RETAINING WALL
- 125 MAJOR CONTOUR
- 126 MINOR CONTOUR
- LIMIT OF DISTURBANCE
- D STORM DRAIN LINE
- G GAS LINE
- OHW OVERHEAD UTILITY WIRE LINE
- S SANITARY SEWER UTILITY LINE
- FM SEWER FORCE MAIN
- UGE UNDERGROUND ELECTRIC LINE
- W WATER UTILITY LINE
- CB CATCH BASIN
- DMH DRAIN MANHOLE
- SEWER PUMP
- SEWER FLUSHING GATE
- FORCE MAIN BALL VALVE
- GAS VALVE
- WATER VALVE
- FIRE HYDRANT
- RIM RIM ELEVATION
- INV INVERT ELEVATION
- STREET LIGHT
- T ELECTRIC TRANSFORMER & EASEMENT
- ELECTRIC SERVICE PULLBOX
- ELECTRIC MANHOLE

SEWAGE CALCULATIONS

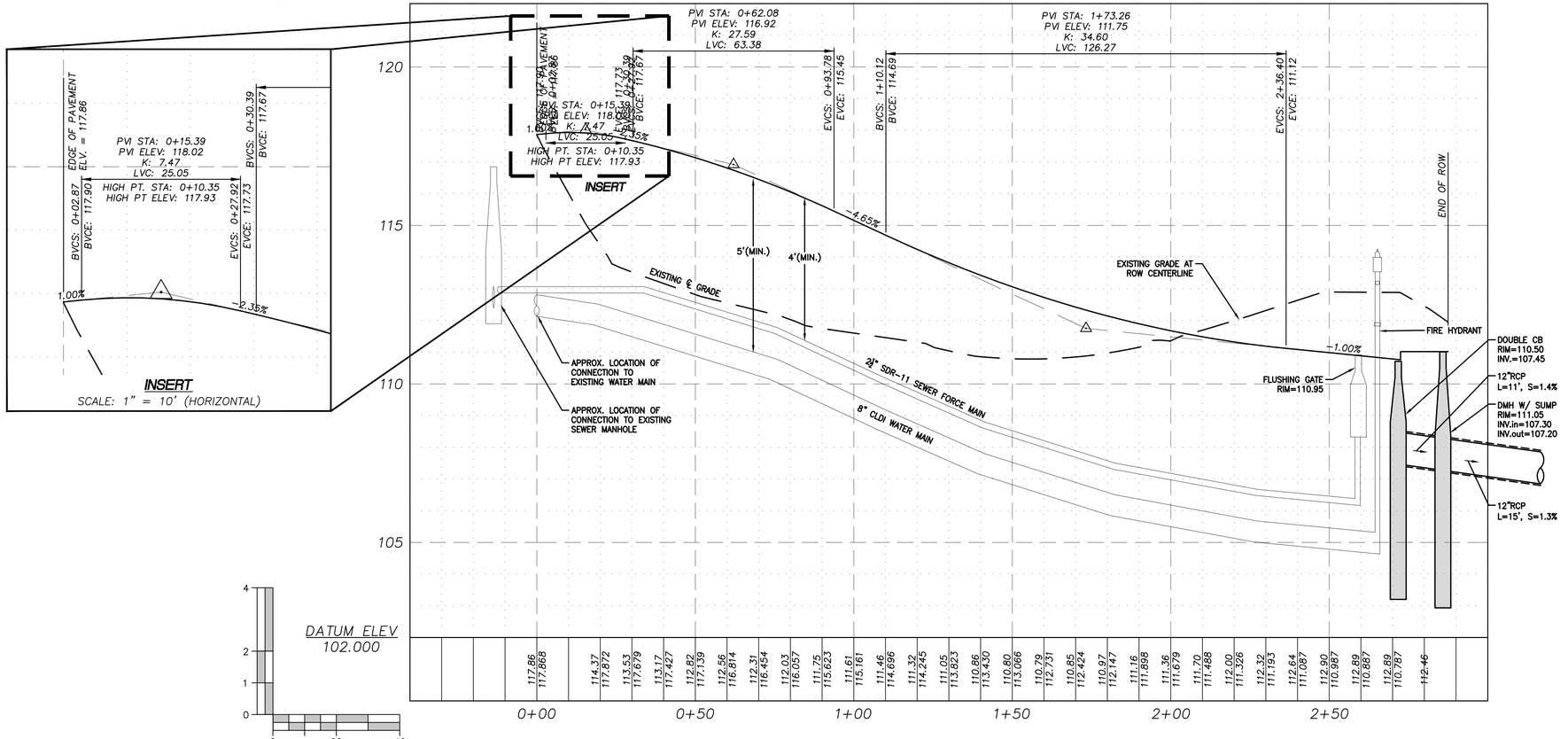
ASSUMPTIONS MADE FOR EACH PROPOSED HOUSE TO CONTAIN FOUR (4) BEDROOMS. CALCULATIONS BELOW ARE IN ACCORDANCE TO 310 CMR 15.00.

3 NEW HOUSES * 4 BEDROOMS PER HOUSE = 12 BEDROOMS ADDED

12 BEDROOMS * 110 GAL/DAY = 1,320 GAL/DAY OF ADDED SEWAGE

UTILITY NOTES

1. CONTRACTOR IS TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND ENSURE NO CONFLICTS EXIST WITH PROPOSED IMPROVEMENTS. NOTIFY ENGINEER IMMEDIATELY IF UTILITIES ARE LOCATED DIFFERENTLY THAN SHOWN. THE CONTRACTOR SHALL COORDINATE WITH EACH RESPECTIVE UTILITY COMPANY IN ORDER TO RELOCATE IF NEEDED IN CONFORMANCE WITH THEIR GUIDELINES.
2. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO THE REMOVAL OF INDICATED UTILITIES ON SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS REQUIRED FOR DEMOLITION AND HAUL OFF FROM THE APPROPRIATE AUTHORITIES.
3. THE DEPARTMENT OF PUBLIC WORKS OR APPLICABLE GOVERNING DEPARTMENT MUST AUTHORIZE AND PERMIT TO CONSTRUCT, ALTER OR MODIFY A WATER OR SEWER LINE.
4. AT THE COMPLETION OF THE WATER AND/OR SEWER CONSTRUCTION AND PRIOR TO RECORDING THE FINAL PLAT, THE CONTRACTOR WILL FURNISH THE WATER SYSTEM INSPECTOR RECORD DRAWINGS OF THE PROJECT.
5. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE GAS COMPANY FOR THE CONSTRUCTION OF THE GAS LINE BETWEEN METER AND MAIN.
6. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE POWER COMPANY FOR THE CONSTRUCTION OF ELECTRICAL CONDUIT TO PROVIDE SERVICE AND IF A TRANSFORMER IS REQUIRED TO BE INSTALLED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING, PRIOR TO CONSTRUCTION, ALL EXISTING LOCATIONS AND INVERT ELEVATIONS OF SANITARY SEWERS, STORM DRAINAGE, AND WATER MAINS. IF ANY INVERT ELEVATION VARIES MORE THAN 0.1 FT. FROM RECORD ELEVATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. WORK SHALL NOT PROCEED UNTIL THE CONTRACTOR IS NOTIFIED BY THE ENGINEER.
8. CONNECT TO EXISTING UTILITIES AND INSTALL UTILITIES IN COMPLIANCE WITH REQUIREMENTS OF APPROPRIATE JURISDICTIONAL AGENCIES.
9. COORDINATE WITH BUILDING PLANS TO ASSURE ACCURACY OF UTILITY CONNECTIONS AND COMPLIANCE WITH LOCAL CODES.
10. ALL SEWERS TO BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING CLEANING OF ANY SILT OR DEBRIS ACCUMULATED IN STRUCTURES.
11. ALL SURPLUS EXCAVATED MATERIAL FROM THE TRENCH SHALL BE DISPOSED OFF THE SITE BY CONTRACTOR.
12. TRENCHING SHOULD BE CONDUCTED IN ACCORDANCE WITH ALL OSHA REGULATIONS.
13. COORDINATE EXACT TRENCHING, ROUTING, AND POINT OF TERMINATION WITH ALL UTILITY COMPANIES.
14. BACKFILL MATERIAL SHALL BE SUITABLE MATERIAL IN COMPLIANCE WITH THE TOWN OF DANVERS AND/OR THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT).
15. WATER MAIN SHALL HAVE A MINIMUM COVER OF FIVE (5) FEET.
16. THE SANITARY SEWER AND POTABLE WATER LINES ARE TO BE SEPARATED BY AT LEAST 10 FEET HORIZONTALLY, OR THE POTABLE WATER LINE SHALL BE AT LEAST 18 INCHES VERTICALLY ABOVE THE SANITARY SEWER.
17. CONTRACTOR TO RECONFIGURE PROPOSED ELECTRIC/TELEPHONE/CABLE CONDUITS AS NECESSARY TO AVOID CONFLICT WITH TREES/LANDSCAPING.
18. THRUST BLOCKS TO BE PLACED AT ALL BEND LOCATIONS WITHIN THE POTABLE WATER LINES. SEE DETAIL SHEETS.
19. ALL UTILITIES SHALL BE APPROVED MATERIALS AND INSTALLED IN ACCORDANCE WITH THE DEPARTMENT OF PUBLIC WORKS STANDARDS.
20. THE TOWN'S ENGINEERING DIVISION SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION TO MARK OUT TOWN UTILITIES.



PROFILE OF RIGHT-OF-WAY AND ROADWAY
SCALE: 1" = 20' (HORIZONTAL)
1" = 2' (VERTICAL)

UTILITY AND ROADWAY PROFILE PLAN
SCALE: 1" = 20' (HORIZONTAL)

CALL BEFORE YOU DIG 1-888-344-7233 MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SITE PLAN PERMIT SET

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

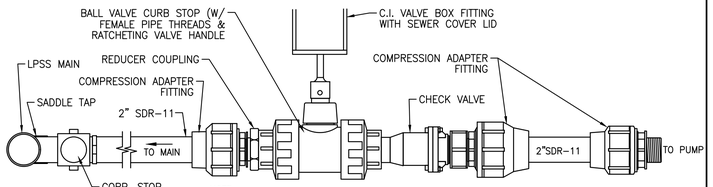
ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

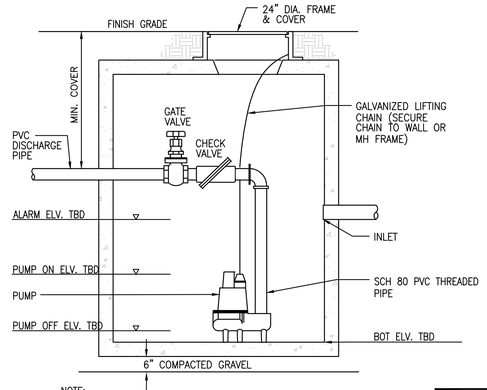
SHEET TITLE:
UTILITY + ROADWAY PROFILE PLAN

SHEET NUMBER:
C-5



LOW PRESSURE SEWER SERVICE LATERAL VALVE AND CONNECTION

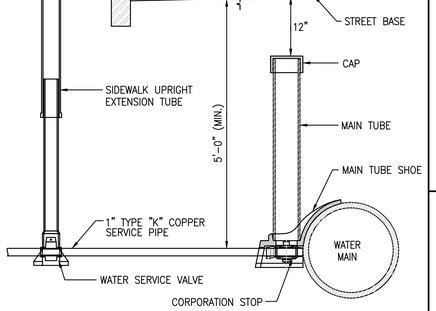
N.T.S.



NOTE:
SEWER PUMP DESIGNS FOR ASSOCIATED LOTS SHALL BE SUBMITTED TO THE ENGINEERING DIVISION FOR REVIEW AND APPROVAL UPON OR BEFORE THE SUBMISSION OF THE APPLICATION FOR THE SEWER PERMIT OF EACH LOT.

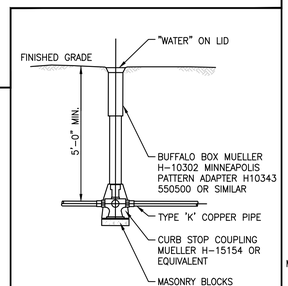
PUMP CHAMBER

N.T.S.



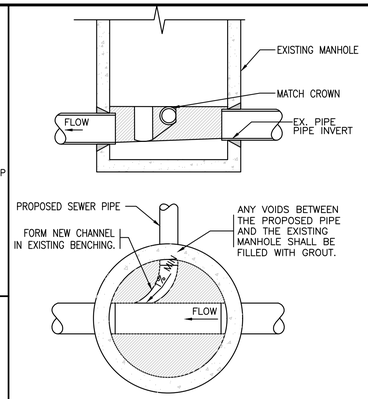
TYPICAL WATER SERVICE CONNECTION

N.T.S.



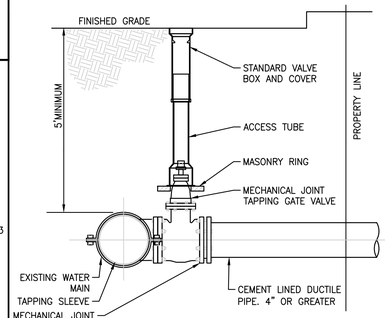
WATER SERVICE VALVE

N.T.S.



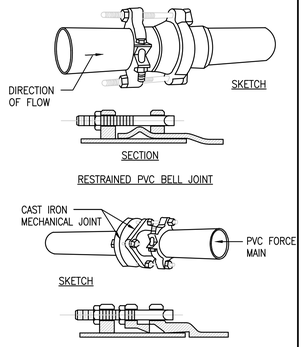
CONNECTION TO EXISTING SEWER MANHOLE

N.T.S.



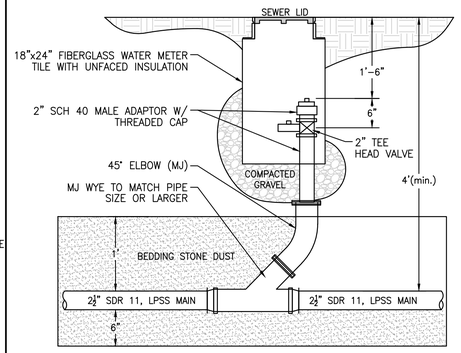
WATER CONNECTION WITH TAPPING SLEEVE AND VALVE

N.T.S.



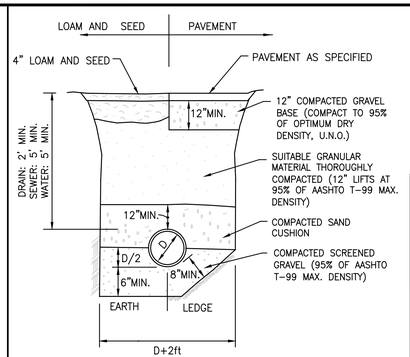
RESTRAINED MECHANICAL JOINT FITTING

N.T.S.



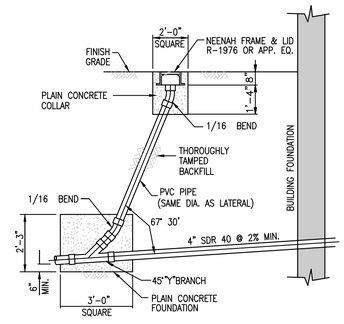
SEWER FORCE MAIN FLUSHING CONNECTION

N.T.S.



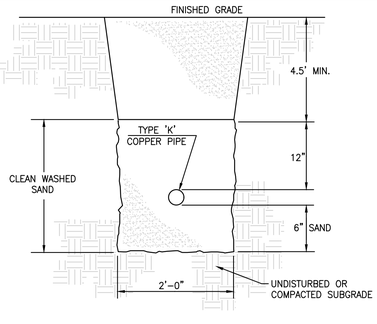
DRAIN/ SEWER/ WATER TRENCH AND BACKFILL DETAIL

N.T.S.



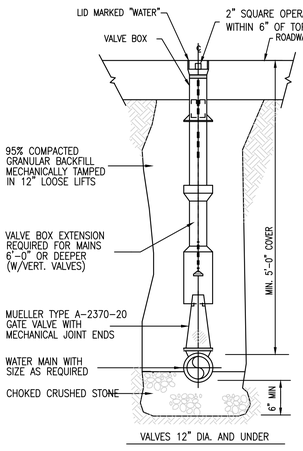
SEWER SERVICE AT BUILDING W/ CLEANOUT

N.T.S.



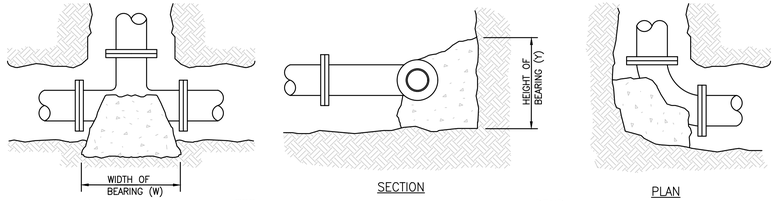
COPPER WATER SERVICE PIPE TRENCH

N.T.S.



UNDERGROUND GATE VALVE

N.T.S.

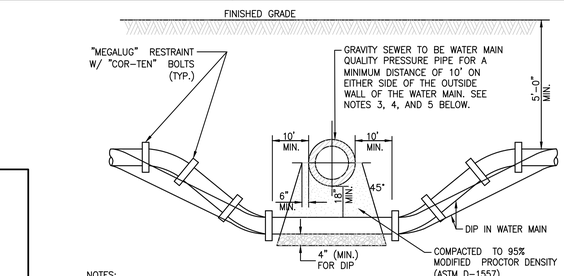


MINIMUM THRUST BLOCK AREA REQUIRED (Y x W)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° & 22½-8° BENDS
4" OR LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET

NOTES
1. THRUST BLOCKS TO EXTEND TO UNDISTURBED GROUND.
2. ALL CONCRETE SHALL BE CLASS B.
3. TABLE IS BASED ON 3000 LB./SQ. FT. SOIL. IF SOIL CONDITIONS ARE FOUND TO INDICATE SOIL BEARING LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
4. AREAS FOR PIPES GREATER THAN 16" SHALL BE CALCULATED FOR EACH PROJECT.
5. FOR ALL NON BEARING VERTICAL SURFACES.

TRUST BLOCKS FOR WATER SYSTEM

N.T.S.

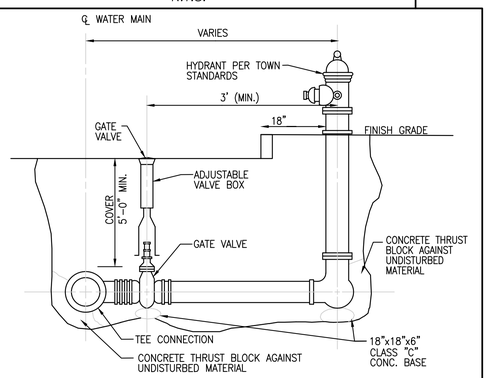


NOTES:

1. HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATERMAINS AND SEWERS SHALL COMPLY WITH APPLICABLE SECTIONS OF LOCAL OR STATE REQUIREMENTS, WHICHEVER IS MORE STRINGENT.
2. CONTRACTOR MAY BEND WATER MAIN PIPE UNIFORMLY UNDER SEWERS WITHOUT USING FITTINGS, PROVIDED THAT JOINT DEFLECTION DOES NOT EXCEED 5 DEGREES PER JOINT FOR PIPE UNDER 14" IN DIAMETER AND 3 DEGREES PER JOINT FOR PIPE 14" AND OVER IN DIAMETER. IF FITTINGS ARE USED, CONTINUOUS STRAPPING WITH RODS, STRAPS, NUTS AND BOLTS BELOW NORMAL WATERMAIN DEPTH ARE REQUIRED, OR RETAINER GLANDS MAY BE USED IN LIEU OF STRAPPING. RETAINER GLANDS TO BE CLOW No. F-1058 OR APPROVED EQUAL.
3. ALL SANITARY SEWER (INCLUDING SERVICE) CROSSINGS WHERE THE WATER MAINS OR WATER SERVICES ARE LESS THAN 18" VERTICALLY ABOVE THE SEWER SHALL BE POLYVINYL CHLORIDE PRESSURE PIPE (SDR 26-160 PSI) AND SHALL CONFORM WITH THE LATEST REVISION OF ASTM D- 2241. JOINTS SHALL CONFORM TO ASTM D-3139 AND ELASTOMERIC GASKETS SHALL CONFORM TO ASTM F-477. THE SAME PIPE AND JOINT MATERIALS SHALL BE USED WHENEVER WATER MAIN CROSSES BELOW THE SEWER.
4. ALL STORM SEWER (INCLUDING SERVICE) CROSSINGS WHERE THE WATER MAINS ARE LESS THAN 18" VERTICALLY ABOVE THE SEWER SHALL BE REINFORCED CONCRETE PIPE, ASTM C-361, CLASS D-25,WITH BELL AND SPIGOT JOINTS AND RUBBER GASKETS, OR PVC SDR 26 AS SPECIFIED IN NOTE 3 ABOVE. THE SAME PIPE AND JOINT MATERIAL SHALL BE USED WHENEVER WATER MAIN CROSSES BELOW THE SEWER.
5. FOR NEW SEWER INSTALLATIONS CROSSING OVER WATER MAINS, THE ENTIRE RUN OF NEW SEWER SHALL BE WATER MAIN QUALITY PIPE, EXTENDING FROM STRUCTURE TO STRUCTURE ON EACH SIDE OF THE CROSSING.

WATER MAIN CROSSING

N.T.S.



PROPOSED FIRE HYDRANT

N.T.S.

REVISION	DATE	BY

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SITE PLAN PERMIT SET

SCALE: N.T.S.

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION

DATE: _____

FOR REGISTRY USE ONLY

ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com

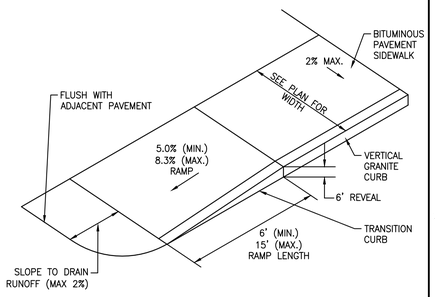
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL SEAL

JOB NO.: 20160-149

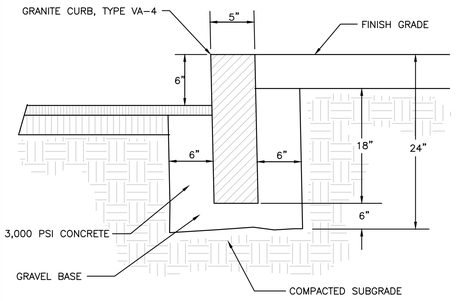
SHEET TITLE:
DETAILS
SHEET 1

SHEET NUMBER:
C-6



ADA ACCESSIBLE SIDEWALK RAMP

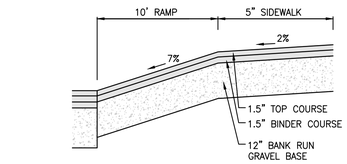
N.T.S.



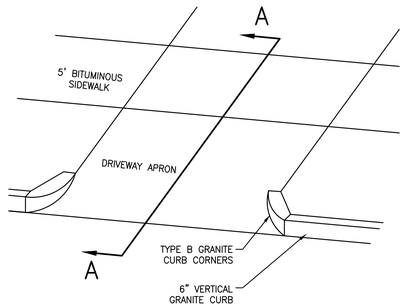
NOTE:
INSTALL GRANITE CURB INLET AT EACH CATCH BASIN LOCATION

VERTICAL GRANITE CURB

N.T.S.

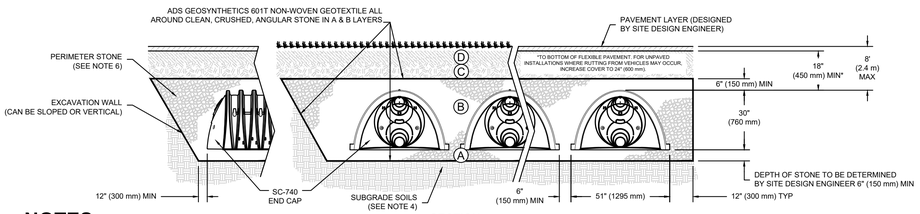


SECTION A-A



TYPICAL DRIVEWAY APRON

N.T.S.

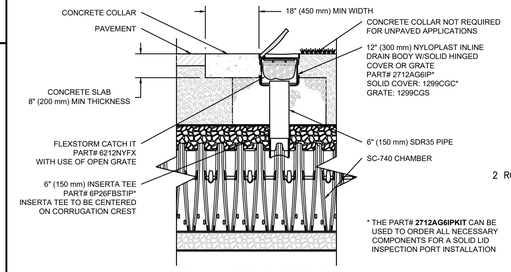


SECTION
NTS

NOTES:

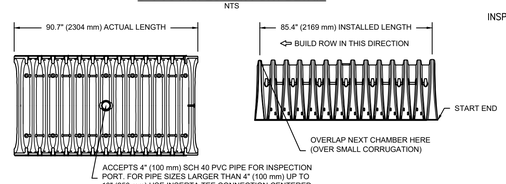
1. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

Ⓐ DOUBLE WASHED ¾"–1½" STONE
Ⓑ DOUBLE WASHED ¾"–1½" STONE
Ⓒ CLEAN GRANULAR FILL MATERIAL
Ⓓ 4"–6" TOPSOIL (LAWN AREA) OR 12" COMPACTED GRAVEL BASE (PAVEMENT AREA)

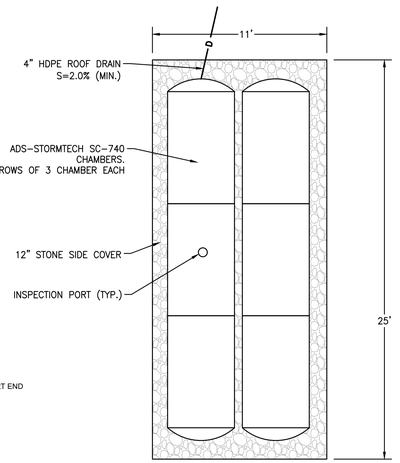


* THE PART# **2712AG6IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

6" PVC INSPECTION PORT DETAIL
NTS



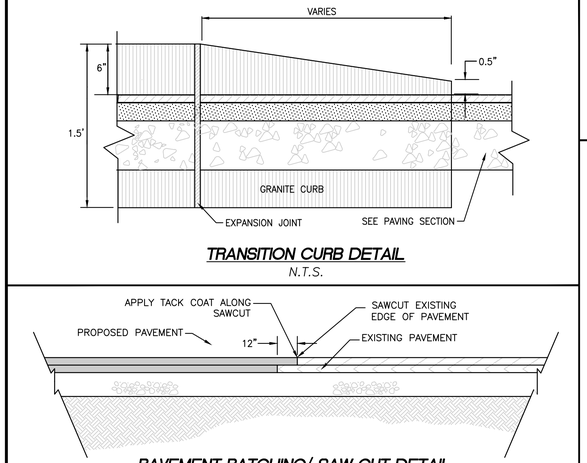
SC-740 TECHNICAL SPECIFICATION
NTS



NOTE:
SEE ADDITIONAL DETAILS AND SPECIFICATIONS ON THIS PAGE.

ROOF DRY WELL DETAIL
(FOR FUTURE INSTALL AT LOT 2)

N.T.S.



TRANSITION CURB DETAIL

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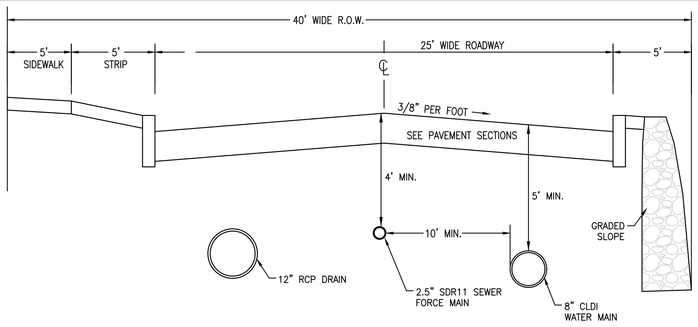
NOT USED

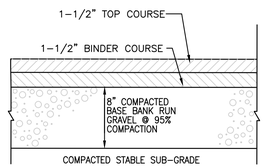


TYPICAL ROADWAY CROSS SECTION

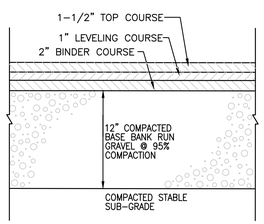
N.T.S.

PAVEMENT PATCHING/ SAW CUT DETAIL

N.T.S.



SIDEWALK SECTION

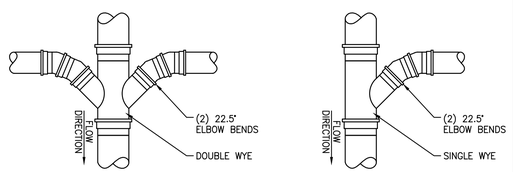


ROADWAY SECTION

NOTE:
COMPACTED FILL SUBSURFACE BACKFILL SHALL MEET SPECIFICATIONS SET FORTH BY THE ENGINEERING DEPARTMENT AND/OR MASSDOT SPECIFICATIONS.

BITUMINOUS PAVEMENT SECTION

N.T.S.

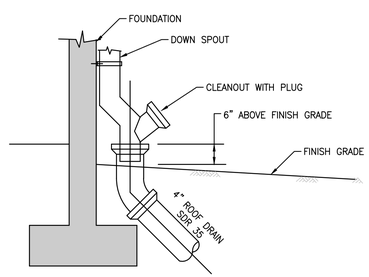


MANIFOLD PLAN VIEW

'WYE' CONNECTION PLAN VIEW

MANIFOLD AND WYE CONNECTIONS

N.T.S.



TYPICAL DOWNSPOUT LEADER

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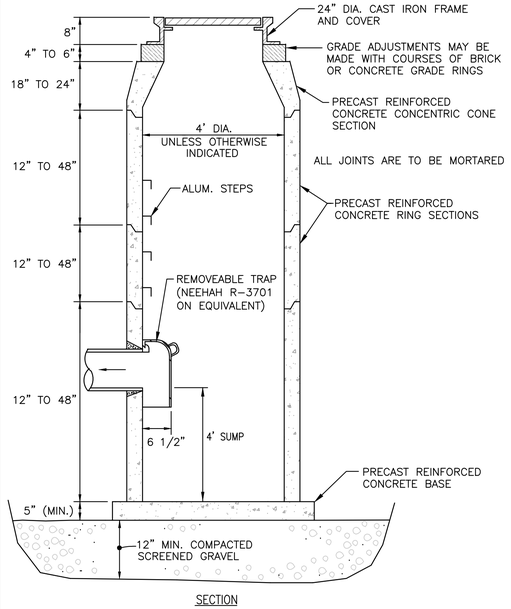
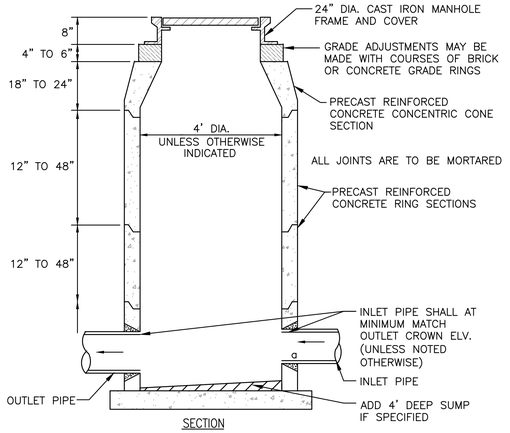


SECTION

TYPICAL CATCH BASIN

N.T.S.



SECTION

TYPICAL DRAIN MANHOLE

N.T.S.

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION

DATE: _____

FOR REGISTRY USE ONLY

CALL BEFORE YOU DIG
1-888-344-7233
MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SITE PLAN PERMIT SET

SCALE: N.T.S.

ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
DETAILS
SHEET 2

SHEET NUMBER:
C-7

FOR REGISTRY USE ONLY

SITE PLAN SET

MAJOR SITE PLAN MODIFICATION

GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY

GRANDVIEW ROAD EXTENSION

PROJECT LOCATION:

LOTS 2, 3, and 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867

SHEET INDEX

PROPERTY INFORMATION

ADDRESS
LOTS 2, 3, & 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867

RECORD OWNER
GRANDVIEW, LLC
45 BEACON STREET
READING, MA 01867

LOT SIZE
COMBINED LOTS 2, 3, & 4
45,132 S.F. (1.04 AC.±)

ZONING DISTRICT
SINGLE FAMILY 15 (S-15)

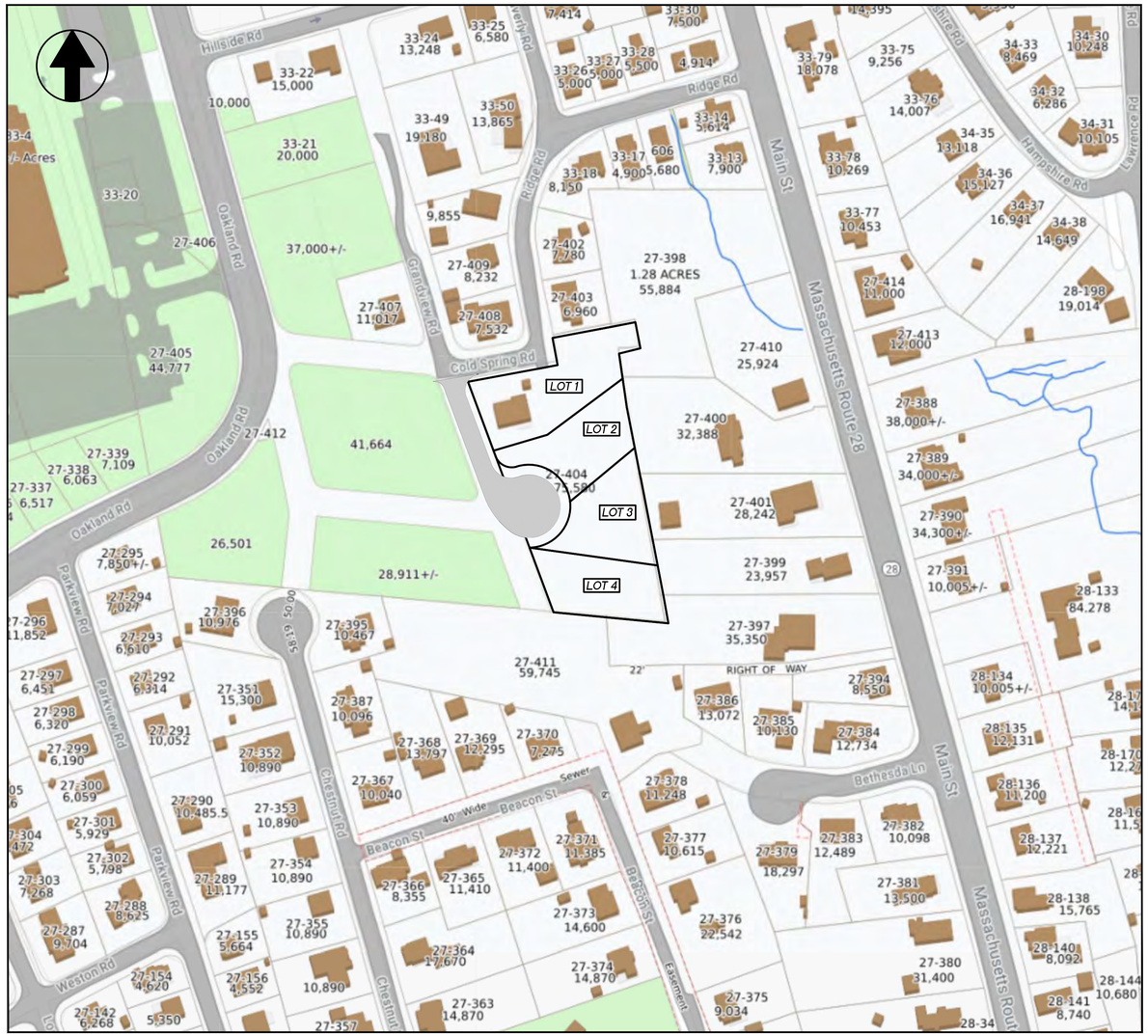
PARCEL ID
PART OF MAP 27, LOT 404

PLAN REFERENCES

1. BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY PFS LAND SURVEYING, INC., DRAWING NUMBER SV-1, DATED 7/8/2020.
2. MIDDLESEX SOUTH REGISTRY OF DEEDS PLAN 754 OF YEAR 2022.

GENERAL NOTES

1. THE SUBDIVISION OF LAND FOR THIS PROJECT WAS APPROVED AND ENDORSED BY THE READING COMMUNITY PLANNING AND DEVELOPMENT COMMISSION (CPDC), AND THE SUBDIVISION WAS RECORDED WITH THE REGISTRY OF DEEDS AS PLAN 754 OF YEAR 2022.
2. THIS PLAN SET IS FOR THE APPROVAL OF A MAJOR SITE PLAN MODIFICATION. MODIFICATIONS INCLUDE REDESIGNING THE STORMWATER SYSTEM WITH ASSOCIATED SITE GRADING. EASEMENTS HAVE BEEN ADJUSTED AND THEREFORE WILL REQUIRE A NEW ENDORSED SET FOR RECORDING WITH THE REGISTRY.
3. TOPOGRAPHIC DATA IS ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
4. UTILITY INFORMATION OBTAINED FROM THE REFERENCE SURVEY PLAN.
5. SOIL TESTS BY DEEP OBSERVATION HOLES WERE COMPLETED AND REPORTED BY ARMAND J. PORRAZZO (SE#1958) IN JULY 2020. SITE SOILS FROM THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) ONLINE WEB SOIL SURVEY DETERMINE THE SITE TO CONTAIN TWO (2) SOIL TYPES IDENTIFIED AS CANTON-CHARLTON-URBAN LAND COMPLEX WITH A HYDROLOGIC SOIL GROUP (HSG) "A" AND PAXTON FINE SANDY LOAM WITH A HSG "C".
6. THE SITE DOES NOT CONTAIN AREAS SUBJECT TO 1% ANNUAL CHANCE OF FLOODING AND IS IN ZONE "X" AS DETERMINED BY FEMA FLOOD INSURANCE RATE MAP (FIRM) 25017C0311E WITH AN EFFECTIVE DATE OF 6/4/2010.
7. THE SITE IS INLAND AND NOT LOCATED NEAR OR WITHIN THE FOLLOWING PROTECTED RESOURCE AREAS AS DETERMINED BY THE STATE OF MASSACHUSETTS ONLINE GIS MAPPING SYSTEM "OLIVER".
   - NATURAL HERITAGE OF ENDANGERED SPECIES
   - RIVERFRONT
   - CERTIFIED VERNAL POOLS
   - WELLHEAD PROTECTION ZONES
8. THE SITE DOES CONTAIN A SMALL PORTION OF BORDERING VEGETATED WETLANDS AND WERE DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS, INC. IN JUNE 2020.



LOCUS MAP
SCALE: 1" = 100'

PREPARED FOR:
(APPLICANT)
MICHAEL SALAMONE
45 BEACON STREET
READING, MA 01867

PREPARED BY:
FODERA ENGINEERING
28 HARBOR STREET, SUITE 204
DANVERS, MA 01923
(617) 877-3293

ABUTTER'S LIST (NOW OR FORMERLY)

PARCEL ID	ADDRESS	OWNER
27-367	105 BEACON ST.	L & J FAMILY TRUST BRIAN F DESMOND TRUSTE
27-368	101 BEACON ST.	BEVERE LOREEN M
27-369	99 BEACON ST.	JOHNSON PHILLIP M PHOEBE M JOHNSON
27-370	89 BEACON ST.	DECROTEAU MICHAEL EUGENE
27-371	36 BEACON ST.	CUSOLITO JOHN LINCOLN JR ETA BEACON ST 2012 REALTY TR
27-372	98 BEACON ST.	KELLETT JAY S JOYCE A KELLETT
27-377	33 BEACON ST.	DICLEMENTE MICHAEL C DICLEMENTE JAMIE
27-378	39 BEACON ST.	WILMER CHRISTOPHER K SARA WILMER
27-379	14 BETHESDA	LN. BRETCHKO PAVEL TITOVA ELENA
27-384	882 MAIN ST.	MOREIRA GREGORY C ERIN B MORIERA
27-385	11 BETHESDA LN.	SICILIANO ROBERT L SICILIANO STEPHANIE A
27-386	17 BETHESDA LN.	KOUTOUVIDES DAKIS S KOUTOUVIDES KIMBERLY A
27-387	37 CHESTNUT RD.	GOODHUE MARK J WHITNEY GOODHUE
27-394	884 MAIN ST.	GEORGE JENNIFER L DANIEL F DECARPIS
27-395	43 CHESTNUT RD.	DASILVA JOSEPH A DASILVA ANASTASIA
27-397	890 MAIN ST.	JOYCE MARY ELIZABETH JOHN JOYCE
27-398	MAIN ST.	MILLER KEITH L
27-399	896 MAIN ST.	SANDBERG ELLEN L
27-400	908 MAIN ST.	CHEN I-CHEI
27-401	900 MAIN ST.	READING KOREAN CHURCH OF THE NAZARENE
27-402	26 RIDGE RD.	KERR CHRISTOPHER A LESLIE N KERR
27-403	32 RIDGE RD.	BEAUCHER ROBERT A BARBARA L BEAUCHER
27-404	4 COLDSPRING RD.	JEAN PENNY A
27-405	OAKLAND RD.	TOWN OF READING READING MEMORIAL HIGH
27-407	23 GRANDVIEW RD.	CUSOLITO ROBERT P JOANNE CUSOLITO
27-408	31 RIDGE RD.	CORAM GEOFFREY SUSAN G CORAM
27-409	25 RIDGE RD.	FONG ELAINE
27-410	912 MAIN ST.	HATCH WILLIAM G
27-411	45 BEACON ST.	SALAMONE ANGELO
33-13	930 MAIN ST.	RICCI ANTHONY J JANET K GALLAGHER RICCI
33-14	934 MAIN ST.	CROSBY JO ANN
33-15	RIDGE RD.	TOWN OF READING
33-16	8 RIDGE RD.	YAO RYAN S
33-17	10 RIDGE RD.	ALLEN KATHERINE D
33-18	14 RIDGE RD.	HEGARTY GERALD P ETAL TRS GERALD P HEGARTY REVOC
33-19	OAKLAND RD.	TOWN OF READING SCHOOL DEPT.
33-23	23 RIDGE RD.	MESSINA-PEREZ KAREN E
33-49	10 GRANDVIEW RD.	DRUID DAVID A PATRICIA E DRUID
33-50	2 WAVERLY RD.	HILDRETH JOHN W JUDITH D HILDRETH

UTILITIES AND CONTACTS

CABLE
COMCAST CABLE CORPORATION
5 OMNI WAY
CHELMSFORD, MA 01824
ATTN: TED QUINT
978-848-5163
ted_quint@comcast.com

ELECTRIC
READING MUNICIPAL LIGHT DEPARTMENT
230 ASH ST.
READING, MA 01867
ATTN: PETER PRICE
781-942-6429
pprice@rmld.com

GAS
NATIONAL GRID GAS
40 SYLVAN ROAD
WALTHAM, MA 02451
ATTN: MELISSA OWENS
781-907-2845
melissa.owens@nationalgrid.com

TELEPHONE
VERIZON
385 MYLES STANDISH BLVD.
TAUNTON, MA 02780
ATTN: KAREN MEALEY
774-409-3160
karen.m.mealey@verizon.com

WATER AND SEWER
READING DPW
16 LOWELL ST.
READING, MA 01867
781-942-9077

DEPARTMENT OF PUBLIC WORKS
READING DPW ENGINEERING DIVISION
16 LOWELL ST.
READING, MA 01867
781-942-9082

CONSULTANTS

CIVIL ENGINEER
FODERA ENGINEERING
28 HARBOR ST., SUITE 204
DANVERS, MA 01923
ATTN: GIOVANNI FODERA, P.E.
617-877-3293
gfodera@foderaengineering.com

LAND SURVEYOR
PFS LAND SURVEYING, INC.
20 BALCH AVE.
GROVELAND, MA 01834
ATTN: BRYAN PARMENTER, P.L.S.
508-446-0781
bryan@pfsland.com

DATE:
APRIL 20, 2023

TOWN OF READING COMMUNITY PLANNING AND DEVELOPMENT COMMISSION	
DATE:	

REVISION BLOCK

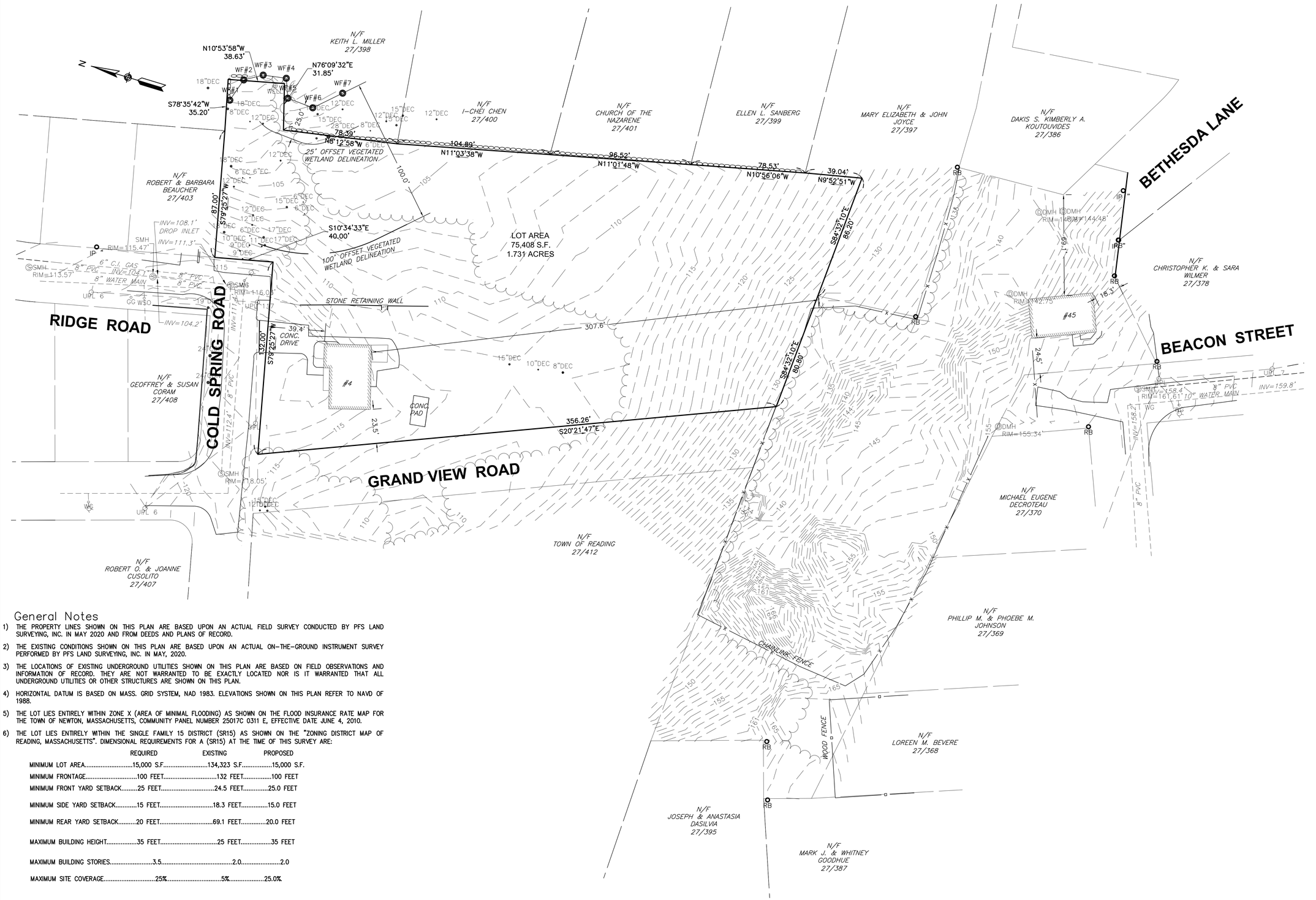
REVISION SET	REVISION DATE	COMPLETED BY
REVISION 1	6/20/23	GGF
REVISION 2	7/26/23	GGF
-	-	-
-	-	-
-	-	-
-	-	-

PROFESSIONAL SEAL:
COMMONWEALTH OF MASSACHUSETTS
20160
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER
7/26/23

JOB NO.: 20160-149

SHEET TITLE:
COVER SHEET

SHEET NUMBER:
C-0



PFS Land Surveying, Inc.

20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com

LEGEND

BM #	BENCHMARK
	BOUND (CONC, STONE, LAND COURT, ETC.)
CB	CATCH BASIN - SQUARE
CB	CATCH BASIN - ROUND
DSK	DISK (CA/T, USC&GS, LAND COURT, ETC.)
DH	DRILL HOLE
D	DRAIN MANHOLE
EHH	ELECTRIC HANDHOLE
E	ELECTRIC MANHOLE
EM	ELECTRIC METER
GG	GAS GATE
GM	GAS METER
	HANDICAP SYMBOL
	GUY WIRE ANCHOR
	FIRE HYDRANT
	LIGHT
OHW	OVERHEAD WIRE
MAG	MAG NAIL
MB	MAIL BOX
	OTHER MANHOLE
PB	PULL BOX
PED	PEDESTRIAN SIGNAL
S	SEWER MANHOLE
T	TELEPHONE MANHOLE
TRFM	TRANSFORMER
12	# OF PARKING SPACES
TS	TRAFFIC SIGNAL
TS	TRAFFIC SIGNAL MAST ARM/SPAN WIRE POLE
	SIGN
ULT#	UTILITY POLE W/ LIGHT
UPL#	UTILITY POLE
WG	WATER GATE
WSO	WATER SHUTOFF
	CHAIN LINK FENCE
	WOOD FENCE

General Notes

1) THE PROPERTY LINES SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL FIELD SURVEY CONDUCTED BY PFS LAND SURVEYING, INC. IN MAY 2020 AND FROM DEEDS AND PLANS OF RECORD.

2) THE EXISTING CONDITIONS SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY PFS LAND SURVEYING, INC. IN MAY, 2020.

3) THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD OBSERVATIONS AND INFORMATION OF RECORD. THEY ARE NOT WARRANTED TO BE EXACTLY LOCATED NOR IS IT WARRANTED THAT ALL UNDERGROUND UTILITIES OR OTHER STRUCTURES ARE SHOWN ON THIS PLAN.

4) HORIZONTAL DATUM IS BASED ON MASS. GRID SYSTEM, NAD 1983. ELEVATIONS SHOWN ON THIS PLAN REFER TO NAVD OF 1988.

5) THE LOT LIES ENTIRELY WITHIN ZONE X (AREA OF MINIMAL FLOODING) AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR THE TOWN OF NEWTON, MASSACHUSETTS, COMMUNITY PANEL NUMBER 25017C 0311 E, EFFECTIVE DATE JUNE 4, 2010.

6) THE LOT LIES ENTIRELY WITHIN THE SINGLE FAMILY 15 DISTRICT (SR15) AS SHOWN ON THE "ZONING DISTRICT MAP OF READING, MASSACHUSETTS". DIMENSIONAL REQUIREMENTS FOR A (SR15) AT THE TIME OF THIS SURVEY ARE:

	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	15,000 S.F.	134,323 S.F.	15,000 S.F.
MINIMUM FRONTAGE	100 FEET	132 FEET	100 FEET
MINIMUM FRONT YARD SETBACK	25 FEET	24.5 FEET	25.0 FEET
MINIMUM SIDE YARD SETBACK	15 FEET	18.3 FEET	15.0 FEET
MINIMUM REAR YARD SETBACK	20 FEET	69.1 FEET	20.0 FEET
MAXIMUM BUILDING HEIGHT	35 FEET	25 FEET	35 FEET
MAXIMUM BUILDING STORIES	3.5	2.0	2.0
MAXIMUM SITE COVERAGE	25%	5%	25.0%

7) THE WETLANDS SHOWN HEREON WERE FLAGGED BY LEC ENVIRONMENTAL IN JUNE 2020 AND LOCATED BY PFS LAND SURVEYING INC, IN JUNE 2020.

No.	Revision	Date	Appvd.
2	added tree locations in buffer zone	2-04-2021	BGP
1	updated well location	12-09-2020	BGP

Designed by BGP | Drawn by BGP | Checked by BGP
CAD checked by BGP | Approved by BGP
Scale 1"=30' | Date 7/8/2020

Project Title
Existing Conditions
4 Cold Spring Rd
Reading, MA

Issued for
Review

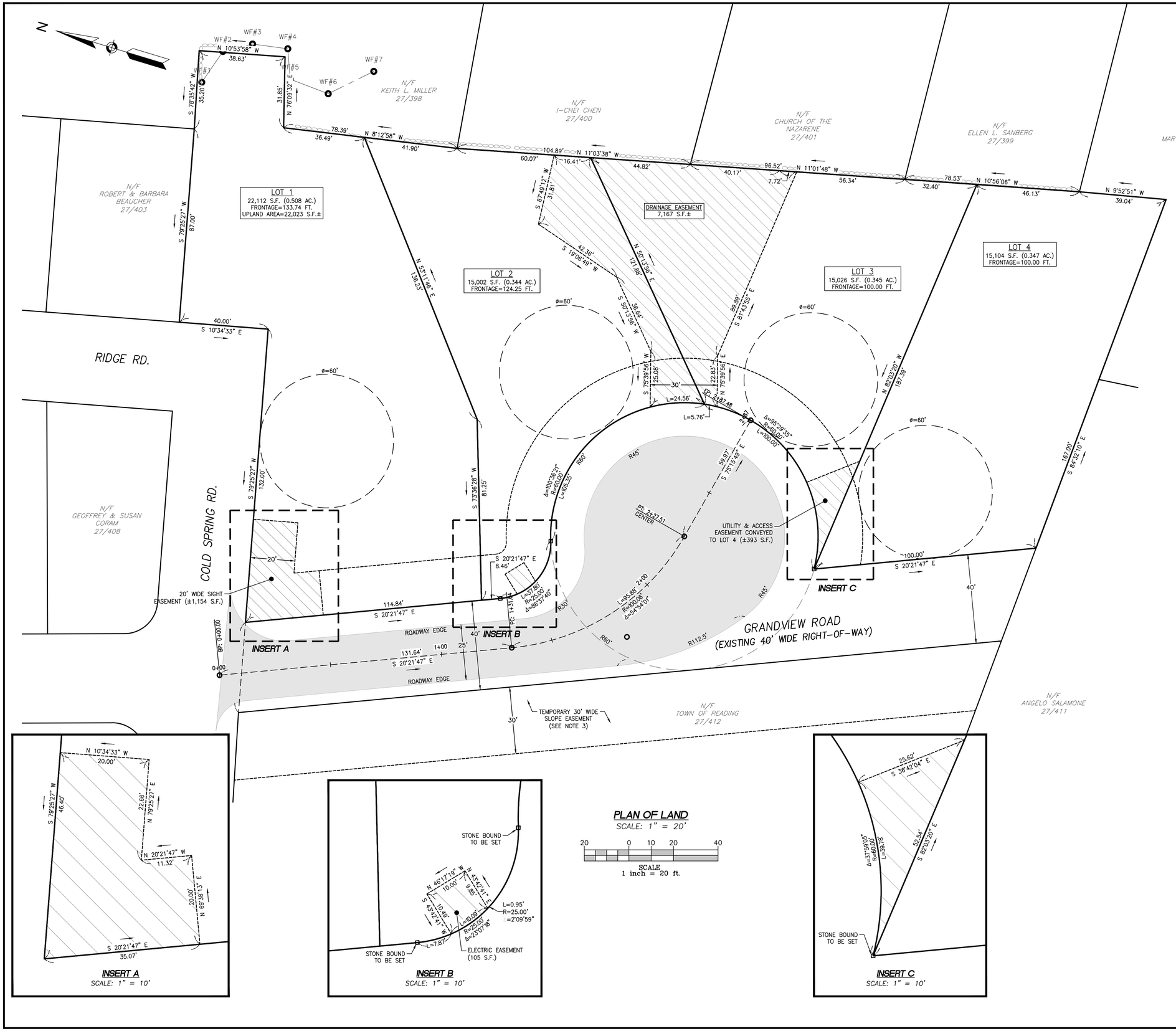
Drawing Title
Existing Conditions
Plan of Land

COMMONWEALTH OF MASSACHUSETTS
BRIAN G. PAQUETTE
NO. 48193
REGISTERED
PROFESSIONAL LAND SURVEYOR

Drawing Number
SV-1

Sheet
1 of 1

Project Number



INSERT A
SCALE: 1" = 10'

INSERT B
SCALE: 1" = 10'

PLAN OF LAND
SCALE: 1" = 20'

20 0 10 20 40
SCALE
1 inch = 20 ft.

INSERT C
SCALE: 1" = 10'

RIGHT-OF-WAY STATEMENT

THE RIGHT-OF-WAY (ROW), SOUTH OF THE INTERSECTION FROM COLD SPRING ROAD AND GRANDVIEW ROAD, IS AS A PRIVATE WAY FOR ALL LAND OWNERS IN AND ABUTTING THE SUBDIVISION, AND WILL REMAIN NAMED AS GRANDVIEW ROAD.

LEGEND

- PROPERTY LINE
- EASEMENT LINE
- WETLAND BOUNDARY
- RXX' RADIUS MEASUREMENT
- WF# WETLAND FLAG
- STONE BOUND WITH DRILL HOLE

GENERAL NOTES

1. WETLANDS WERE FLAGGED BY LEC ENVIRONMENTAL CONSULTANTS IN JUNE 2020.
2. THE PROJECT IS LOCATED OUTSIDE OF ANY PROTECTED RESOURCE AREAS AND FLOOD ZONES AS DETERMINED BY THE MOST RECENTLY PUBLISHED DATA FROM THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION AND FEMA.
3. IN LIEU OF A RETAINING WALL LOCATED IN THE RIGHT-OF-WAY ALONG THE WESTERN BOUNDARY OF GRAND VIEW ROAD, A TEMPORARY THIRTY (30) FOOT WIDE SLOPE EASEMENT IS PROPOSED ON TOWN PROPERTY AND SHALL BE APPROVED BY THE TOWN. SEE SHEET C-4 FOR GRADING.

PLAN REFERENCES

1. BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY PFS LAND SURVEYING.

PROPERTY INFORMATION

ADDRESS: LOTS 2, 3, & 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867
TAX MAP, LOT: PART OF MAP 27, LOT 404
LOT SIZE: 45,132 S.F. (1.04 AC.)

RECORD OWNERS

LOTS 2, 3, & 4
GRANDVIEW, LLC
45 BEACON STREET
READING, MA 01867

APPLICANT

MICHAEL SALAMONE
45 BEACON ST.
READING, MA 01867

ZONING SUMMARY

ZONING DISTRICT: SINGLE FAMILY 15 (S15)

	REQUIRED	LOT 1	LOT 2	LOT 3	LOT 4
MIN. LOT WIDTH	60'	>60'	>60'	>60'	>60'
MIN. LOT AREA (SF)	15,000	22,112	15,002	15,026	15,104
MIN. FRONTAGE	100'	132.00	151.62	100.00	100.00
RELIEF REQUIRED	–	N	N	N	N

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1-888-344-7233
MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY
REVISION 1	6/20/23	GGF
REVISION 2	7/27/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
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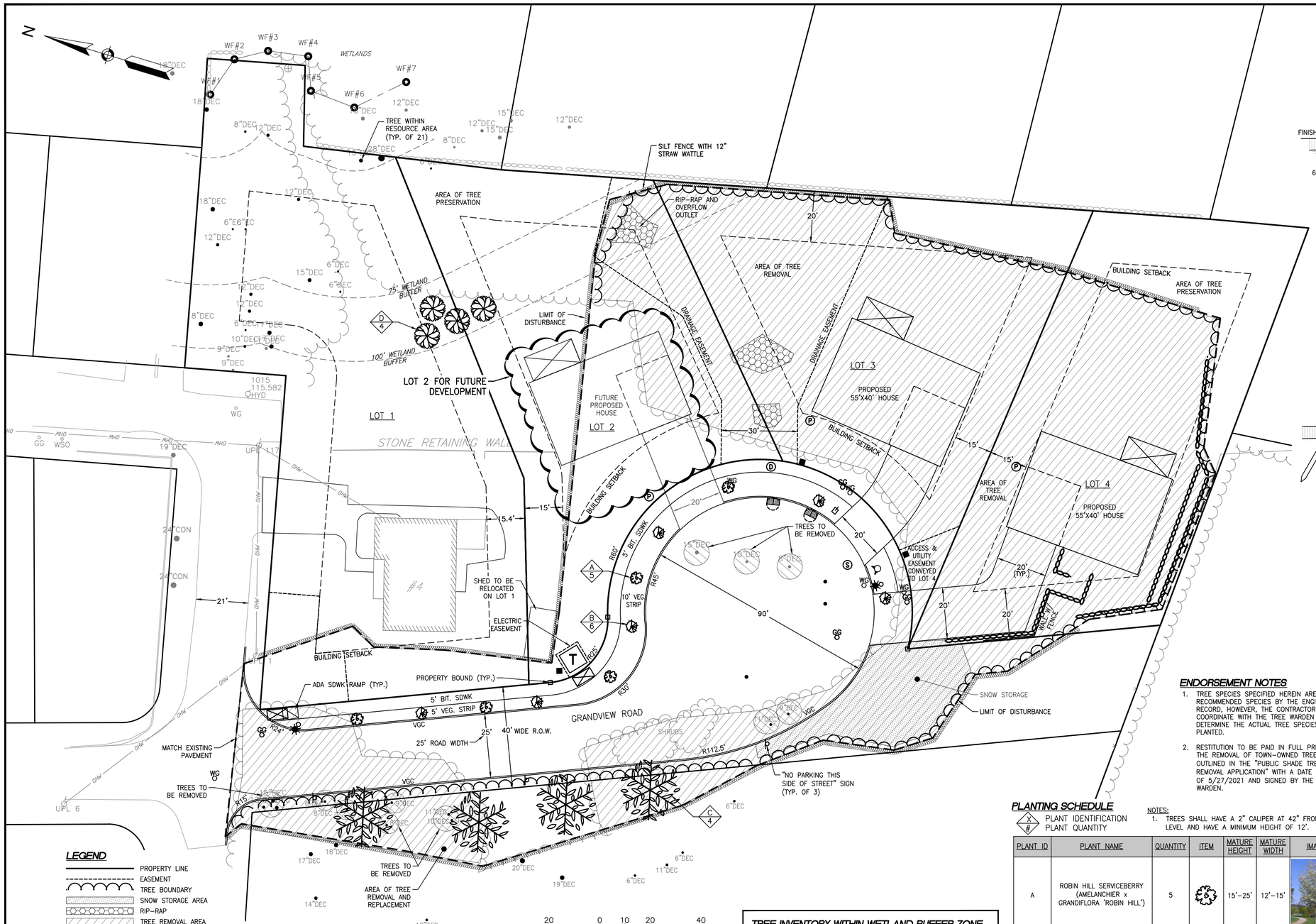
www.pfsland.com
PROFESSIONAL SEAL

COMMONWEALTH OF MASSACHUSETTS
JOB # 20160
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER
7/24/23

JOB NO.: 20160-149

SHEET TITLE:
PLAN OF LAND

SHEET NUMBER:
C-1



SCALE
1 inch = 20 ft.

SITE AND TREE PRESERVATION PLAN

SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- EASEMENT
- TREE BOUNDARY
- SNOW STORAGE AREA
- RIP-RAP
- TREE REMOVAL AREA
- RETAINING WALL
- BUILDING SETBACK
- LIMIT OF DISTURBANCE
- WETLAND BOUNDARY
- WETLAND BUFFER
- WF# WETLAND FLAG
- VGC VERTICAL GRANITE CURB
- MAILBOX
- (P) SEWER PUMP
- (S) FORCE MAIN FLUSHING GATE
- FORCE SERVICE BALL VALVE
- CB CATCH BASIN
- (D) DMH DRAIN MANHOLE
- OOS OVERFLOW OUTLET STRUCTURE
- WG WATER VALVE
- GG GAS VALVE
- T ELECTRIC TRANSFORMER & EASEMENT
- ELECTRIC SERVICE PULLBOX
- ELECTRIC MANHOLE

TREE INVENTORY WITHIN WETLAND BUFFER ZONE

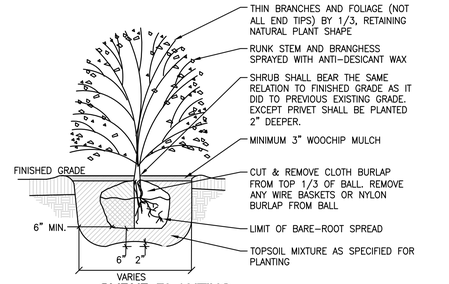
	TREE COUNT
EXISTING TREE COUNT	21
TREES TO BE REMOVED	0
TOTAL TREES TO REMAIN	21

TREE PRESERVATION CALCULATIONS

	LOT 1	LOT 2	LOT 3	LOT 4	Grand View Rd.	TOTALS
LOT AREA, S.F.	22,112	15,002	15,026	15,104	22,164	89,408
NEW IMPERVIOUS, S.F.	0	2,388	2,526	2,998	12,572	23,549
SUM: OPEN SPACE, S.F.	*19,047	12,614	12,500	12,106	9,592	65,859
**REQUIRED # OF TREES	10	7	7	7	N/A	31
AREA OF TREE REMOVAL, S.F.	0	3,605	13,325	11,140	6,217	34,287
AREA OF TREE PRESERVED, S.F.	7,948	3,260	1,590	3,970	2,832	19,600
***ESTIMATED # OF TREES PRESERVED	20	14	7	17	12	70

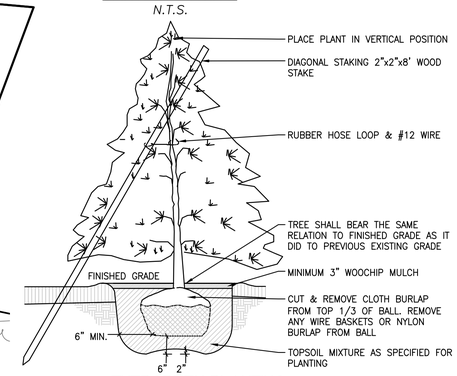
* SUBTRACTED EXISTING IMPERVIOUS AREA OF 3,065 SF.
** BASED ON 1 TREE PER 2,000 S.F. OF OPEN SPACE PER SECTION 7.6.2.2 OF THE TOWN OF READING SUBDIVISION REGULATIONS.
*** ESTIMATED BASED ON 1 TREE PER 225 S.F. (15'X15')

PERMANENT GRASS SEED MIX	SEED, POUNDS PER 1,000 S.F.
LITTLE BLUESTEM OR BROOMSEDGE	0.25
TUMBLE LOVEGRASS	0.10
SWITCHGRASS	0.10
BUSH CLOVER	0.10
RED TOP	0.10



SHRUB PLANTING

N.T.S.



EVERGREEN PLANTING

N.T.S.

GENERAL NOTES

1. ALL PLANT STOCK SHALL CONFORM TO ANSI Z260.1 – NURSERY STOCK, LATEST EDITION (AMERICAN ASSOCIATION OF NURSERYMEN, INC.).
2. NO TREES OR SHRUBS SHALL BE PLANTED AT THE STREET INTERSECTION WHERE THEY COULD BECOME A TRAFFIC HAZARD BY OBSTRUCTING VISION.
3. ALL TREES SHALL BE GUARANTEED BY THE DEVELOPER FOR THEIR ERECTNESS AND GOOD HEALTH FOR TWO (2) YEARS AFTER PLANTING.
4. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED AND SEEDED. LOAM DEPTH SHALL BE A MINIMUM OF 4 INCHES. ALL LOAM PLACED SHALL BE pH CORRECTED AND FREE OF CLODS, LUMPS, STONES AND OTHER DELETERIOUS MATERIAL.
5. ANY DEAD VEGETATION SHALL BE REMOVED IMMEDIATELY AND REPLACED IN ACCORDANCE WITH THE SPECIFICATION ON PLAN.
6. OWNER SHALL MAINTAIN LANDSCAPE PLANTINGS TO ENSURE THE AESTHETIC APPEARANCE AND OVERALL PLANT HEALTHINESS IS RETAINED. THIS INCLUDES INSPECTING AND REPLACING PLANTINGS AS NECESSARY, WEEKLY MOWING AND MULCHING.
7. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
8. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
9. THE CONSTRUCTION SITE SHALL BE SECURED IN A MANNER SO AS TO PREVENT INJURY OR PROPERTY DAMAGE TO THE RESIDENTS OF THE TOWN.
10. AN APPROVED SITE AS-BUILT SHALL BE SUBMITTED TO THE ENGINEERING DIVISION WITHIN 60 DAYS OF CERTIFICATE OF OCCUPANCY. THE AS-BUILT SHALL BE SUBMITTED IN MYLAR AND ELECTRONIC ACAD FORMAT.

ENDORSEMENT NOTES

1. TREE SPECIES SPECIFIED HEREIN ARE SIMPLY RECOMMENDED SPECIES BY THE ENGINEER OF RECORD, HOWEVER, THE CONTRACTOR SHALL COORDINATE WITH THE TREE WARDEN TO DETERMINE THE ACTUAL TREE SPECIES TO BE PLANTED.
2. RESTITUTION TO BE PAID IN FULL PRIOR TO THE REMOVAL OF TOWN-OWNED TREES AS OUTLINED IN THE "PUBLIC SHADE TREE REMOVAL APPLICATION" WITH A DATE OF ACTION OF 5/27/2021 AND SIGNED BY THE TREE WARDEN.

PLANTING SCHEDULE

(X) # PLANT IDENTIFICATION
PLANT QUANTITY

NOTES:
1. TREES SHALL HAVE A 2" CALIPER AT 42" FROM GROUND LEVEL AND HAVE A MINIMUM HEIGHT OF 12'.

PLANT ID	PLANT NAME	QUANTITY	ITEM	MATURE HEIGHT	MATURE WIDTH	IMAGE
A	ROBIN HILL SERVICEBERRY (AMELANCHIER x GRANDIFLORA 'ROBIN HILL')	5	6	15'-25'	12'-15'	
B	GOLDSPIRE GINKGO (GINKGO BILOBA "GOLDSPIRE")	6	B	15'	5'-6'	
*C	SUGAR MAPLE TREE (ACER SACCHARUM)	4	C	60'-75'	40'-50'	
D	HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM)	4	D	6'-12'	8'-12'	

* TREE SPECIES TO BE REPLANTED IN TOWN OWNED PROPERTY SHALL BE APPROVED BY THE TREE WARDEN.

REVISION	DATE	BY
REVISION 1	6/20/23	GGF
REVISION 2	7/27/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

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ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
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PROFESSIONAL SEAL

SURVEYOR:
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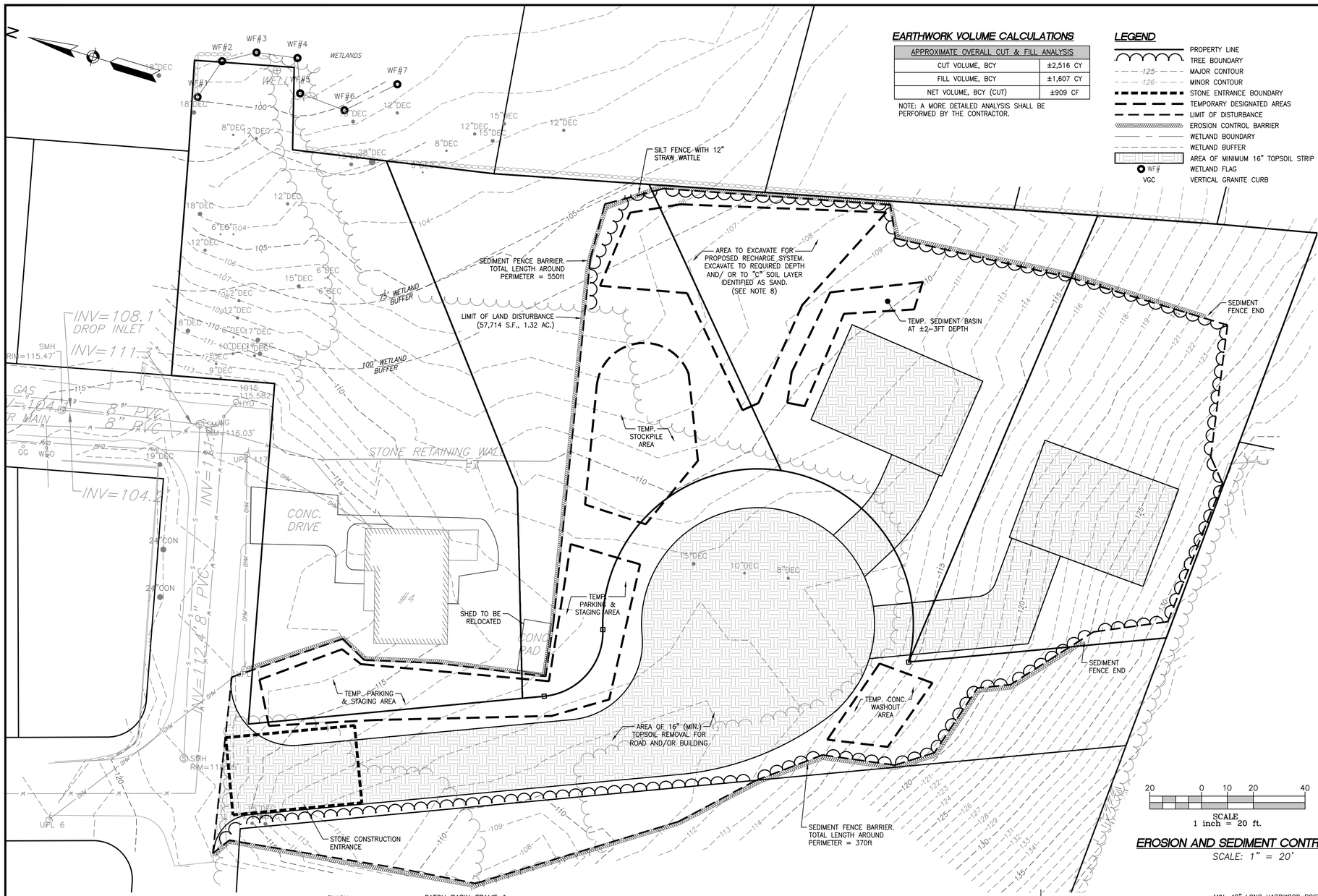
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
SITE AND TREE PRESERVATION

SHEET NUMBER:
C-2



EARTHWORK VOLUME CALCULATIONS

APPROXIMATE OVERALL CUT & FILL ANALYSIS	
CUT VOLUME, BCY	±2,516 CY
FILL VOLUME, BCY	±1,607 CY
NET VOLUME, BCY (CUT)	±909 CF

NOTE: A MORE DETAILED ANALYSIS SHALL BE PERFORMED BY THE CONTRACTOR.

LEGEND

- PROPERTY LINE
- TREE BOUNDARY
- MAJOR CONTOUR
- MINOR CONTOUR
- STONE ENTRANCE BOUNDARY
- TEMPORARY DESIGNATED AREAS
- LIMIT OF DISTURBANCE
- EROSION CONTROL BARRIER
- WETLAND BOUNDARY
- WETLAND BUFFER
- AREA OF MINIMUM 16" TOPSOIL STRIP
- WF# WETLAND FLAG
- VGC VERTICAL GRANITE CURB

EROSION CONTROL NOTES

1. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS.
2. INSTALL SEDIMENTATION AND EROSION CONTROL MEASURES PRIOR TO CLEARING GRADING AND DEMOLITION WORK. MAINTAIN ALL SEDIMENT AND EROSION CONTROL, AND TREE PROTECTION MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
3. ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATIONS AT THE DIRECTION OF THE TOWN'S DPW ENGINEERING DEPARTMENT.
4. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE. CONTRACTOR SHALL MAINTAIN CONSTRUCTION ENTRANCE UNTIL SITE PAVING IS COMPLETE.
5. INLET PROTECTIONS SHALL BE INSTALLED ON ALL EXISTING CATCH BASINS AS INDICATED ON THE PLAN, AND IMMEDIATELY AFTER THE INSTALLATION OF ALL NEWLY INSTALLED INLETS.
6. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO THE ACCESSING ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED BY VEHICLE OFF-SITE ONTO THE ROADWAY OR INTO STORM DRAINS MUST BE REMOVED.
7. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
8. ADD EROSION BARRIER AROUND PERIMETER OF PROPOSED RECHARGE AREA IF THE EXCAVATED PIT WILL REMAIN EXPOSED FOR MORE THAN TWO (2) DAYS, WEATHER PERMITTING. THE EXCAVATED PIT SHALL BE CLEAN OF ALL SEDIMENT.
9. EROSION CONTROL DEVICES SHALL BE INSTALLED BEFORE GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
10. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UPSTREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVES HAVE BEEN PAVED.
11. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE IMPROVEMENTS ARE BEING MADE. TRAFFIC CONTROL MEASURES TO BE IN ACCORDANCE WITH LOCAL REGULATIONS AND OR MASSDOT.
12. ALL SILT BARRIERS MUST BE PLACED AS ACCESS IS OBTAINED DURING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION AND DETENTION FACILITIES, IF REQUIRED, ARE CONSTRUCTED.
13. CONTRACTOR SHALL PERFORM EROSION CONTROL INSPECTIONS REGULARLY AND IMMEDIATELY FOLLOWING HEAVY RAIN STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY. REPAIR OR REPLACE FAILED SYSTEMS AT THE EARLIEST POSSIBLE DATE.
14. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING.
15. ALL DISTURBED AREAS, WITH NO SPECIFIED GROUND COVER ARE TO BE RESTORED WITH MINIMUM FOUR (4) INCHES OF TOPSOIL AND SEEDING.
16. PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO ENSURE INTEGRITY. IF DISTURBED, THEY SHALL BE REPLACED BY A REGISTERED SURVEYOR AT THE CONTRACTOR'S EXPENSE.
17. ALL EXCAVATION SHALL INCLUDE CLEARING, STRIPPING AND STOCKPILING TOPSOIL, REMOVING UNSUITABLE MATERIALS, THE CONSTRUCTION OF EMBANKMENTS, CONSTRUCTION FILLS, AND THE FINAL SHAPING AND TRIMMING TO THE LINES AND GRADES SHOWN ON THE PLANS.
18. ALL TREES, BRUSH, AND ORGANIC TOPSOIL AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED, UNLESS OTHERWISE SPECIFIED, AND DISPOSED OF AT AN OFF-SITE LOCATION, WITH THE EXCEPTION THAT ENOUGH TOPSOIL SHALL BE RETAINED FOR RE-SPREAD AND GENERAL LANDSCAPING. AREAS WHICH ARE TO BE FILLED SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D1557, METHOD C) COMPACTION TEST IN THE PAVED AREAS AND 90% IN THE OTHER AREAS.
19. SWEEP CLEAN THE BINDER COURSE PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE. EXCESSIVE CLEANING OF THE BINDER COURSE THAT MAY BE REQUIRED, AND IS NOT THE FAULT OF THE PAVING CONTRACTOR, SHALL BE PAID FOR ON A TIME AND MATERIAL BASIS BY PRIOR AGREEMENT WITH THE GENERAL CONTRACTOR.
20. THE TOWN'S ENGINEERING DIVISION SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION TO MARK OUT TOWN UTILITIES.
21. ALL WATER, SEWER, CURB CUT, STREET OPENING AND JACKIE'S LAW EXCAVATION PERMITS SHALL BE OBTAINED AT THE ENGINEERING DIVISION PRIOR TO ANY EXCAVATIONS.
22. ALL SITE WORK SHALL BE INSPECTED BY THE ENGINEERING DIVISION. THE APPLICANT\OWNER'S CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE OF PROPOSED WORK. ALL INSPECTIONS SHALL BE SCHEDULED 48 HOURS IN ADVANCE

EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1" = 20'

CALL BEFORE YOU DIG 1-888-344-7233 MASSACHUSETTS ONE CALL SYSTEM

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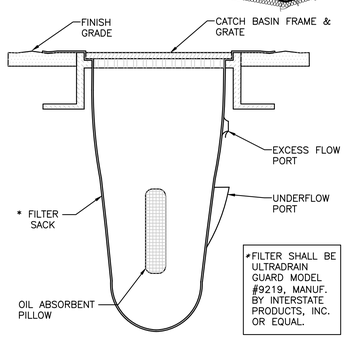
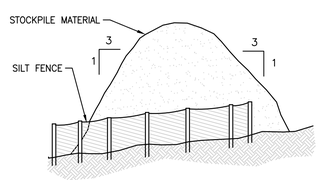


CATCH BASIN INLET PROTECTION

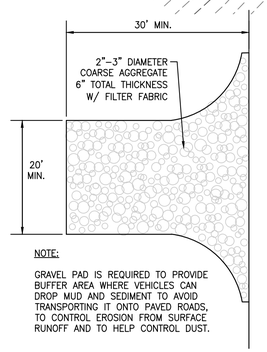
N.T.S.



NOTES
1. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET.
2. STOCKPILE SLOPES MUST BE 3:1 OR FLATTER.

STOCKPILE DETAIL

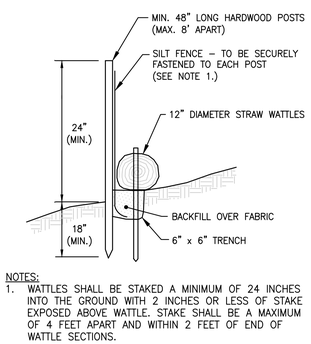
N.T.S.



NOTE:
GRAVEL PAD IS REQUIRED TO PROVIDE BUFFER AREA WHERE VEHICLES CAN DROP MUD AND SEDIMENT TO AVOID TRANSPORTING IT ONTO PAVED ROADS, TO CONTROL EROSION FROM SURFACE RUNOFF AND TO HELP CONTROL DUST.

STONE CONSTRUCTION ENTRANCE

N.T.S.



NOTES:
1. WATTLES SHALL BE STAKED A MINIMUM OF 24 INCHES INTO THE GROUND WITH 2 INCHES OR LESS OF STAKE EXPOSED ABOVE WATTLE. STAKE SHALL BE A MAXIMUM OF 4 FEET APART AND WITHIN 2 FEET OF END OF WATTLE SECTIONS.

SILT FENCE/ STRAW WATTLE BARRIER

N.T.S.

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION

DATE: _____

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ENGINEER:
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PROFESSIONAL SEAL

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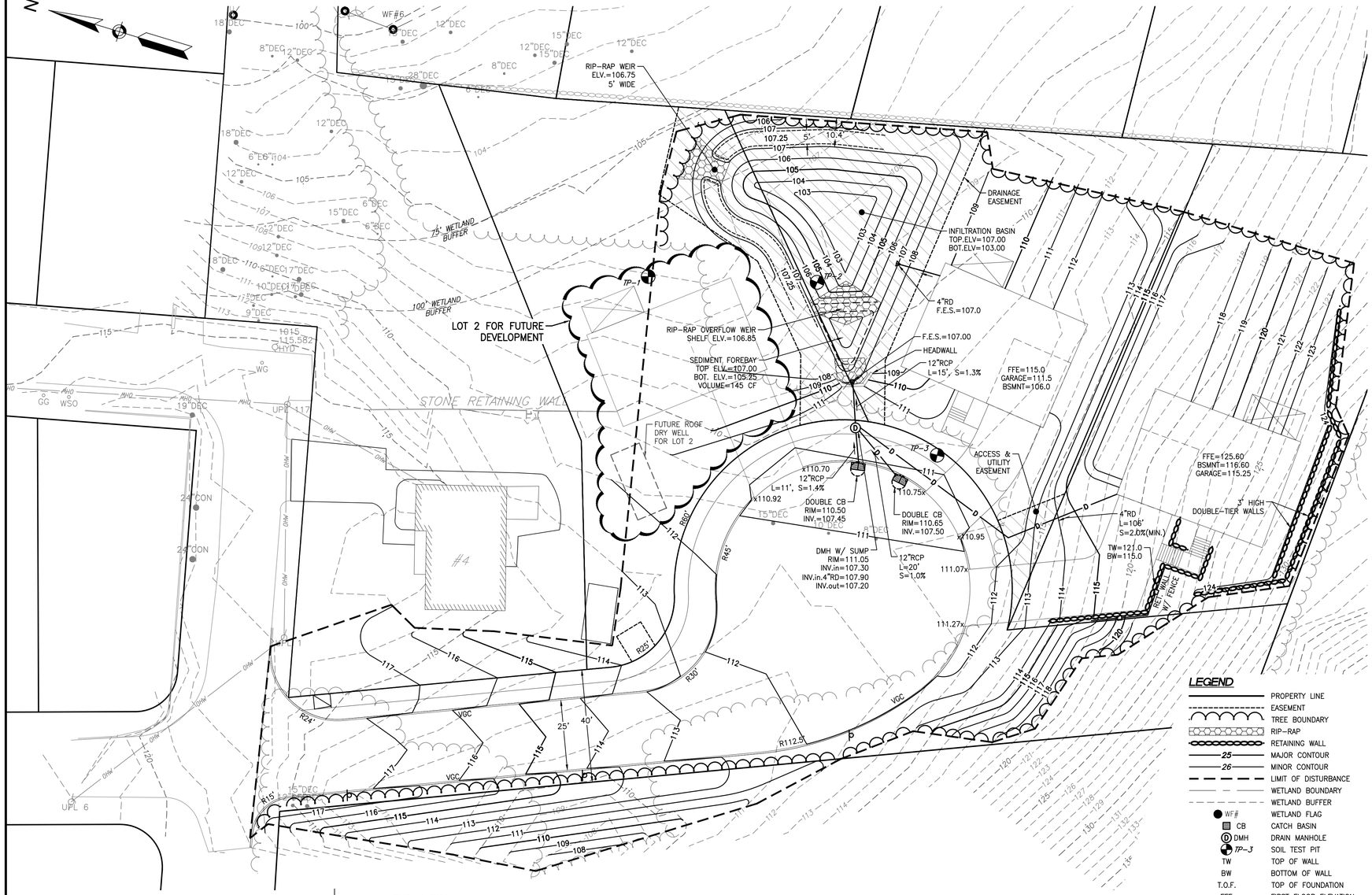
JOB NO.: 20160-149

SHEET TITLE:
EROSION + SEDIMENT CONTROL PLAN

SHEET NUMBER:
C-3



GRADING AND DRAINAGE NOTES

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE TO THE TOWN'S LATEST CONSTRUCTION SPECIFICATIONS AND DETAILS.
2. GRADING IN THE RIGHT-OF-WAY SHALL IN ACCORDANCE WITH LOCAL REGULATIONS, UNLESS OTHERWISE APPROVED BY THE TOWN.
3. THE CONTRACTOR SHALL NOTIFY DIG SAFE AND THE TOWN A MINIMUM OF 72 HOURS PRIOR TO THE START OF ANY EXCAVATIONS.
4. INSTALL ALL APPROPRIATE TREE PROTECTION MEASURES PRIOR TO GRADING AND EXCAVTION.
5. EXACT LOCATIONS OF SAW-CUTTING MAY BE FIELD DETERMINED BASED ON EXISTING PAVEMENT CONDITIONS.
6. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, REFERENCE POINTS AND STAKES.
7. EROSION CONTROL MEASURES SHALL BE STABILIZED IN PLACE BEFORE BEGINNING SITE WORK. THESE MEASURES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
8. ALL INDICATED ELEVATIONS ARE FINISHED ELEVATIONS.
9. LOCATE AND PROTECT ALL UTILITIES ASSOCIATED WITH THE PROJECT PRIOR TO CONSTRUCTION.
10. ALL EXCAVATION SHALL INCLUDE CLEARING, STRIPPING AND STOCKPILING TOPSOIL, REMOVING UNSUITABLE MATERIALS, THE CONSTRUCTION OF EMBANKMENTS, CONSTRUCTION FILLS, AND THE FINAL SHAPING AND TRIMMING TO THE LINES AND GRADES SHOWN ON THE PLANS.
11. ALL TREES, BRUSH, AND ORGANIC TOPSOIL AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED, UNLESS OTHERWISE SPECIFIED, AND DISPOSED OF AT AN OFF-SITE LOCATION, WITH THE EXCEPTION THAT ENOUGH TOPSOIL SHALL BE RETAINED FOR RE-SPREAD AND GENERAL LANDSCAPING. AREAS WHICH ARE TO BE FILLED SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D1557, METHOD C) COMPACTION TEST IN THE PAVED AREAS AND 90% IN THE OTHER AREAS.
12. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE TO ALL INLETS AND CATCH BASINS. AREAS OF SURFACE PONDING SHALL BE CORRECTED BY CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
13. IF AREAS ARE DISTURBED BEYOND PROPOSED GRADES BY NEGLIGENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY REGRADING OR REPAIR TO MATCH ORIGINAL EXISTING CONDITIONS.
14. SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. SHORING SHALL BE IN ACCORDANCE WITH ALL O.S.H.A AND LOCAL REGULATIONS.
15. CONTRACTOR SHALL ADJUST GRADES BY VARYING THE PAVEMENT SECTIONS ACCORDINGLY. EXISTING COMPACTED SUBGRADE TO BE DISTURBED AS LITTLE AS POSSIBLE.
16. ALL PROPOSED SPOT ELEVATIONS SHOWN INDICATE FINISHED GRADED ELEVATIONS AT EDGE OF PAVEMENT AND/OR GRADE BREAKS, UNLESS OTHERWISE NOTED.
17. MAINTAIN PROPER SITE DRAINAGE AT ALL TIMES DURING THE COURSE OF CONSTRUCTION, AND PREVENT STORM WATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS.
18. SPREAD AND COMPACT UNIFORMLY TO THE DEGREE SPECIFIED ALL EXCESS TRENCH SPOIL AFTER COMPLETION OF THE UNDERGROUND IMPROVEMENTS (EARTHWORK CONTRACTOR SHALL MAKE APPROPRIATE ADJUSTMENTS IN ROUGH GRADING TO ACCOMMODATE TRENCH SPOIL).
19. PROVIDE WATER TO ADD TO DRY MATERIAL IN ORDER TO ADJUST THE MOISTURE CONTENT FOR THE PURPOSE OF ACHIEVING THE SPECIFIED COMPACTION.
20. UNSUITABLE MATERIAL SHALL BE CONSIDERED AS MATERIAL WHICH IS NOT SUITABLE FOR THE SUPPORT OF PAVEMENT AND BUILDING CONSTRUCTION, AND IS ENCOUNTERED BELOW NORMAL TOPSOIL DEPTHS AND THE PROPOSED SUB-GRADE ELEVATION. THE DECISION TO REMOVE SAID MATERIAL, AND TO WHAT EXTENT, SHALL BE MADE BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.
21. REPAIR ANY BASE COURSE AND BINDER COURSE FAILURES PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE.
22. SWEEP CLEAN THE BINDER COURSE PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE. EXCESSIVE CLEANING OF THE BINDER COURSE THAT MAY BE REQUIRED, AND IS NOT THE FAULT OF THE PAVING CONTRACTOR, SHALL BE PAID FOR ON A TIME AND MATERIAL BASIS BY PRIOR AGREEMENT WITH THE GENERAL CONTRACTOR.
23. CONFIRM INVERTS OF ALL EXISTING STORM INLETS AND SANITARY SEWER MANHOLES BEFORE COMMENCING CONSTRUCTION.
24. A GEOTEXTILE MATTING (LANDLOCK TRM 450 OR EQUIVALENT) SHALL BE USED FOR EROSION CONTROL AN ALL SLOPES GREATER THAN 3H:1V IF NECESSARY.
25. DRAINAGE STRUCTURES AND UNDERGROUND INFILTRATION FACILITIES SHALL BE INSPECTED SEMIANNUALLY TO ENSURE PROPER WORKING ORDER.
26. UNSUITABLE EXISTING SOILS, SILT, AND DEBRIS SHALL BE ADEQUATELY REMOVED FROM THE AREA OF THE PROPOSED INFILTRATION BASIN. REMOVE ALL ORGANICS.
27. IF THE CONTRACTOR IN THE COURSE OF WORK FINDS ANY DISCREPANCIES BETWEEN THE PLANS AND THE PHYSICAL CONDITIONS OF THE LOCALITY, OR ANY ERRORS OR OMISSIONS IN THE PLANS OR IN THE LAYOUT AS GIVEN BY THE ENGINEER, IT SHALL BE HIS DUTY TO IMMEDIATELY INFORM THE ENGINEER, IN WRITING AND THE ENGINEER WILL PROMPTLY VERIFY THE SAME. ANY WORK DONE AFTER SUCH A DISCOVERY, UNTIL AUTHORIZED, WILL BE AT THE CONTRACTOR'S RISK.
28. ANNUAL O&M REPORTS SHALL BE DELIVERED TO THE OFFICE OF THE TOWN ENGINEER BY JANUARY 15 OF EACH YEAR.
29. ANY RETAINING WALL OVER FOUR (4) FEET IN RETAINED HEIGHT SHALL REQUIRE AN ENGINEERED DESIGN FROM A DESIGN PROFESSIONAL.

LEGEND

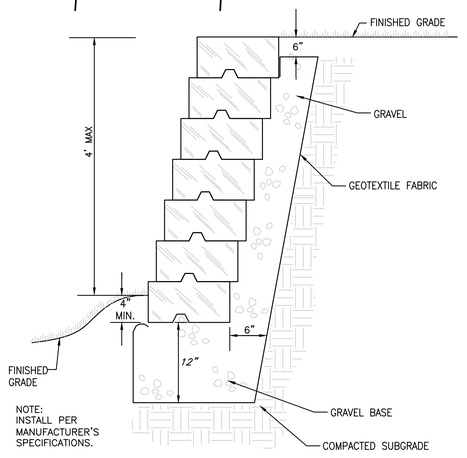
	PROPERTY LINE
	EASEMENT
	TREE BOUNDARY
	RIP-RAP
	RETAINING WALL
25	MAJOR CONTOUR
26	MINOR CONTOUR
	LIMIT OF DISTURBANCE
	WETLAND BOUNDARY
	WETLAND BUFFER
WF#	WETLAND FLAG
CB	CATCH BASIN
DMH	DRAIN MANHOLE
TP-3	SOIL TEST PIT
TW	TOP OF WALL
BW	BOTTOM OF WALL
T.O.F.	TOP OF FOUNDATION
FFE	FIRST FLOOR ELEVATION
RIM	RIM ELEVATION
INV	INVERT ELEVATION
O.O.S.	OVERFLOW OUTLET STRUCTURE
F.E.S.	FLARED END SECTION

GRADING AND DRAINAGE PLAN

SCALE: 1" = 20'

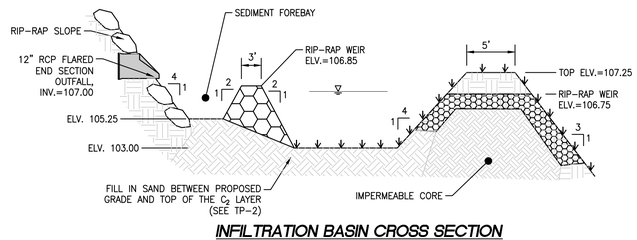
20 0 10 20 40

SCALE
1 inch = 20 ft.



4ft MAX HIGH RETAINING WALL

N.T.S.



INFILTRATION BASIN CROSS SECTION

N.T.S.

SOIL TEST RESULTS

TEST DATE: 7/6/2020
WEATHER: 65'F, SUNNY/ DRY
SOIL EVALUATOR: ARMAND PORRAZZO
LICENCE #: 1958

TP-1

ELV.	DPT.	Soil Data
106	0"	
105	9"	A_p (0"-9") Sandy Loam 10YR 3/2
104	24"	B (9"-24") Sandy Loam 10YR 7/6
103		
102		
101		
100		C (24"-108") Loamy Sand 2.5Y 4/3
99		
98		
97		
96	108"	

NO REFUSAL
NO WEEPING
REDOX @ 60"
ESHWT = 101.0

TP-2

ELV.	DPT.	Soil Data
108	0"	
107	12"	A (0"-12") Sandy Loam 10YR 3/2
106		
105	36"	B_w (12"-36") Sandy Loam 10YR 7/6
104		
103		C_1 (36"-80") Loamy Sand 2.5Y 5/2
102		
101	80"	
100		C_2 (80"-120") Sand Gravel 2.5Y 4/3
99		
98	120"	

NO REFUSAL
NO WEEPING
NO REDOX

TP-3

ELV.	DPT.	Soil Data
112	0"	
111	8"	A (0"-8") Sandy Loam 10YR 3/2
110		
109	27"	B_w (8"-27") Sandy Loam 10YR 7/6
108		
107		C (27"-66") Loamy Sand 2.5Y 5/2
106	66"	
105		
104		
103		

NO REFUSAL
NO WEEPING
NO REDOX

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PARCEL ID:
MAP 27, LOT 404

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

APRIL 20, 2023

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

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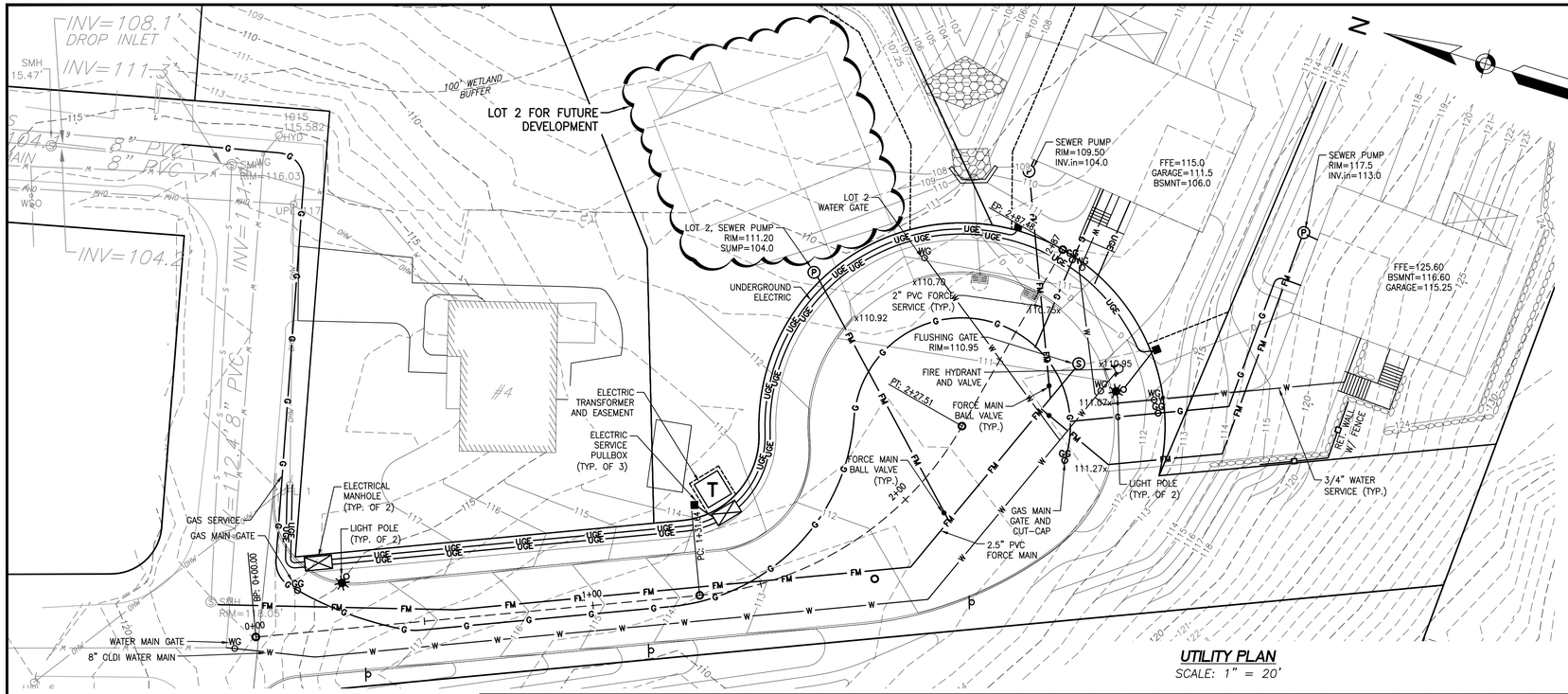
JOB NO.: 20160-149

SHEET TITLE:
GRADING AND DRAINAGE PLAN

SHEET NUMBER:
C-4



UTILITY PLAN
SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- RIP-RAP
- RETAINING WALL
- 125 MAJOR CONTOUR
- 126 MINOR CONTOUR
- LIMIT OF DISTURBANCE
- D STORM DRAIN LINE
- G GAS LINE
- OHW OVERHEAD UTILITY WIRE LINE
- S SANITARY SEWER UTILITY LINE
- FM SEWER FORCE MAIN
- UGE UNDERGROUND ELECTRIC LINE
- W WATER UTILITY LINE
- CB CATCH BASIN
- D DMH DRAIN MANHOLE
- P SEWER PUMP
- S SEWER FLUSHING GATE
- FORCE MAIN BALL VALVE
- GAS VALVE
- WATER VALVE
- FIRE HYDRANT
- RIM RIM ELEVATION
- INV INVERT ELEVATION
- STREET LIGHT
- T ELECTRIC TRANSFORMER & EASEMENT
- ELECTRIC SERVICE PULLBOX
- ELECTRIC MANHOLE

SEWAGE CALCULATIONS

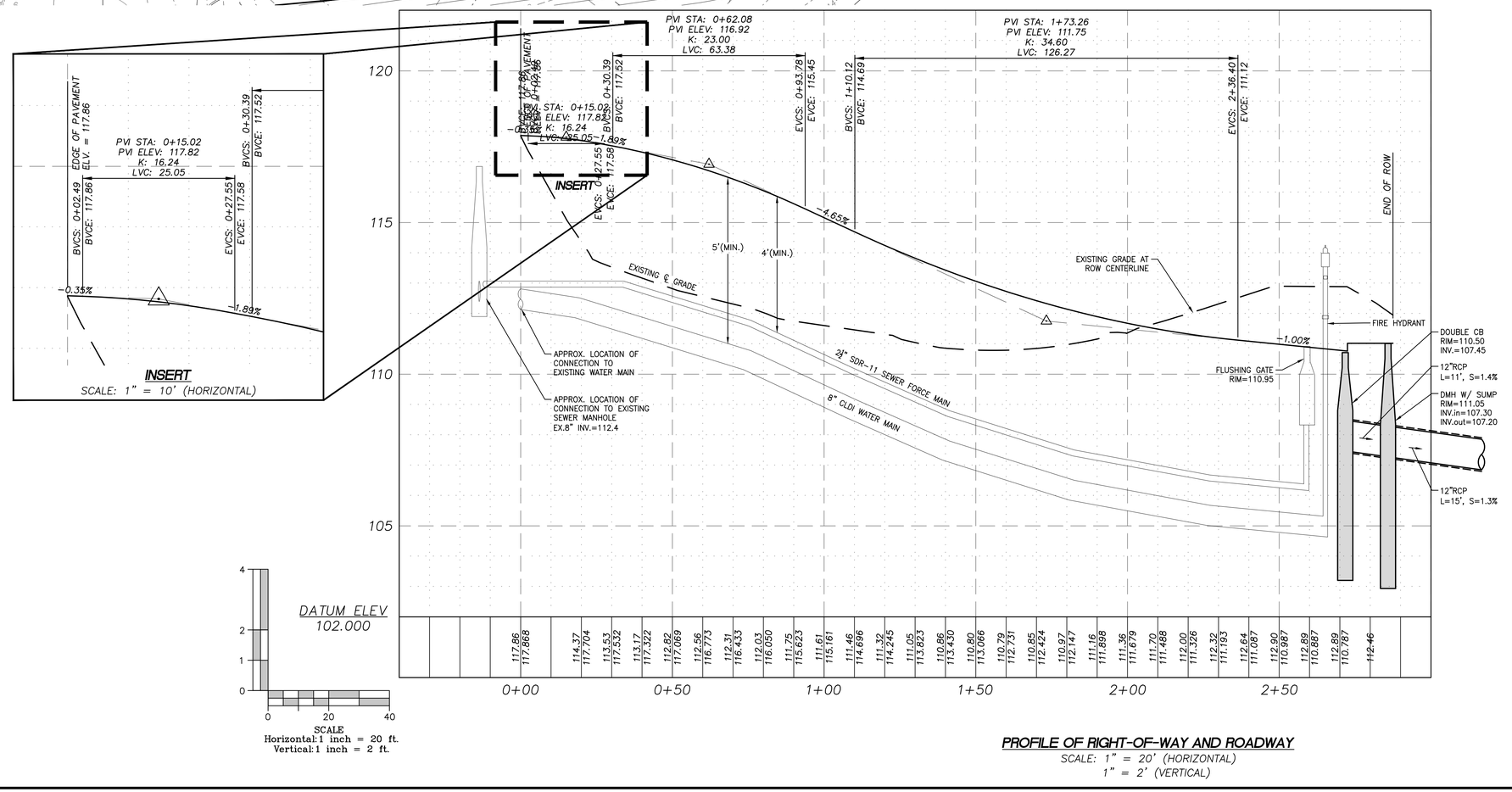
ASSUMPTIONS MADE FOR EACH PROPOSED HOUSE TO CONTAIN FOUR (4) BEDROOMS. CALCULATIONS BELOW ARE IN ACCORDANCE TO 310 CMR 15.00.

3 NEW HOUSES * 4 BEDROOMS PER HOUSE = 12 BEDROOMS ADDED

12 BEDROOMS * 110 GAL/DAY = 1,320 GAL/DAY OF ADDED SEWAGE

UTILITY NOTES

1. CONTRACTOR IS TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND ENSURE NO CONFLICTS EXIST WITH PROPOSED IMPROVEMENTS. NOTIFY ENGINEER IMMEDIATELY IF UTILITIES ARE LOCATED DIFFERENTLY THAN SHOWN. THE CONTRACTOR SHALL COORDINATE WITH EACH RESPECTIVE UTILITY COMPANY IN ORDER TO RELOCATE IF NEEDED IN CONFORMANCE WITH THEIR GUIDELINES.
2. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO THE REMOVAL OF INDICATED UTILITIES ON SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS REQUIRED FOR DEMOLITION AND HAUL OFF FROM THE APPROPRIATE AUTHORITIES.
3. THE DEPARTMENT OF PUBLIC WORKS OR APPLICABLE GOVERNING DEPARTMENT MUST AUTHORIZE AND PERMIT TO CONSTRUCT, ALTER OR MODIFY A WATER OR SEWER LINE.
4. AT THE COMPLETION OF THE WATER AND/OR SEWER CONSTRUCTION AND PRIOR TO RECORDING THE FINAL PLAT, THE CONTRACTOR WILL FURNISH THE WATER SYSTEM INSPECTOR RECORD DRAWINGS OF THE PROJECT.
5. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE GAS COMPANY FOR THE CONSTRUCTION OF THE GAS LINE BETWEEN METER AND MAIN.
6. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE POWER COMPANY FOR THE CONSTRUCTION OF ELECTRICAL CONDUIT TO PROVIDE SERVICE AND IF A TRANSFORMER IS REQUIRED TO BE INSTALLED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING, PRIOR TO CONSTRUCTION, ALL EXISTING LOCATIONS AND INVERT ELEVATIONS OF SANITARY SEWERS, STORM DRAINAGE, AND WATER MAINS. IF ANY INVERT ELEVATION VARIES MORE THAN 0.1 FT. FROM RECORD ELEVATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. WORK SHALL NOT PROCEED UNTIL THE CONTRACTOR IS NOTIFIED BY THE ENGINEER.
8. CONNECT TO EXISTING UTILITIES AND INSTALL UTILITIES IN COMPLIANCE WITH REQUIREMENTS OF APPROPRIATE JURISDICTIONAL AGENCIES.
9. COORDINATE WITH BUILDING PLANS TO ASSURE ACCURACY OF UTILITY CONNECTIONS AND COMPLIANCE WITH LOCAL CODES.
10. ALL SEWERS TO BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING CLEANING OF ANY SILT OR DEBRIS ACCUMULATED IN STRUCTURES.
11. ALL SURPLUS EXCAVATED MATERIAL FROM THE TRENCH SHALL BE DISPOSED OFF THE SITE BY CONTRACTOR.
12. TRENCHING SHOULD BE CONDUCTED IN ACCORDANCE WITH ALL OSHA REGULATIONS.
13. COORDINATE EXACT TRENCHING, ROUTING, AND POINT OF TERMINATION WITH ALL UTILITY COMPANIES.
14. BACKFILL MATERIAL SHALL BE SUITABLE MATERIAL IN COMPLIANCE WITH THE TOWN OF DANVERS AND/OR THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT).
15. WATER MAIN SHALL HAVE A MINIMUM COVER OF FIVE (5) FEET.
16. THE SANITARY SEWER AND POTABLE WATER LINES ARE TO BE SEPARATED BY AT LEAST 10 FEET HORIZONTALLY, OR THE POTABLE WATER LINE SHALL BE AT LEAST 18 INCHES VERTICALLY ABOVE THE SANITARY SEWER.
17. CONTRACTOR TO RECONFIGURE PROPOSED ELECTRIC/TELEPHONE/CABLE CONDUITS AS NECESSARY TO AVOID CONFLICT WITH TREES/LANDSCAPING.
18. THRUST BLOCKS TO BE PLACED AT ALL BEND LOCATIONS WITHIN THE POTABLE WATER LINES. SEE DETAIL SHEETS.
19. ALL UTILITIES SHALL BE APPROVED MATERIALS AND INSTALLED IN ACCORDANCE WITH THE DEPARTMENT OF PUBLIC WORKS STANDARDS.
20. THE TOWN'S ENGINEERING DIVISION SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION TO MARK OUT TOWN UTILITIES.



INSERT
SCALE: 1" = 10' (HORIZONTAL)

SCALE
Horizontal: 1 inch = 20 ft.
Vertical: 1 inch = 2 ft.

PROFILE OF RIGHT-OF-WAY AND ROADWAY
SCALE: 1" = 20' (HORIZONTAL)
1" = 2' (VERTICAL)

UTILITY AND ROADWAY PROFILE PLAN
SCALE: 1" = 20' (HORIZONTAL)

CALL BEFORE YOU DIG
1-888-344-7233
MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY
REVISION 1	6/20/23	GGF
REVISION 2	7/27/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

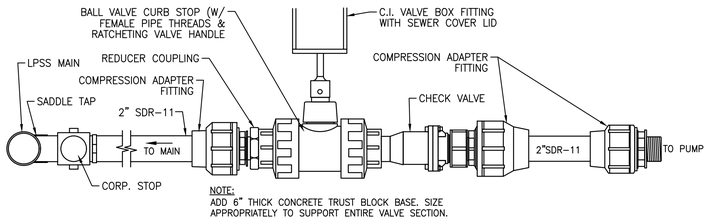
ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

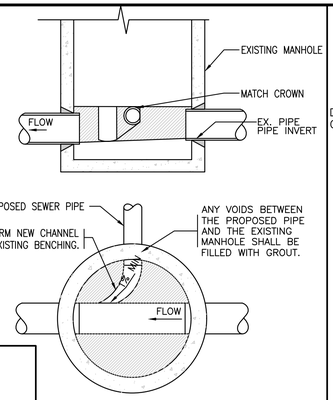
SHEET TITLE:
UTILITY + ROADWAY PROFILE PLAN

SHEET NUMBER:
C-5



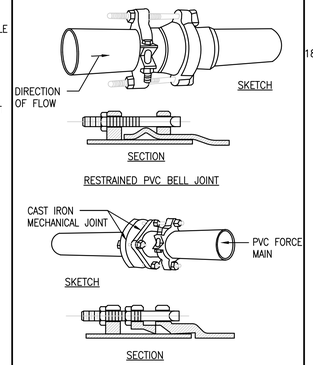
LOW PRESSURE SEWER SERVICE LATERAL VALVE AND CONNECTION

N.T.S.



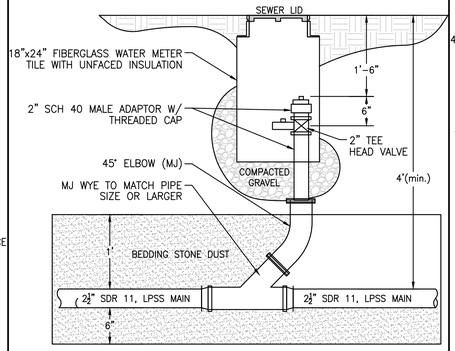
CONNECTION TO EXISTING SEWER MANHOLE

N.T.S.



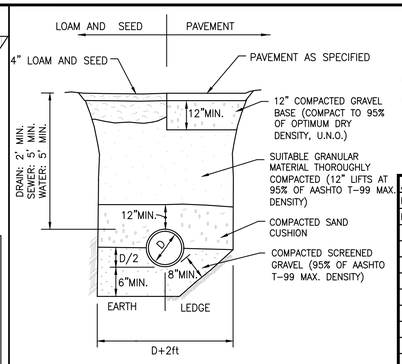
RESTRAINED MECHANICAL JOINT FITTING

N.T.S.



SEWER FORCE MAIN FLUSHING CONNECTION

N.T.S.



DRAIN/ SEWER/ WATER TRENCH AND BACKFILL DETAIL

N.T.S.

REVISION	DATE	BY
REVISION 1	6/20/23	GGF
REVISION 2	7/27/23	GGF

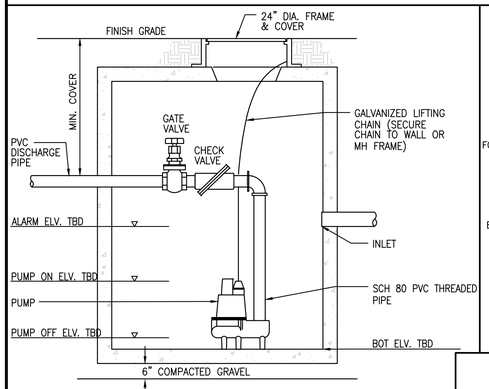
PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

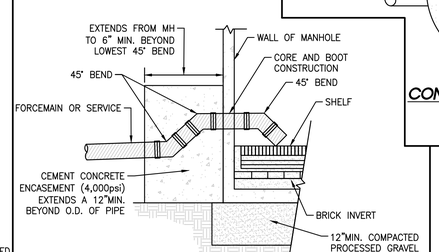
SCALE: N.T.S.



NOTE:
SEWER PUMP DESIGNS FOR ASSOCIATED LOTS SHALL BE SUBMITTED TO THE ENGINEERING DIVISION FOR REVIEW AND APPROVAL UPON OR BEFORE THE SUBMISSION OF THE APPLICATION FOR THE SEWER PERMIT OF EACH LOT.

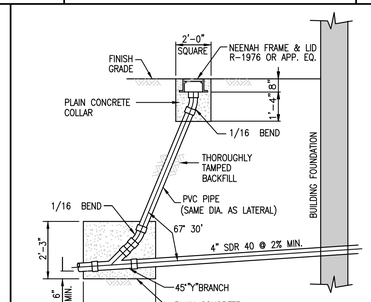
PUMP CHAMBER

N.T.S.



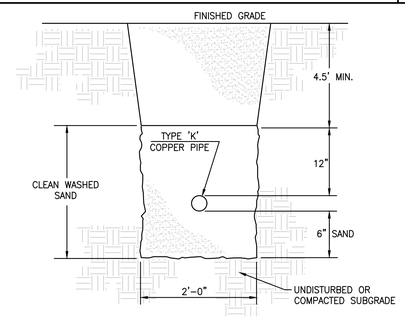
FORCE MAIN CONNECTION TO SEWER MANHOLE

NTS



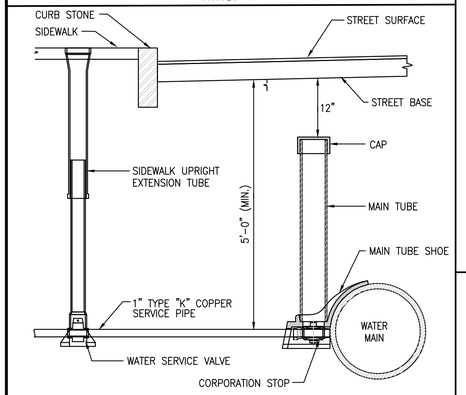
SEWER SERVICE AT BUILDING W/ CLEANOUT

N.T.S.



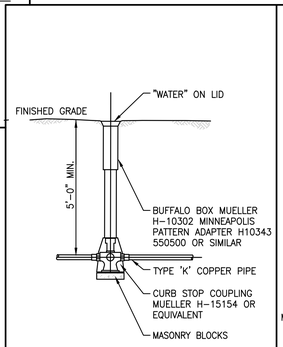
COPPER WATER SERVICE PIPE TRENCH

N.T.S.



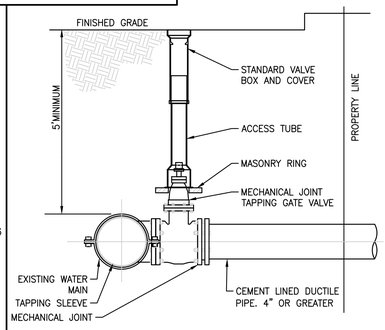
TYPICAL WATER SERVICE CONNECTION

N.T.S.



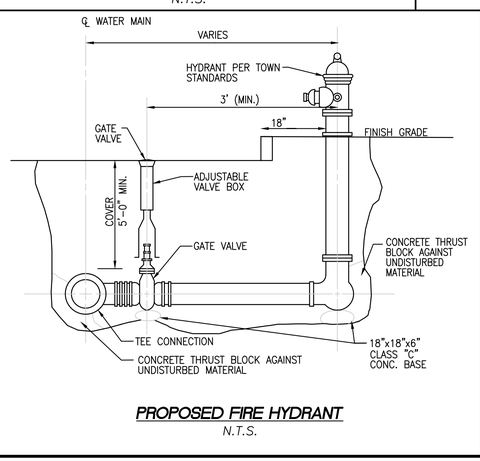
WATER SERVICE VALVE

N.T.S.



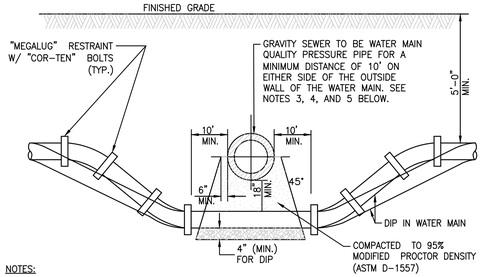
WATER CONNECTION WITH TAPPING SLEEVE AND VALVE

N.T.S.



PROPOSED FIRE HYDRANT

N.T.S.

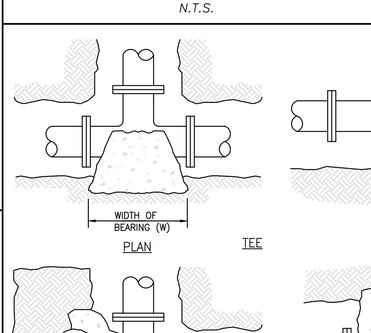


NOTES:

1. HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATERMAINS AND SEWERS SHALL COMPLY WITH APPLICABLE SECTIONS OF LOCAL OR STATE REQUIREMENTS, WHICHEVER IS MORE STRINGENT.
2. CONTRACTOR MAY BEND WATER MAIN PIPE UNIFORMLY UNDER SEWERS WITHOUT USING FITTINGS, PROVIDED THAT JOINT DEFLECTION DOES NOT EXCEED 5 DEGREES PER JOINT FOR PIPE UNDER 14" IN DIAMETER AND 3 DEGREES PER JOINT FOR PIPE 14" AND OVER IN DIAMETER. IF FITTINGS ARE USED, CONTINUOUS STRAPPING WITH RODS, STRAPS, NUTS AND BOLTS BELOW NORMAL WATERMAIN DEPTH ARE REQUIRED, OR RETAINER GLANDS MAY BE USED IN LIEU OF STRAPPING. RETAINER GLANDS TO BE CLOW No. F-1058 OR APPROVED EQUAL.
3. ALL SANITARY SEWER (INCLUDING SERVICE) CROSSINGS WHERE THE WATER MAINS OR WATER SERVICES ARE LESS THAN 18" VERTICALLY ABOVE THE SEWER SHALL BE POLYVINYL CHLORIDE PRESSURE PIPE (SDR 26-160 PSI) AND SHALL CONFORM WITH THE LATEST REVISION OF ASTM D- 2241. JOINTS SHALL CONFORM TO ASTM D-3139 AND ELASTOMERIC GASKETS SHALL CONFORM TO ASTM F-477. THE SAME PIPE AND JOINT MATERIALS SHALL BE USED WHENEVER WATER MAIN CROSSES BELOW THE SEWER.
4. ALL STORM SEWER (INCLUDING SERVICE) CROSSINGS WHERE THE WATER MAINS ARE LESS THAN 18" VERTICALLY ABOVE THE SEWER SHALL BE REINFORCED CONCRETE PIPE, ASTM C-361, CLASS D-25,WITH BELL AND SPIGOT JOINTS AND RUBBER GASKETS, OR PVC SDR 26 AS SPECIFIED IN NOTE 3 ABOVE. THE SAME PIPE AND JOINT MATERIAL SHALL BE USED WHENEVER WATER MAIN CROSSES BELOW THE SEWER.
5. FOR NEW SEWER INSTALLATIONS CROSSING OVER WATER MAINS, THE ENTIRE RUN OF NEW SEWER SHALL BE WATER MAIN QUALITY PIPE, EXTENDING FROM STRUCTURE TO STRUCTURE ON EACH SIDE OF THE CROSSING.

WATER MAIN CROSSING

N.T.S.

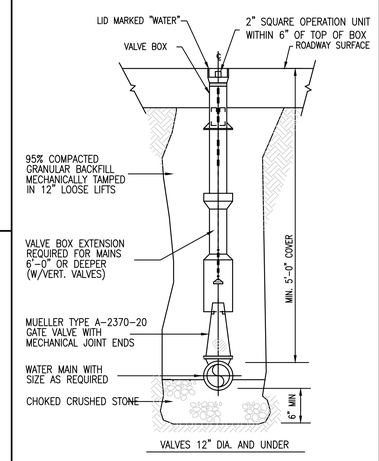


MINIMUM THRUST BLOCK AREA REQUIRED (Y x W)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° & 22½° BENDS
4" OR LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET

NOTES
1. THRUST BLOCKS TO EXTEND TO UNDISTURBED GROUND.
2. ALL CONCRETE SHALL BE CLASS B.
3. TABLE IS BASED ON 3000 LB./SQ. FT. SOIL. IF SOIL CONDITIONS ARE FOUND TO INDICATE SOIL BEARING LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
4. AREAS FOR PIPES GREATER THAN 16" SHALL BE CALCULATED FOR EACH PROJECT.
5. FOR ALL NON BEARING VERTICAL SURFACES.

TRUST BLOCKS FOR WATER SYSTEM

N.T.S.



UNDERGROUND GATE VALVE

N.T.S.

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION

DATE: _____

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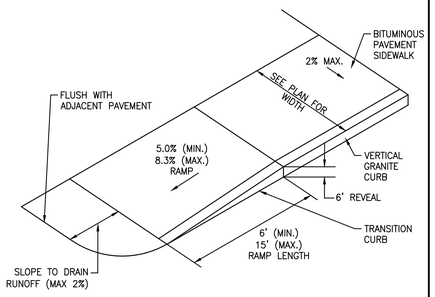
ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

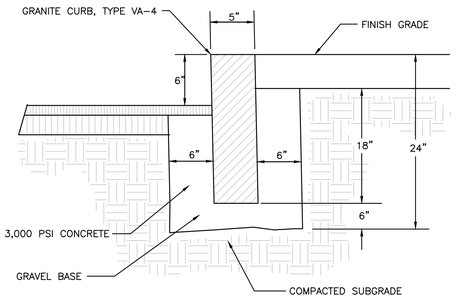
SHEET TITLE:
DETAILS
SHEET 1

SHEET NUMBER:
C-6



ADA ACCESSIBLE SIDEWALK RAMP

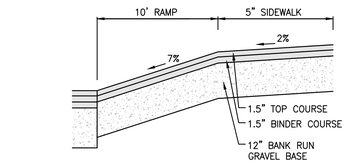
N.T.S.



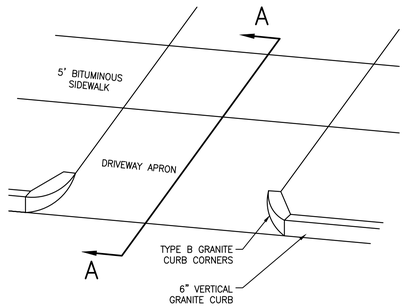
NOTE:
INSTALL GRANITE CURB INLET AT EACH CATCH BASIN LOCATION

VERTICAL GRANITE CURB

N.T.S.

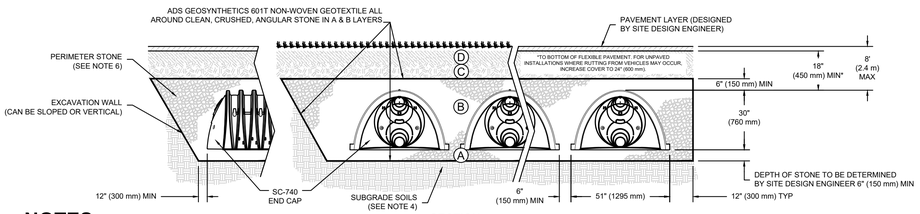


SECTION A–A



TYPICAL DRIVEWAY APRON

N.T.S.

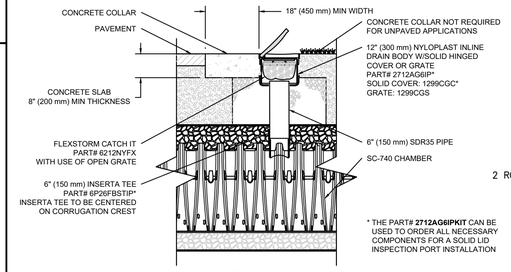


SECTION
NTS

NOTES:

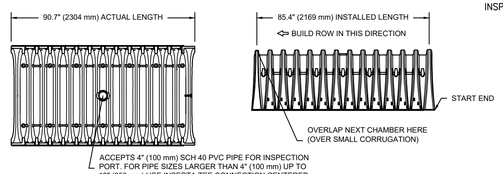
1. SC–740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

Ⓐ DOUBLE WASHED ¾"–1½" STONE
Ⓑ DOUBLE WASHED ¾"–1½" STONE
Ⓒ CLEAN GRANULAR FILL MATERIAL
Ⓓ 4"–6" TOPSOIL (LAWN AREA) OR 12" COMPACTED GRAVEL BASE (PAVEMENT AREA)

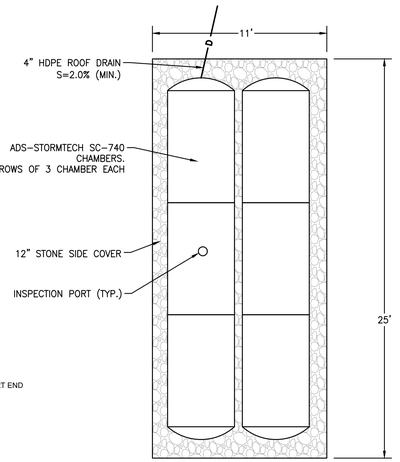


6" PVC INSPECTION PORT DETAIL
NTS

* THE PART# **2712AG6IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION



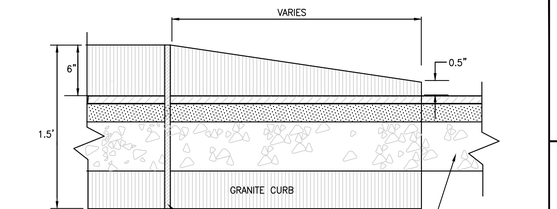
SC-740 TECHNICAL SPECIFICATION
NTS



NOTE:
SEE ADDITIONAL DETAILS AND SPECIFICATIONS ON THIS PAGE.

ROOF DRY WELL DETAIL
(FOR FUTURE INSTALL AT LOT 2)

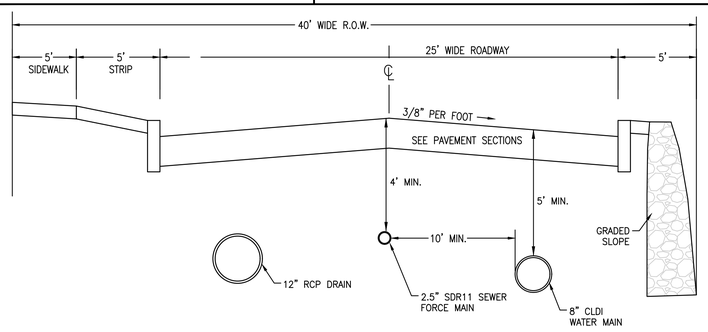
N.T.S.



TRANSITION CURB DETAIL

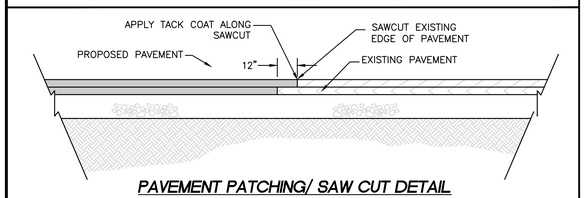
N.T.S.

NOT USED



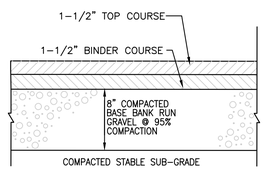
TYPICAL ROADWAY CROSS SECTION

N.T.S.

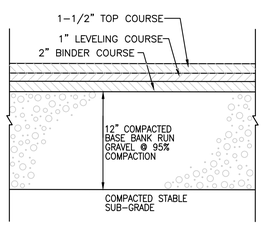


PAVEMENT PATCHING/ SAW CUT DETAIL

N.T.S.



SIDEWALK SECTION

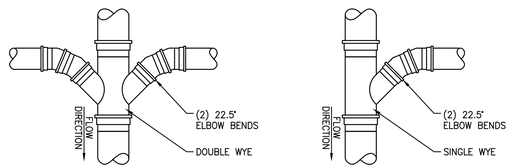


ROADWAY SECTION

NOTE:
COMPACTED FILL SUBSURFACE BACKFILL SHALL MEET SPECIFICATIONS SET FORTH BY THE ENGINEERING DEPARTMENT AND/OR MASSDOT SPECIFICATIONS.

BITUMINOUS PAVEMENT SECTION

N.T.S.

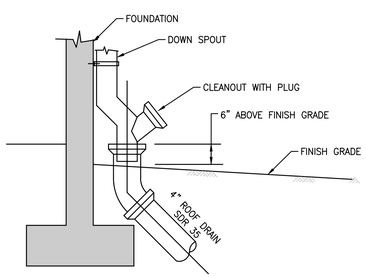


MANIFOLD PLAN VIEW

'WYE' CONNECTION PLAN VIEW

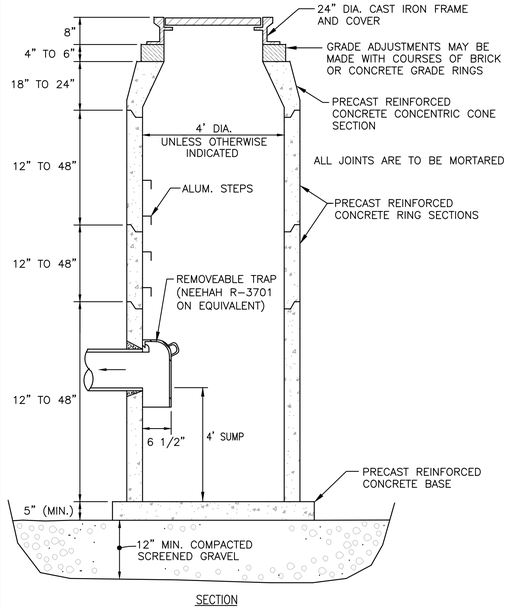
MANIFOLD AND WYE CONNECTIONS

N.T.S.



TYPICAL DOWNSPOUT LEADER

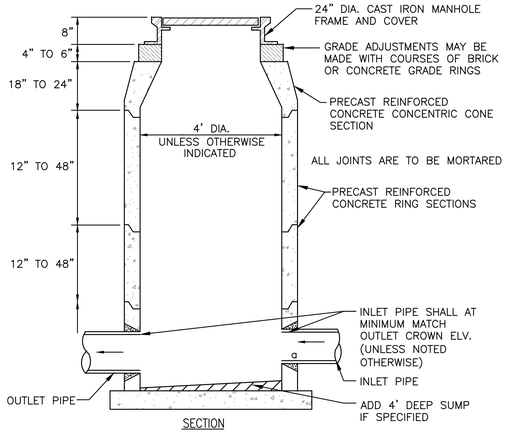
N.T.S.



SECTION

TYPICAL CATCH BASIN

N.T.S.



SECTION

TYPICAL DRAIN MANHOLE

N.T.S.

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION

DATE: _____

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1–888–344–7233
MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY
REVISION 1	6/20/23	GGF
REVISION 2	7/27/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION – PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SCALE: N.T.S.

ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160–149

SHEET TITLE:
DETAILS
SHEET 2

SHEET NUMBER:
C-7

Town of Reading
Engineering Division

Memo

To: Andrew MacNichol , Community Development Director

From: Ryan A. Percival, P.E., Town Engineer

CC: Mary Benedetto, Senior Planner

Date: July 6, 2023

Re: Grandview Road Extension

Materials reviewed:

- Proposed Site Plans entitled; "Major Site Plan Modification- Grandview Road Subdivision prepared by Fodera Engineering revision date June 20th 2023"
- Revision Comments, Definitive Subdivision – Grandview Road Extension; prepared by Fodera Engineering; dated June 20, 2023
- Post Drainage Report; prepared by Fodera Engineering; dated June 20, 2023

The Engineering Division has reviewed the proposed site application for the proposed project and offers the following comments:

- Engineering has completed their review and find that all comments have been satisfied.
- Additional catch basins in the road should be considered to reduce the potential of on street flooding in the cul-de-sac. If that single basin becomes clogged the street will flood.
- A Sewer Connection I/I fee is required.
- The driveway curb cuts shall meet Town of Reading standard cross sections. The proposed elevations are unclear in these areas, all driveways will be approved individually.
- All utilities shall be approved materials and installed in accordance with the Department of Public Works Standards.
- Engineering Division shall be notified 72 hours in advance to mark out Town utilities.
- All water, sewer, curb cut, street opening and Jackie's Law excavation permits shall be obtained at the Engineering Division prior to any excavations.
- All site work shall be inspected by the Engineering Division. The Applicant/Owner's contractor shall submit a construction schedule of proposed work. All inspections shall be scheduled 48 hours in advance.
- An approved site as-built shall be submitted to the Engineering Division within 60 days of certificate of occupancy. The as-built shall be submitted in mylar and electronic ACAD format.

FOR REGISTRY USE ONLY

SITE PLAN SET

MAJOR SITE PLAN MODIFICATION

GRANDVIEW ROAD SUBDIVISION – PRIVATE WAY

GRANDVIEW ROAD EXTENSION

PROJECT LOCATION:

LOTS 2, 3, and 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867

SHEET INDEX

PROPERTY INFORMATION

ADDRESS
LOTS 2, 3, & 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867

RECORD OWNER
GRANDVIEW, LLC
45 BEACON STREET
READING, MA 01867

LOT SIZE
COMBINED LOTS 2, 3, & 4
45,130 S.F. (1.04 AC.±)

ZONING DISTRICT
SINGLE FAMILY 15 (S-15)

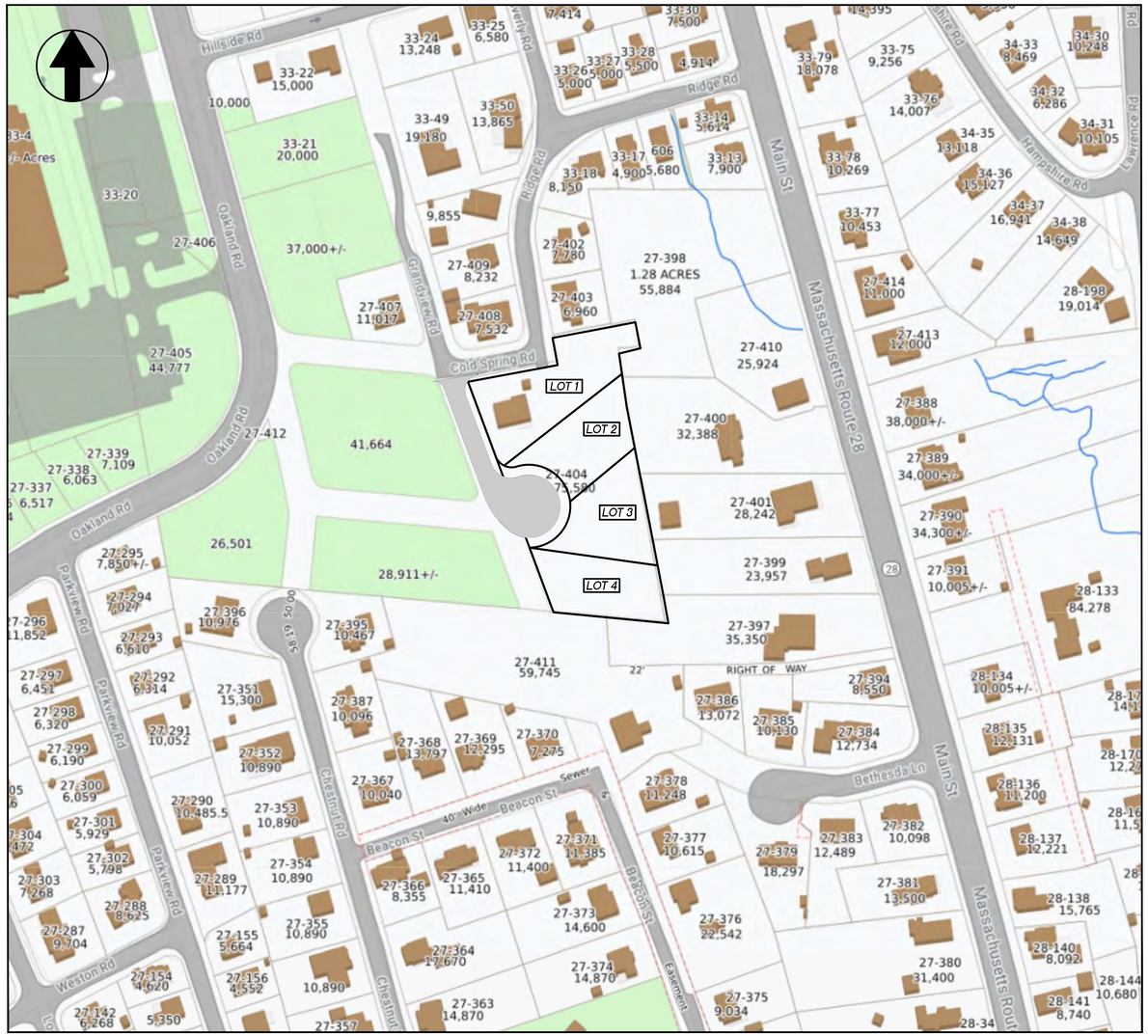
PARCEL ID
PART OF MAP 27, LOT 404

PLAN REFERENCES

1. BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY PFS LAND SURVEYING, INC., DRAWING NUMBER SV-1, DATED 7/8/2020.
2. MIDDLESEX SOUTH REGISTRY OF DEEDS PLAN 754 OF YEAR 2022.

GENERAL NOTES

1. THE SUBDIVISION OF LAND FOR THIS PROJECT WAS APPROVED AND ENDORSED BY THE READING COMMUNITY PLANNING AND DEVELOPMENT COMMISSION (CPDC), AND THE SUBDIVISION WAS RECORDED WITH THE REGISTRY OF DEEDS AS PLAN 754 OF YEAR 2022.
2. THIS PLAN SET IS FOR THE APPROVAL OF A MAJOR SITE PLAN MODIFICATION. MODIFICATIONS INCLUDE REDESIGNING THE STORMWATER SYSTEM WITH ASSOCIATED SITE GRADING. EASEMENTS HAVE BEEN ADJUSTED AND THEREFORE WILL REQUIRE A NEW ENDORSED SET FOR RECORDING WITH THE REGISTRY.
3. TOPOGRAPHIC DATA IS ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
4. UTILITY INFORMATION OBTAINED FROM THE REFERENCE SURVEY PLAN.
5. SOIL TESTS BY DEEP OBSERVATION HOLES WERE COMPLETED AND REPORTED BY ARMAND J. PORRAZZO (SE#1958) IN JULY 2020. SITE SOILS FROM THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) ONLINE WEB SOIL SURVEY DETERMINE THE SITE TO CONTAIN TWO (2) SOIL TYPES IDENTIFIED AS CANTON-CHARLTON-URBAN LAND COMPLEX WITH A HYDROLOGIC SOIL GROUP (HSG) "A" AND PAXTON FINE SANDY LOAM WITH A HSG "C".
6. THE SITE DOES NOT CONTAIN AREAS SUBJECT TO 1% ANNUAL CHANCE OF FLOODING AND IS IN ZONE "X" AS DETERMINED BY FEMA FLOOD INSURANCE RATE MAP (FIRM) 25017C0311E WITH AN EFFECTIVE DATE OF 6/4/2010.
7. THE SITE IS INLAND AND NOT LOCATED NEAR OR WITHIN THE FOLLOWING PROTECTED RESOURCE AREAS AS DETERMINED BY THE STATE OF MASSACHUSETTS ONLINE GIS MAPPING SYSTEM "OLIVER".
   - NATURAL HERITAGE OF ENDANGERED SPECIES
   - RIVERFRONT
   - CERTIFIED VERNAL POOLS
   - WELLHEAD PROTECTION ZONES
8. THE SITE DOES CONTAIN A SMALL PORTION OF BORDERING VEGETATED WETLANDS AND WERE DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS, INC. IN JUNE 2020.



LOCUS MAP
SCALE: 1" = 100'

PREPARED FOR:
(APPLICANT)
MICHAEL SALAMONE
45 BEACON STREET
READING, MA 01867

PREPARED BY:
FODERA ENGINEERING
28 HARBOR STREET, SUITE 204
DANVERS, MA 01923
(617) 877-3293

ABUTTER'S LIST (NOW OR FORMERLY)

PARCEL ID	ADDRESS	OWNER
27-367	105 BEACON ST.	L & J FAMILY TRUST BRIAN F DESMOND TRUSTE
27-368	101 BEACON ST.	BEVERE LOREEN M
27-369	99 BEACON ST.	JOHNSON PHILLIP M PHOEBE M JOHNSON
27-370	89 BEACON ST.	DECROTEAU MICHAEL EUGENE
27-371	36 BEACON ST.	CUSOLITO JOHN LINCOLN JR ETA BEACON ST 2012 REALTY TR
27-372	98 BEACON ST.	KELLETT JAY S JOYCE A KELLETT
27-377	33 BEACON ST.	DICLEMENTE MICHAEL C DICLEMENTE JAMIE
27-378	39 BEACON ST.	WILMER CHRISTOPHER K SARA WILMER
27-379	14 BETHESDA	LN. BRETCHKO PAVEL TITOVA ELENA
27-384	882 MAIN ST.	MOREIRA GREGORY C ERIN B MORIERA
27-385	11 BETHESDA LN.	SICILIANO ROBERT L SICILIANO STEPHANIE A
27-386	17 BETHESDA LN.	KOUTOUVIDES DAKIS S KOUTOUVIDES KIMBERLY A
27-387	37 CHESTNUT RD.	GOODHUE MARK J WHITNEY GOODHUE
27-394	884 MAIN ST.	GEORGE JENNIFER L DANIEL F DECARPIS
27-395	43 CHESTNUT RD.	DASILVA JOSEPH A DASILVA ANASTASIA
27-397	890 MAIN ST.	JOYCE MARY ELIZABETH JOHN JOYCE
27-398	MAIN ST.	MILLER KEITH L
27-399	896 MAIN ST.	SANDBERG ELLEN L
27-400	908 MAIN ST.	CHEN I-CHEI
27-401	900 MAIN ST.	READING KOREAN CHURCH OF THE NAZARENE
27-402	26 RIDGE RD.	KERR CHRISTOPHER A LESLIE N KERR
27-403	32 RIDGE RD.	BEAUCHER ROBERT A BARBARA L BEAUCHER
27-404	4 COLDSPRING RD.	JEAN PENNY A
27-405	OAKLAND RD.	TOWN OF READING READING MEMORIAL HIGH
27-407	23 GRANDVIEW RD.	CUSOLITO ROBERT P JOANNE CUSOLITO
27-408	31 RIDGE RD.	CORAM GEOFFREY SUSAN G CORAM
27-409	25 RIDGE RD.	FONG ELAINE
27-410	912 MAIN ST.	HATCH WILLIAM G
27-411	45 BEACON ST.	SALAMONE ANGELO
33-13	930 MAIN ST.	RICCI ANTHONY J JANET K GALLAGHER RICCI
33-14	934 MAIN ST.	CROSBY JO ANN
33-15	RIDGE RD.	TOWN OF READING
33-16	8 RIDGE RD.	YAO RYAN S
33-17	10 RIDGE RD.	ALLEN KATHERINE D
33-18	14 RIDGE RD.	HEGARTY GERALD P ETAL TRS GERALD P HEGARTY REVOC
33-19	OAKLAND RD.	TOWN OF READING SCHOOL DEPT.
33-23	23 RIDGE RD.	MESSINA-PEREZ KAREN E
33-49	10 GRANDVIEW RD.	DRUID DAVID A PATRICIA E DRUID
33-50	2 WAVERLY RD.	HILDRETH JOHN W JUDITH D HILDRETH

UTILITIES AND CONTACTS

CABLE
COMCAST CABLE CORPORATION
5 OMNI WAY
CHELMSFORD, MA 01824
ATTN: TED QUINT
978-848-5163
ted_quint@comcast.com

ELECTRIC
READING MUNICIPAL LIGHT DEPARTMENT
230 ASH ST.
READING, MA 01867
ATTN: PETER PRICE
781-942-6429
pprice@rmld.com

GAS
NATIONAL GRID GAS
40 SYLVAN ROAD
WALTHAM, MA 02451
ATTN: MELISSA OWENS
781-907-2845
melissa.owens@nationalgrid.com

TELEPHONE
VERIZON
385 MYLES STANDISH BLVD.
TAUNTON, MA 02780
ATTN: KAREN MEALEY
774-409-3160
karen.m.mealey@verizon.com

WATER AND SEWER
READING DPW
16 LOWELL ST.
READING, MA 01867
781-942-9077

DEPARTMENT OF PUBLIC WORKS
READING DPW ENGINEERING DIVISION
16 LOWELL ST.
READING, MA 01867
781-942-9082

CONSULTANTS

CIVIL ENGINEER
FODERA ENGINEERING
28 HARBOR ST., SUITE 204
DANVERS, MA 01923
ATTN: GIOVANNI FODERA, P.E.
617-877-3293
gfodera@foderaengineering.com

LAND SURVEYOR
PFS LAND SURVEYING, INC.
20 BALCH AVE.
GROVELAND, MA 01834
ATTN: BRYAN PARMENTER, P.L.S.
508-446-0781
bryan@pfsland.com

DATE:
APRIL 20, 2023

TOWN OF READING COMMUNITY PLANNING AND DEVELOPMENT COMMISSION	
DATE:	

REVISION BLOCK

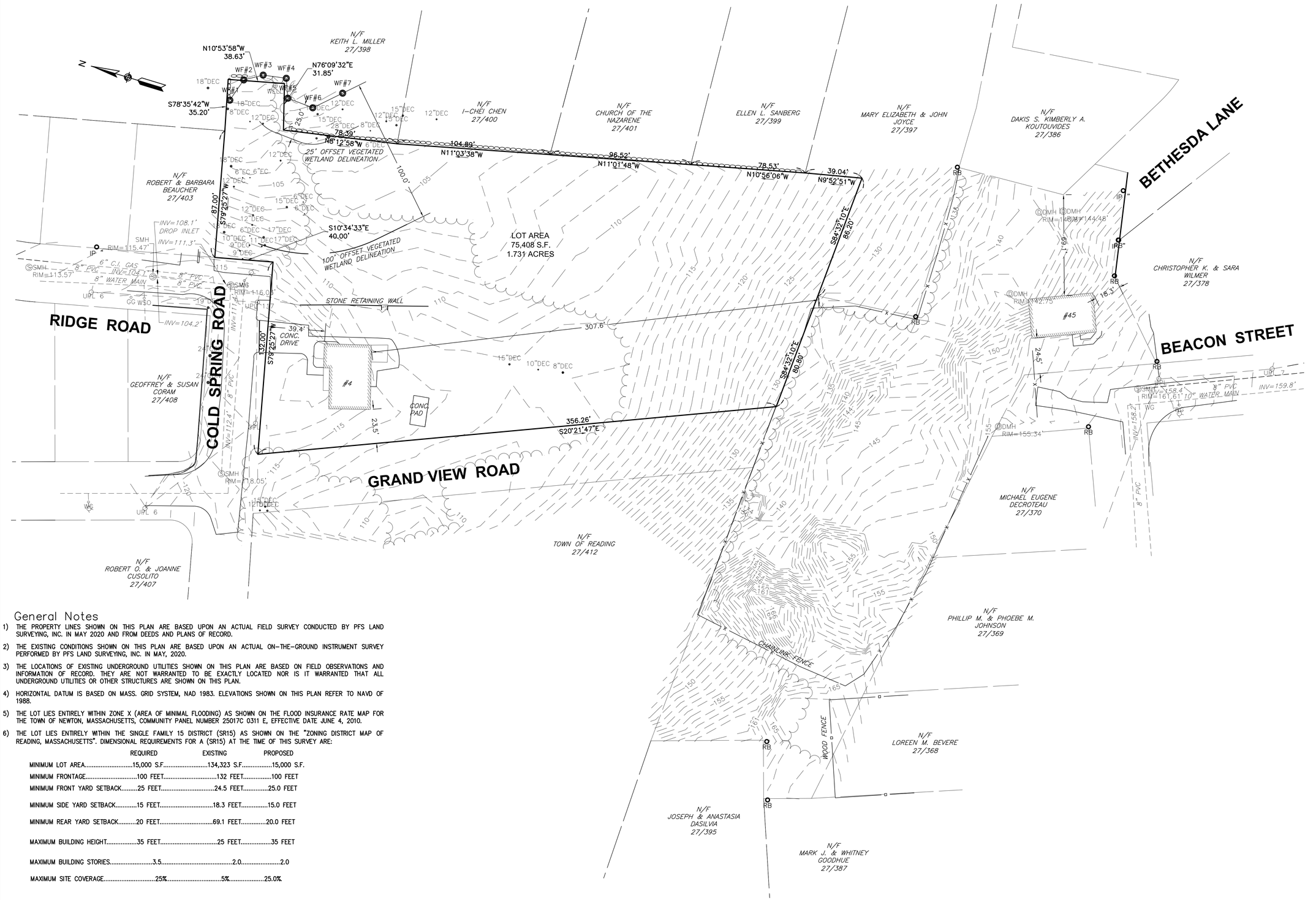
REVISION SET	REVISION DATE	COMPLETED BY
REVISION 1	6/20/23	GGF
–	–	–
–	–	–
–	–	–
–	–	–
–	–	–

PROFESSIONAL SEAL:
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54894
REGISTERED PROFESSIONAL ENGINEER
JOB # 20160
6/20/23
G.F. 6/20/23

JOB NO.: 20160-149

SHEET TITLE:
COVER SHEET

SHEET NUMBER:
C-0



PFS Land Surveying, Inc.

20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com

LEGEND

BM #	BENCHMARK
	BOUND (CONC, STONE, LAND COURT, ETC.)
CB	CATCH BASIN - SQUARE
CB	CATCH BASIN - ROUND
DSK	DISK (CA/T, USC&GS, LAND COURT, ETC.)
DH	DRILL HOLE
D	DRAIN MANHOLE
EHH	ELECTRIC HANDHOLE
E	ELECTRIC MANHOLE
EM	ELECTRIC METER
GG	GAS GATE
GM	GAS METER
	HANDICAP SYMBOL
	GUY WIRE ANCHOR
	FIRE HYDRANT
	LIGHT
OHW	OVERHEAD WIRE
MAG	MAG NAIL
MB	MAIL BOX
	OTHER MANHOLE
PB	PULL BOX
PED	PEDESTRIAN SIGNAL
S	SEWER MANHOLE
T	TELEPHONE MANHOLE
TRFM	TRANSFORMER
12	# OF PARKING SPACES
TS	TRAFFIC SIGNAL
TS	TRAFFIC SIGNAL MAST ARM/SPAN WIRE POLE
	SIGN
ULT#	UTILITY POLE W/ LIGHT
UPL#	UTILITY POLE
WG	WATER GATE
WSO	WATER SHUTOFF
	CHAIN LINK FENCE
	WOOD FENCE

General Notes

1) THE PROPERTY LINES SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL FIELD SURVEY CONDUCTED BY PFS LAND SURVEYING, INC. IN MAY 2020 AND FROM DEEDS AND PLANS OF RECORD.

2) THE EXISTING CONDITIONS SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY PFS LAND SURVEYING, INC. IN MAY, 2020.

3) THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD OBSERVATIONS AND INFORMATION OF RECORD. THEY ARE NOT WARRANTED TO BE EXACTLY LOCATED NOR IS IT WARRANTED THAT ALL UNDERGROUND UTILITIES OR OTHER STRUCTURES ARE SHOWN ON THIS PLAN.

4) HORIZONTAL DATUM IS BASED ON MASS. GRID SYSTEM, NAD 1983. ELEVATIONS SHOWN ON THIS PLAN REFER TO NAVD OF 1988.

5) THE LOT LIES ENTIRELY WITHIN ZONE X (AREA OF MINIMAL FLOODING) AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR THE TOWN OF NEWTON, MASSACHUSETTS, COMMUNITY PANEL NUMBER 25017C 0311 E, EFFECTIVE DATE JUNE 4, 2010.

6) THE LOT LIES ENTIRELY WITHIN THE SINGLE FAMILY 15 DISTRICT (SR15) AS SHOWN ON THE "ZONING DISTRICT MAP OF READING, MASSACHUSETTS". DIMENSIONAL REQUIREMENTS FOR A (SR15) AT THE TIME OF THIS SURVEY ARE:

	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	15,000 S.F.	134,323 S.F.	15,000 S.F.
MINIMUM FRONTAGE	100 FEET	132 FEET	100 FEET
MINIMUM FRONT YARD SETBACK	25 FEET	24.5 FEET	25.0 FEET
MINIMUM SIDE YARD SETBACK	15 FEET	18.3 FEET	15.0 FEET
MINIMUM REAR YARD SETBACK	20 FEET	69.1 FEET	20.0 FEET
MAXIMUM BUILDING HEIGHT	35 FEET	25 FEET	35 FEET
MAXIMUM BUILDING STORIES	3.5	2.0	2.0
MAXIMUM SITE COVERAGE	25%	5%	25.0%

7) THE WETLANDS SHOWN HEREON WERE FLAGGED BY LEC ENVIRONMENTAL IN JUNE 2020 AND LOCATED BY PFS LAND SURVEYING INC, IN JUNE 2020.

No.	Revision	Date	Appvd.
2	added tree locations in buffer zone	2-04-2021	BGP
1	updated well location	12-09-2020	BGP

Designed by BGP | Drawn by BGP | Checked by BGP
CAD checked by BGP | Approved by BGP
Scale 1"=30' | Date 7/8/2020

Project Title
Existing Conditions
4 Cold Spring Rd
Reading, MA

Issued for
Review

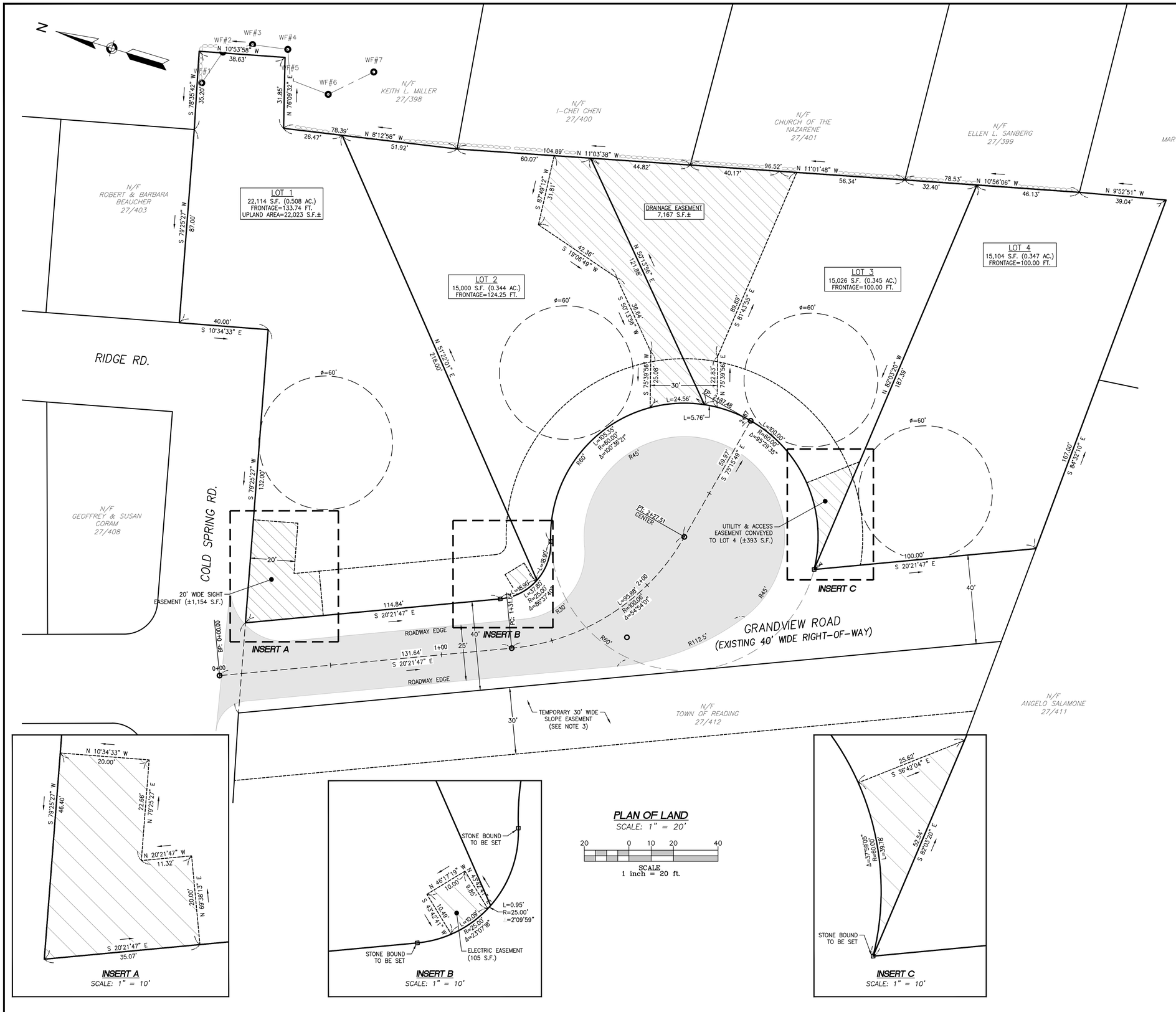
Drawing Title
Existing Conditions
Plan of Land

COMMONWEALTH OF MASSACHUSETTS
BRIAN G. PAQUETTE
NO. 48193
REGISTERED
PROFESSIONAL LAND SURVEYOR

Drawing Number
SV-1

Sheet
1 of 1

Project Number



INSERT A
SCALE: 1" = 10'

INSERT B
SCALE: 1" = 10'

PLAN OF LAND
SCALE: 1" = 20'

20 0 10 20 40
SCALE
1 inch = 20 ft.

INSERT C
SCALE: 1" = 10'

RIGHT-OF-WAY STATEMENT

THE RIGHT-OF-WAY (ROW), SOUTH OF THE INTERSECTION FROM COLD SPRING ROAD AND GRANDVIEW ROAD, IS AS A PRIVATE WAY FOR ALL LAND OWNERS IN AND ABUTTING THE SUBDIVISION, AND WILL REMAIN NAMED AS GRANDVIEW ROAD.

LEGEND

- PROPERTY LINE
- EASEMENT LINE
- WETLAND BOUNDARY
- RXX' — RADIUS MEASUREMENT
- WF# — WETLAND FLAG
- STONE BOUND WITH DRILL HOLE

GENERAL NOTES

1. WETLANDS WERE FLAGGED BY LEC ENVIRONMENTAL CONSULTANTS IN JUNE 2020.
2. THE PROJECT IS LOCATED OUTSIDE OF ANY PROTECTED RESOURCE AREAS AND FLOOD ZONES AS DETERMINED BY THE MOST RECENTLY PUBLISHED DATA FROM THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION AND FEMA.
3. IN LIEU OF A RETAINING WALL LOCATED IN THE RIGHT-OF-WAY ALONG THE WESTERN BOUNDARY OF GRAND VIEW ROAD, A TEMPORARY THIRTY (30) FOOT WIDE SLOPE EASEMENT IS PROPOSED ON TOWN PROPERTY AND SHALL BE APPROVED BY THE TOWN. SEE SHEET C-5 FOR GRADING.

PLAN REFERENCES

1. BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY PFS LAND SURVEYING.

PROPERTY INFORMATION

ADDRESS: LOTS 2, 3, & 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867
TAX MAP, LOT: PART OF MAP 27, LOT 404
LOT SIZE: 45,130 S.F. (1.04 AC.)

RECORD OWNERS

LOTS 2, 3, & 4
GRANDVIEW, LLC
45 BEACON STREET
READING, MA 01867

APPLICANT

MICHAEL SALAMONE
45 BEACON ST.
READING, MA 01867

ZONING SUMMARY

ZONING DISTRICT: SINGLE FAMILY 15 (S15)

	REQUIRED	LOT 1	LOT 2	LOT 3	LOT 4
MIN. LOT WIDTH	60'	>60'	>60'	>60'	>60'
MIN. LOT AREA (SF)	15,000	22,114	15,000	15,026	15,104
MIN. FRONTAGE	100'	132.00	151.62	100.00	100.00
RELIEF REQUIRED	–	N	N	N	N

CALL BEFORE YOU DIG
1-888-344-7233
MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY
REVISION 1	6/20/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

APRIL 20, 2023
SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

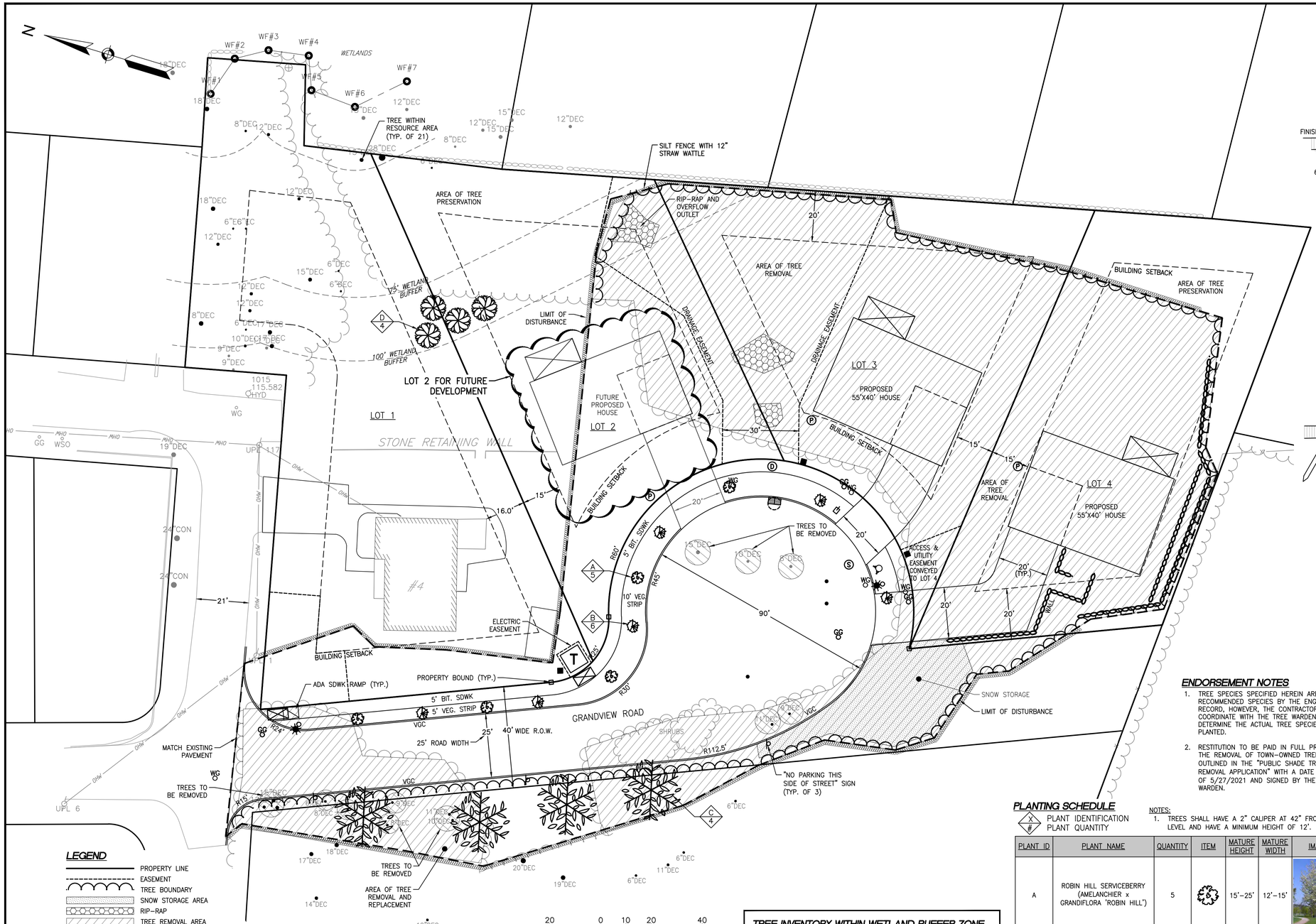
ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER
6/20/23
JOB # 20160
G.F. 6/14/23

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
PLAN OF LAND

SHEET NUMBER:
C-1



SITE AND TREE PRESERVATION PLAN

SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- EASEMENT
- TREE BOUNDARY
- SNOW STORAGE AREA
- RIP-RAP
- TREE REMOVAL AREA
- RETAINING WALL
- BUILDING SETBACK
- LIMIT OF DISTURBANCE
- WETLAND BOUNDARY
- WETLAND BUFFER
- WF# WETLAND FLAG
- VGC VERTICAL GRANITE CURB
- MAILBOX
- (P) SEWER PUMP
- (S) FORCE MAIN FLUSHING GATE
- FORCE SERVICE BALL VALVE
- CB CATCH BASIN
- (D) DMH DRAIN MANHOLE
- OOS OVERFLOW OUTLET STRUCTURE
- WG WATER VALVE
- GG GAS VALVE
- T ELECTRIC TRANSFORMER & EASEMENT
- ELECTRIC SERVICE PULLBOX
- ELECTRIC MANHOLE

TREE PRESERVATION CALCULATIONS

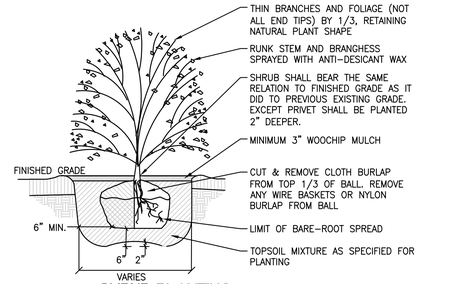
	LOT 1	LOT 2	LOT 3	LOT 4	Grand View Rd.	TOTALS
LOT AREA, S.F.	22,112	15,002	15,026	15,104	22,164	89,408
NEW IMPERVIOUS, S.F.	0	2,388	2,526	2,998	12,572	23,549
SUM: OPEN SPACE, S.F.	*19,047	12,614	12,500	12,106	9,592	65,859
**REQUIRED # OF TREES	10	7	7	7	N/A	31
AREA OF TREE REMOVAL, S.F.	0	3,605	13,325	11,140	6,217	34,287
AREA OF TREE PRESERVED, S.F.	7,948	3,260	1,590	3,970	2,832	19,600
***ESTIMATED # OF TREES PRESERVED	20	14	7	17	12	70

* SUBTRACTED EXISTING IMPERVIOUS AREA OF 3,065 SF.
** BASED ON 1 TREE PER 2,000 S.F. OF OPEN SPACE PER SECTION 7.6.2.2 OF THE TOWN OF READING SUBDIVISION REGULATIONS.
*** ESTIMATED BASED ON 1 TREE PER 225 S.F. (15'X15')

TREE INVENTORY WITHIN WETLAND BUFFER ZONE

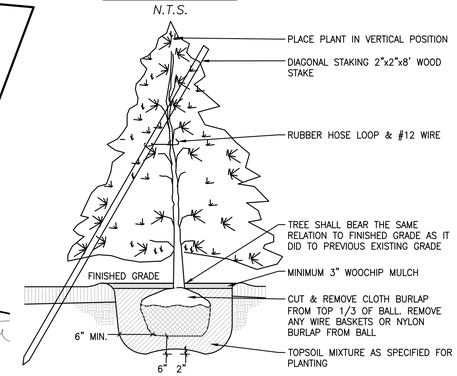
	TREE COUNT
EXISTING TREE COUNT	21
TREES TO BE REMOVED	0
TOTAL TREES TO REMAIN	21

PERMANENT GRASS SEED MIX	SEED, POUNDS PER 1,000 S.F.
LITTLE BLUESTEM OR BROOMSEDGE	0.25
TUMBLE LOVEGRASS	0.10
SWITCHGRASS	0.10
BUSH CLOVER	0.10
RED TOP	0.10



SHRUB PLANTING

N.T.S.



EVERGREEN PLANTING

N.T.S.

GENERAL NOTES

1. ALL PLANT STOCK SHALL CONFORM TO ANSI Z260.1 – NURSERY STOCK, LATEST EDITION (AMERICAN ASSOCIATION OF NURSERYMEN, INC.).
2. NO TREES OR SHRUBS SHALL BE PLANTED AT THE STREET INTERSECTION WHERE THEY COULD BECOME A TRAFFIC HAZARD BY OBSTRUCTING VISION.
3. ALL TREES SHALL BE GUARANTEED BY THE DEVELOPER FOR THEIR ERECTNESS AND GOOD HEALTH FOR TWO (2) YEARS AFTER PLANTING.
4. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED AND SEEDED. LOAM DEPTH SHALL BE A MINIMUM OF 4 INCHES. ALL LOAM PLACED SHALL BE pH CORRECTED AND FREE OF CLODS, LUMPS, STONES AND OTHER DELETERIOUS MATERIAL.
5. ANY DEAD VEGETATION SHALL BE REMOVED IMMEDIATELY AND REPLACED IN ACCORDANCE WITH THE SPECIFICATION ON PLAN.
6. OWNER SHALL MAINTAIN LANDSCAPE PLANTINGS TO ENSURE THE AESTHETIC APPEARANCE AND OVERALL PLANT HEALTHINESS IS RETAINED. THIS INCLUDES INSPECTING AND REPLACING PLANTINGS AS NECESSARY, WEEKLY MOWING AND MULCHING.
7. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
8. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
9. THE CONSTRUCTION SITE SHALL BE SECURED IN A MANNER SO AS TO PREVENT INJURY OR PROPERTY DAMAGE TO THE RESIDENTS OF THE TOWN.
10. AN APPROVED SITE AS-BUILT SHALL BE SUBMITTED TO THE ENGINEERING DIVISION WITHIN 60 DAYS OF CERTIFICATE OF OCCUPANCY. THE AS-BUILT SHALL BE SUBMITTED IN MYLAR AND ELECTRONIC ACAD FORMAT.

ENDORSEMENT NOTES

1. TREE SPECIES SPECIFIED HEREIN ARE SIMPLY RECOMMENDED SPECIES BY THE ENGINEER OF RECORD, HOWEVER, THE CONTRACTOR SHALL COORDINATE WITH THE TREE WARDEN TO DETERMINE THE ACTUAL TREE SPECIES TO BE PLANTED.
2. RESTITUTION TO BE PAID IN FULL PRIOR TO THE REMOVAL OF TOWN-OWNED TREES AS OUTLINED IN THE "PUBLIC SHADE TREE REMOVAL APPLICATION" WITH A DATE OF ACTION OF 5/27/2021 AND SIGNED BY THE TREE WARDEN.

PLANTING SCHEDULE

(X) PLANT IDENTIFICATION
PLANT QUANTITY

NOTES:
1. TREES SHALL HAVE A 2" CALIPER AT 42" FROM GROUND LEVEL AND HAVE A MINIMUM HEIGHT OF 12'.

PLANT ID	PLANT NAME	QUANTITY	ITEM	MATURE HEIGHT	MATURE WIDTH	IMAGE
A	ROBIN HILL SERVICEBERRY (AMELANCHIER x GRANDIFLORA 'ROBIN HILL')	5	6	15'-25'	12'-15'	
B	GOLDSPIRE GINKGO (GINKGO BILOBA "GOLDSPIRE")	6	15	15'	5'-6'	
*C	SUGAR MAPLE TREE (ACER SACCHARUM)	4	60	60'-75'	40'-50'	
D	HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM)	4	6	6'-12'	8'-12'	

* TREE SPECIES TO BE REPLANTED IN TOWN OWNED PROPERTY SHALL BE APPROVED BY THE TREE WARDEN.

CALL BEFORE YOU DIG
1-888-344-7233
MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY
REVISION 1	6/20/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:

MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

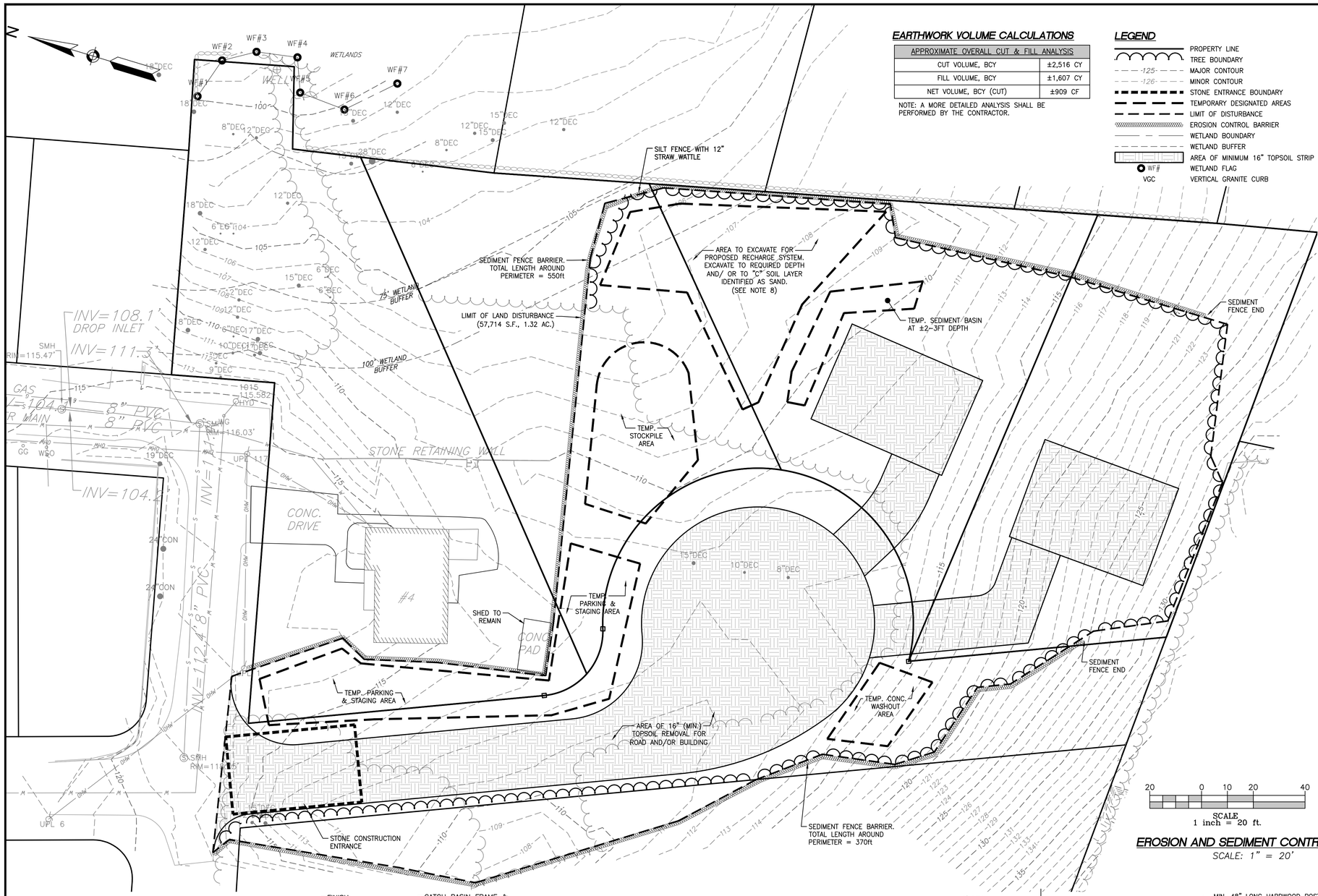
ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
PROFESSIONAL ENGINEER
6/20/23
JOB # 20160
G.F. 6/20/23

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
SITE AND TREE PRESERVATION

SHEET NUMBER:
C-2



EARTHWORK VOLUME CALCULATIONS

APPROXIMATE OVERALL CUT & FILL ANALYSIS	
CUT VOLUME, BCY	±2,516 CY
FILL VOLUME, BCY	±1,607 CY
NET VOLUME, BCY (CUT)	±909 CF

NOTE: A MORE DETAILED ANALYSIS SHALL BE PERFORMED BY THE CONTRACTOR.

LEGEND

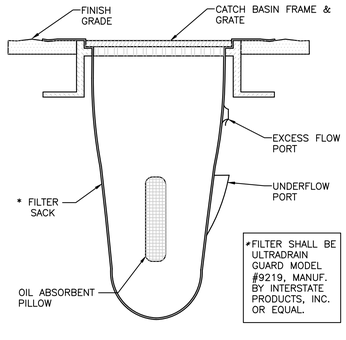
- PROPERTY LINE
- TREE BOUNDARY
- MAJOR CONTOUR
- MINOR CONTOUR
- STONE ENTRANCE BOUNDARY
- TEMPORARY DESIGNATED AREAS
- LIMIT OF DISTURBANCE
- EROSION CONTROL BARRIER
- WETLAND BOUNDARY
- WETLAND BUFFER
- AREA OF MINIMUM 16" TOPSOIL STRIP
- WF# WETLAND FLAG
- VGC VERTICAL GRANITE CURB

EROSION CONTROL NOTES

1. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS.
2. INSTALL SEDIMENTATION AND EROSION CONTROL MEASURES PRIOR TO CLEARING GRADING AND DEMOLITION WORK. MAINTAIN ALL SEDIMENT AND EROSION CONTROL, AND TREE PROTECTION MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
3. ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATIONS AT THE DIRECTION OF THE TOWN'S DPW ENGINEERING DEPARTMENT.
4. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE. CONTRACTOR SHALL MAINTAIN CONSTRUCTION ENTRANCE UNTIL SITE PAVING IS COMPLETE.
5. INLET PROTECTIONS SHALL BE INSTALLED ON ALL EXISTING CATCH BASINS AS INDICATED ON THE PLAN, AND IMMEDIATELY AFTER THE INSTALLATION OF ALL NEWLY INSTALLED INLETS.
6. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO THE ACCESSING ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED BY VEHICLE OFF-SITE ONTO THE ROADWAY OR INTO STORM DRAINS MUST BE REMOVED.
7. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
8. ADD EROSION BARRIER AROUND PERIMETER OF PROPOSED RECHARGE AREA IF THE EXCAVATED PIT WILL REMAIN EXPOSED FOR MORE THAN TWO (2) DAYS, WEATHER PERMITTING. THE EXCAVATED PIT SHALL BE CLEAN OF ALL SEDIMENT.
9. EROSION CONTROL DEVICES SHALL BE INSTALLED BEFORE GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
10. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UPSTREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVES HAVE BEEN PAVED.
11. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE IMPROVEMENTS ARE BEING MADE. TRAFFIC CONTROL MEASURES TO BE IN ACCORDANCE WITH LOCAL REGULATIONS AND OR MASSDOT.
12. ALL SILT BARRIERS MUST BE PLACED AS ACCESS IS OBTAINED DURING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION AND DETENTION FACILITIES, IF REQUIRED, ARE CONSTRUCTED.
13. CONTRACTOR SHALL PERFORM EROSION CONTROL INSPECTIONS REGULARLY AND IMMEDIATELY FOLLOWING HEAVY RAIN STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY. REPAIR OR REPLACE FAILED SYSTEMS AT THE EARLIEST POSSIBLE DATE.
14. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING.
15. ALL DISTURBED AREAS, WITH NO SPECIFIED GROUND COVER ARE TO BE RESTORED WITH MINIMUM FOUR (4) INCHES OF TOPSOIL AND SEEDING.
16. PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO ENSURE INTEGRITY. IF DISTURBED, THEY SHALL BE REPLACED BY A REGISTERED SURVEYOR AT THE CONTRACTOR'S EXPENSE.
17. ALL EXCAVATION SHALL INCLUDE CLEARING, STRIPPING AND STOCKPILING TOPSOIL, REMOVING UNSUITABLE MATERIALS, THE CONSTRUCTION OF EMBANKMENTS, CONSTRUCTION FILLS, AND THE FINAL SHAPING AND TRIMMING TO THE LINES AND GRADES SHOWN ON THE PLANS.
18. ALL TREES, BRUSH, AND ORGANIC TOPSOIL AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED, UNLESS OTHERWISE SPECIFIED, AND DISPOSED OF AT AN OFF-SITE LOCATION, WITH THE EXCEPTION THAT ENOUGH TOPSOIL SHALL BE RETAINED FOR RE-SPREAD AND GENERAL LANDSCAPING. AREAS WHICH ARE TO BE FILLED SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D1557, METHOD C) COMPACTION TEST IN THE PAVED AREAS AND 90% IN THE OTHER AREAS.
19. SWEEP CLEAN THE BINDER COURSE PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE. EXCESSIVE CLEANING OF THE BINDER COURSE THAT MAY BE REQUIRED, AND IS NOT THE FAULT OF THE PAVING CONTRACTOR, SHALL BE PAID FOR ON A TIME AND MATERIAL BASIS BY PRIOR AGREEMENT WITH THE GENERAL CONTRACTOR.
20. THE TOWN'S ENGINEERING DIVISION SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION TO MARK OUT TOWN UTILITIES.
21. ALL WATER, SEWER, CURB CUT, STREET OPENING AND JACKIE'S LAW EXCAVATION PERMITS SHALL BE OBTAINED AT THE ENGINEERING DIVISION PRIOR TO ANY EXCAVATIONS.
22. ALL SITE WORK SHALL BE INSPECTED BY THE ENGINEERING DIVISION. THE APPLICANT\OWNER'S CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE OF PROPOSED WORK. ALL INSPECTIONS SHALL BE SCHEDULED 48 HOURS IN ADVANCE

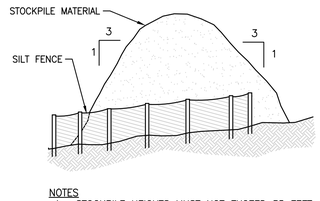
EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1" = 20'



CATCH BASIN INLET PROTECTION

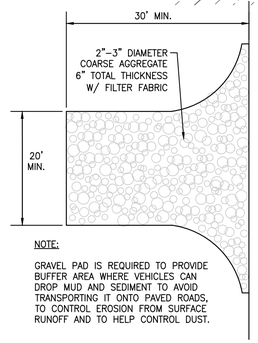
N.T.S.



NOTES
1. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET.
2. STOCKPILE SLOPES MUST BE 3:1 OR FLATTER.

STOCKPILE DETAIL

N.T.S.

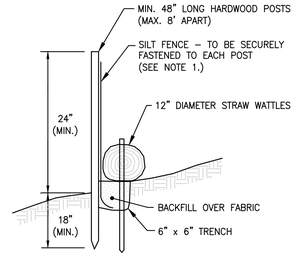


NOTE:

GRAVEL PAD IS REQUIRED TO PROVIDE BUFFER AREA WHERE VEHICLES CAN DROP MUD AND SEDIMENT TO AVOID TRANSPORTING IT ONTO PAVED ROADS, TO CONTROL EROSION FROM SURFACE RUNOFF AND TO HELP CONTROL DUST.

STONE CONSTRUCTION ENTRANCE

N.T.S.



NOTES:
1. WATTLES SHALL BE STAKED A MINIMUM OF 24 INCHES INTO THE GROUND WITH 2 INCHES OR LESS OF STAKE EXPOSED ABOVE WATTLE. STAKE SHALL BE A MAXIMUM OF 4 FEET APART AND WITHIN 2 FEET OF END OF WATTLE SECTIONS.

SILT FENCE/ STRAW WATTLE BARRIER

N.T.S.

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REVISION	DATE	BY
REVISION 1	6/20/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

APRIL 20, 2023

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

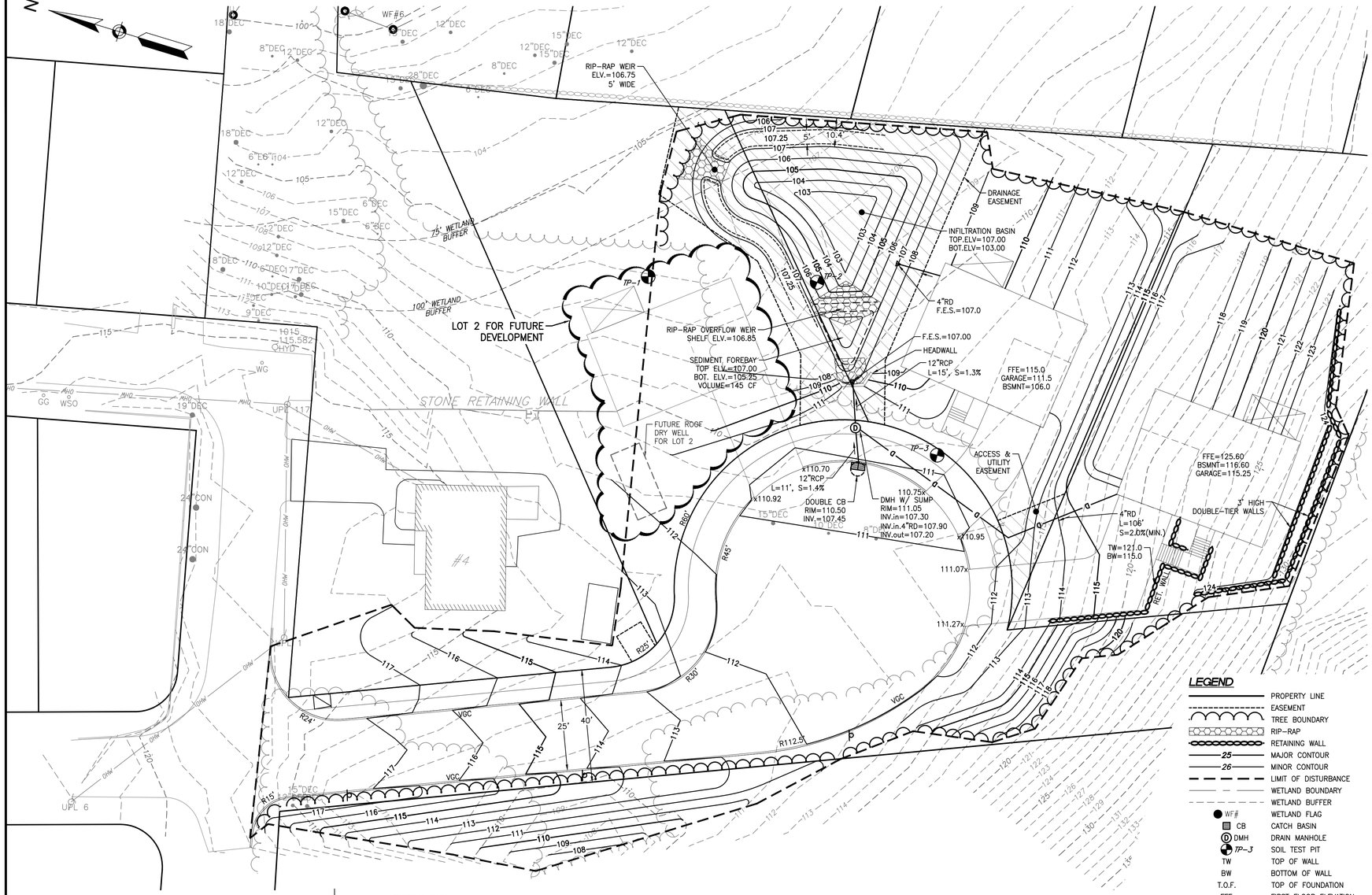
ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS GIOVANNI GAETANO FODERA No. 54884 REGISTERED PROFESSIONAL ENGINEER
6/20/23
JOB # 20160
G.F. 6/14/23

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
EROSION + SEDIMENT CONTROL PLAN

SHEET NUMBER:
C-3



GRADING AND DRAINAGE NOTES

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE TO THE TOWN'S LATEST CONSTRUCTION SPECIFICATIONS AND DETAILS.
2. GRADING IN THE RIGHT-OF-WAY SHALL IN ACCORDANCE WITH LOCAL REGULATIONS, UNLESS OTHERWISE APPROVED BY THE TOWN.
3. THE CONTRACTOR SHALL NOTIFY DIG SAFE AND THE TOWN A MINIMUM OF 72 HOURS PRIOR TO THE START OF ANY EXCAVATIONS.
4. INSTALL ALL APPROPRIATE TREE PROTECTION MEASURES PRIOR TO GRADING AND EXCAVTION.
5. EXACT LOCATIONS OF SAW-CUTTING MAY BE FIELD DETERMINED BASED ON EXISTING PAVEMENT CONDITIONS.
6. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, REFERENCE POINTS AND STAKES.
7. EROSION CONTROL MEASURES SHALL BE STABILIZED IN PLACE BEFORE BEGINNING SITE WORK. THESE MEASURES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
8. ALL INDICATED ELEVATIONS ARE FINISHED ELEVATIONS.
9. LOCATE AND PROTECT ALL UTILITIES ASSOCIATED WITH THE PROJECT PRIOR TO CONSTRUCTION.
10. ALL EXCAVATION SHALL INCLUDE CLEARING, STRIPPING AND STOCKPILING TOPSOIL, REMOVING UNSUITABLE MATERIALS, THE CONSTRUCTION OF EMBANKMENTS, CONSTRUCTION FILLS, AND THE FINAL SHAPING AND TRIMMING TO THE LINES AND GRADES SHOWN ON THE PLANS.
11. ALL TREES, BRUSH, AND ORGANIC TOPSOIL AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED, UNLESS OTHERWISE SPECIFIED, AND DISPOSED OF AT AN OFF-SITE LOCATION, WITH THE EXCEPTION THAT ENOUGH TOPSOIL SHALL BE RETAINED FOR RE-SPREAD AND GENERAL LANDSCAPING. AREAS WHICH ARE TO BE FILLED SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D1557, METHOD C) COMPACTION TEST IN THE PAVED AREAS AND 90% IN THE OTHER AREAS.
12. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE TO ALL INLETS AND CATCH BASINS. AREAS OF SURFACE PONDING SHALL BE CORRECTED BY CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
13. IF AREAS ARE DISTURBED BEYOND PROPOSED GRADES BY NEGLIGENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY REGRADING OR REPAIR TO MATCH ORIGINAL EXISTING CONDITIONS.
14. SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. SHORING SHALL BE IN ACCORDANCE WITH ALL O.S.H.A AND LOCAL REGULATIONS.
15. CONTRACTOR SHALL ADJUST GRADES BY VARYING THE PAVEMENT SECTIONS ACCORDINGLY. EXISTING COMPACTED SUBGRADE TO BE DISTURBED AS LITTLE AS POSSIBLE.
16. ALL PROPOSED SPOT ELEVATIONS SHOWN INDICATE FINISHED GRADED ELEVATIONS AT EDGE OF PAVEMENT AND/OR GRADE BREAKS, UNLESS OTHERWISE NOTED.
17. MAINTAIN PROPER SITE DRAINAGE AT ALL TIMES DURING THE COURSE OF CONSTRUCTION, AND PREVENT STORM WATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS.
18. SPREAD AND COMPACT UNIFORMLY TO THE DEGREE SPECIFIED ALL EXCESS TRENCH SPOIL AFTER COMPLETION OF THE UNDERGROUND IMPROVEMENTS (EARTHWORK CONTRACTOR SHALL MAKE APPROPRIATE ADJUSTMENTS IN ROUGH GRADING TO ACCOMMODATE TRENCH SPOIL).
19. PROVIDE WATER TO ADD TO DRY MATERIAL IN ORDER TO ADJUST THE MOISTURE CONTENT FOR THE PURPOSE OF ACHIEVING THE SPECIFIED COMPACTION.
20. UNSUITABLE MATERIAL SHALL BE CONSIDERED AS MATERIAL WHICH IS NOT SUITABLE FOR THE SUPPORT OF PAVEMENT AND BUILDING CONSTRUCTION, AND IS ENCOUNTERED BELOW NORMAL TOPSOIL DEPTHS AND THE PROPOSED SUB-GRADE ELEVATION. THE DECISION TO REMOVE SAID MATERIAL, AND TO WHAT EXTENT, SHALL BE MADE BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.
21. REPAIR ANY BASE COURSE AND BINDER COURSE FAILURES PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE.
22. SWEEP CLEAN THE BINDER COURSE PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE. EXCESSIVE CLEANING OF THE BINDER COURSE THAT MAY BE REQUIRED, AND IS NOT THE FAULT OF THE PAVING CONTRACTOR, SHALL BE PAID FOR ON A TIME AND MATERIAL BASIS BY PRIOR AGREEMENT WITH THE GENERAL CONTRACTOR.
23. CONFIRM INVERTS OF ALL EXISTING STORM INLETS AND SANITARY SEWER MANHOLES BEFORE COMMENCING CONSTRUCTION.
24. A GEOTEXTILE MATTING (LANDLOCK TRM 450 OR EQUIVALENT) SHALL BE USED FOR EROSION CONTROL AN ALL SLOPES GREATER THAN 3H:1V IF NECESSARY.
25. DRAINAGE STRUCTURES AND UNDERGROUND INFILTRATION FACILITIES SHALL BE INSPECTED SEMIANNUALLY TO ENSURE PROPER WORKING ORDER.
26. UNSUITABLE EXISTING SOILS, SILT, AND DEBRIS SHALL BE ADEQUATELY REMOVED FROM THE AREA OF THE PROPOSED INFILTRATION BASIN. REMOVE ALL ORGANICS.
27. IF THE CONTRACTOR IN THE COURSE OF WORK FINDS ANY DISCREPANCIES BETWEEN THE PLANS AND THE PHYSICAL CONDITIONS OF THE LOCALITY, OR ANY ERRORS OR OMISSIONS IN THE PLANS OR IN THE LAYOUT AS GIVEN BY THE ENGINEER, IT SHALL BE HIS DUTY TO IMMEDIATELY INFORM THE ENGINEER, IN WRITING AND THE ENGINEER WILL PROMPTLY VERIFY THE SAME. ANY WORK DONE AFTER SUCH A DISCOVERY, UNTIL AUTHORIZED, WILL BE AT THE CONTRACTOR'S RISK.
28. ANNUAL O&M REPORTS SHALL BE DELIVERED TO THE OFFICE OF THE TOWN ENGINEER BY JANUARY 15 OF EACH YEAR.
29. ANY RETAINING WALL OVER FOUR (4) FEET IN RETAINED HEIGHT SHALL REQUIRE AN ENGINEERED DESIGN FROM A DESIGN PROFESSIONAL.

LEGEND

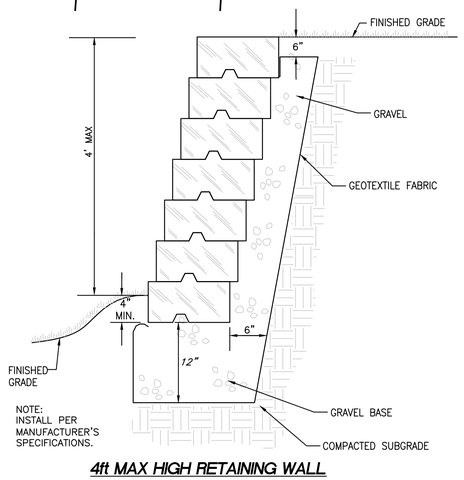
	PROPERTY LINE
	EASEMENT
	TREE BOUNDARY
	RIP-RAP
	RETAINING WALL
25	MAJOR CONTOUR
26	MINOR CONTOUR
	LIMIT OF DISTURBANCE
	WETLAND BOUNDARY
	WETLAND BUFFER
WF#	WETLAND FLAG
CB	CATCH BASIN
DMH	DRAIN MANHOLE
TP-3	SOIL TEST PIT
TW	TOP OF WALL
BW	BOTTOM OF WALL
T.O.F.	TOP OF FOUNDATION
FFE	FIRST FLOOR ELEVATION
RIM	RIM ELEVATION
INV	INVERT ELEVATION
O.O.S.	OVERFLOW OUTLET STRUCTURE
F.E.S.	FLARED END SECTION

GRADING AND DRAINAGE PLAN

SCALE: 1" = 20'

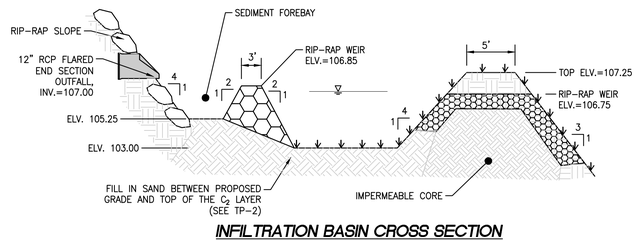
20 0 10 20 40

SCALE
1 inch = 20 ft.



4ft MAX HIGH RETAINING WALL

N.T.S.



INFILTRATION BASIN CROSS SECTION

N.T.S.

SOIL TEST RESULTS

TEST DATE: 7/6/2020
WEATHER: 65°F, SUNNY/ DRY
SOIL EVALUATOR: ARMAND PORRAZZO
LICENCE #: 1958

TP-1

ELV.	DPT.	Soil Data
106	0"-	
105	9"-	A_p (0"-9") Sandy Loam 10YR 3/2
104	24"-	B (9"-24") Sandy Loam 10YR 7/6
103		
102		
101		
100		C (24"-108") Loamy Sand 2.5Y 4/3
99		
98		
97	108"-	
96		

NO REFUSAL
NO WEEPING
REDOX @ 60"
ESHWT = 101.0

TP-2

ELV.	DPT.	Soil Data
108	0"	
107	12"-	A (0"-12") Sandy Loam 10YR 3/2
106		
105	36"-	B_w (12"-36") Sandy Loam 10YR 7/6
104		
103		C_1 (36"-80") Loamy Sand 2.5Y 5/2
102		
101	80"-	
100		C_2 (80"-120") Sand Gravel 2.5Y 4/3
99		
98	120"-	

NO REFUSAL
NO WEEPING
NO REDOX

TP-3

ELV.	DPT.	Soil Data
112	0"-	
111	8"-	A (0"-8") Sandy Loam 10YR 3/2
110	27"-	B_w (8"-27") Sandy Loam 10YR 7/6
109		
108		C (27"-66") Loamy Sand 2.5Y 5/2
107		
106	66"-	
105		
104		
103		

NO REFUSAL
NO WEEPING
NO REDOX

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MASSACHUSETTS ONE CALL SYSTEM

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REVISION 1	6/20/23	GGF

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READING, MA 01867
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MAP 27, LOT 404

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

APRIL 20, 2023

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

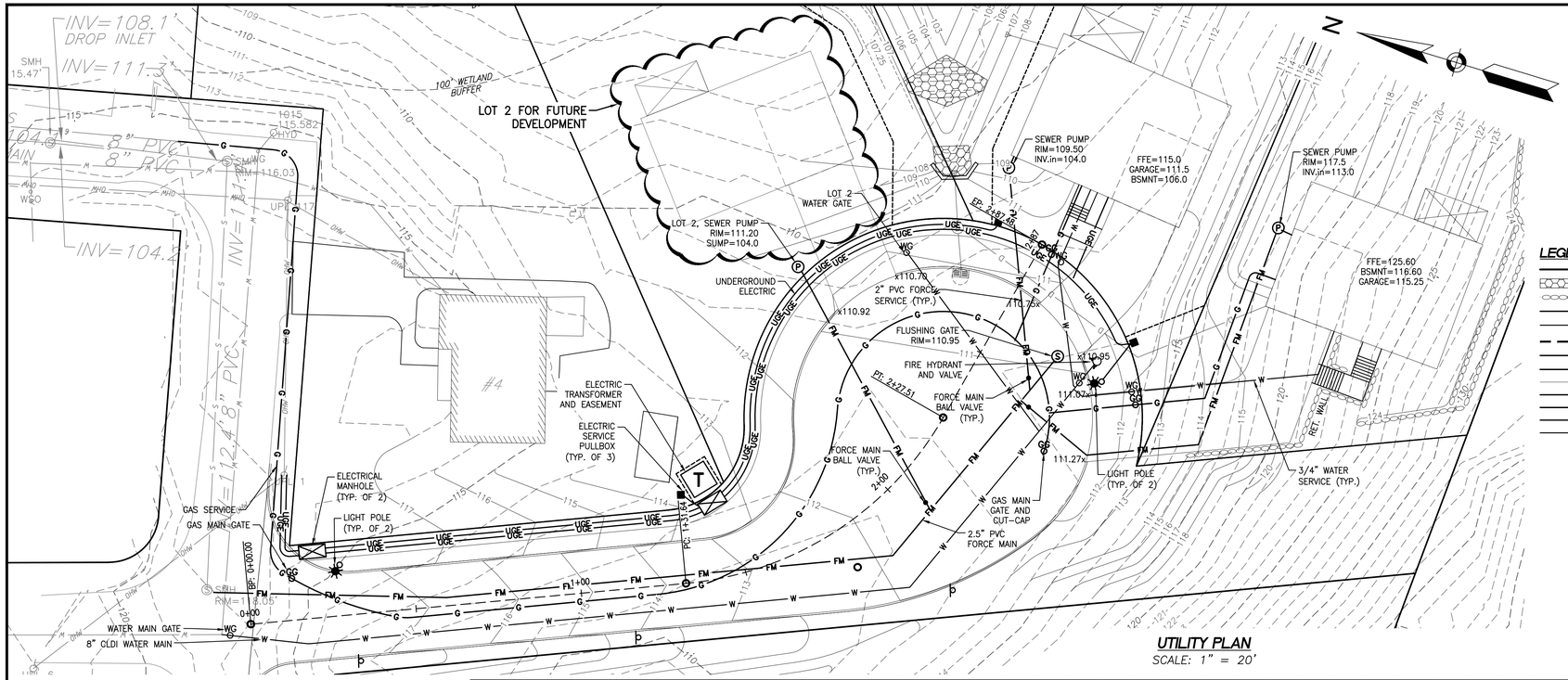
ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER
6/20/23
JOB # 20160
G.F. 6/20/23

SURVEYOR:
PFS Land Surveying, Inc.
20 Baleh Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
GRADING AND DRAINAGE PLAN

SHEET NUMBER:
C-4



UTILITY PLAN

SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- RIP-RAP
- RETAINING WALL
- 125 MAJOR CONTOUR
- 126 MINOR CONTOUR
- LIMIT OF DISTURBANCE
- D STORM DRAIN LINE
- G GAS LINE
- OHW OVERHEAD UTILITY WIRE LINE
- S SANITARY SEWER UTILITY LINE
- FM SEWER FORCE MAIN
- UGE UNDERGROUND ELECTRIC LINE
- W WATER UTILITY LINE
- CB CATCH BASIN
- DMH DRAIN MANHOLE
- SEWER PUMP
- SEWER FLUSHING GATE
- FORCE MAIN BALL VALVE
- GAS VALVE
- WATER VALVE
- FIRE HYDRANT
- RIM RIM ELEVATION
- INV INVERT ELEVATION
- STREET LIGHT
- T ELECTRIC TRANSFORMER & EASEMENT
- ELECTRIC SERVICE PULLBOX
- ELECTRIC MANHOLE

SEWAGE CALCULATIONS

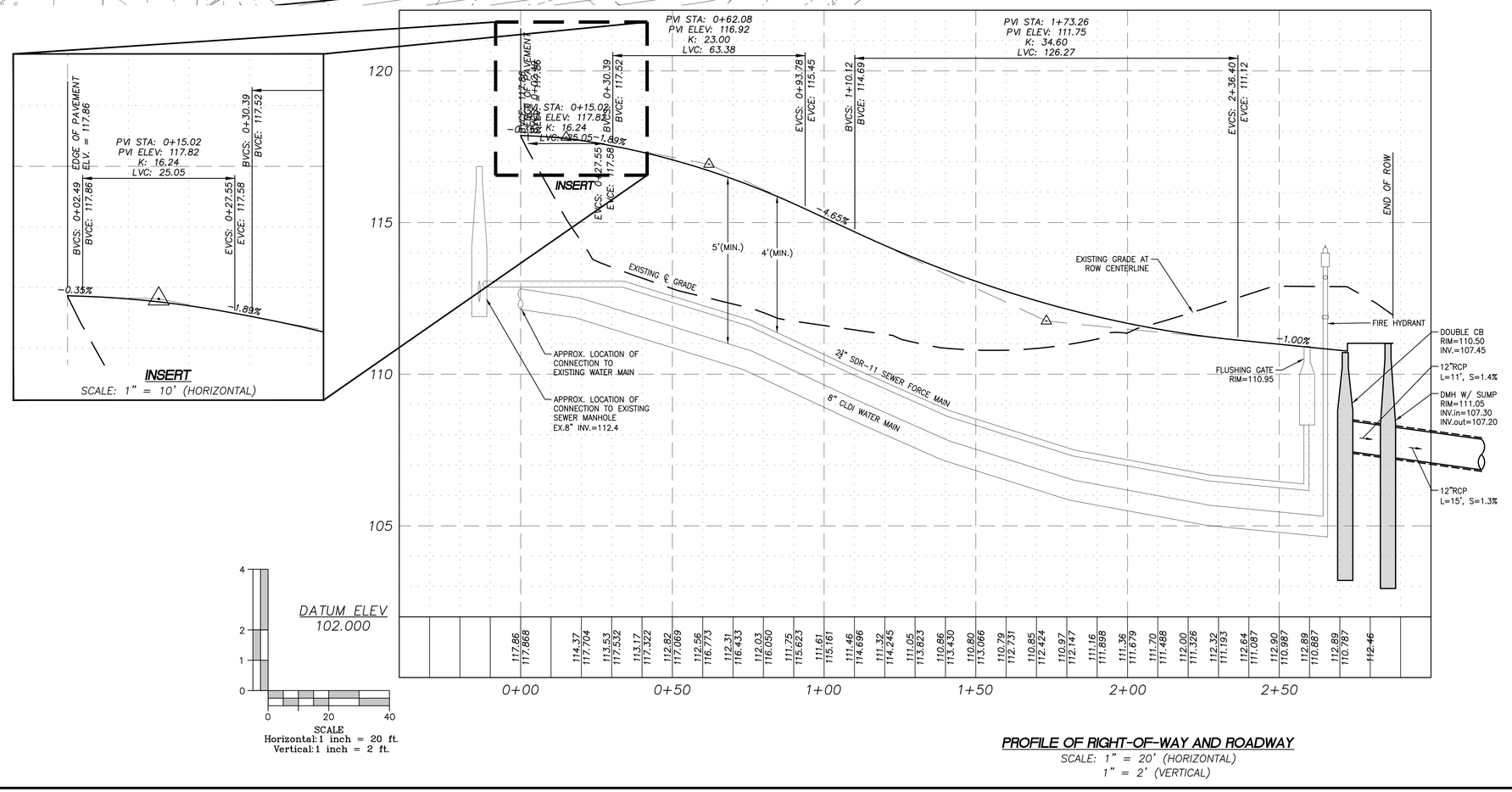
ASSUMPTIONS MADE FOR EACH PROPOSED HOUSE TO CONTAIN FOUR (4) BEDROOMS. CALCULATIONS BELOW ARE IN ACCORDANCE TO 310 CMR 15.00.

3 NEW HOUSES * 4 BEDROOMS PER HOUSE = 12 BEDROOMS ADDED

12 BEDROOMS * 110 GAL/DAY = 1,320 GAL/DAY OF ADDED SEWAGE

UTILITY NOTES

1. CONTRACTOR IS TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND ENSURE NO CONFLICTS EXIST WITH PROPOSED IMPROVEMENTS. NOTIFY ENGINEER IMMEDIATELY IF UTILITIES ARE LOCATED DIFFERENTLY THAN SHOWN. THE CONTRACTOR SHALL COORDINATE WITH EACH RESPECTIVE UTILITY COMPANY IN ORDER TO RELOCATE IF NEEDED IN CONFORMANCE WITH THEIR GUIDELINES.
2. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO THE REMOVAL OF INDICATED UTILITIES ON SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS REQUIRED FOR DEMOLITION AND HAUL OFF FROM THE APPROPRIATE AUTHORITIES.
3. THE DEPARTMENT OF PUBLIC WORKS OR APPLICABLE GOVERNING DEPARTMENT MUST AUTHORIZE AND PERMIT TO CONSTRUCT, ALTER OR MODIFY A WATER OR SEWER LINE.
4. AT THE COMPLETION OF THE WATER AND/OR SEWER CONSTRUCTION AND PRIOR TO RECORDING THE FINAL PLAT, THE CONTRACTOR WILL FURNISH THE WATER SYSTEM INSPECTOR RECORD DRAWINGS OF THE PROJECT.
5. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE GAS COMPANY FOR THE CONSTRUCTION OF THE GAS LINE BETWEEN METER AND MAIN.
6. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE POWER COMPANY FOR THE CONSTRUCTION OF ELECTRICAL CONDUIT TO PROVIDE SERVICE AND IF A TRANSFORMER IS REQUIRED TO BE INSTALLED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING, PRIOR TO CONSTRUCTION, ALL EXISTING LOCATIONS AND INVERT ELEVATIONS OF SANITARY SEWERS, STORM DRAINAGE, AND WATER MAINS. IF ANY INVERT ELEVATION VARIES MORE THAN 0.1 FT. FROM RECORD ELEVATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. WORK SHALL NOT PROCEED UNTIL THE CONTRACTOR IS NOTIFIED BY THE ENGINEER.
8. CONNECT TO EXISTING UTILITIES AND INSTALL UTILITIES IN COMPLIANCE WITH REQUIREMENTS OF APPROPRIATE JURISDICTIONAL AGENCIES.
9. COORDINATE WITH BUILDING PLANS TO ASSURE ACCURACY OF UTILITY CONNECTIONS AND COMPLIANCE WITH LOCAL CODES.
10. ALL SEWERS TO BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING CLEANING OF ANY SILT OR DEBRIS ACCUMULATED IN STRUCTURES.
11. ALL SURPLUS EXCAVATED MATERIAL FROM THE TRENCH SHALL BE DISPOSED OFF THE SITE BY CONTRACTOR.
12. TRENCHING SHOULD BE CONDUCTED IN ACCORDANCE WITH ALL OSHA REGULATIONS.
13. COORDINATE EXACT TRENCHING, ROUTING, AND POINT OF TERMINATION WITH ALL UTILITY COMPANIES.
14. BACKFILL MATERIAL SHALL BE SUITABLE MATERIAL IN COMPLIANCE WITH THE TOWN OF DANVERS AND/OR THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT).
15. WATER MAIN SHALL HAVE A MINIMUM COVER OF FIVE (5) FEET.
16. THE SANITARY SEWER AND POTABLE WATER LINES ARE TO BE SEPARATED BY AT LEAST 10 FEET HORIZONTALLY, OR THE POTABLE WATER LINE SHALL BE AT LEAST 18 INCHES VERTICALLY ABOVE THE SANITARY SEWER.
17. CONTRACTOR TO RECONFIGURE PROPOSED ELECTRIC/TELEPHONE/CABLE CONDUITS AS NECESSARY TO AVOID CONFLICT WITH TREES/LANDSCAPING.
18. THRUST BLOCKS TO BE PLACED AT ALL BEND LOCATIONS WITHIN THE POTABLE WATER LINES. SEE DETAIL SHEETS.
19. ALL UTILITIES SHALL BE APPROVED MATERIALS AND INSTALLED IN ACCORDANCE WITH THE DEPARTMENT OF PUBLIC WORKS STANDARDS.
20. THE TOWN'S ENGINEERING DIVISION SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION TO MARK OUT TOWN UTILITIES.



INSERT

SCALE: 1" = 10' (HORIZONTAL)

PROFILE OF RIGHT-OF-WAY AND ROADWAY

SCALE: 1" = 20' (HORIZONTAL)
1" = 2' (VERTICAL)

UTILITY AND ROADWAY PROFILE PLAN

SCALE: 1" = 20' (HORIZONTAL)

CALL BEFORE YOU DIG
1-888-344-7233
MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY
REVISION 1	6/20/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

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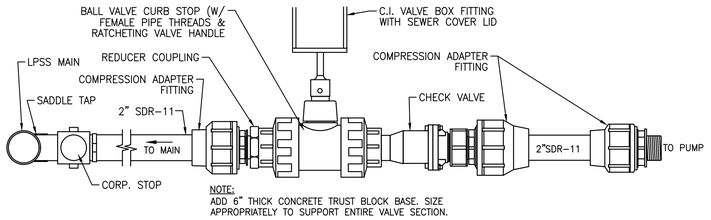
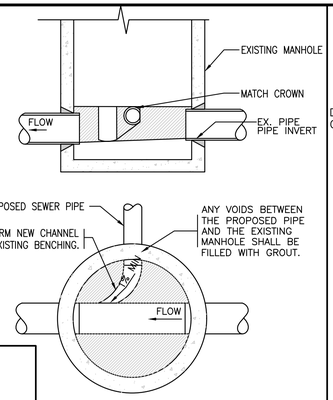
UTILITY + ROADWAY PROFILE PLAN

SHEET NUMBER:
C-5



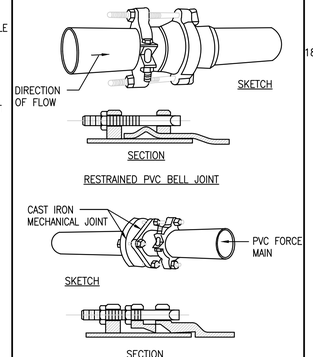
LOW PRESSURE SEWER SERVICE LATERAL VALVE AND CONNECTION

N.T.S.



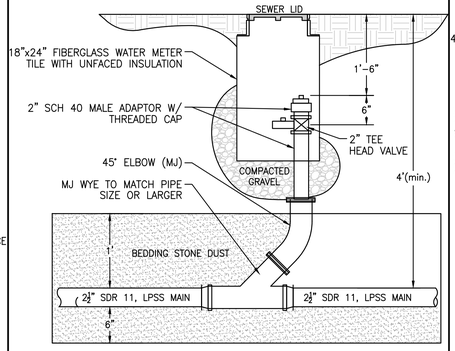
CONNECTION TO EXISTING SEWER MANHOLE

N.T.S.



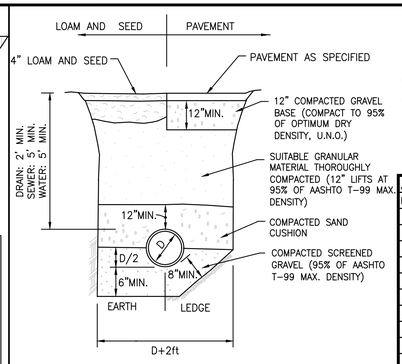
RESTRAINED MECHANICAL JOINT FITTING

N.T.S.



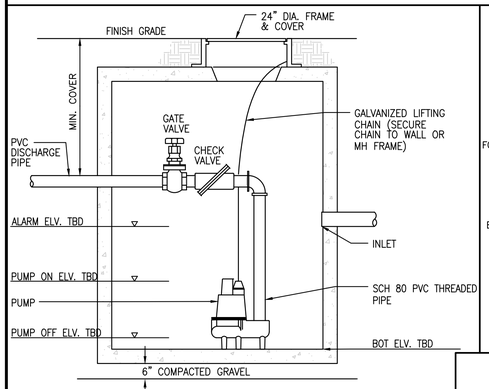
SEWER FORCE MAIN FLUSHING CONNECTION

N.T.S.



DRAIN/ SEWER/ WATER TRENCH AND BACKFILL DETAIL

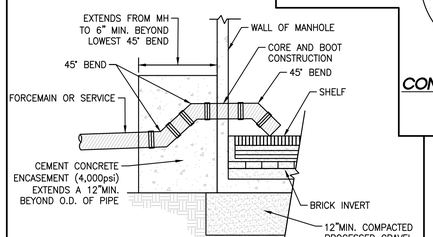
N.T.S.



NOTE:
SEWER PUMP DESIGNS FOR ASSOCIATED LOTS SHALL BE SUBMITTED TO THE ENGINEERING DIVISION FOR REVIEW AND APPROVAL UPON OR BEFORE THE SUBMISSION OF THE APPLICATION FOR THE SEWER PERMIT OF EACH LOT.

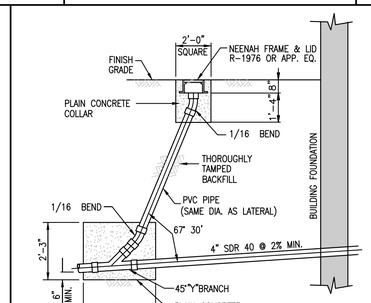
PUMP CHAMBER

N.T.S.



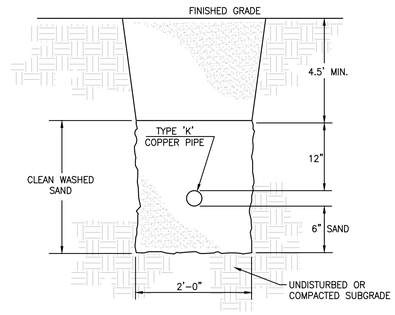
FORCE MAIN CONNECTION TO SEWER MANHOLE

NTS



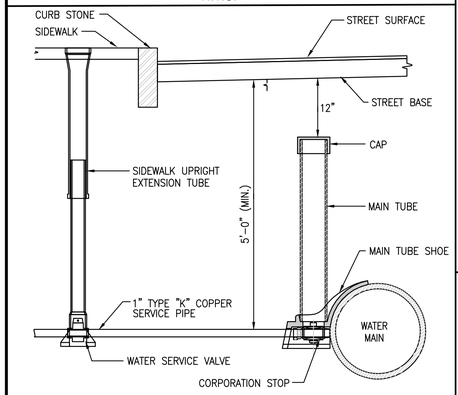
SEWER SERVICE AT BUILDING W/ CLEANOUT

N.T.S.



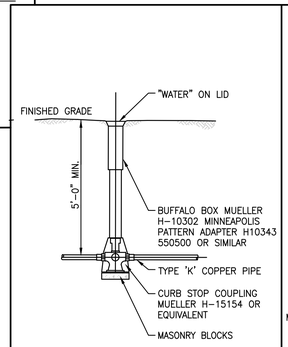
COPPER WATER SERVICE PIPE TRENCH

N.T.S.



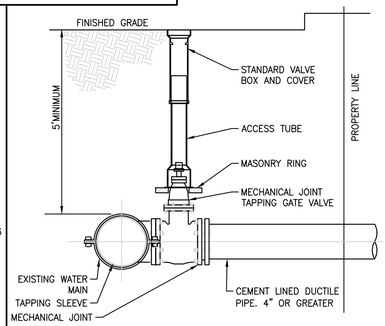
TYPICAL WATER SERVICE CONNECTION

N.T.S.



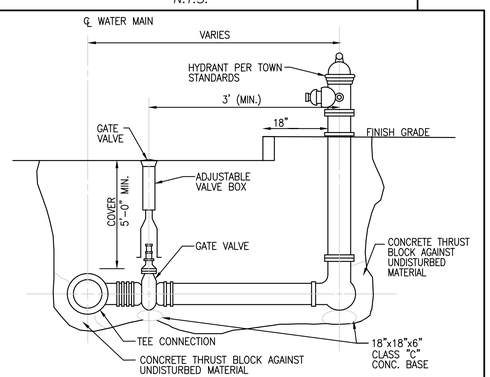
WATER SERVICE VALVE

N.T.S.



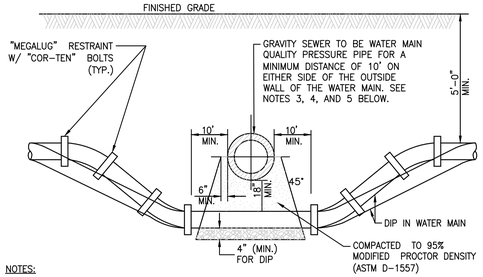
WATER CONNECTION WITH TAPPING SLEEVE AND VALVE

N.T.S.



PROPOSED FIRE HYDRANT

N.T.S.

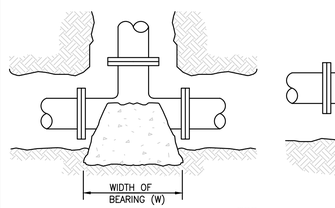


NOTES:

1. HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATERMAINS AND SEWERS SHALL COMPLY WITH APPLICABLE SECTIONS OF LOCAL OR STATE REQUIREMENTS, WHICHEVER IS MORE STRINGENT.
2. CONTRACTOR MAY BEND WATER MAIN PIPE UNIFORMLY UNDER SEWERS WITHOUT USING FITTINGS, PROVIDED THAT JOINT DEFLECTION DOES NOT EXCEED 5 DEGREES PER JOINT FOR PIPE UNDER 14" IN DIAMETER AND 3 DEGREES PER JOINT FOR PIPE 14" AND OVER IN DIAMETER. IF FITTINGS ARE USED, CONTINUOUS STRAPPING WITH RODS, STRAPS, NUTS AND BOLTS BELOW NORMAL WATERMAIN DEPTH ARE REQUIRED, OR RETAINER GLANDS MAY BE USED IN LIEU OF STRAPPING. RETAINER GLANDS TO BE CLOW No. F-1058 OR APPROVED EQUAL.
3. ALL SANITARY SEWER (INCLUDING SERVICE) CROSSINGS WHERE THE WATER MAINS OR WATER SERVICES ARE LESS THAN 18" VERTICALLY ABOVE THE SEWER SHALL BE POLYVINYL CHLORIDE PRESSURE PIPE (SDR 26-160 PSI) AND SHALL CONFORM WITH THE LATEST REVISION OF ASTM D- 2241, JOINTS SHALL CONFORM TO ASTM D-3139 AND ELASTOMERIC GASKETS SHALL CONFORM TO ASTM F-477. THE SAME PIPE AND JOINT MATERIALS SHALL BE USED WHENEVER WATER MAIN CROSSES BELOW THE SEWER.
4. ALL STORM SEWER (INCLUDING SERVICE) CROSSINGS WHERE THE WATER MAINS ARE LESS THAN 18" VERTICALLY ABOVE THE SEWER SHALL BE REINFORCED CONCRETE PIPE, ASTM C-361, CLASS D-25,WITH BELL AND SPIGOT JOINTS AND RUBBER GASKETS, OR PVC SDR 26 AS SPECIFIED IN NOTE 3 ABOVE. THE SAME PIPE AND JOINT MATERIAL SHALL BE USED WHENEVER WATER MAIN CROSSES BELOW THE SEWER.
5. FOR NEW SEWER INSTALLATIONS CROSSING OVER WATER MAINS, THE ENTIRE RUN OF NEW SEWER SHALL BE WATER MAIN QUALITY PIPE, EXTENDING FROM STRUCTURE TO STRUCTURE ON EACH SIDE OF THE CROSSING.

WATER MAIN CROSSING

N.T.S.

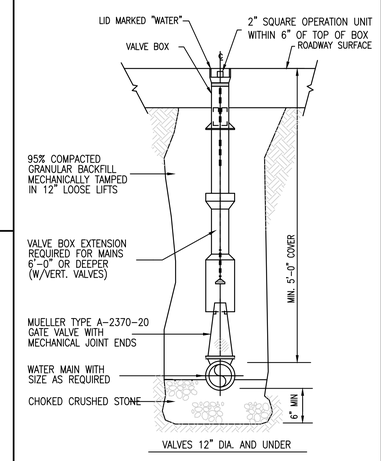


MINIMUM THRUST BLOCK AREA REQUIRED (Y x W)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° & 22½° BENDS
4" OR LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET

NOTES
1. THRUST BLOCKS TO EXTEND TO UNDISTURBED GROUND.
2. ALL CONCRETE SHALL BE CLASS B.
3. TABLE IS BASED ON 3000 LB./SQ. FT. SOIL. IF SOIL CONDITIONS ARE FOUND TO INDICATE SOIL BEARING LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
4. AREAS FOR PIPES GREATER THAN 16" SHALL BE CALCULATED FOR EACH PROJECT.
5. FOR ALL NON BEARING VERTICAL SURFACES.

TRUST BLOCKS FOR WATER SYSTEM

N.T.S.



UNDERGROUND GATE VALVE

N.T.S.

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LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

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GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
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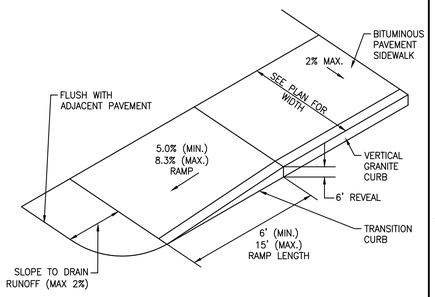
JOB NO.: 20160-149

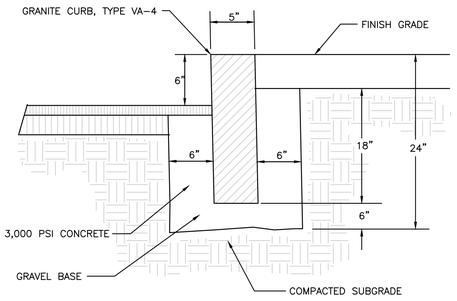
SHEET TITLE:
DETAILS
SHEET 1

SHEET NUMBER:
C-6



ADA ACCESSIBLE SIDEWALK RAMP

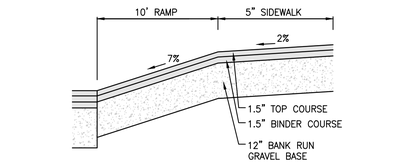
N.T.S.



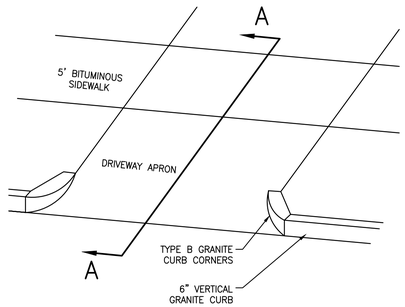
NOTE:
INSTALL GRANITE CURB INLET AT EACH CATCH BASIN LOCATION

VERTICAL GRANITE CURB

N.T.S.

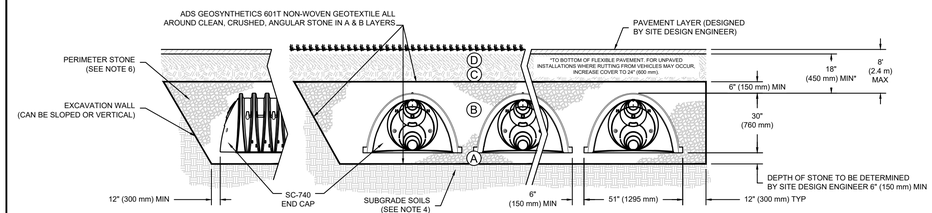


SECTION A–A



TYPICAL DRIVEWAY APRON

N.T.S.



SECTION
NTS

NOTES:

1. SC–740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

Ⓐ DOUBLE WASHED $\frac{3}{4}$"–$1\frac{1}{2}$" STONE
Ⓑ DOUBLE WASHED $\frac{3}{4}$"–$1\frac{1}{2}$" STONE
Ⓒ CLEAN GRANULAR FILL MATERIAL
Ⓓ 4"–6" TOPSOIL (LAWN AREA) OR 12" COMPACTED GRAVEL BASE (PAVEMENT AREA)

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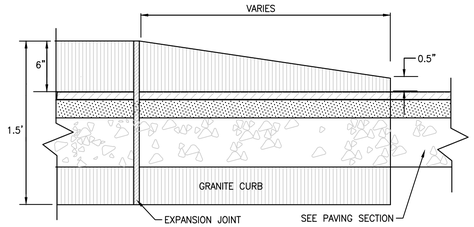
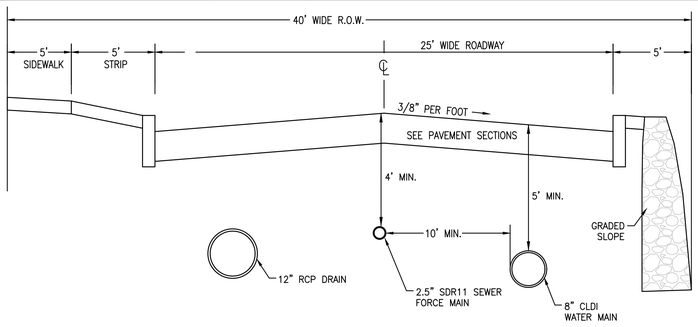


TRANSITION CURB DETAIL

N.T.S.

NOT USED



TYPICAL ROADWAY CROSS SECTION

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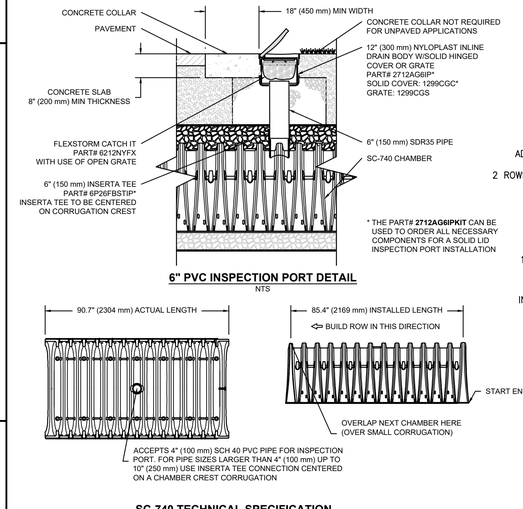
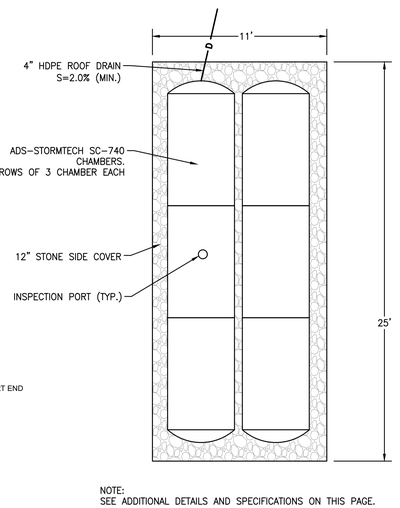


6" PVC INSPECTION PORT DETAIL
NTS

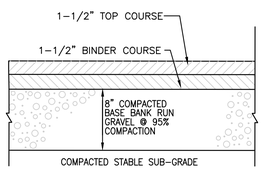
SC-740 TECHNICAL SPECIFICATION
NTS



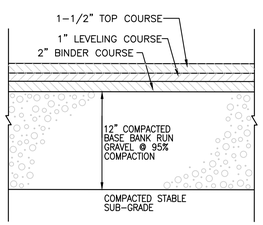
NOTE:
SEE ADDITIONAL DETAILS AND SPECIFICATIONS ON THIS PAGE.

ROOF DRY WELL DETAIL
(FOR FUTURE INSTALL AT LOT 2)

N.T.S.



SIDEWALK SECTION

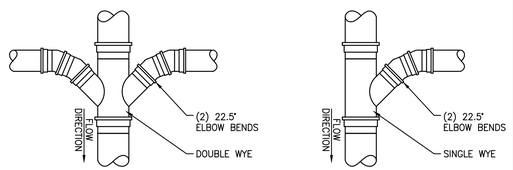


ROADWAY SECTION

NOTE:
COMPACTED FILL SUBSURFACE BACKFILL SHALL MEET SPECIFICATIONS SET FORTH BY THE ENGINEERING DEPARTMENT AND/OR MASSDOT SPECIFICATIONS.

BITUMINOUS PAVEMENT SECTION

N.T.S.

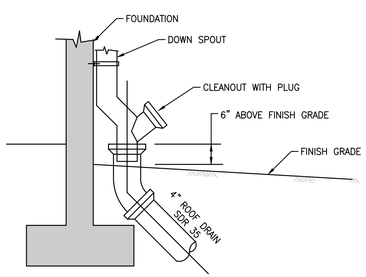


MANIFOLD PLAN VIEW

'WYE' CONNECTION PLAN VIEW

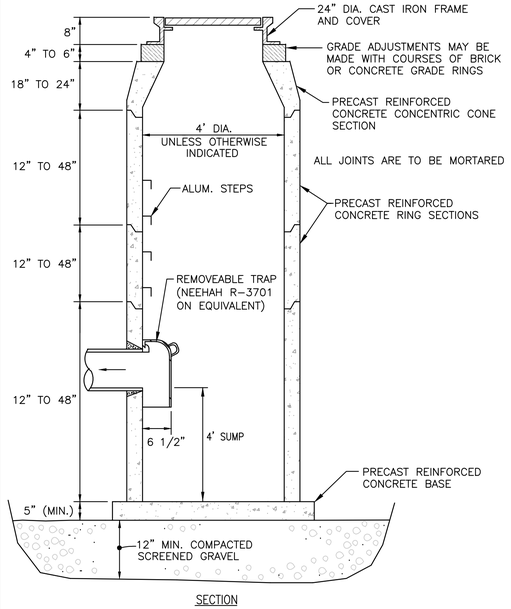
MANIFOLD AND WYE CONNECTIONS

N.T.S.



TYPICAL DOWNSPOUT LEADER

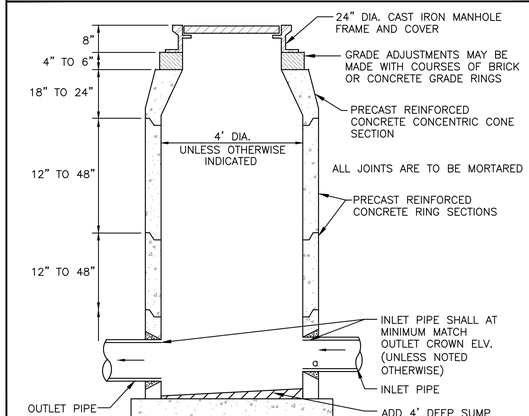
N.T.S.



SECTION

TYPICAL CATCH BASIN

N.T.S.



SECTION

TYPICAL DRAIN MANHOLE

N.T.S.

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION

DATE: _____

FOR REGISTRY USE ONLY

ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
DETAILS
SHEET 2

SHEET NUMBER:
C-7

FODERA
ENGINEERING
28 Harbor Street, Suite 204
Danvers, MA 01923
Office: (617) 992-8492
contact@foderaengineering.com

June 20, 2023

To: Mary Benedetto, Senior Planner
Reading Town Hall
16 Lowell Street, Town Hall
Reading, MA 01867

RE: DEFINITIVE SUBDIVISION – GRANDVIEW ROAD EXTENSION
REVISION COMMENTS
GRANDVIEW ROAD EXTENSION
READING, MA 01867

To Ms. Benedetto,

We have reviewed the comments provided by the CPDC and Engineering Division in regards to the the Major Modification of a Definitive Subdivision known as Grandview Road. Comments and associated responses by Fodera Engineering (FE) follows:

Email from Mary Benedetto on 5/17/2023

CPDC had the following asks:

- A response to the Engineering memo, both written comments and plan changes alike. Please reference/detail any plan changes within the memo.
  FE Response: No comment.

- The plan revised to directly address the following:
  - Addition of a treatment forebay to the drainage design
    FE Response: Sediment forebay added.

  - Lot 4 drainage pipe design so as to not discharge into Lot 3 or the proposed sidewalk.
    FE Response: Roof runoff pipe from Lot 4 has been revised to enter directly into the drain manhole rather than daylighting to the sidewalk.

  - Rip-rap design location being so near to the property line and ensure DEP requirements are met. Please provide further explanation on all overflow discharging to this area.
    FE Response: The rip-rap outfall has been removed along with this point of discharge. Previously, the point of discharge was added to control peak rate of runoff and have it reduced compared to existing conditions. Although having the point of discharge and rip-rap outfall was satisfactory with it in place, we further determined that it was not needed in this case. The detention pond's overflow weir is satisfactory alone. Peak

rates of runoff are reduced in the post-construction conditions. Peak rates of runoff in cubic-feet per second (cfs) directed to the northeast (Reach 1) are as follows:

	Pre	***Post***
2-Year	***0.24***	***0.01***
10-Year	***1.40***	***0.32***
25-Year	***2.38***	***2.05***

- The drainage design and calculations should include the future home on Lot 2
  FE Response: Drainage design includes the future driveway and walkways of lot 2. It does not include roof runoff, which will need its own separate dry-well system as outlined on the plan set.

- Please provide further TSS/Phosphorus calculations
  FE Response: Provided herewith. TSS pre-treatment removal is 44%. TSS treatment removal is 89%. Phosphorous removal is almost 84%.

- Can the lot lines of Lot 1 and Lot 2 be modified to remove the need for an easement to keep the shed?
  FE Response: Property lines have been adjusted and the shed is now fully within the limits of Lot 1.

- Provide more information or detail on the Lot 4 retaining wall. Is an easement required to ensure adequate build? If so, please provide a draft and likely a condition will be placed to receive a copy of the executed easement prior to permitting.
  FE Response: We revised the retaining wall from a 6' high wall to two (2) tiered 3' high walls. A 3' high wall will not need structural design nor would it require extending into the abutting property.

- Further justification for the proposed waiver or a revision to the design for further clearance
  FE Response: We revised the plans to omit the need for a waiver on drainage pipe cover. Section 7.4.4.3e states that storm drain pipes shall have a minimum of four (4) feet of cover in paved or other vehicular roads and a minimum of three (3) feet of cover in easements. The drain pipe is located at the end of the cul-de-sac that is directed to the sediment forebay. There is no section of pipe that falls under a "paved or other vehicular roads" area. The section of pipe within the drainage easement has three (3) feet of cover with the addition of a headwall at the pipe outlet into the sediment forebay.

- The design and calculations meet the stormwater permit requirements.
  FE Response: No comment.

Memorandum from Engineering Division, Alex Rozycki P.E., dated April 27, 2023

- Previous plans for the southernmost home included roof drainage tied into the infiltration system, there are concerns that the adjacent property will now receive stormwater flows given the grades. The stormwater report indicates all impervious areas will be captured, does that include hardscapes on the lots? The previous plan captured impervious areas on individual lots.
  FE Response: Roof runoff from the southernmost house will now be tied directly into the drainage conveyance system and detention pond.

- The infiltration chamber design under the endorsed plans will allow for more land use in the backyard areas, the proposed detention pond design eliminates the use of land.
  FE Response: A detention pond is a common and accepted method for managing stormwater. There are still backyard areas provided to each new dwelling.

- Engineering sees no reason to support the waiver allowing less cover on utilities, there appears to be no benefit to support such a waiver.
  FE Response: The site has been redesigned to omit the need for a waiver from Section 7.4.4.3e of the subdivision rules and regulations.

- The Engineering Department does not approve of gas lines or electrical services, those shall be coordinated and approved by others.
  FE Response: Gas and electric utilities will be coordinated with the respective utility companies/ departments.

- There are many instances of utilities crossing, we are particularly concerned with the crossing of water and sewer. Crossings should be limited, and invert elevations of the services may be requested to ensure proper separation.
  FE Response: We limited crossings of utilities but it is inevitable that crossings will occur. There is a "Water Main Crossing" detail on sheet C-6.

- Inverts of the existing sewer manhole should be provided, as well as a detail for the force main connection.
  FE Response: Invert of the existing sewer manhole was provided by the surveyor and is INV=112.4. Details associated with the force main are on sheet C-6.

- MaDEP regulations may not allow for discharge of water or overflow rip-rap within 10 feet of a property line.
  FE Response: The overflow rip-rap has been removed as determined was unnecessary.

- NPDES MS4 permit requirements shall be met for TSS removal and Phosphorous reduction. The supporting calculations should be provided and reviewed by Engineering. The project will also require a Storm Water Pollution Prevention Plan as well as an O&M plan for the proposed detention basin.

FE Response: TSS removal and Phosphorous reduction is provided herewith. A Storm Water Pollution Prevention Plan (SWPPP) will be provided prior to construction. An O&M plan is outlined in the Stormwater Management Report dated March 10, 2023.

- A Sewer Connection I/I fee is required.
  FE Response: That will be paid for prior to construction.

- The driveway curb cuts shall meet Town of Reading standard cross sections. The proposed elevations are unclear in these areas, all driveways will be approved individually.
  FE Response: Proposed spot grade elevations at driveway curb cuts are shown on sheet C-4. A detail labeled "Typical Driveway Apron" is provided on sheet C-7.

- All utilities shall be approved materials and installed in accordance with the Department of Public Works Standards.
  FE Response: All utilities proposed are in accordance with the Department of Public Works Standards.

- Engineering Division shall be notified 72 hours in advance to mark out Town utilities.
  FE Response: This will be completed.

- All water, sewer, curb cut, street opening and Jackie's Law excavation permits shall be obtained at the Engineering Division prior to any excavations.
  FE Response: This will be completed.

- All site work shall be inspected by the Engineering Division. The Applicant/Owner's contractor shall submit a construction schedule of proposed work. All inspections shall be scheduled 48 hours in advance.
  FE Response: This will be submitted.

- An approved site as-built shall be submitted to the Engineering Division within 60 days of certificate of occupancy. The as-built shall be submitted in mylar and electronic ACAD format.
  FE Response: This will be submitted.

Please accept this memorandum as a summary of responses and do not hesitate to call or email me shall you have any questions, comments, or concerns.

Giovanni G. Fodera, P.E.
Principal Engineer
FODERA Engineering
28 Harbor St., Suite 204
Danvers, MA 01923

FODERA ENGINEERING

Project: *4-Lot Subdivision*
Address *4 Cold Spring Road*
Calculated By: *Giovanni G. Fodera, P.E.*
Date: *6/20/2023*

Standard 4 in the Massachusetts Stormwater Handbook, completed in accordance with 310 CMR 10.00 and 314 CMR 9.00

WATER QUALITY CALCULATIONS, TSS REMOVAL

Runoff from impervious surfaces flow overland and gather solids as the stormwater is directed into conveyance systems, and can have adverse effects to water pollution. Standard 4 was implemented for stormwater management systems to be designed to remove 80% of the average annual post-development load of Total Suspended Solids (TSS). Runoff volume requiring appropriate TSS treatment is known as the required water quality volume.

Treatment Train 1:

1. **Catch Basin with Deep Sump & Hood**
2. **Manhole with Deep Sump & Hood**
3. **Infiltration Basin with Sediment Forebay**

	B	C	D	E	F
Pretreatment BMP	TSS Removal Rate	Starting TSS Load	Amount Removed (BxC)	Remaining Load (C-D)	TSS Removal Rate
Deep Sump and Hooded Catch Basin	**0.25**	**1.00**	**0.25**	**0.75**	**25%**
Deep Sump and Hooded Catch Basin	**0.25**	**0.75**	**0.19**	**0.56**	**44%**

	B	C	D	E	F
Treatment BMP	TSS Removal Rate	Starting TSS Load	Amount Removed (BxC)	Remaining Load (C-D)	TSS Removal Rate
Infiltration Basin w/ Sediment Forebay	**0.80**	**0.56**	**0.45**	**0.11**	**89%**

Pretreatment TSS Removal =	**44%**	**(standard is met)**
Treatment TSS Removal =	**89%**	**(standard is met)**

Note: Roof runoff does not require pretreatment

1. Management Objective			
Select Pollutant Type ->	TP	Total BMP Cost ($)	$37,178
Enter Target Load Reduction (%) ->	60.0%	Total Pollutant Load Reduction (%)	83.9%

2. Optimization Target			
Select an option ->	BMP Storage Capacity	Total BMP Storage Capacity (gal)	11,133

3. Watershed Information			
Enter Land Use Area ->	Click Here	Total Impervious Area (ac)	0.4

4. BMP Information			
Enter Drainage Area ->	Click Here	Total Treated Impervious Area (ac)	0.4

Planning Level Analysis

The purpose of this tool is to provide decision-makers a comprehensive overview of stormwater management opportunities in a given watershed. The tool will characterize the watershed characteristics and opportunities for applying a variety of BMP technologies to various source areas based on land use, soils, and impervious cover. There are two approaches of the planning-level analysis tool:

1: BMP Storage Capacity – to evaluate the changes in hydrologic and water quality benefits as the BMP/LID sizes are increased in fixed increments; and
2: BMP Drainage Area – to determine how much impervious area would require treatment if specified BMP design capacities are selected for each HRU type to be treated.

5. Optimal Solution

BMP Type	Design Storage Capacity (ft^3)	BMP Cost ($)	Treated Impervious Area (ac)	O&M (hr/yr)	Load Reduction (lbs)	Treated Runoff Depth (in)
Biofiltration with ISR	-	$ -	-	-	-	-
Bioretention	-	$ -	-	-	-	-
Dry Pond	-	$ -	-	-	-	-
Grass Swale*	-	$ -	-	-	-	-
Gravel Wetland	-	$ -	-	-	-	-
Infiltration Basin	-	$ -	-	-	-	-
Infiltration Chambers*	-	$ -	-	-	-	-
Infiltration Trench	1,488	$ 37,178	0.41	-	0.79	1.00
Porous Pavement*	-	$ -	-	-	-	-
Sand Filter	-	$ -	-	-	-	-
Wet Pond	-	$ -	-	-	-	-

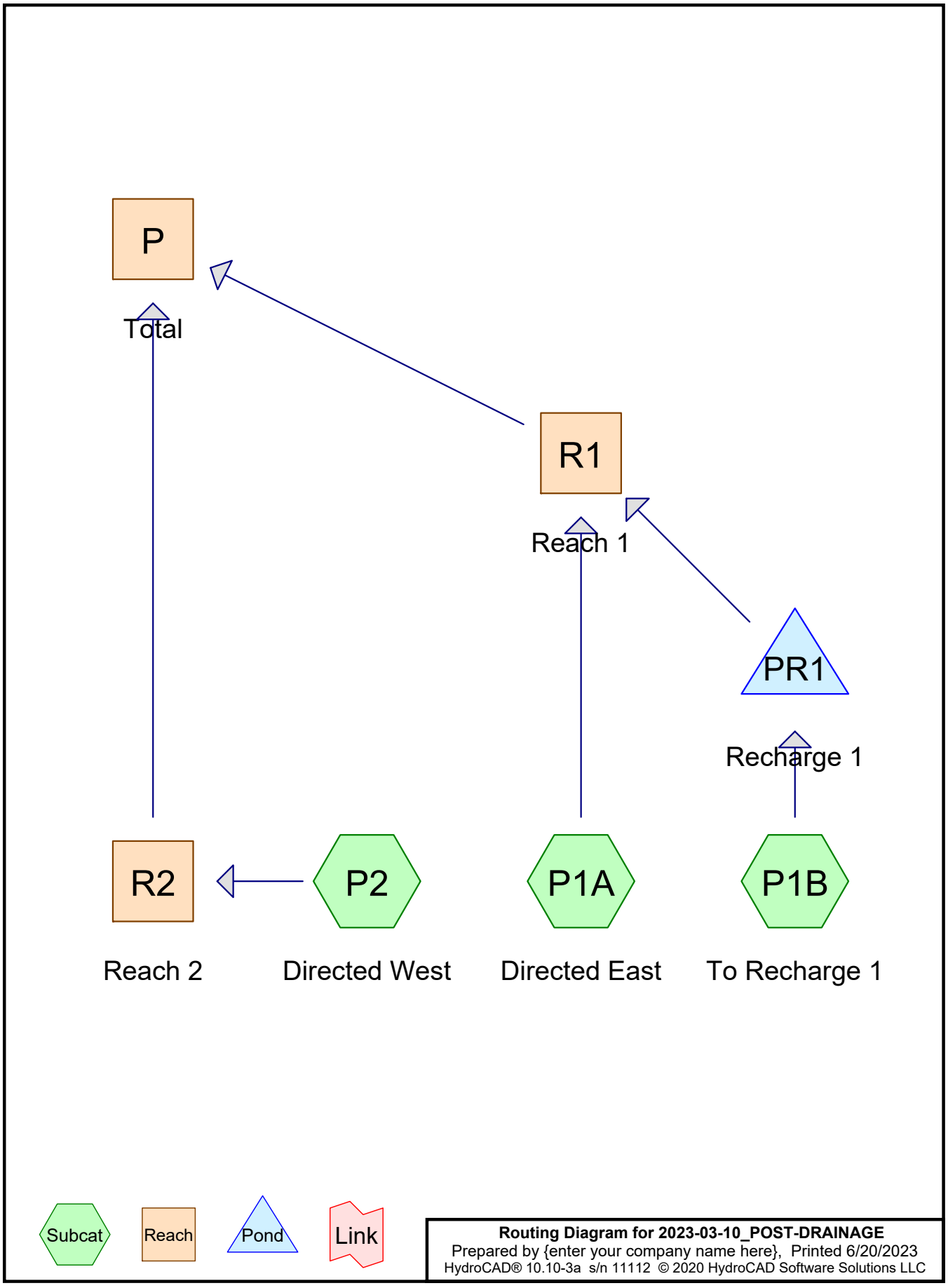
Note:Only fill in the yellow highlighted cells.

* Place holder for future option (not implemented)

Run Single Scenario

Run Optimize Scenario

Return to Home Page



Routing Diagram for 2023-03-10_POST-DRAINAGE
Prepared by {enter your company name here}, Printed 6/20/2023

Summary for Subcatchment P1A: Directed East

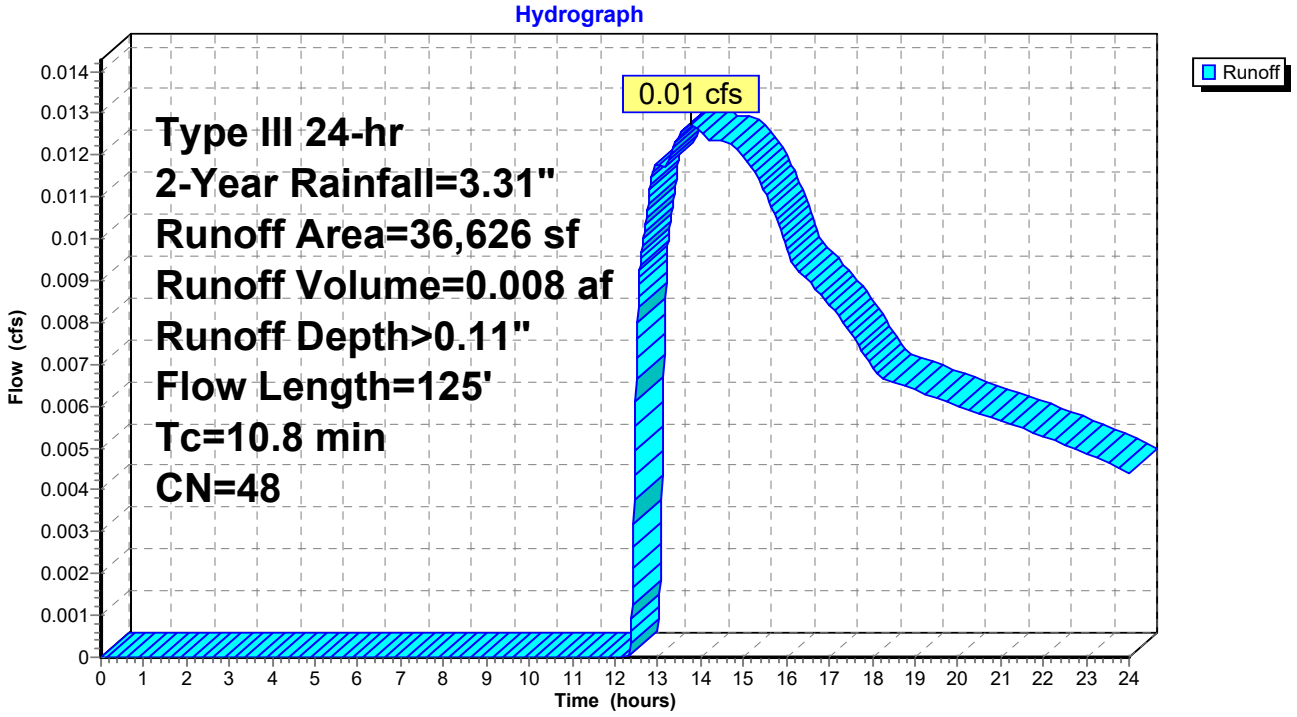
Runoff = 0.01 cfs @ 13.79 hrs, Volume= 0.008 af, Depth> 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.31"

	Area (sf)	CN	Description
*	3,060	98	Impervious
	14,250	39	>75% Grass cover, Good, HSG A
	11,924	30	Woods, Good, HSG A
	4,950	74	>75% Grass cover, Good, HSG C
	109	70	Woods, Good, HSG C
	2,333	80	>75% Grass cover, Good, HSG D
	36,626	48	Weighted Average
	33,566		91.65% Pervious Area
	3,060		8.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Sheet Flow Woods** Woods: Dense underbrush n= 0.800 P2= 3.10"
0.8	75	0.1067	1.63		**Shallow Concentrated Flow, Concentrated Woods** Woodland Kv= 5.0 fps
10.8	125	Total			

Subcatchment P1A: Directed East



Summary for Subcatchment P1B: To Recharge 1

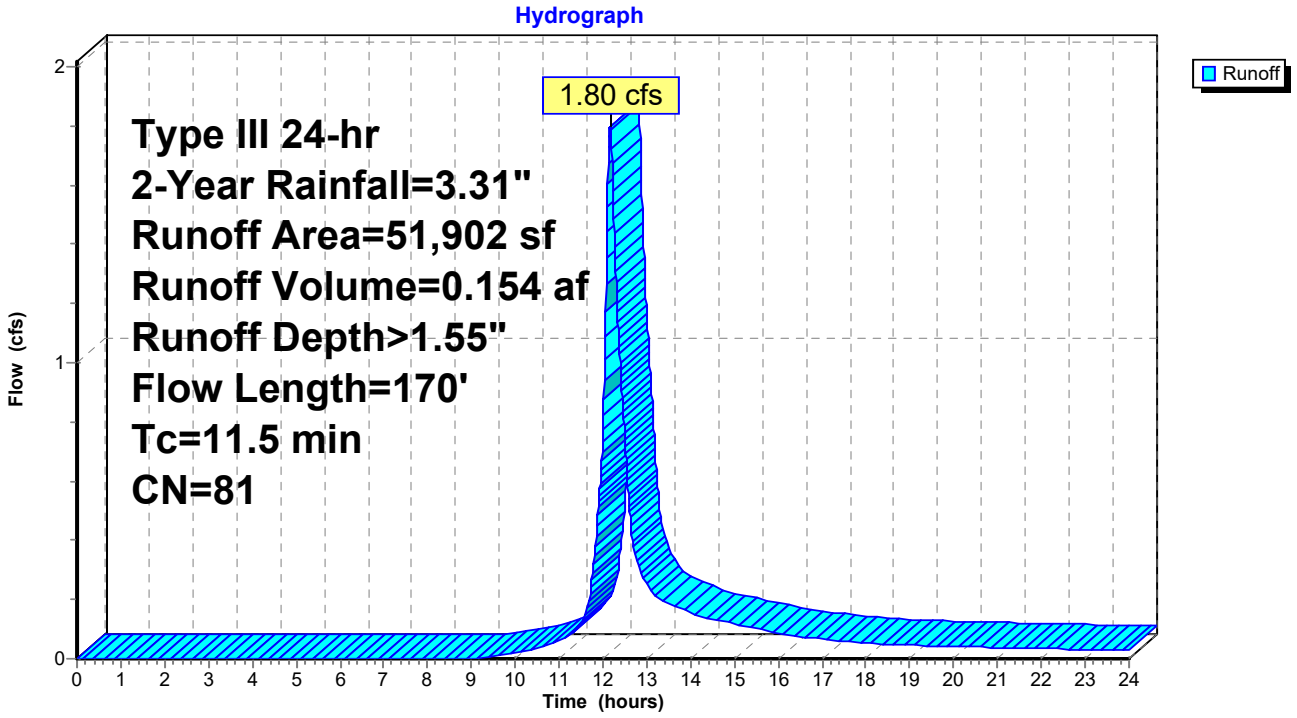
Runoff = 1.80 cfs @ 12.16 hrs, Volume= 0.154 af, Depth> 1.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.31"

	Area (sf)	CN	Description
*	19,628	98	Impervious
	1,448	39	>75% Grass cover, Good, HSG A
	21,790	74	>75% Grass cover, Good, HSG C
	8,739	70	Woods, Good, HSG C
	297	80	>75% Grass cover, Good, HSG D
	51,902	81	Weighted Average
	32,274		62.18% Pervious Area
	19,628		37.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Wood Sheet Flow** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.5	120	0.0750	1.37		**Shallow Concentrated Flow, Woods Concentrated Flow** Woodland Kv= 5.0 fps
11.5	170	Total			

Subcatchment P1B: To Recharge 1



Summary for Subcatchment P2: Directed West

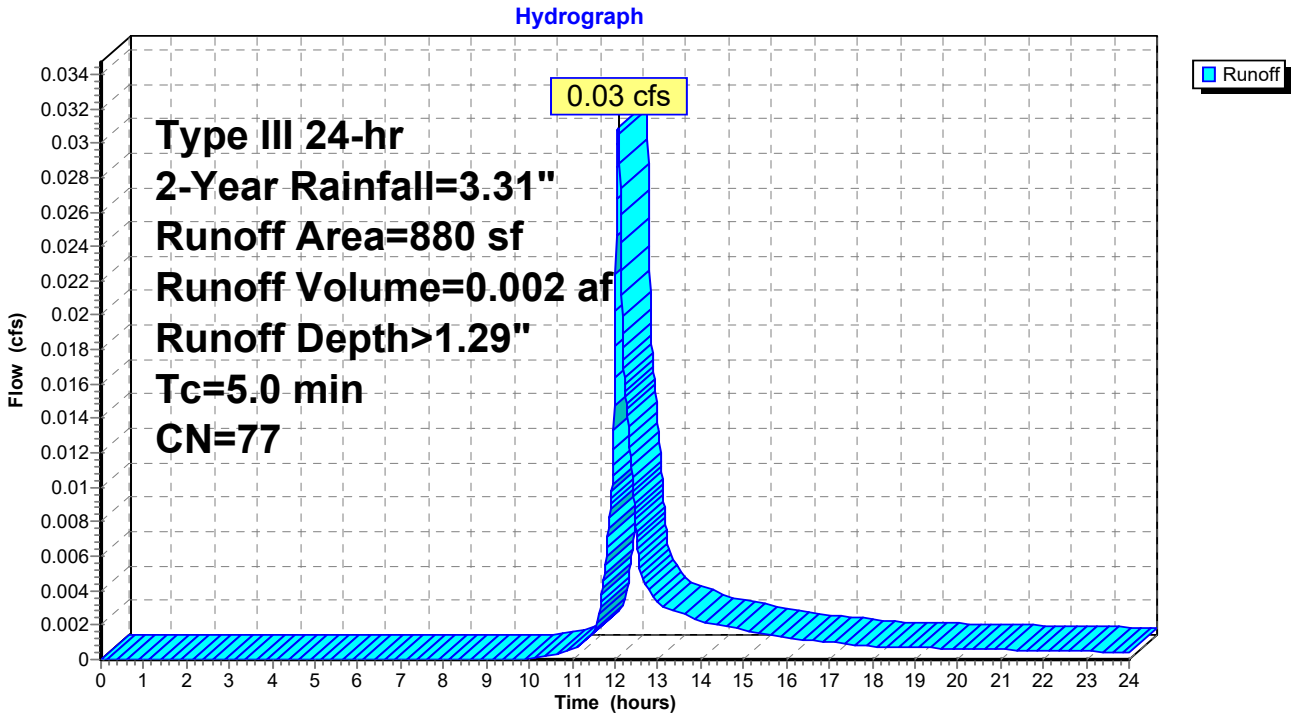
Runoff = 0.03 cfs @ 12.08 hrs, Volume= 0.002 af, Depth> 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.31"

Area (sf)	CN	Description
473	74	>75% Grass cover, Good, HSG C
407	80	>75% Grass cover, Good, HSG D
880	77	Weighted Average
880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P2: Directed West

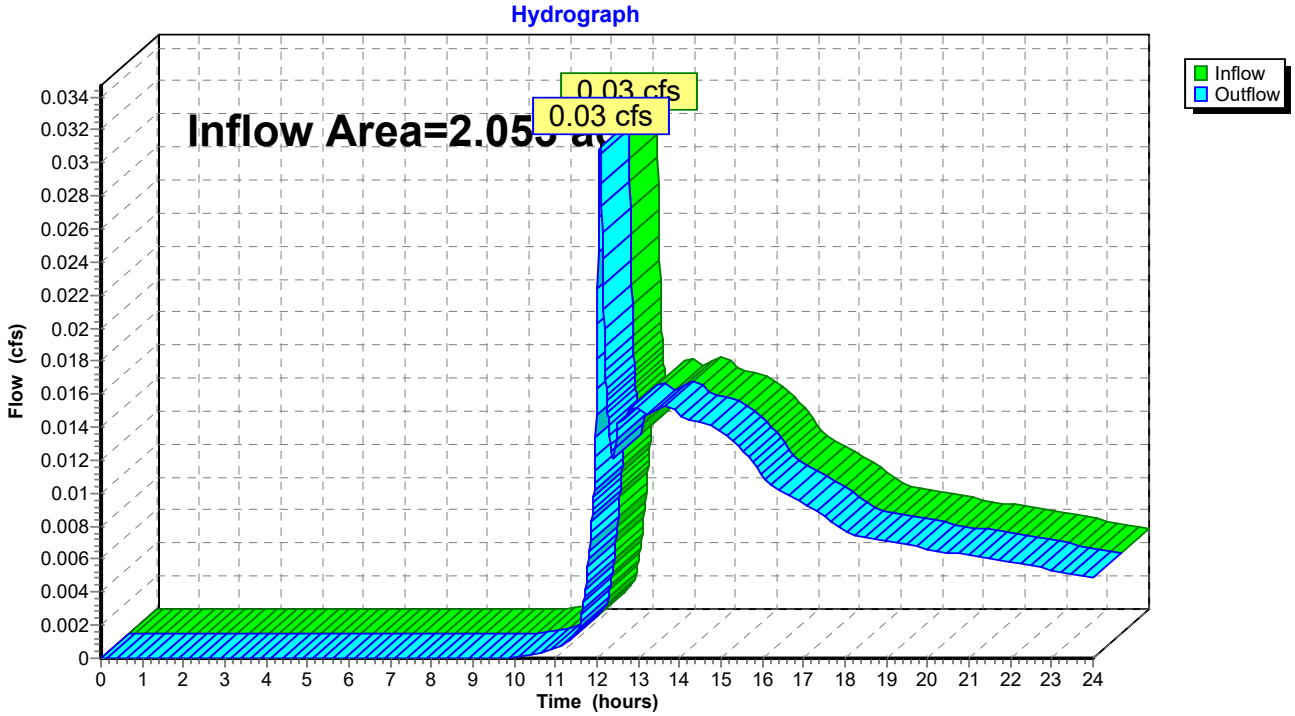


Summary for Reach P: Total

Inflow Area = 2.053 ac, 25.38% Impervious, Inflow Depth > 0.06" for 2-Year event
Inflow = 0.03 cfs @ 12.08 hrs, Volume= 0.010 af
Outflow = 0.03 cfs @ 12.08 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach P: Total

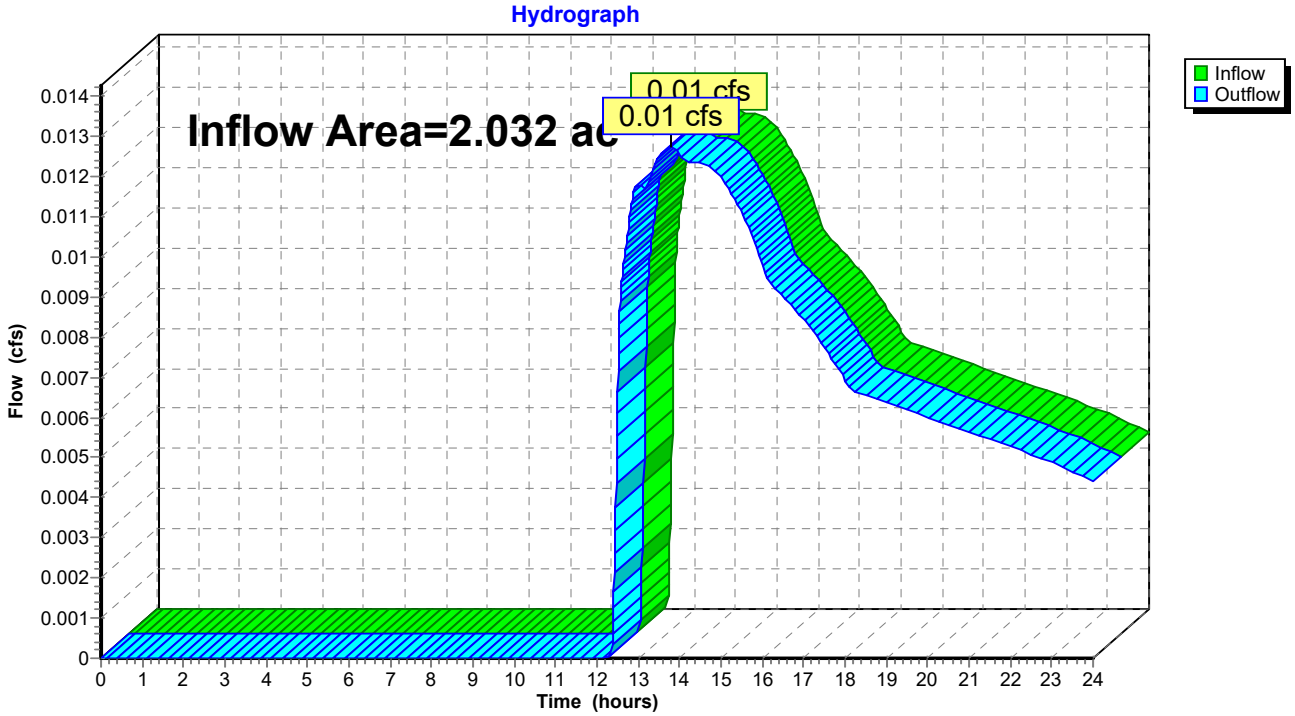


Summary for Reach R1: Reach 1

Inflow Area = 2.032 ac, 25.63% Impervious, Inflow Depth > 0.04" for 2-Year event
Inflow = 0.01 cfs @ 13.79 hrs, Volume= 0.008 af
Outflow = 0.01 cfs @ 13.79 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R1: Reach 1

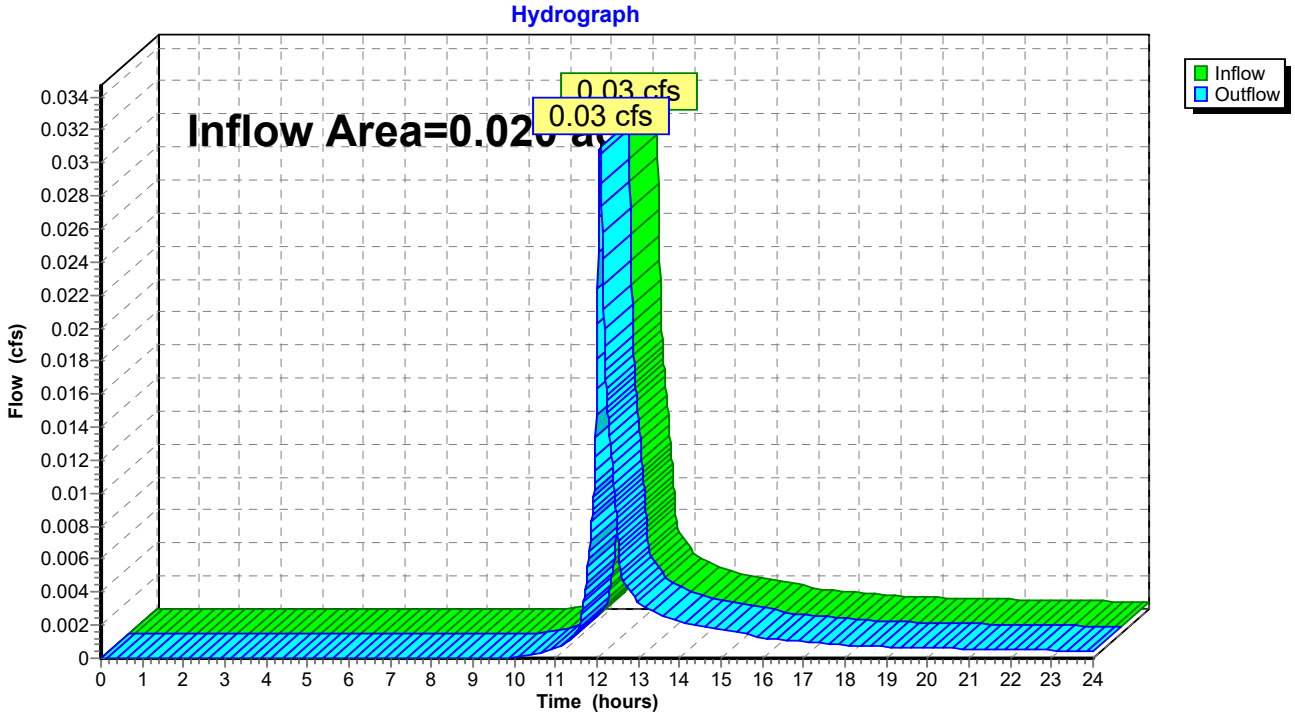


Summary for Reach R2: Reach 2

Inflow Area = 0.020 ac, 0.00% Impervious, Inflow Depth > 1.29" for 2-Year event
Inflow = 0.03 cfs @ 12.08 hrs, Volume= 0.002 af
Outflow = 0.03 cfs @ 12.08 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R2: Reach 2



Summary for Pond PR1: Recharge 1

Inflow Area = 1.192 ac, 37.82% Impervious, Inflow Depth > 1.55" for 2-Year event
Inflow = 1.80 cfs @ 12.16 hrs, Volume= 0.154 af
Outflow = 0.35 cfs @ 12.73 hrs, Volume= 0.154 af, Atten= 81%, Lag= 34.3 min
Discarded = 0.35 cfs @ 12.73 hrs, Volume= 0.154 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 105.33' @ 12.73 hrs Surf.Area= 1,803 sf Storage= 2,383 cf

Plug-Flow detention time= 72.8 min calculated for 0.154 af (100% of inflow)
Center-of-Mass det. time= 72.2 min (913.6 - 841.4)

Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	10,735 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

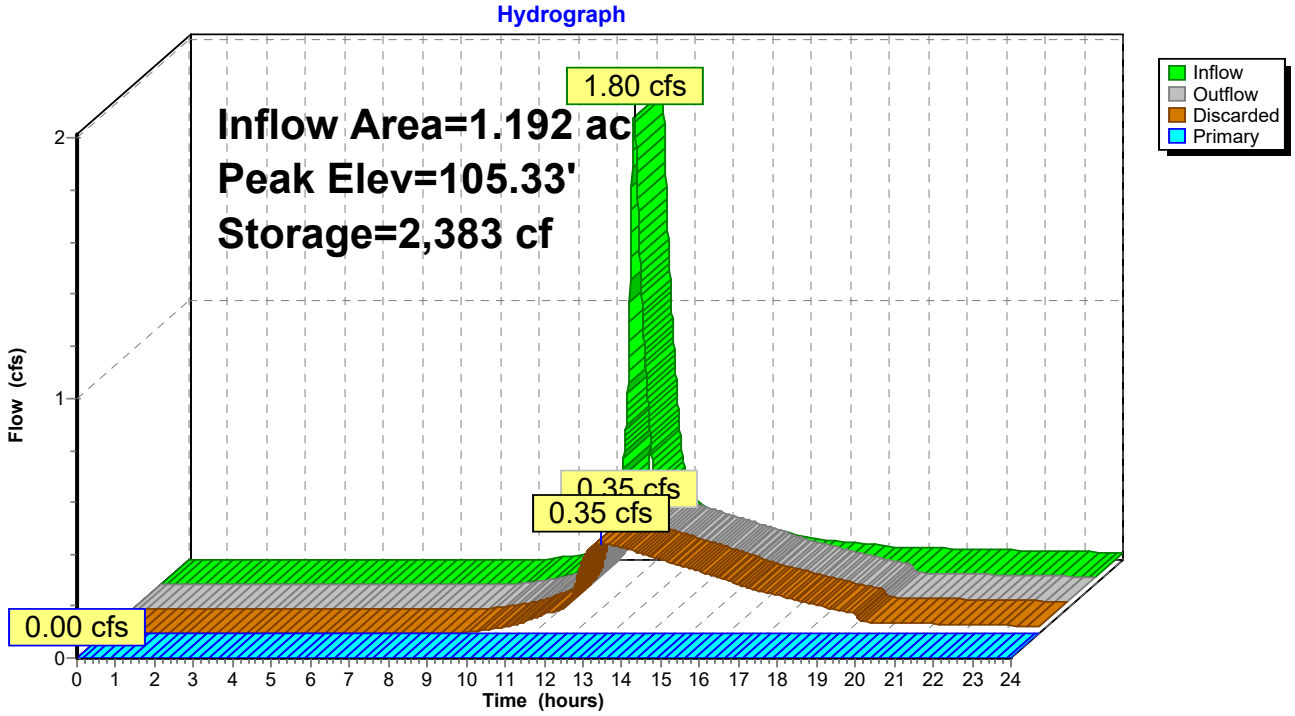
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
103.00	380	0	0
104.00	870	625	625
105.00	1,530	1,200	1,825
106.00	2,345	1,938	3,763
107.00	3,300	2,823	6,585
108.00	5,000	4,150	10,735

Device	Routing	Invert	Outlet Devices
#1	Discarded	103.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	106.75'	**5.0' long (Profile 5) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.79 2.93 3.06

Discarded OutFlow Max=0.35 cfs @ 12.73 hrs HW=105.33' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.35 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=103.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond PR1: Recharge 1



Summary for Subcatchment P1A: Directed East

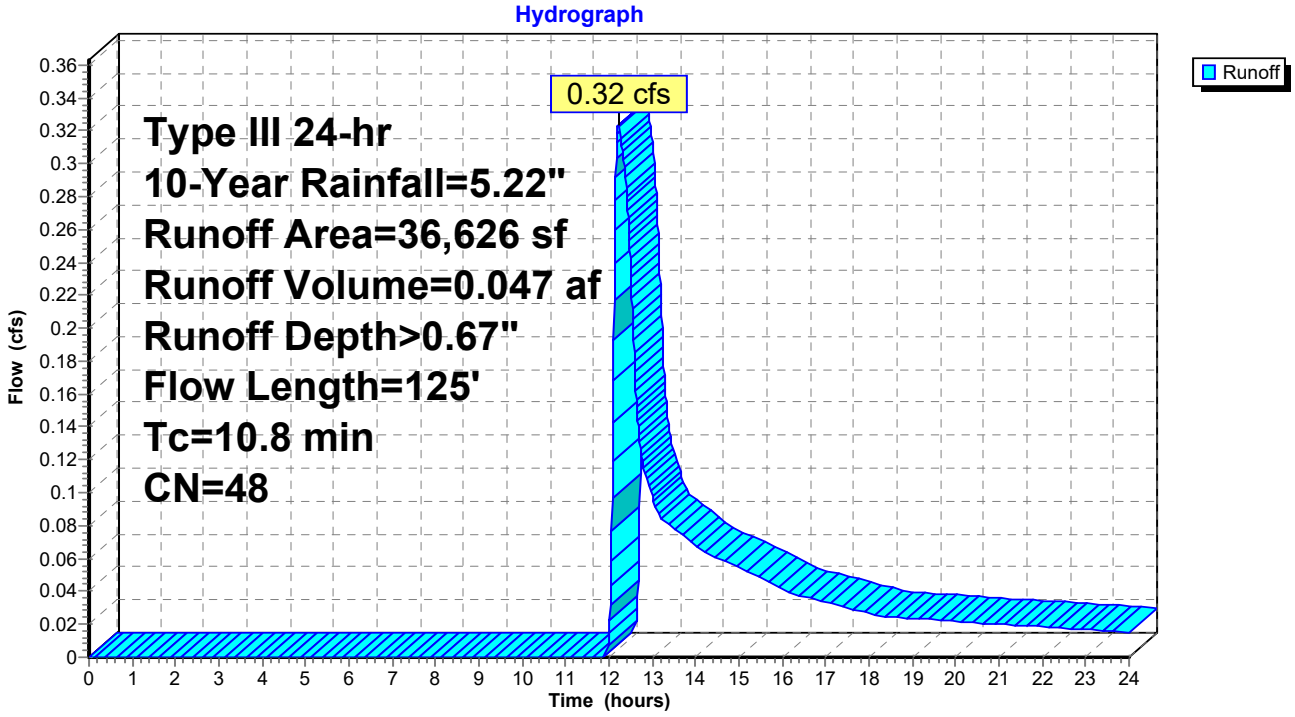
Runoff = 0.32 cfs @ 12.22 hrs, Volume= 0.047 af, Depth> 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.22"

	Area (sf)	CN	Description
*	3,060	98	Impervious
	14,250	39	>75% Grass cover, Good, HSG A
	11,924	30	Woods, Good, HSG A
	4,950	74	>75% Grass cover, Good, HSG C
	109	70	Woods, Good, HSG C
	2,333	80	>75% Grass cover, Good, HSG D
	36,626	48	Weighted Average
	33,566		91.65% Pervious Area
	3,060		8.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Sheet Flow Woods** Woods: Dense underbrush n= 0.800 P2= 3.10"
0.8	75	0.1067	1.63		**Shallow Concentrated Flow, Concentrated Woods** Woodland Kv= 5.0 fps
10.8	125	Total			

Subcatchment P1A: Directed East



Summary for Subcatchment P1B: To Recharge 1

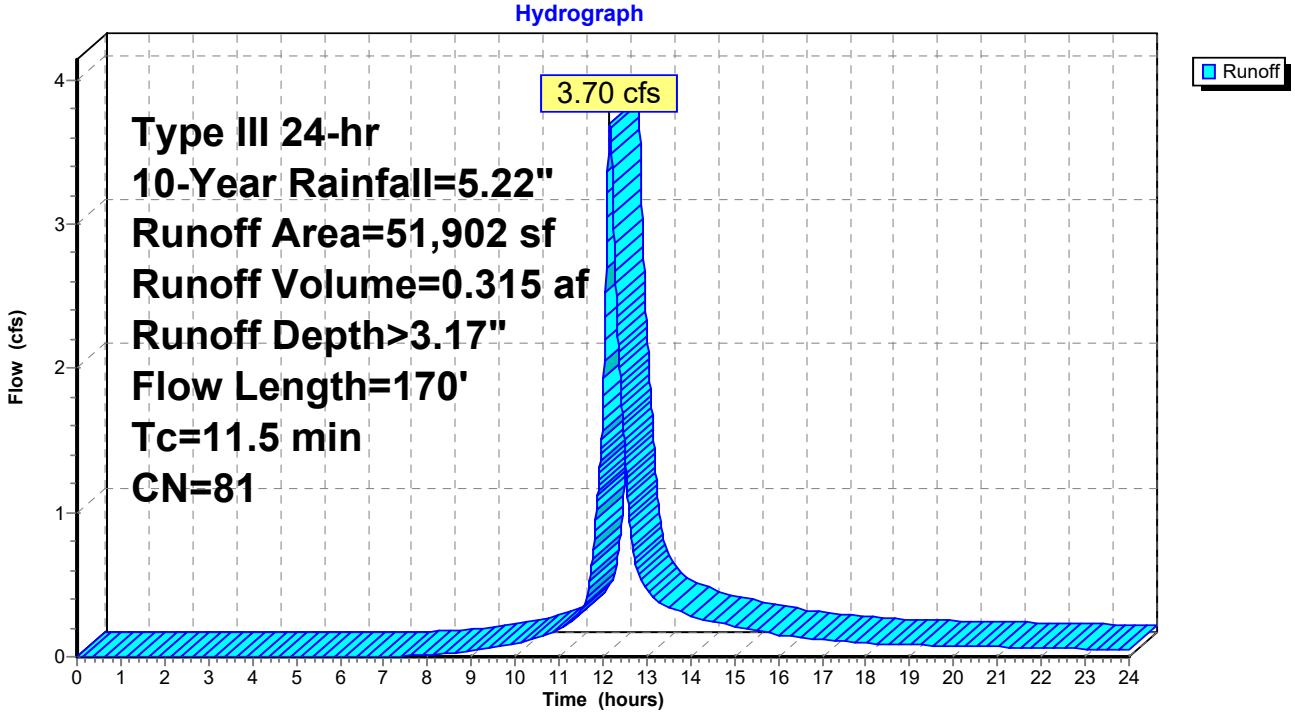
Runoff = 3.70 cfs @ 12.16 hrs, Volume= 0.315 af, Depth> 3.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.22"

	Area (sf)	CN	Description
*	19,628	98	Impervious
	1,448	39	>75% Grass cover, Good, HSG A
	21,790	74	>75% Grass cover, Good, HSG C
	8,739	70	Woods, Good, HSG C
	297	80	>75% Grass cover, Good, HSG D
	51,902	81	Weighted Average
	32,274		62.18% Pervious Area
	19,628		37.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Wood Sheet Flow** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.5	120	0.0750	1.37		**Shallow Concentrated Flow, Woods Concentrated Flow** Woodland Kv= 5.0 fps
11.5	170	Total			

Subcatchment P1B: To Recharge 1



Summary for Subcatchment P2: Directed West

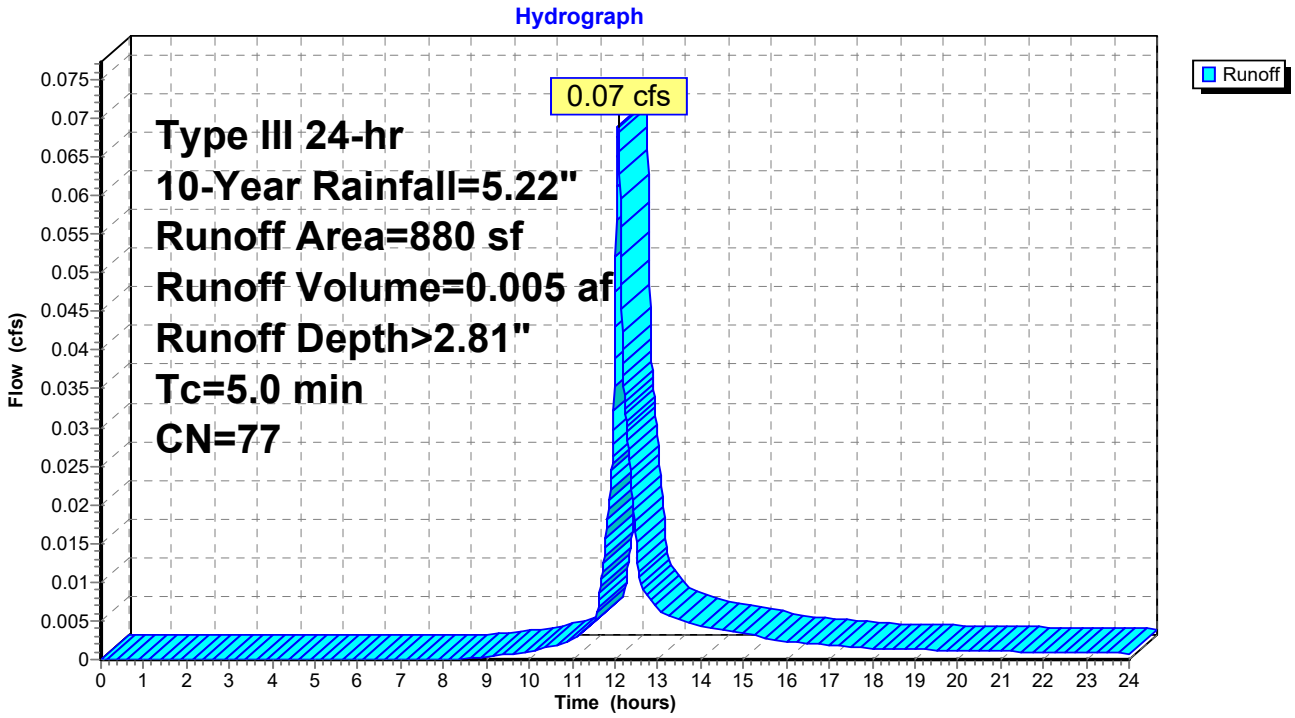
Runoff = 0.07 cfs @ 12.08 hrs, Volume= 0.005 af, Depth> 2.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.22"

Area (sf)	CN	Description
473	74	>75% Grass cover, Good, HSG C
407	80	>75% Grass cover, Good, HSG D
880	77	Weighted Average
880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P2: Directed West

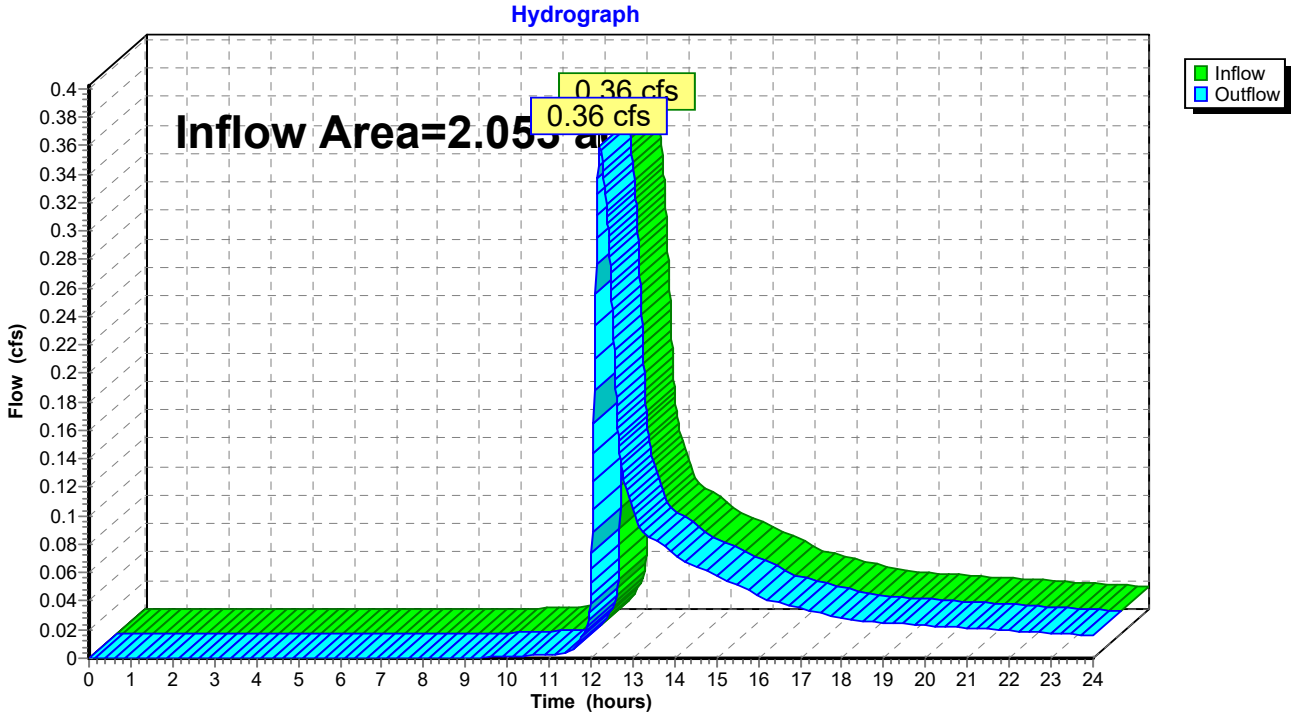


Summary for Reach P: Total

Inflow Area = 2.053 ac, 25.38% Impervious, Inflow Depth > 0.30" for 10-Year event
Inflow = 0.36 cfs @ 12.21 hrs, Volume= 0.052 af
Outflow = 0.36 cfs @ 12.21 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach P: Total

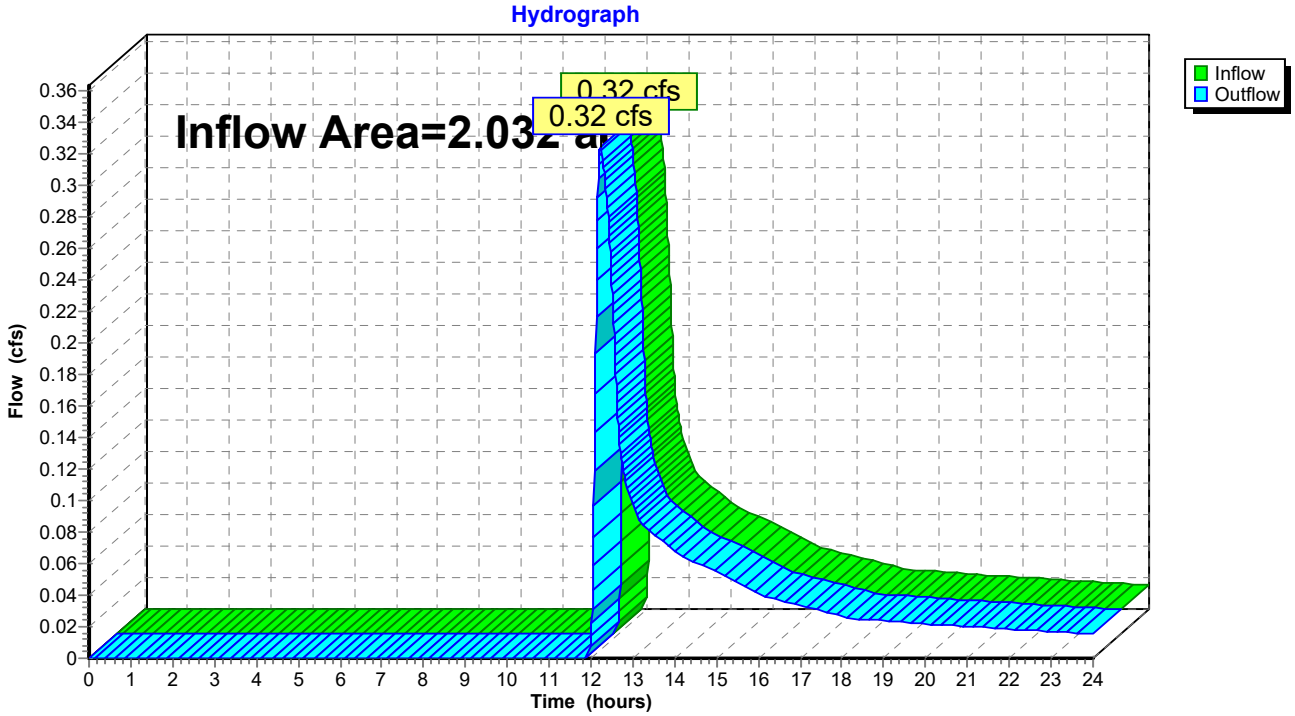


Summary for Reach R1: Reach 1

Inflow Area = 2.032 ac, 25.63% Impervious, Inflow Depth > 0.28" for 10-Year event
Inflow = 0.32 cfs @ 12.22 hrs, Volume= 0.047 af
Outflow = 0.32 cfs @ 12.22 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R1: Reach 1

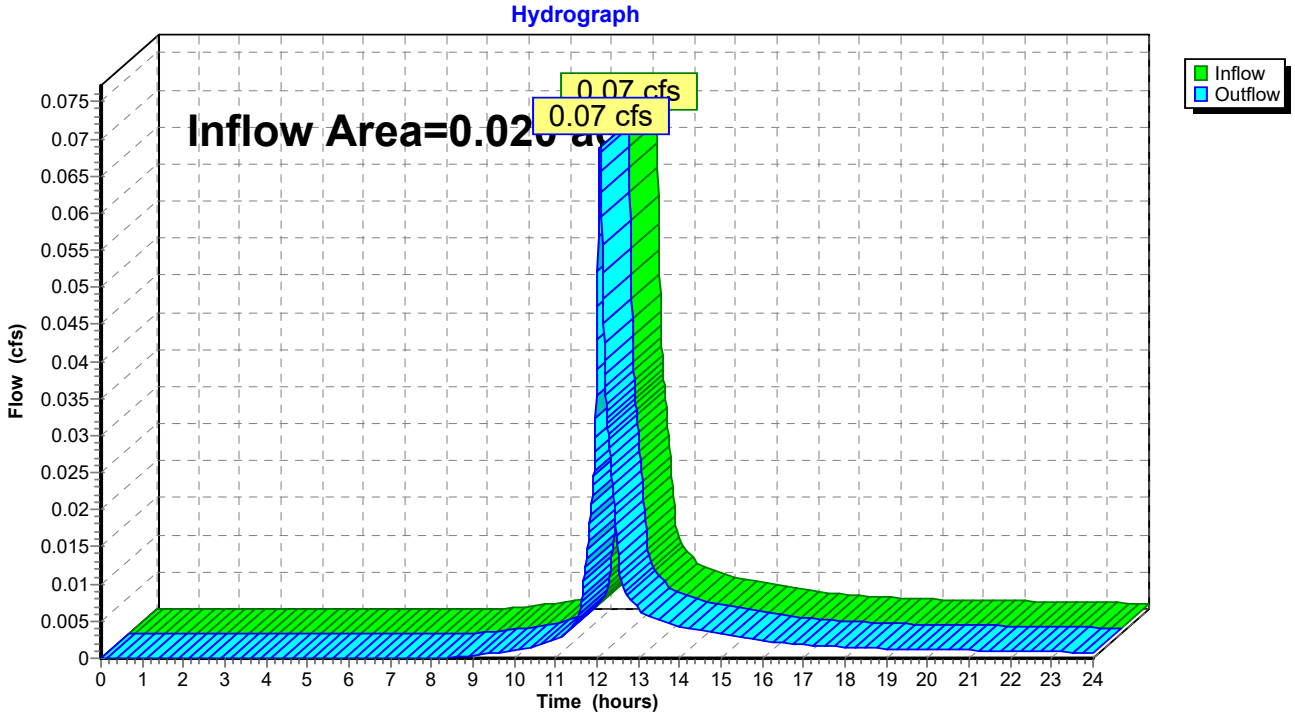


Summary for Reach R2: Reach 2

Inflow Area = 0.020 ac, 0.00% Impervious, Inflow Depth > 2.81" for 10-Year event
Inflow = 0.07 cfs @ 12.08 hrs, Volume= 0.005 af
Outflow = 0.07 cfs @ 12.08 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R2: Reach 2



Summary for Pond PR1: Recharge 1

Inflow Area = 1.192 ac, 37.82% Impervious, Inflow Depth > 3.17" for 10-Year event
Inflow = 3.70 cfs @ 12.16 hrs, Volume= 0.315 af
Outflow = 0.58 cfs @ 12.81 hrs, Volume= 0.315 af, Atten= 84%, Lag= 39.1 min
Discarded = 0.58 cfs @ 12.81 hrs, Volume= 0.315 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 106.69' @ 12.81 hrs Surf.Area= 3,008 sf Storage= 5,621 cf

Plug-Flow detention time= 112.2 min calculated for 0.315 af (100% of inflow)
Center-of-Mass det. time= 111.6 min (932.6 - 821.0)

Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	10,735 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

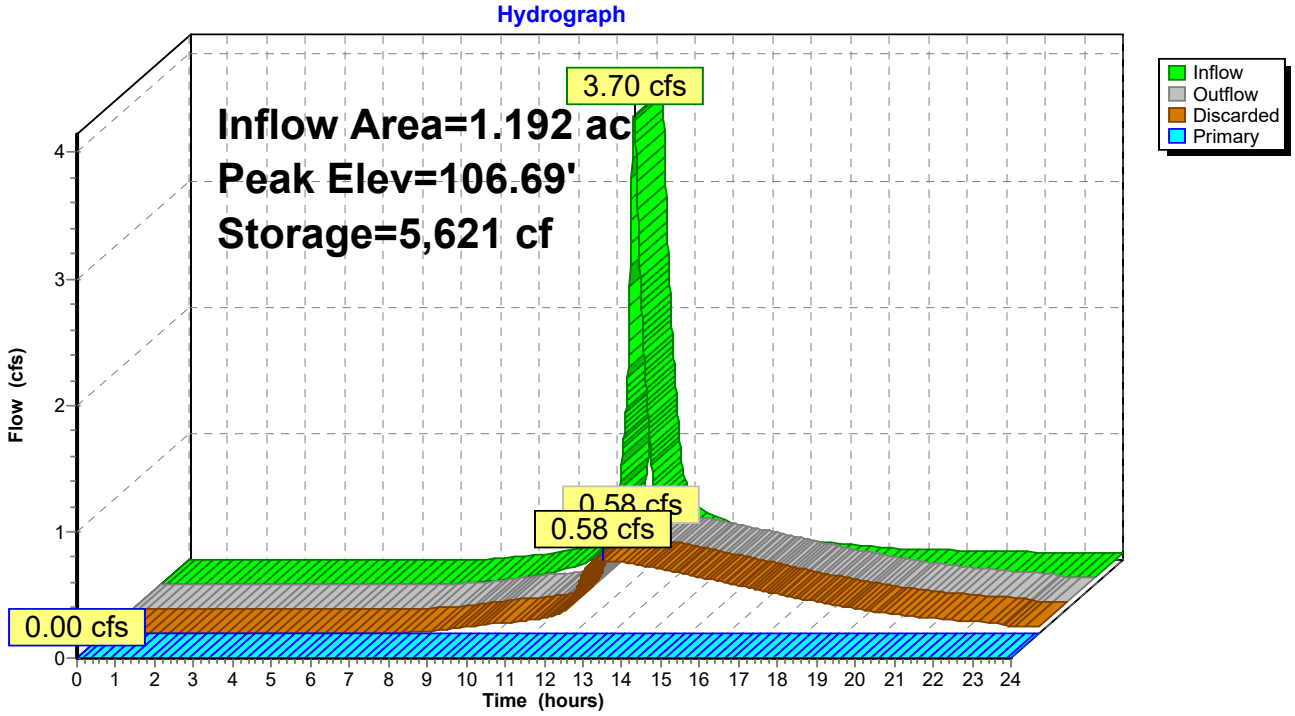
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
103.00	380	0	0
104.00	870	625	625
105.00	1,530	1,200	1,825
106.00	2,345	1,938	3,763
107.00	3,300	2,823	6,585
108.00	5,000	4,150	10,735

Device	Routing	Invert	Outlet Devices
#1	Discarded	103.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	106.75'	**5.0' long (Profile 5) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.79 2.93 3.06

Discarded OutFlow Max=0.58 cfs @ 12.81 hrs HW=106.69' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.58 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=103.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond PR1: Recharge 1



Summary for Subcatchment P1A: Directed East

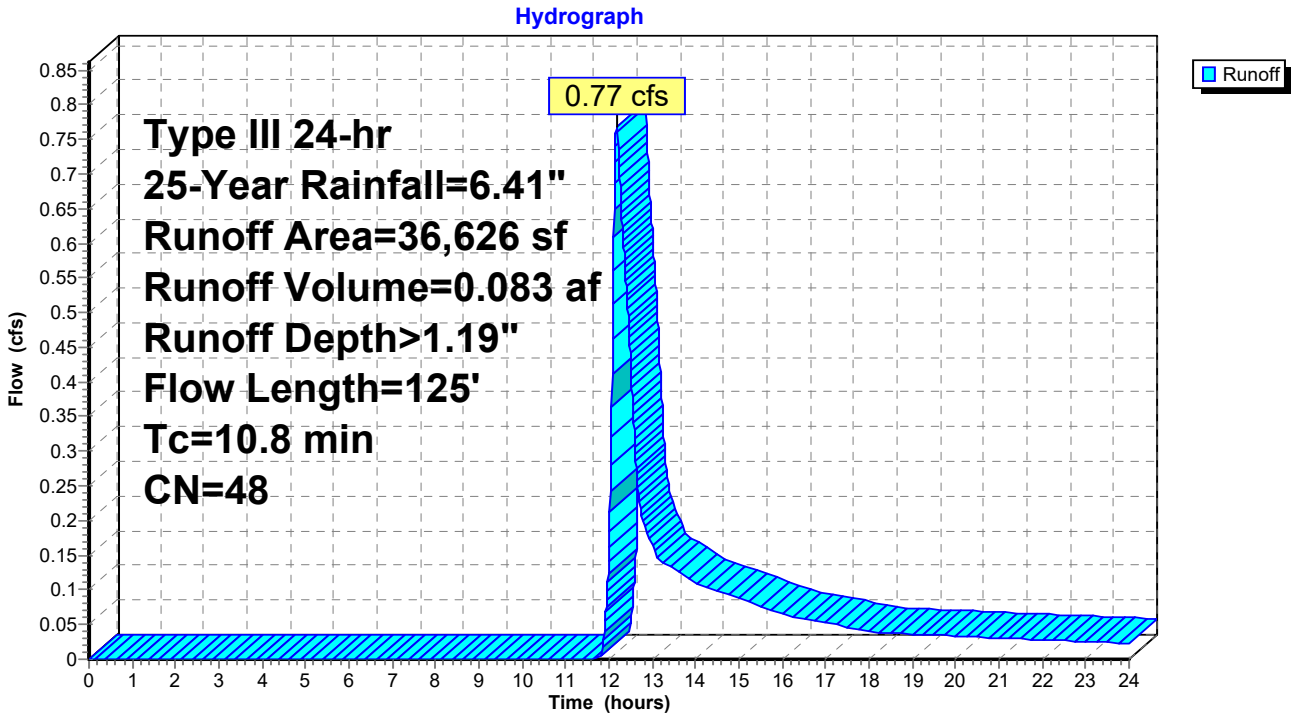
Runoff = 0.77 cfs @ 12.18 hrs, Volume= 0.083 af, Depth> 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.41"

	Area (sf)	CN	Description
*	3,060	98	Impervious
	14,250	39	>75% Grass cover, Good, HSG A
	11,924	30	Woods, Good, HSG A
	4,950	74	>75% Grass cover, Good, HSG C
	109	70	Woods, Good, HSG C
	2,333	80	>75% Grass cover, Good, HSG D
	36,626	48	Weighted Average
	33,566		91.65% Pervious Area
	3,060		8.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Sheet Flow Woods** Woods: Dense underbrush n= 0.800 P2= 3.10"
0.8	75	0.1067	1.63		**Shallow Concentrated Flow, Concentrated Woods** Woodland Kv= 5.0 fps
10.8	125	Total			

Subcatchment P1A: Directed East



Summary for Subcatchment P1B: To Recharge 1

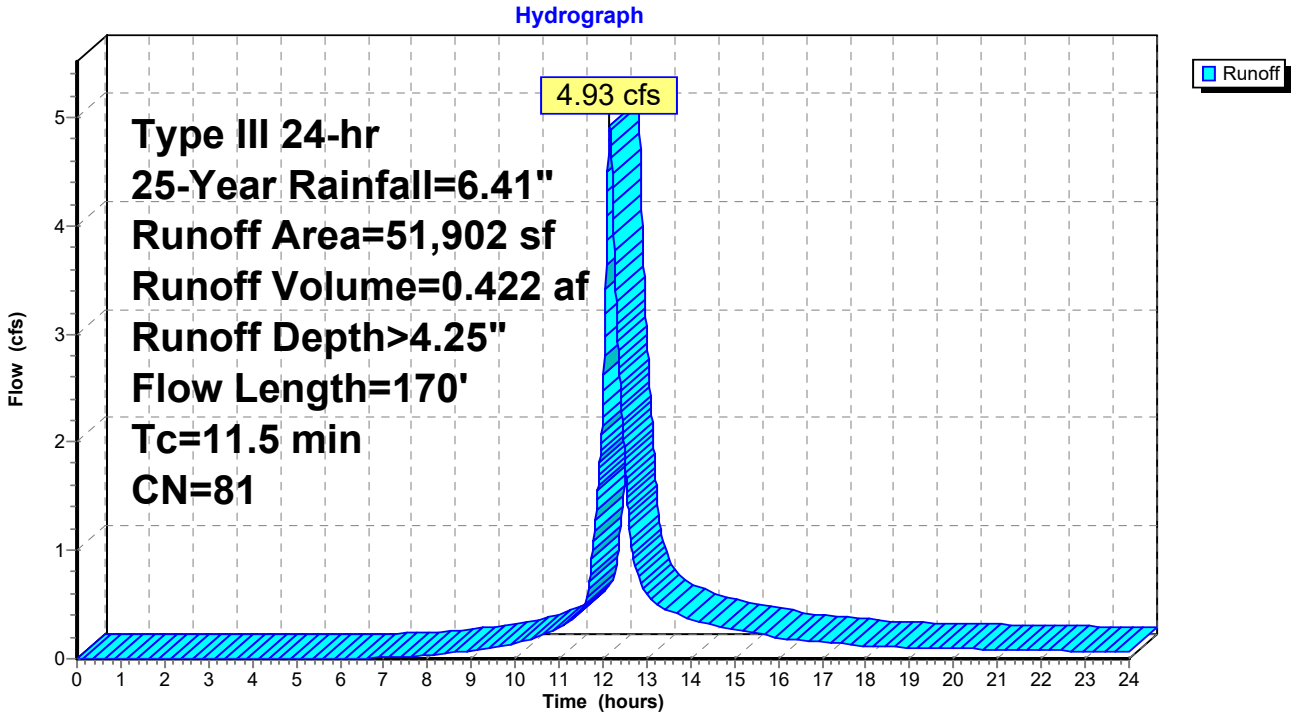
Runoff = 4.93 cfs @ 12.16 hrs, Volume= 0.422 af, Depth> 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.41"

	Area (sf)	CN	Description
*	19,628	98	Impervious
	1,448	39	>75% Grass cover, Good, HSG A
	21,790	74	>75% Grass cover, Good, HSG C
	8,739	70	Woods, Good, HSG C
	297	80	>75% Grass cover, Good, HSG D
	51,902	81	Weighted Average
	32,274		62.18% Pervious Area
	19,628		37.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Wood Sheet Flow** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.5	120	0.0750	1.37		**Shallow Concentrated Flow, Woods Concentrated Flow** Woodland Kv= 5.0 fps
11.5	170	Total			

Subcatchment P1B: To Recharge 1



Summary for Subcatchment P2: Directed West

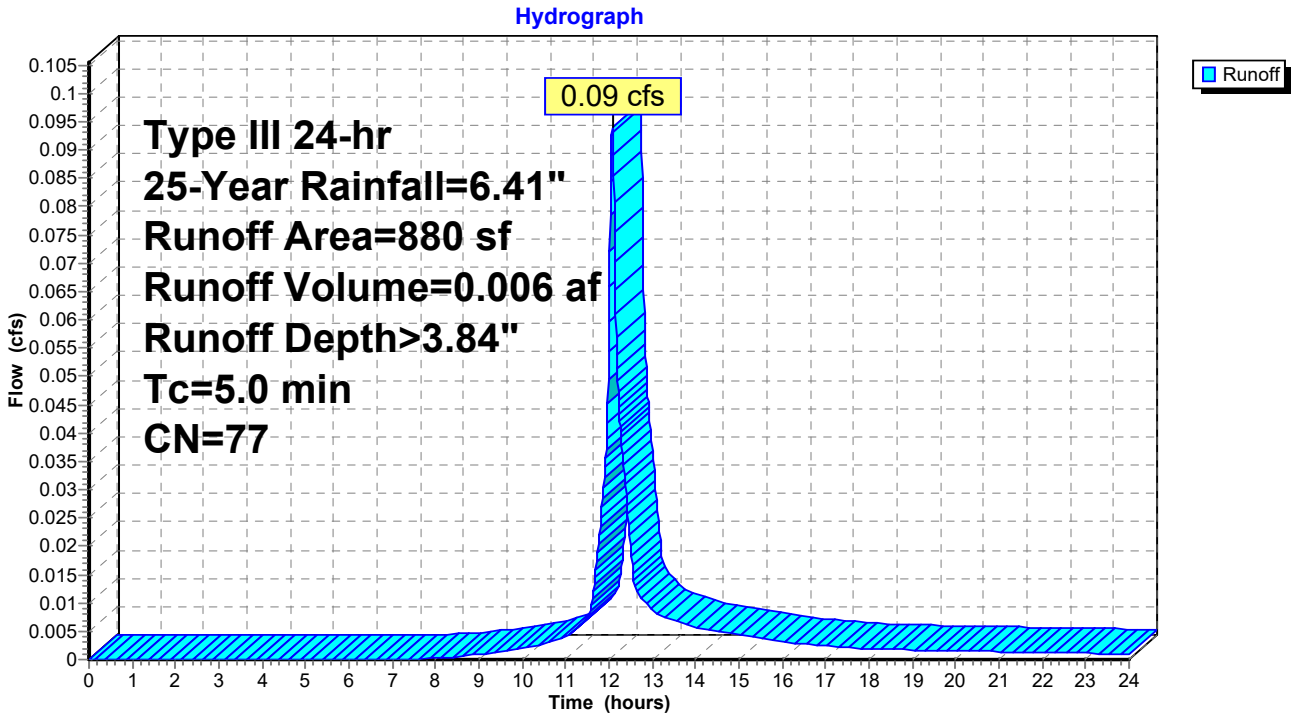
Runoff = 0.09 cfs @ 12.07 hrs, Volume= 0.006 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.41"

Area (sf)	CN	Description
473	74	>75% Grass cover, Good, HSG C
407	80	>75% Grass cover, Good, HSG D
880	77	Weighted Average
880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P2: Directed West

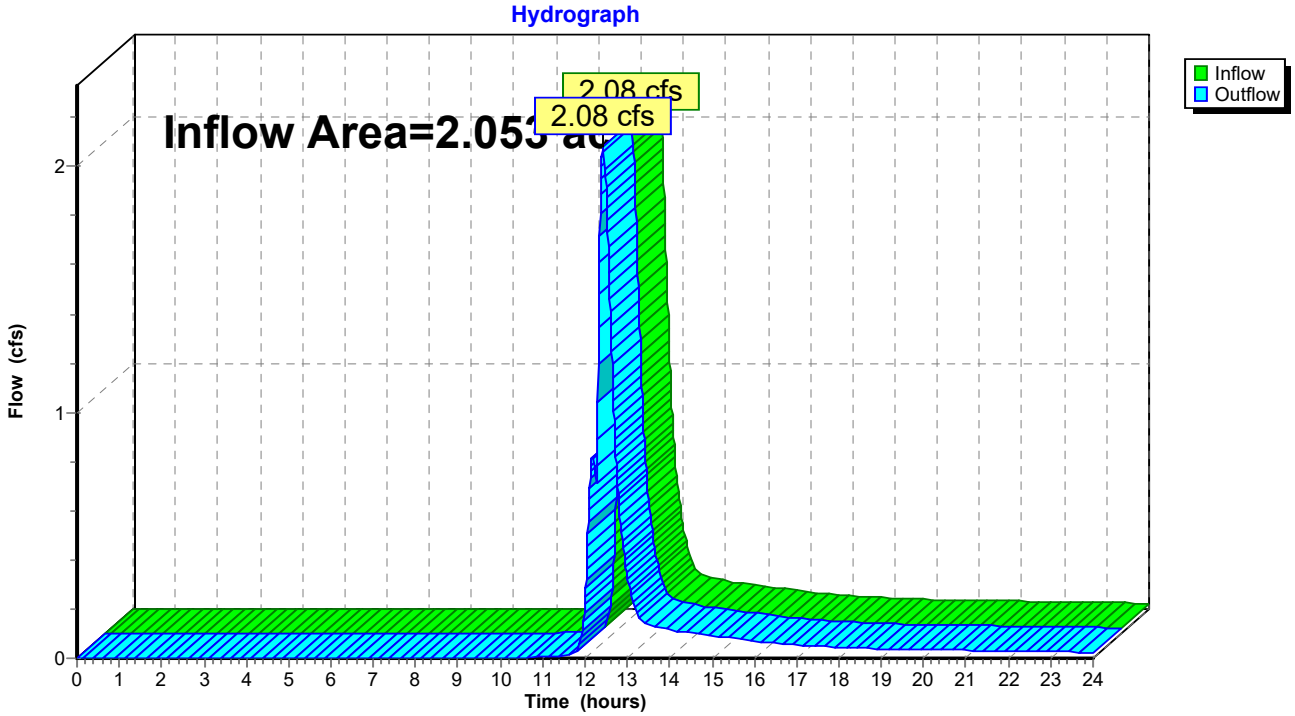


Summary for Reach P: Total

Inflow Area = 2.053 ac, 25.38% Impervious, Inflow Depth > 0.82" for 25-Year event
Inflow = 2.08 cfs @ 12.43 hrs, Volume= 0.140 af
Outflow = 2.08 cfs @ 12.43 hrs, Volume= 0.140 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach P: Total

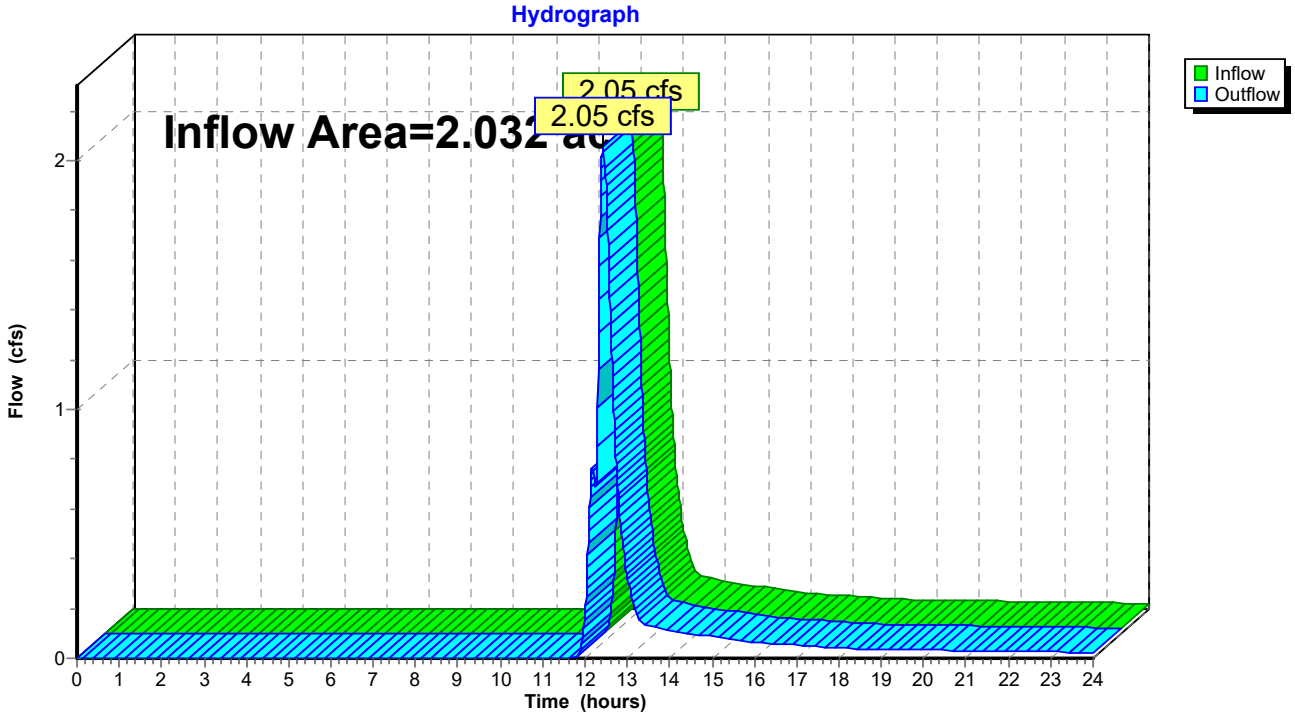


Summary for Reach R1: Reach 1

Inflow Area = 2.032 ac, 25.63% Impervious, Inflow Depth > 0.79" for 25-Year event
Inflow = 2.05 cfs @ 12.43 hrs, Volume= 0.134 af
Outflow = 2.05 cfs @ 12.43 hrs, Volume= 0.134 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R1: Reach 1

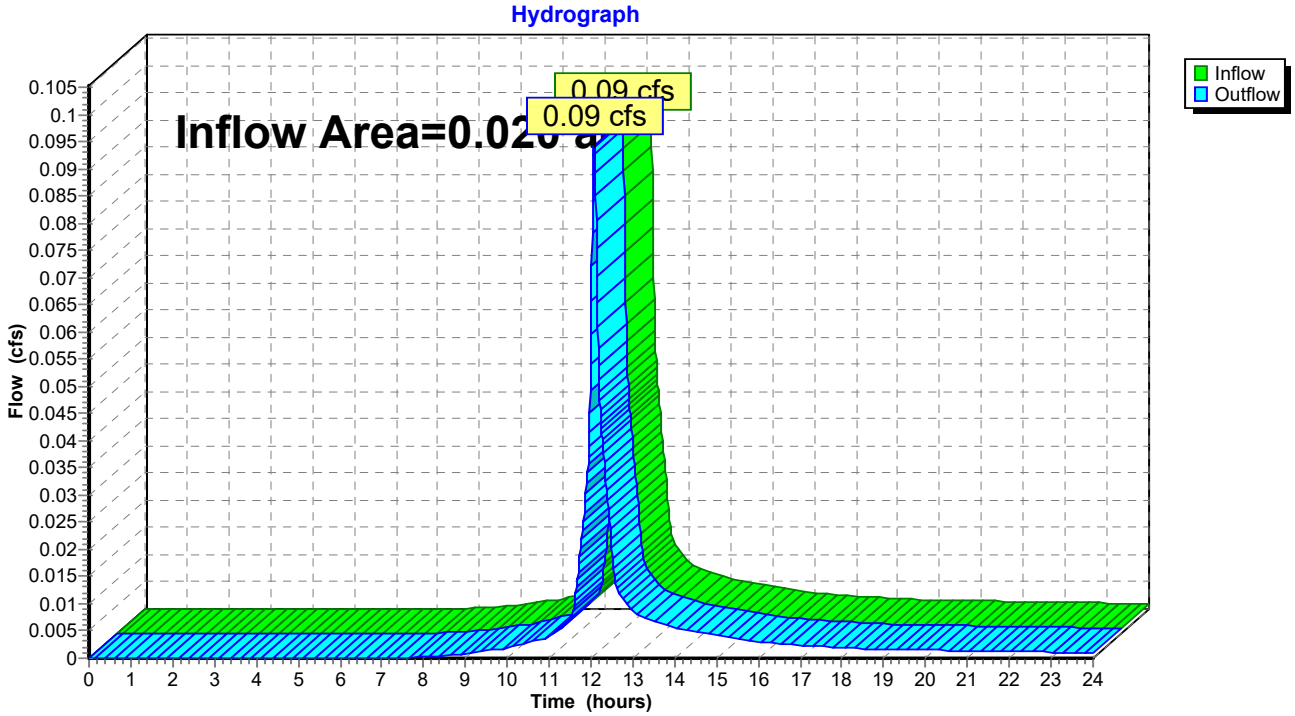


Summary for Reach R2: Reach 2

Inflow Area = 0.020 ac, 0.00% Impervious, Inflow Depth > 3.84" for 25-Year event
Inflow = 0.09 cfs @ 12.07 hrs, Volume= 0.006 af
Outflow = 0.09 cfs @ 12.07 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R2: Reach 2



Summary for Pond PR1: Recharge 1

Inflow Area = 1.192 ac, 37.82% Impervious, Inflow Depth > 4.25" for 25-Year event
Inflow = 4.93 cfs @ 12.16 hrs, Volume= 0.422 af
Outflow = 2.18 cfs @ 12.44 hrs, Volume= 0.420 af, Atten= 56%, Lag= 17.4 min
Discarded = 0.63 cfs @ 12.44 hrs, Volume= 0.370 af
Primary = 1.56 cfs @ 12.44 hrs, Volume= 0.050 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 106.98' @ 12.44 hrs Surf.Area= 3,282 sf Storage= 6,522 cf

Plug-Flow detention time= 104.7 min calculated for 0.420 af (100% of inflow)
Center-of-Mass det. time= 102.4 min (915.1 - 812.7)

Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	10,735 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

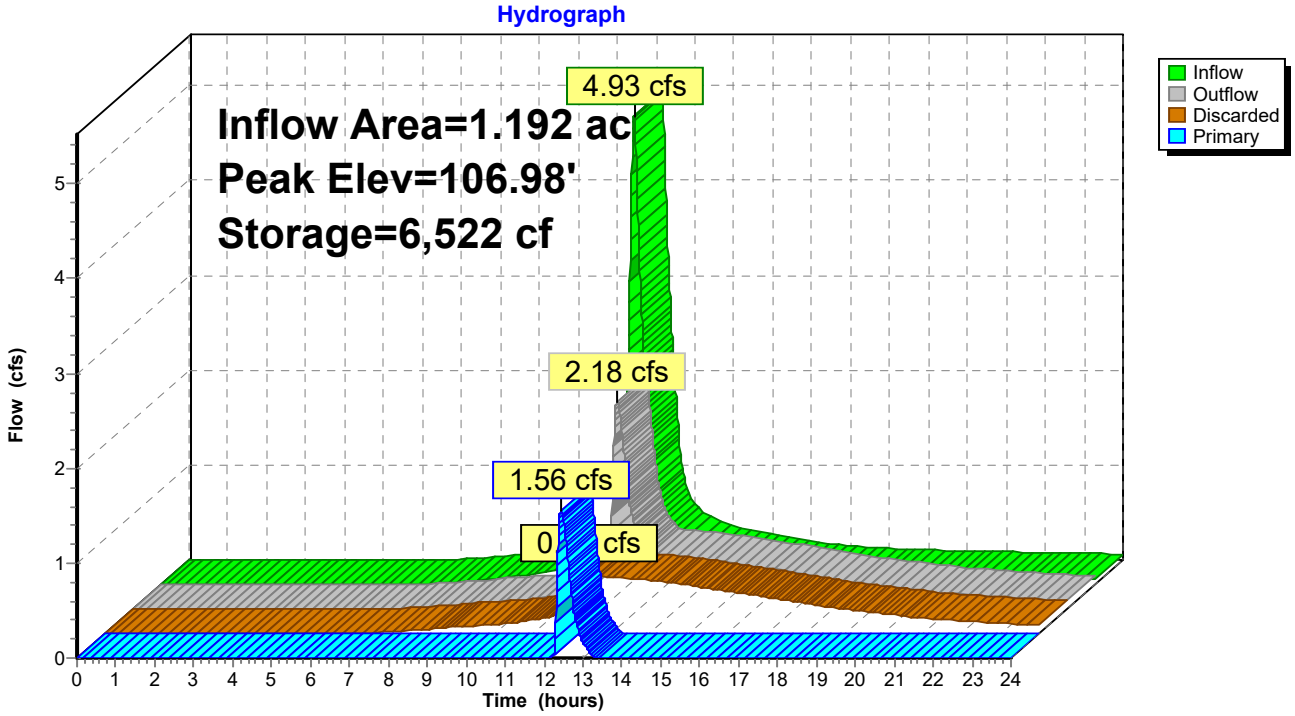
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
103.00	380	0	0
104.00	870	625	625
105.00	1,530	1,200	1,825
106.00	2,345	1,938	3,763
107.00	3,300	2,823	6,585
108.00	5,000	4,150	10,735

Device	Routing	Invert	Outlet Devices
#1	Discarded	103.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	106.75'	**5.0' long (Profile 5) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.79 2.93 3.06

Discarded OutFlow Max=0.63 cfs @ 12.44 hrs HW=106.98' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.63 cfs)

Primary OutFlow Max=1.55 cfs @ 12.44 hrs HW=106.98' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 1.55 cfs @ 1.34 fps)

Pond PR1: Recharge 1



Summary for Subcatchment P1A: Directed East

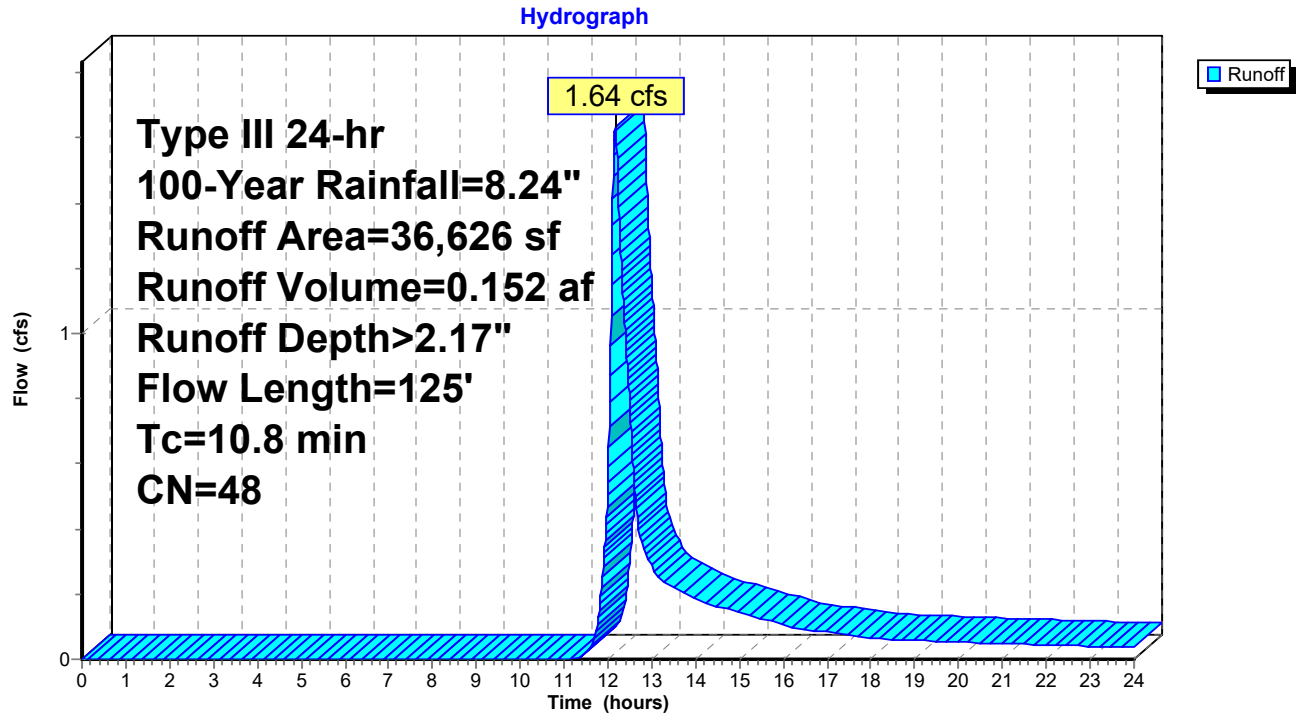
Runoff = 1.64 cfs @ 12.16 hrs, Volume= 0.152 af, Depth> 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.24"

	Area (sf)	CN	Description
*	3,060	98	Impervious
	14,250	39	>75% Grass cover, Good, HSG A
	11,924	30	Woods, Good, HSG A
	4,950	74	>75% Grass cover, Good, HSG C
	109	70	Woods, Good, HSG C
	2,333	80	>75% Grass cover, Good, HSG D
	36,626	48	Weighted Average
	33,566		91.65% Pervious Area
	3,060		8.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Sheet Flow Woods** Woods: Dense underbrush n= 0.800 P2= 3.10"
0.8	75	0.1067	1.63		**Shallow Concentrated Flow, Concentrated Woods** Woodland Kv= 5.0 fps
10.8	125	Total			

Subcatchment P1A: Directed East



Summary for Subcatchment P1B: To Recharge 1

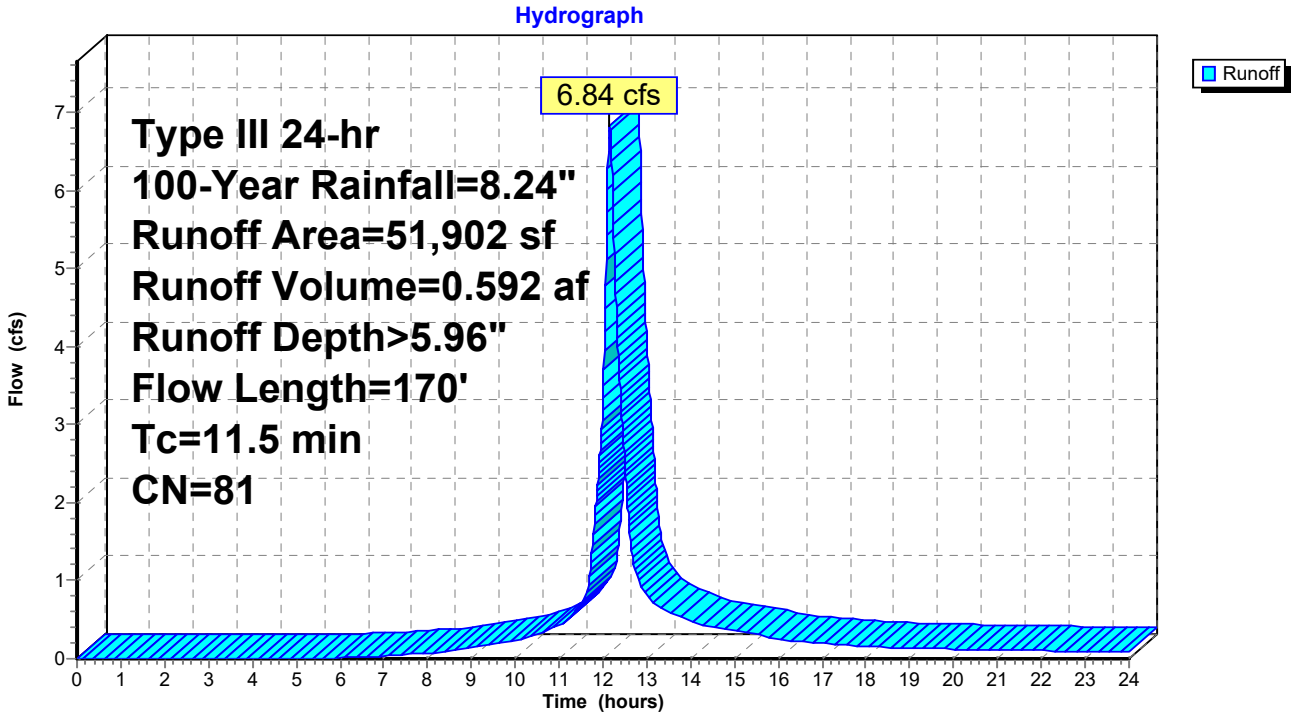
Runoff = 6.84 cfs @ 12.15 hrs, Volume= 0.592 af, Depth> 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.24"

	Area (sf)	CN	Description
*	19,628	98	Impervious
	1,448	39	>75% Grass cover, Good, HSG A
	21,790	74	>75% Grass cover, Good, HSG C
	8,739	70	Woods, Good, HSG C
	297	80	>75% Grass cover, Good, HSG D
	51,902	81	Weighted Average
	32,274		62.18% Pervious Area
	19,628		37.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Wood Sheet Flow** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.5	120	0.0750	1.37		**Shallow Concentrated Flow, Woods Concentrated Flow** Woodland Kv= 5.0 fps
11.5	170	Total			

Subcatchment P1B: To Recharge 1



Summary for Subcatchment P2: Directed West

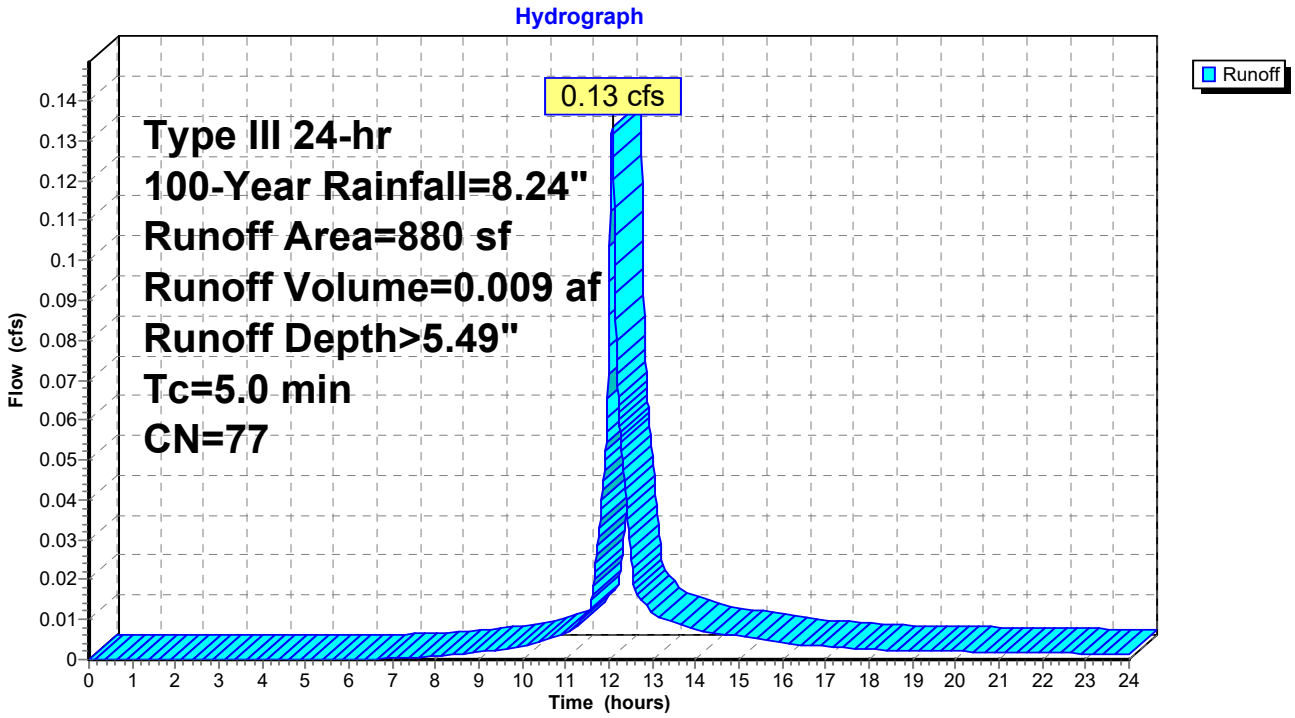
Runoff = 0.13 cfs @ 12.07 hrs, Volume= 0.009 af, Depth> 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
473	74	>75% Grass cover, Good, HSG C
407	80	>75% Grass cover, Good, HSG D
880	77	Weighted Average
880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P2: Directed West

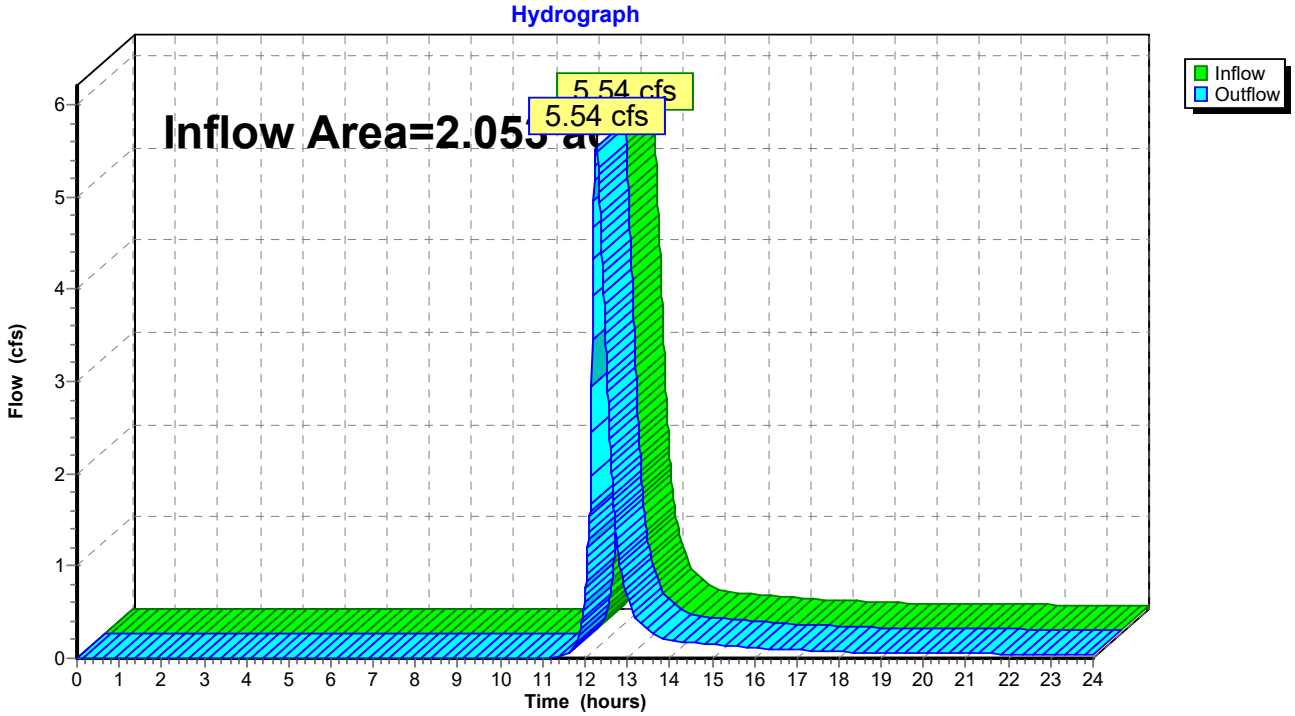


Summary for Reach P: Total

Inflow Area = 2.053 ac, 25.38% Impervious, Inflow Depth > 1.82" for 100-Year event
Inflow = 5.54 cfs @ 12.26 hrs, Volume= 0.311 af
Outflow = 5.54 cfs @ 12.26 hrs, Volume= 0.311 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach P: Total

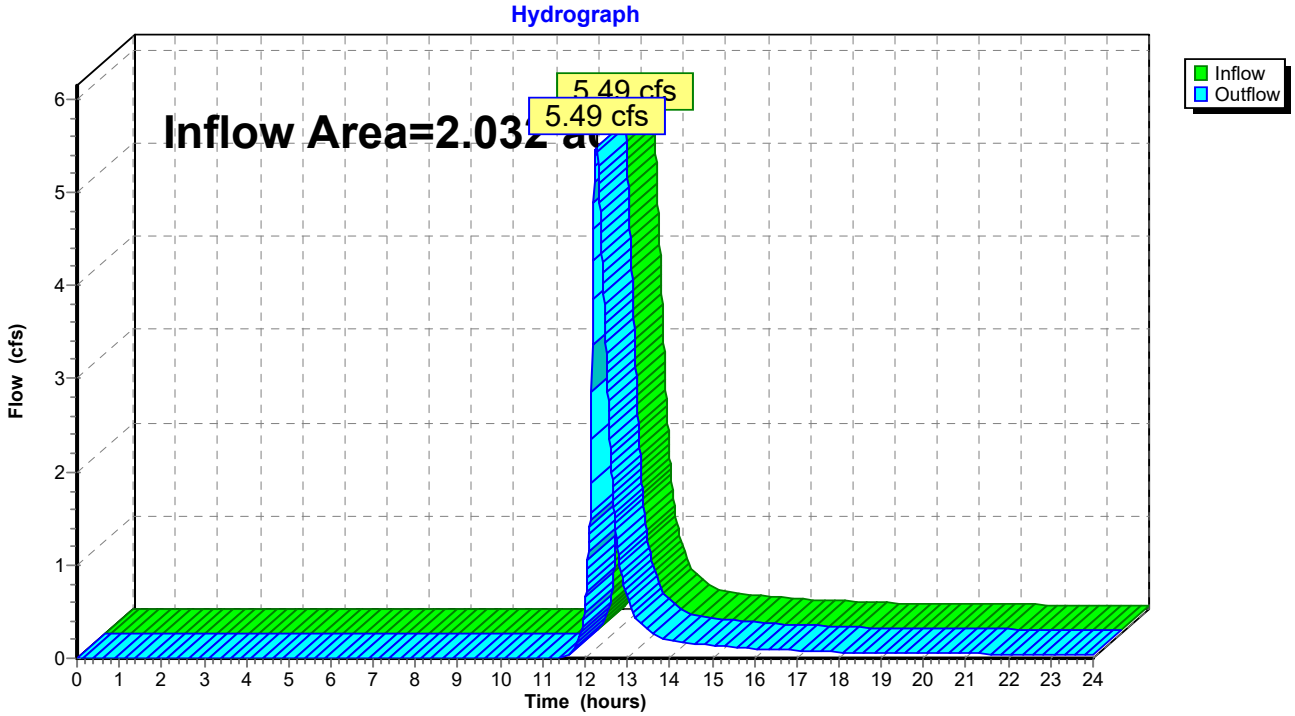


Summary for Reach R1: Reach 1

Inflow Area = 2.032 ac, 25.63% Impervious, Inflow Depth > 1.78" for 100-Year event
Inflow = 5.49 cfs @ 12.26 hrs, Volume= 0.302 af
Outflow = 5.49 cfs @ 12.26 hrs, Volume= 0.302 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R1: Reach 1

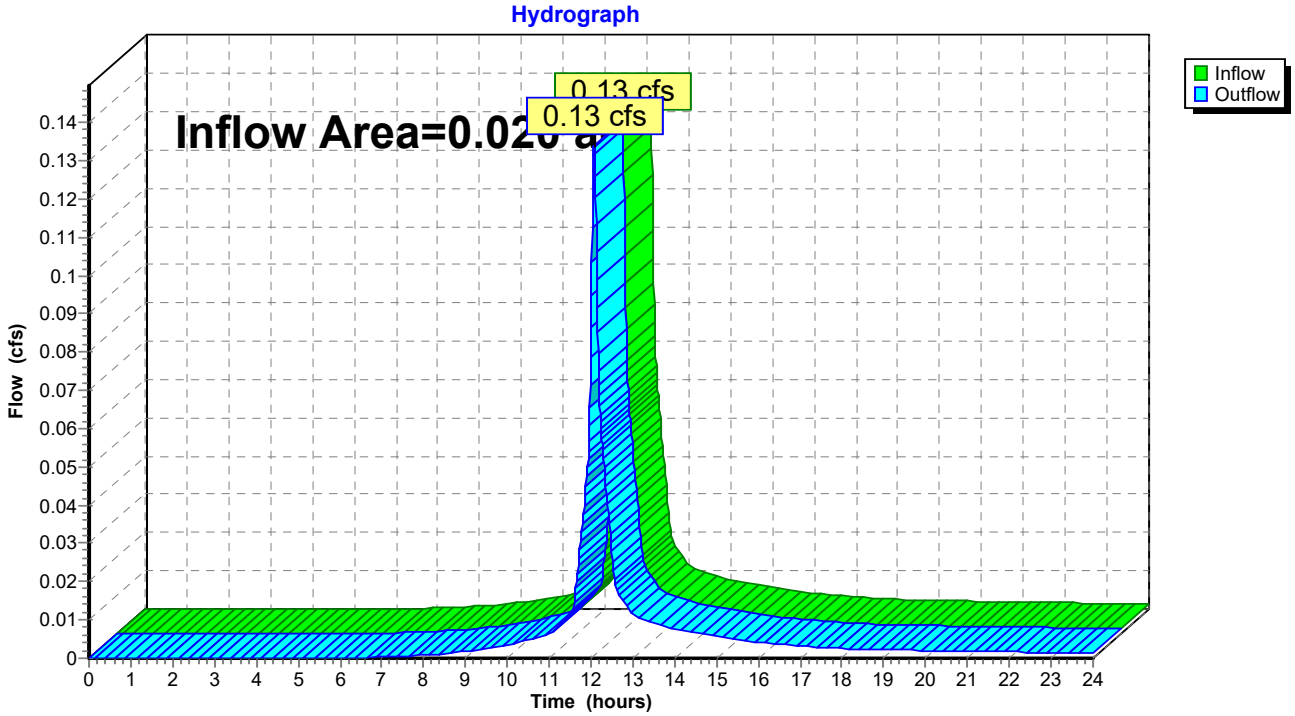


Summary for Reach R2: Reach 2

Inflow Area = 0.020 ac, 0.00% Impervious, Inflow Depth > 5.49" for 100-Year event
Inflow = 0.13 cfs @ 12.07 hrs, Volume= 0.009 af
Outflow = 0.13 cfs @ 12.07 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R2: Reach 2



Summary for Pond PR1: Recharge 1

Inflow Area = 1.192 ac, 37.82% Impervious, Inflow Depth > 5.96" for 100-Year event
Inflow = 6.84 cfs @ 12.15 hrs, Volume= 0.592 af
Outflow = 4.87 cfs @ 12.28 hrs, Volume= 0.585 af, Atten= 29%, Lag= 7.4 min
Discarded = 0.70 cfs @ 12.28 hrs, Volume= 0.435 af
Primary = 4.18 cfs @ 12.28 hrs, Volume= 0.150 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 107.20' @ 12.28 hrs Surf.Area= 3,636 sf Storage= 7,269 cf

Plug-Flow detention time= 92.7 min calculated for 0.585 af (99% of inflow)
Center-of-Mass det. time= 85.7 min (889.0 - 803.3)

Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	10,735 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

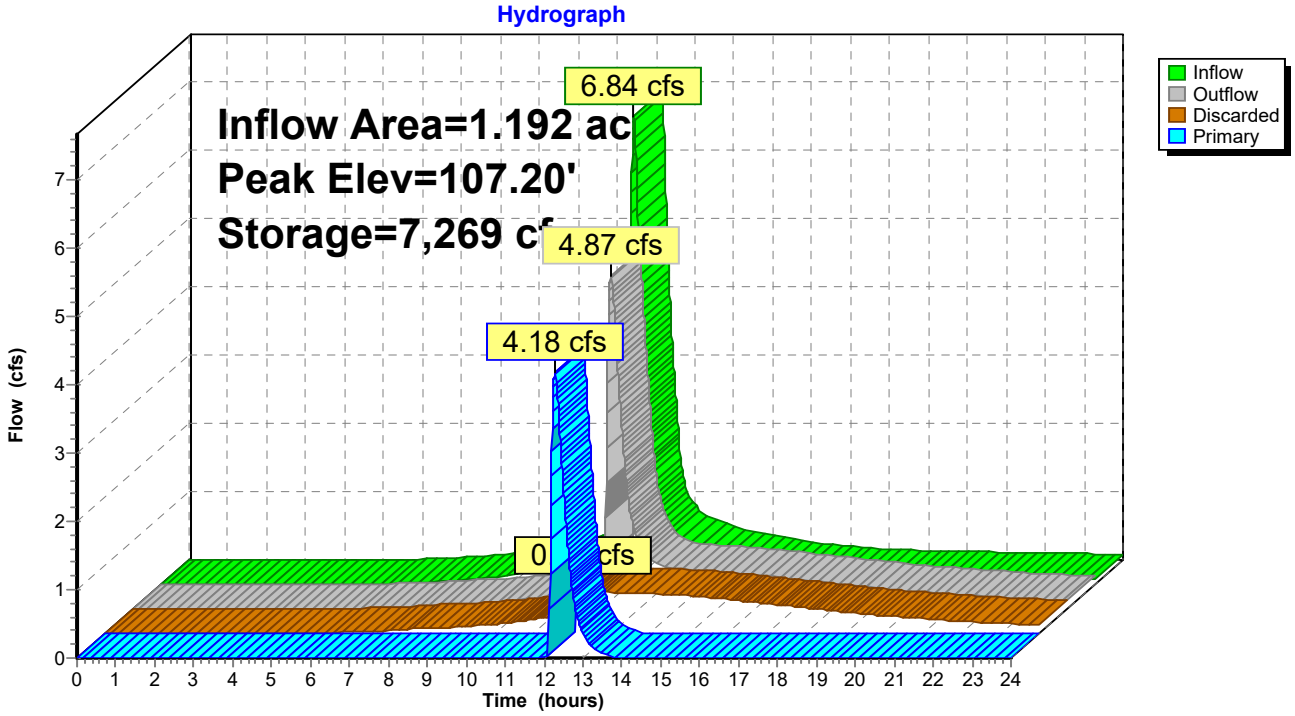
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
103.00	380	0	0
104.00	870	625	625
105.00	1,530	1,200	1,825
106.00	2,345	1,938	3,763
107.00	3,300	2,823	6,585
108.00	5,000	4,150	10,735

Device	Routing	Invert	Outlet Devices
#1	Discarded	103.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	106.75'	**5.0' long (Profile 5) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.79 2.93 3.06

Discarded OutFlow Max=0.70 cfs @ 12.28 hrs HW=107.20' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.70 cfs)

Primary OutFlow Max=4.17 cfs @ 12.28 hrs HW=107.20' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 4.17 cfs @ 1.87 fps)

Pond PR1: Recharge 1



FODERA
ENGINEERING
28 Harbor Street, Suite 204
Danvers, MA 01923
Tel: (617) 992-8492
contact@foderaengineering.com

June 7, 2023

To: Mary Benedetto, Senior Planner
Town of Reading
Community Planning and Development Commission
16 Lowell Street
Reading, MA 01867

RE: GRANDVIEW ROAD SUBDIVISION
EXTENSION REQUEST
4 COLD SPRING ROAD
READING, MA 01867

To Ms. Benedetto,

The project at 4 Cold Spring Road known as Grandview Road Subdivision is a four-lot residential subdivision. The existing lot identified as parcel ID: 27-404 has an existing dwelling structure on site. The project is to divide the land to create three (3) new single-family lots, and the existing dwelling will remain. The project was approved in 2021 and the approved plans were endorsed by the Community Planning and Development Commission (CPDC) on 7/12/2021.

Per Section 9.4.1 of the local Subdivision Regulations, the time limit for completion is two years from endorsement or date in surety, whichever is sooner. In this case, the endorsement date would control and therefore the time limit would end on 7/12/2023.

We are requesting a one-year extension for the Time Limit for Completion. Work did not commence for the project due to fine tuning agreements between the landowner and applicant. The landowner decided to retain the newly created parcel (Lot 2) behind her existing dwelling lot. The new agreement between the applicant and landowner had to be created and took time to finalize between both parties. Additionally, delays from COVID-19 further slowed the process. We ask that this letter be a formal request for extension.

Sincerely yours,

Giovanni Fodera

Giovanni Fodera, P.E.
Principal Engineer
FODERA Engineering

Memorandum

May 10, 2023

To: Andrew MacNichol, Community Development Director
Town of Reading
Community Planning and Development Commission
16 Lowell Street
Reading, MA 01867

RE: Grandview Road Subdivision

The Conservation Commission reviewed the March 10th 2023 memo by Fodera Engineering regarding site design changes. Although, the Conservation Commission supports stormwater infiltration systems. This change would require the applicant to return to the conservation commission for review and approval.

- The stormwater subsurface infiltration system has been replaced with a detention/infiltration basin

Sincerely,

Chuck Tirone
Conservation Administrator

Town of Reading
Engineering Division

Memo

To: Andrew MacNichol, Community Development Director

From: Alex Rozycki, P.E., Senior Civil Engineer

CC: Ryan A. Percival, P.E., Town Engineer; Mary Benedetto, Senior Planner

Date: April 27, 2023

Re: Grandview Road Extension

Materials reviewed:

- Proposed Site Plans entitled; "Major Site Plan Modification- Grandview Road Subdivision prepared by Fodera Engineering dated April 20th 2023"
- Site Plan Set entitled "Penny Lane Subdivision – Grandview Road Extension – Private Way; prepared by Fodera Engineering; dated December 2nd 2020"

The Engineering Division has reviewed the proposed site application for the proposed project and offers the following comments:

- Previous plans for the southernmost home included roof drainage tied into the infiltration system, there are concerns that the adjacent property will now receive stormwater flows given the grades. The stormwater report indicates all impervious area will be captured, does that include hardscapes on the lots? The previous plan captured impervious areas on individual lots.
- The infiltration chamber design under the endorsed plans will allow for more land use in the backyard areas, the proposed detention pond design eliminates the use of land.
- Engineering sees no reason to support the waiver allowing less cover on utilities, there appears to be no benefit to support such a waiver.
- The Engineering Department does not approve of gas lines or electrical services, those shall be coordinated and approved by others.
- There are many instances of utilities crossing, we are particularly concerned with the crossing of water and sewer. Crossings should be limited, and invert elevations of the services may be requested to ensure proper separation.
- Inverts of the existing sewer manhole should be provided, as well as a detail for the force main connection.
- MaDEP regulations may not allow for discharge of water or overflow rip-rap within 10 feet of a property line.
- NPDES MS4 permit requirements shall be met for TSS removal and Phosphorous reduction. The supporting calculations should be provided and reviewed by Engineering. The project will also require a Storm Water Pollution Prevention Plan as well as an O&M plan for the proposed detention basin.
- A Sewer Connection I/I fee is required.
- The driveway curb cuts shall meet Town of Reading standard cross sections. The proposed elevations are unclear in these areas, all driveways will be approved individually.
- All utilities shall be approved materials and installed in accordance with the Department of Public Works Standards.
- Engineering Division shall be notified 72 hours in advance to mark out Town utilities.
- All water, sewer, curb cut, street opening and Jackie's Law excavation permits shall be obtained at the Engineering Division prior to any excavations.
- All site work shall be inspected by the Engineering Division. The Applicant/Owner's contractor shall submit a construction schedule of proposed work. All inspections shall be scheduled 48 hours in advance.
- An approved site as-built shall be submitted to the Engineering Division within 60 days of certificate of occupancy. The as-built shall be submitted in mylar and electronic ACAD format.

FODERA
ENGINEERING
28 Harbor Street, Suite 204
Danvers, MA 01923
Tel: (617) 992-8492
contact@foderaengineering.com

March 10, 2023

To: Andrew MacNichol, Community Development Director
Town of Reading
Community Planning and Development Commission
16 Lowell Street
Reading, MA 01867

RE: GRANDVIEW ROAD SUBDIVISION
SITE PLAN MODIFICATIONS
4 COLD SPRING ROAD
READING, MA 01867

To Mr. MacNichol,

The project at 4 Cold Spring Road known as Grandview Road Subdivision was approved by the Community Planning and Development Commission (CPDC) and a Decision of Approval was issued and dated February 8, 2021. The approved plans were endorsed and recorded at the Middlesex South District Registry of Deeds (M.S.D.R.D.) as Plan 754 of 2022. A deed for the subdivision was recorded as Book 80930 Page 320.

The site has since been revisited and site design changes have been made. The following is a summary of the revisions.

- Lot 2 will remain undeveloped but with the potential to be developed in the future.
- Lot 1 will keep the existing on-site shed and an associated easement into Lot 2 has been created for the encroachment.
- Relocated electric easement on Lot 2.
- The stormwater subsurface infiltration system has been replaced with a detention/infiltration basin and revised the drainage easement accordingly.
- The roadway has been regraded to create a low point at the end of the cul-de-sac.
- The building footprints for Lots 3 and 4 have increased from 1,925 sq-ft to 2,200.
- Created a larger backyard for Lot 4.
- Associated stormwater runoff calculations have been revised and the stormwater report has been updated.

Proposed stormwater pipes have reduced to just two (2) pipes and are at the end of the roadway, directed into the proposed infiltration basin. Cover above the pipes are approximately 2.5 feet, which will require a waiver from Section 7.4.4.3.e of the Subdivision Rules and Regulations dated August 26, 2006. The waiver is to accept a 2.5' cover above the drain pipes, which is less than the required four (4) feet and three (3) in vehicular roadways and easements, respectively.

Please accept this submittal as formal request for review. Please do not hesitate to call or email me shall you have any questions, comments, or concerns.

Sincerely yours,

Giovanni Fodera, P.E.
Principal Engineer
FODERA Engineering

Attachments:

- Major Site Plan Modification – Grandview Road Subdivision, dated March 10, 2023.
- Stormwater Management Report, Major Site Plan Modification, dated March 10, 2023.
- M.S.D.R.D. Plan 754 of 2022
- M.S.D.R.D. Book 80930, Page 320.

Cc: Michael Salamone
Frank Lanzillo

A2

2022 00166357
Bk: 80930 Pg: 320 Doc: DEED
Page: 1 of 2 11/09/2022 03:01 PM

Quitclaim Deed

PENNY A. JEAN, a single woman, of 4 Cold Spring Road, Reading, Massachusetts, for nominal consideration of Ten dollars ($10.00), grant to:

GRANDVIEW, LLC, a Massachusetts limited liability company, of 45 Beacon Street, Reading, Massachusetts

With ***QUITCLAIM COVENANTS***

The land in Reading, Middlesex County, Massachusetts identified as Lots 2, 3 and 4, together with the fee in the land shown as "Grandview Road", as shown on a Subdivision Plan entitled "*Grandview Road Subdivision – Private Way, Grand View Road Extension*" prepared by Fodera Engineering, 28 Harbor Street, Suite 204, Danvers, MA 010923, dated December 3, 2020, revised through July 12, 2021, and which Plan is recorded herewith. Said land is conveyed subject to and with the benefit of all easements, agreement, covenants, and provisions of record. No right, title or interest is conveyed in, to or over the property shown as Lot 1 on said Plan, which is retained by the Grantor.

Grantor hereby releases and terminates any and all claims of homestead in the premises conveyed hereby, and further hereby state that no other person is entitled to claim the benefit of an existing state of homestead in the premises conveyed hereby.

Meaning and intending to convey a portion of the land conveyed to the Grantor by deed dated May 2, 2007, and recorded in the Middlesex County Registry of Deeds at Book 49389, Page 45.

Property Address: Lots 2, 3 and 4 and Grandview Road Extension, Reading, Massachusetts 01867

Executed as a sealed instrument this 25TH day of OCTOBER 2022.

Penny A. Jean

Commonwealth of Massachusetts

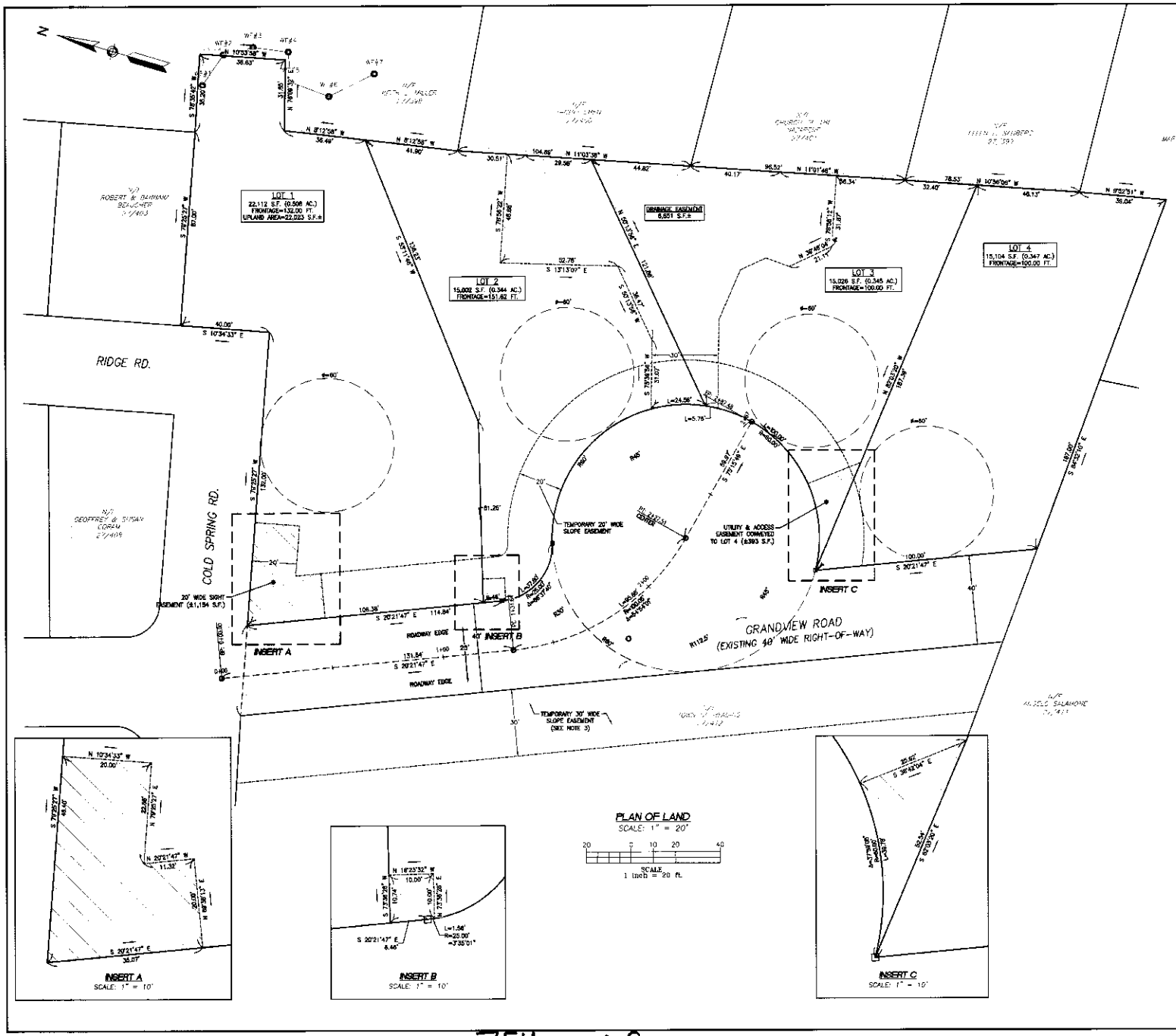
Middlesex, ss.

On 25TH day of October, 2022, before me, the undersigned notary public, personally appeared Penny A Jean, the above-named and proved to me through satisfactory evidence of identification being PERSONAL KNOWLEDGE, to be the persons whose names are signed on this document, and acknowledged to me that she signed it voluntarily for its stated purpose and that the foregoing instrument is her free act and deed.

JOSHUA E. LATHAM
MY COMM. EXPIRES MAY 10, 2024
NOTARY PUBLIC COMMONWEALTH OF MASSACHUSETTS

Notary Public: JOSHUA E. LATHAM
My Commission Expires: 5/10/24

SEE PLAN NO. 754 OF 2022



RIGHT-OF-WAY STATEMENT

THE PROPOSED RIGHT-OF-WAY (ROW) SOUTH OF THE INTERSECTION FROM COLD SPRING ROAD AND GRANDVIEW ROAD, IS PROPOSED AS A PRIVATE WAY FOR ALL LAND OWNERS N AND ABUTTING THE SUBDIVISION, AND WILL REMAIN NAMED AS GRANDVIEW ROAD.

LEGEND

- PROPERTY LINE
- EASEMENT LINE
- WETLAND BOUNDARY
- R10' RADIUS MEASUREMENT
- WF6 WETLAND FLAG
- STONE BOUND WITH DRILL HOLE

GENERAL NOTES

1. WETLANDS WERE FLAGGED BY LEC ENVIRONMENTAL CONSULTANTS IN JUNE 2020.
2. THE PROJECT S LOCATED OUTSIDE OF ANY PROTECTED RESOURCE AREAS AND FLOOD ZONES AS DETERMINED BY THE MOST RECENTLY PUBLISHED DATA FROM THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION AND FEMA.
3. IN LIEU OF A RETAINING WALL LOCATED IN THE RIGHT-OF-WAY ALONG THE WESTERN BOUNDARY OF GRAND VIEW ROAD, A TEMPORARY THIRTY (30) FOOT WIDE SLOPE EASEMENT IS PROPOSED ON TOWN PROPERTY AND SHALL BE APPROVED BY THE TOWN. SEE SHEET C-5 FOR GRADING.

PLAN REFERENCES

1. BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY PFS LAND SURVEYING.

PROPERTY INFORMATION

ADDRESS: 4 COLD SPRING ROAD
READING, MA 01867
TAX MAP, LOT: MAP 27, LOT 404
LOT SIZE: 75,407 S.F. (1.73 AC.)

RECORD OWNERS

4 COLD SPRING ROAD
PENNY A. JEAN
4 COLD SPRING RD.
READING, MA 01867

APPLICANT

MICHAEL SALAMONE
45 BEACON ST.
READING, MA 01867

ZONING SUMMARY

ZONING DISTRICT: SINGLE FAMILY 15 (S15)

	REQUIRED	LOT 1	LOT 2	LOT 3	LOT 4
MIN. LOT WIDTH	60'	>60'	>60'	>60'	>60'
MIN. LOT AREA (SF)	15,000	22,112	15,002	15,026	15,104
MIN. FRONTAGE	100'	132.00	151.62	100.00	100.00
RELIEF REQUIRED	–	N	N	N	N

REVISION	DATE	BY
REVISION 1	12/29/20	GDF
CONSERVATION	2/17/21	GDF
ENDORSEMENT SET	7/12/21	GDF

PROJECT LOCATION:
4 COLD SPRING RD.
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

PLAN SET:
GRANDVIEW ROAD SUBDIVISION – PRIVATE WAY
(GRAND VIEW ROAD EXTENSION)

ENDORSEMENT SET

DECEMBER 8, 2020

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE:

FOR REGISTRY USE ONLY
Middlesex Registry of Deeds,
Southern District
Commonwealth of Massachusetts
Plan No. 754 of 2022
Rec'd 11-9 2022
at 2 H 44 M P M
Attest
Register

ENGINEER:
FODERA ENGINEERING
(617) 877-3295
gfodera@foderaengineering.com
24 Parker St., Suite 254
Danvers, MA 01923

SURVEYOR:
PFS Land Surveying, Inc.

PROFESSIONAL SEAL
GIOVANNA GAETANO FODERA No. 54584 REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL SEAL
PAUL F. SCHUMACHER No. 37186 REGISTERED PROFESSIONAL LAND SURVEYOR

JOB NO.: 20160-149

SHEET TITLE:
PLAN OF LAND

SHEET NUMBER:
C-1

754 of 2022

KK