

REVISIONS		
NO.	DATE	DESCRIPTION
2	4/13/23	MOVE HYDRANTS; MOVE LOT 3 & 4 LOT LINE.
1	3/8/23	ADDRESS PEER REVIEW COMMENTS.

# DEFINITIVE SUBDIVISION PLAN for FIELDS WAY

**LIST OF ABBREVIATIONS:**

AC	ACRES
APPROX	APPROXIMATE
BIT	BITUMINOUS
BK	BOOK
BVW	BORDERING VEGETATED WETLAND
CLDI	CEMENT LINED DUCTILE IRON
CONC	CONCRETE
DH	DRILL HOLE
DI	DUCTILE IRON
E	EAST
EL; ELEV	ELEVATION
ESRD	ESSEX SOUTH REGISTRY OF DEEDS
EXIST	EXISTING
INV	INVERT
LOW	LIMIT OF WORK
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH
N/F	NOW / FORMERLY
PG	PAGE
PROP	PROPOSED
R	RADIUS
ROW	RIGHT OF WAY
S	SOUTH
SF	SQUARE FEET
STA	STATION
TP	TEST PIT
TYP	TYPICAL
W	WEST

## 170 ORCHARD STREET NEWBURY, MA JANUARY 2023

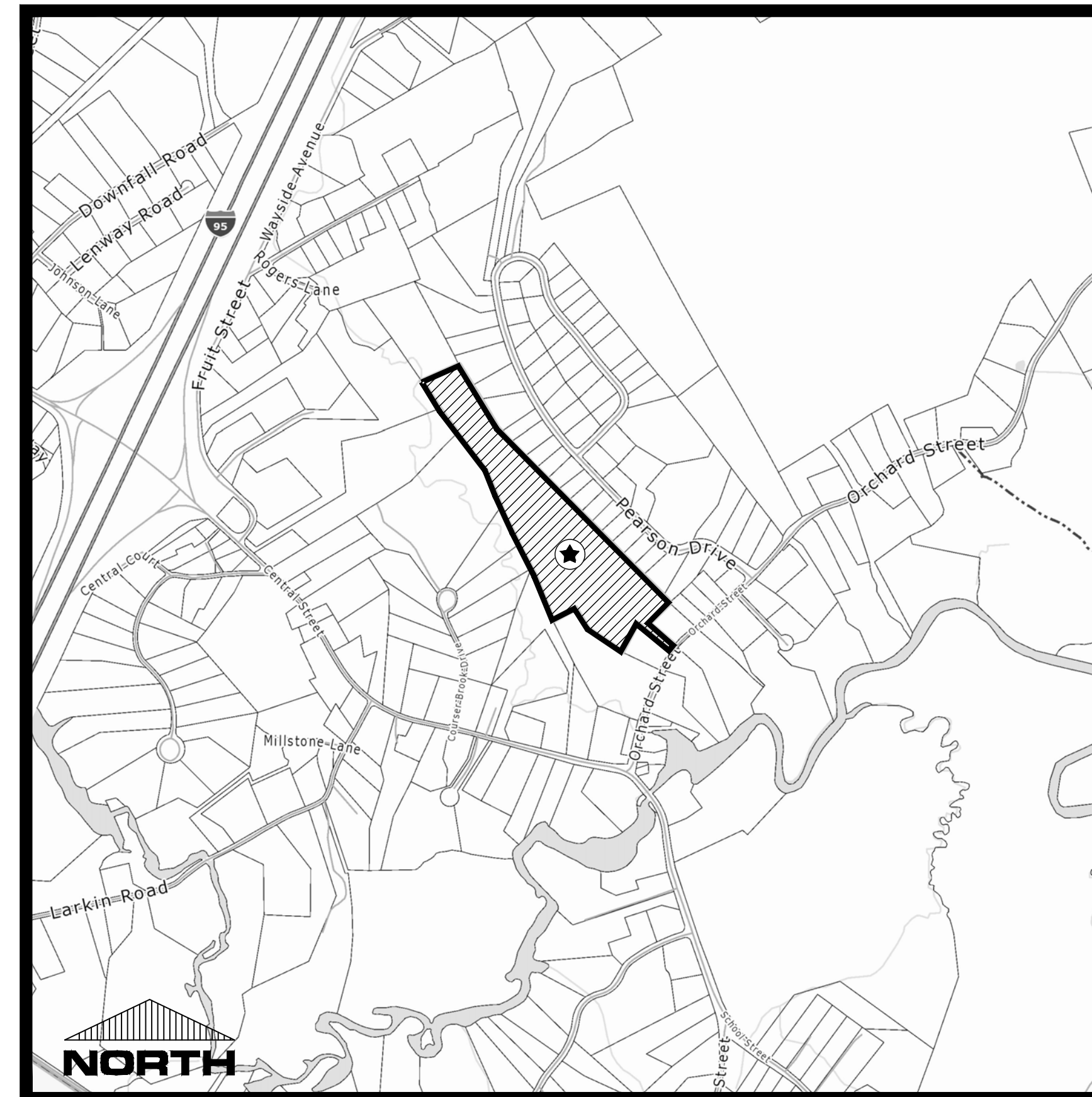
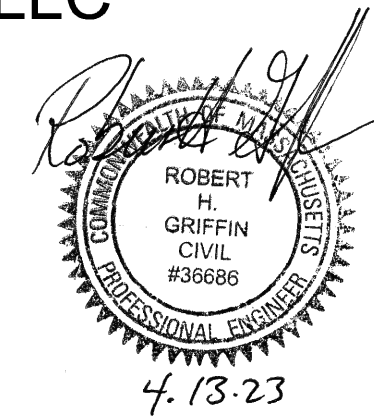
### List of Drawings:

- COVER SHEET
- C-1: NOTES
- C-2: EXISTING CONDITIONS PLAN I
- C-3: EXISTING CONDITIONS PLAN II
- C-4: LOTTING PLAN I
- C-5: LOTTING PLAN II
- C-6: SITE LAYOUT & UTILITIES PLAN
- C-7: SITE GRADING & DRAINAGE PLAN
- C-8: PROFILES & CROSS-SECTIONS
- C-9: DETAILS I
- C-10: DETAILS II

**APPLICANT:** ESTATE OF LEWIS BULGARIS  
C/O DIANNE YURKAVICH  
2 LAVALLEE LANE  
NEWBURYPORT, MA 01950

**ENGINEER:** GRIFFIN ENGINEERING GROUP, LLC  
495 CABOT ST, 2ND FLOOR  
BEVERLY, MA 01915

**SURVEYOR:** LEBLANC SURVEY ASSOCIATES  
161 HOLTEN STREET  
DANVERS, MA 01923



**LOCUS MAP**  
SCALE: 1" = 800'

**LIST OF WAIVERS**

- SECTION 117-18C - ENVIRONMENTAL ANALYSIS  
- BOARD MAY WAIVE ANALYSIS FOR SUBDIVISIONS OF 5 LOTS OR LESS.
- SECTION 117-23.D - GENERAL LAYOUT AND DIMENSIONS:  
- REQUIRED: 30' PROPERTY LINE RADIUS AT STREET INTERSECTION  
- PROVIDED: NONE
- SECTION 117-21 - STREET LOCATION AND ALIGNMENT:  
- REQUIRED: MIN. WIDTH OF R.O.W. - 53'  
- PROVIDED: MIN. WIDTH OF R.O.W. - 50'
- SECTION 117-24 & ATTACHMENT 1 - TYPICAL ROADWAY CROSS-SECTION:  
- REQUIRED: ROADWAY CROWN; SWALE ON BOTH SIDES; STREET TREES  
- PROVIDED: SUPER ELEVATION OF CUL-DE-SAC; NO STREET TREES
- SECTION 117-35 - SIDEWALKS/BIKEWAYS  
- NO SIDEWALK PROVIDED
- SECTION 117-42 - TREES  
- NO STREET TREES PROVIDED

TOWN OF NEWBURY  
PLANNING BOARD

DATE:

I CERTIFY THAT THIS PLAN WAS PREPARED  
IN ACCORDANCE WITH THE RULES AND  
REGULATIONS OF THE REGISTERS OF DEEDS.

DATE \_\_\_\_\_

FOR REGISTRY USE ONLY

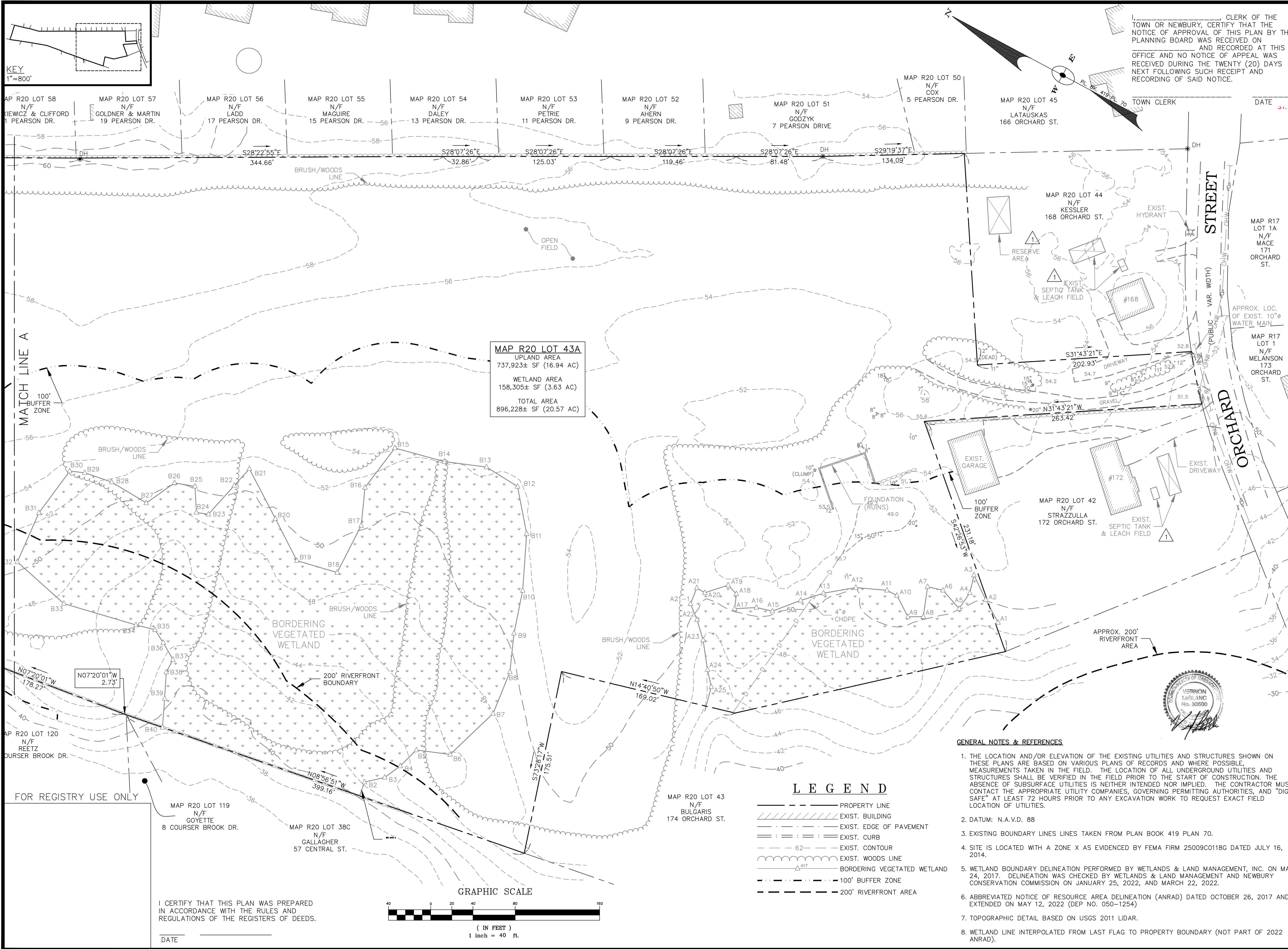
\_\_\_\_\_, CLERK OF THE  
TOWN OF NEWBURY, CERTIFY THAT THE  
NOTICE OF APPROVAL OF THIS PLAN BY THE  
PLANNING BOARD WAS RECEIVED ON \_\_\_\_\_  
AND RECORDED AT THIS  
OFFICE AND NO NOTICE OF APPEAL WAS  
RECEIVED DURING THE TWENTY (20) DAYS  
NEXT FOLLOWING SUCH RECEIPT AND  
RECORDING OF SAID NOTICE.

TOWN CLERK \_\_\_\_\_

DATE \_\_\_\_\_







KEY  
1"=800'

I, \_\_\_\_\_, CLERK OF THE TOWN OF NEWBURY, CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON \_\_\_\_\_ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY (20) DAYS NEXT FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN OF NEWBURY  
PLANNING BOARD

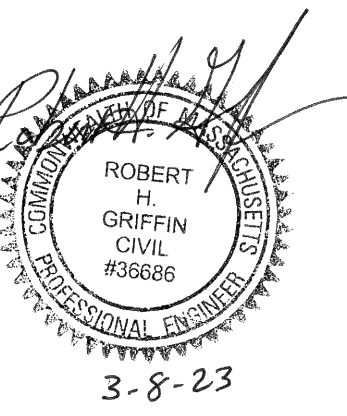
DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

**MAP R20 LOT 43A**  
 UPLAND AREA  
 737,923± SF (16.94 AC)  
 WETLAND AREA  
 158,305± SF (3.63 AC)  
 TOTAL AREA  
 896,228± SF (20.57 AC)

**OWNER & APPLICANT:**  
 ESTATE OF LEWIS BULGARIS  
 C/O DIANNE YURKAVICH  
 2 LAVALLEE LANE  
 NEWBURYPORT, MA 01950

No.	Date	Description
1	3/8/23	SHOW #168 & 172 SEPTICS; SHOW MORE TOPO ON #168; ADD EXIST. SPOT GRADES.



495 Cabot Street, 2nd Floor  
 Beverly, MA 01915  
 Tel: 978-927-5111  
 Fax: 978-927-5103

**FIELDS WAY  
 SUBDIVISION**

170 ORCHARD ST.  
 NEWBURY, MA

**EXISTING  
 CONDITIONS  
 PLAN I**

Scale: 1"=40'  
 Job No: 2043  
 Date: 1/4/23

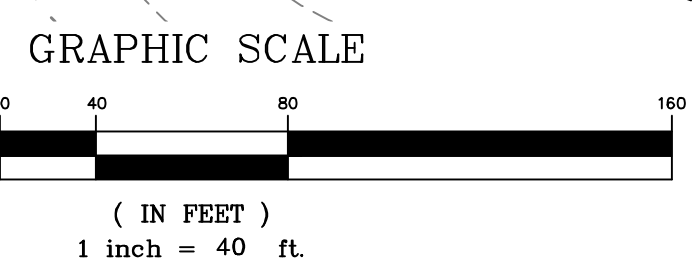
C-2

**GENERAL NOTES & REFERENCES**

1. THE LOCATION AND/OR ELEVATION OF THE EXISTING UTILITIES AND STRUCTURES SHOWN ON THESE PLANS ARE BASED ON VARIOUS PLANS OF RECORDS AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. THE ABSENCE OF SUBSURFACE UTILITIES IS NEITHER INTENDED NOR IMPLIED. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES, GOVERNING PERMITTING AUTHORITIES, AND "DIG SAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES.
2. DATUM: N.A.V.D. 88
3. EXISTING BOUNDARY LINES TAKEN FROM PLAN BOOK 419 PLAN 70.
4. SITE IS LOCATED WITH A ZONE X AS EVIDENCED BY FEMA FIRM 25009C0118G DATED JULY 16, 2014.
5. WETLAND BOUNDARY DELINEATION PERFORMED BY WETLANDS & LAND MANAGEMENT, INC. ON MAY 24, 2017. DELINEATION WAS CHECKED BY WETLANDS & LAND MANAGEMENT AND NEWBURY CONSERVATION COMMISSION ON JANUARY 25, 2022, AND MARCH 22, 2022.
6. ABBREVIATED NOTICE OF RESOURCE AREA DELINEATION (ANRAD) DATED OCTOBER 26, 2017 AND EXTENDED ON MAY 12, 2022 (DEP NO. 050-1254)
7. TOPOGRAPHIC DETAIL BASED ON USGS 2011 LIDAR.
8. WETLAND LINE INTERPOLATED FROM LAST FLAG TO PROPERTY BOUNDARY (NOT PART OF 2022 ANRAD).

**LEGEND**

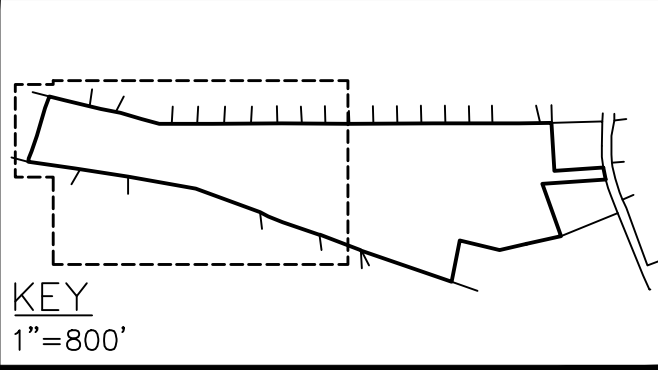
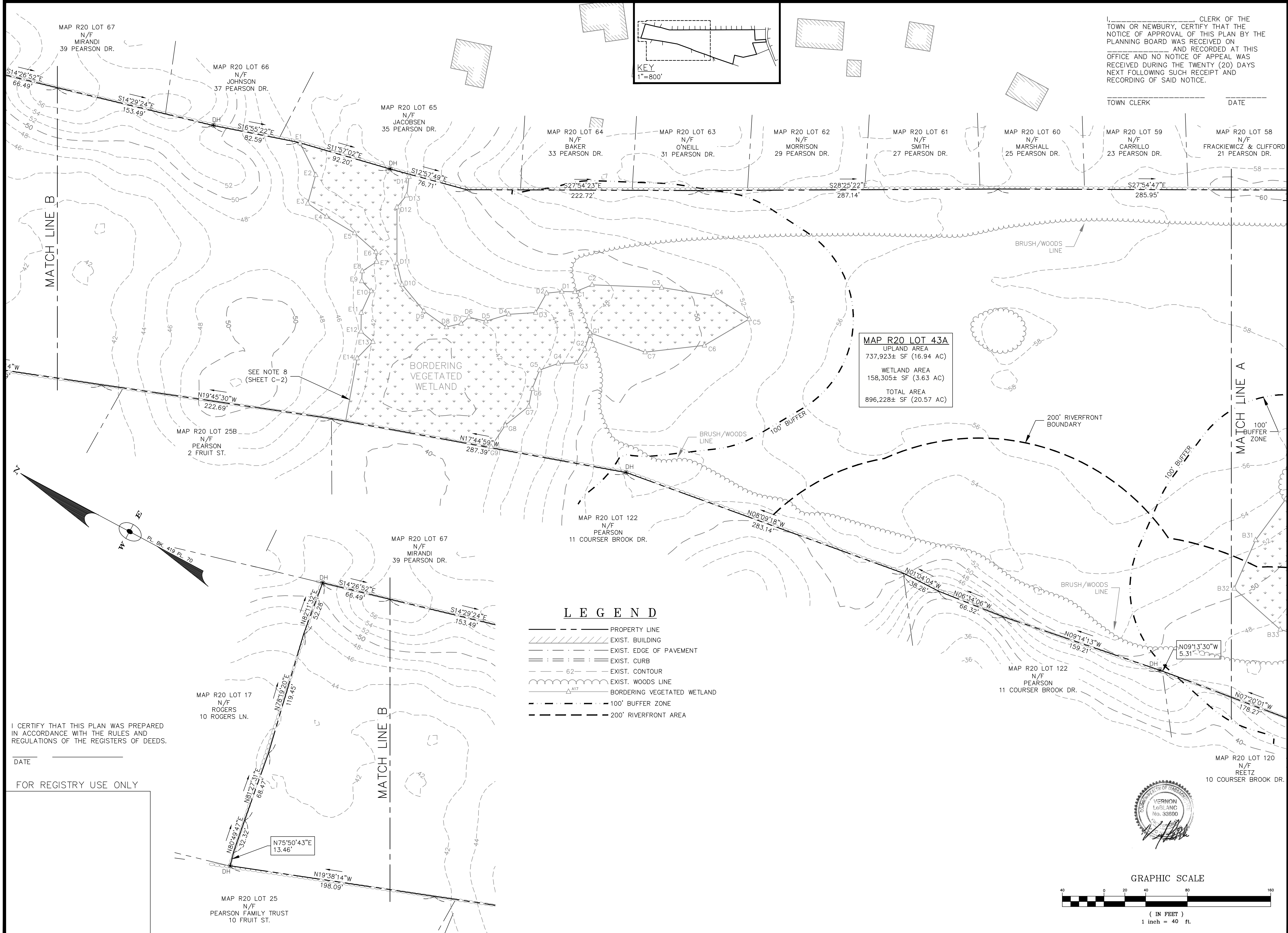
- PROPERTY LINE
- ▨ EXIST. BUILDING
- EXIST. EDGE OF PAVEMENT
- EXIST. CURB
- - - EXIST. CONTOUR
- EXIST. WOODS LINE
- BORDERING VEGETATED WETLAND
- 100' BUFFER ZONE
- 200' RIVERFRONT AREA



I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE: \_\_\_\_\_





I, \_\_\_\_\_ CLERK OF THE TOWN OR NEWBURY, CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON \_\_\_\_\_ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY (20) DAYS NEXT FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

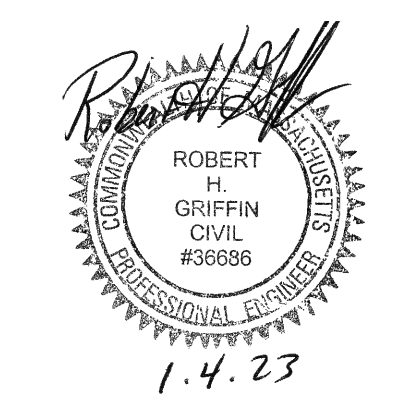
TOWN CLERK \_\_\_\_\_ DATE \_\_\_\_\_

TOWN OF NEWBURY  
PLANNING BOARD

DATE: \_\_\_\_\_

OWNER & APPLICANT:  
ESTATE OF LEWIS BULGARIS  
C/O DIANNE YURKAVICH  
2 LAVALLEE LANE  
NEWBURYPORT, MA 01950

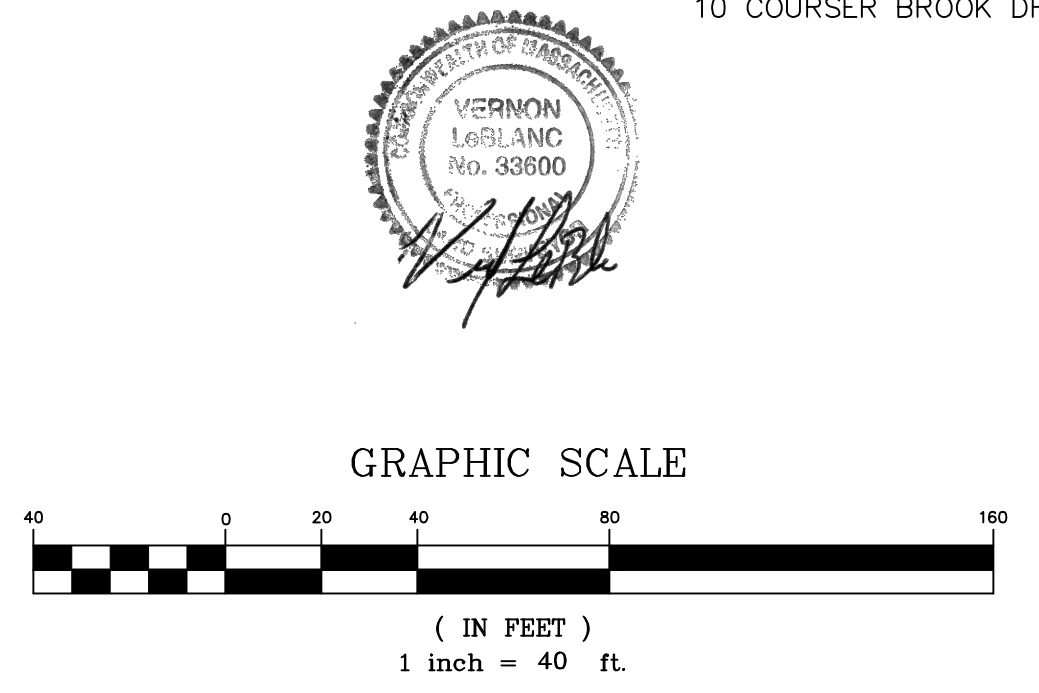
No.	Date	Description
Revisions		



- LEGEND**
- PROPERTY LINE
  - ▨ EXIST. BUILDING
  - - - EXIST. EDGE OF PAVEMENT
  - ==== EXIST. CURB
  - - - EXIST. CONTOUR
  - ~~~~ EXIST. WOODS LINE
  - ▲ BORDERING VEGETATED WETLAND
  - - - 100' BUFFER ZONE
  - - - 200' RIVERFRONT AREA

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DATE \_\_\_\_\_  
FOR REGISTRY USE ONLY



495 Cabot Street, 2nd Floor  
Beverly, MA 01915  
Tel: 978-927-5111  
Fax: 978-927-5103

**FIELDS WAY  
SUBDIVISION**

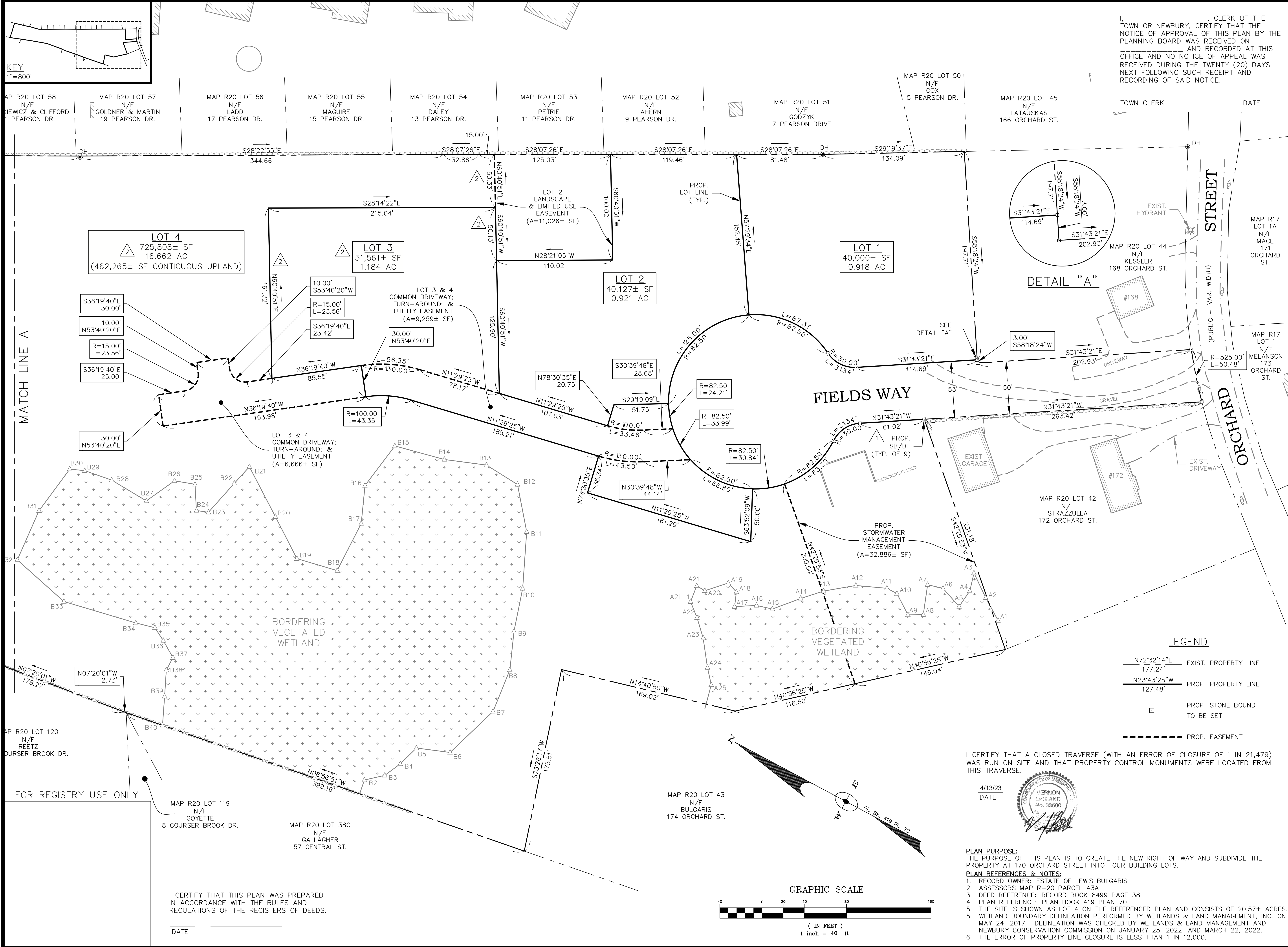
170 ORCHARD ST.  
NEWBURY, MA

EXISTING  
CONDITIONS  
PLAN II

Scale: 1"=40'  
Job No: 2043  
Date: 1/4/23

C-3





I, \_\_\_\_\_ CLERK OF THE TOWN OF NEWBURY, CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON \_\_\_\_\_ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY (20) DAYS NEXT FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK \_\_\_\_\_ DATE \_\_\_\_\_

TOWN OF NEWBURY  
PLANNING BOARD

DATE: \_\_\_\_\_

**OWNER & APPLICANT:**  
ESTATE OF LEWIS BULGARIS  
C/O DIANNE YURKAVICH  
2 LAVALLÉE LANE  
NEWBURYPORT, MA 01950

No.	Date	Description
2	4/13/23	MOVE LOT 3 & 4 LOT LINE.
1	3/8/23	ADD (2) SBDH @ ENTRANCE; ADD BLDGS ON ADJ. LOTS.

**LEBLANC SURVEY ASSOCIATES**  
161 HOLTEN STREET  
DANVERS, MA 01923  
978-774-6012

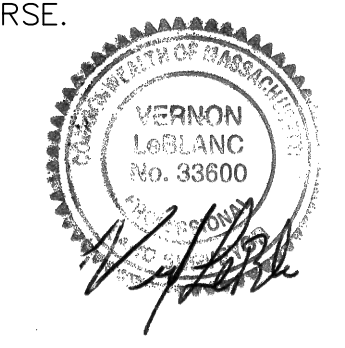
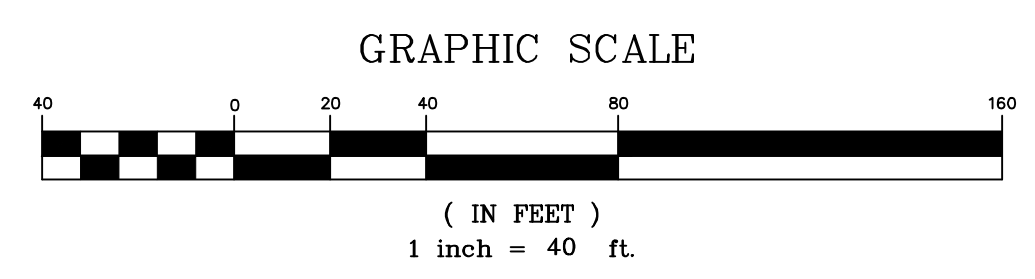
**Griffin Engineering Group, LLC**  
495 Cabot Street, 2nd Floor  
Beverly, MA 01915  
Tel: 978-927-5111  
Fax: 978-927-5103

**FIELDS WAY SUBDIVISION**  
170 ORCHARD ST.  
NEWBURY, MA

LOTING PLAN I  
(1 OF 2)

Scale: 1"=40'  
Job No: 2043  
Date: 1/4/23

C-4



I CERTIFY THAT A CLOSED TRAVERSE (WITH AN ERROR OF CLOSURE OF 1 IN 21,479) WAS RUN ON SITE AND THAT PROPERTY CONTROL MONUMENTS WERE LOCATED FROM THIS TRAVERSE.

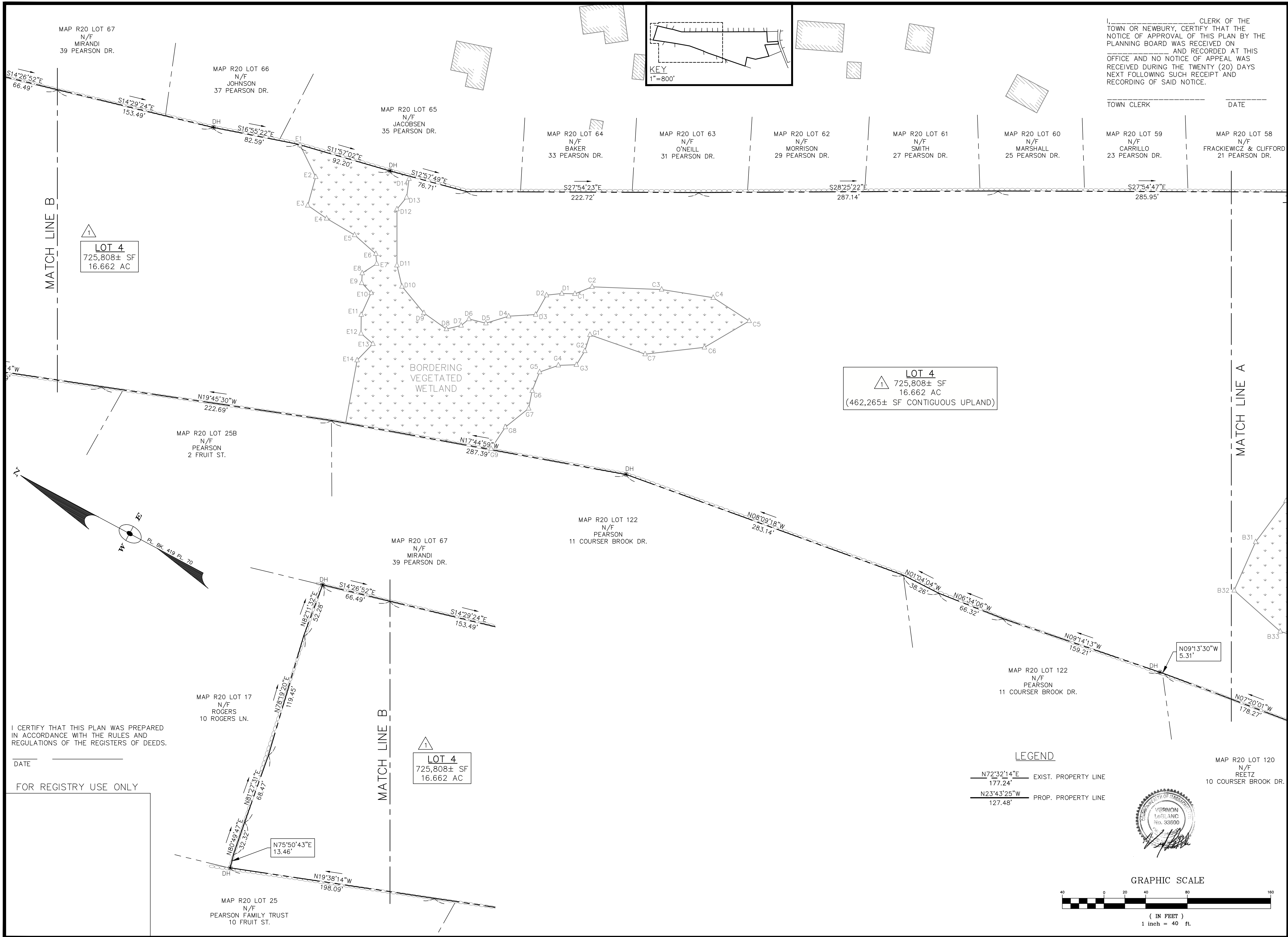
4/13/23  
DATE

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DATE \_\_\_\_\_

FOR REGISTRY USE ONLY





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TOWN CLERK \_\_\_\_\_ DATE \_\_\_\_\_

TOWN OF NEWBURY  
PLANNING BOARD

DATE: \_\_\_\_\_

**OWNER & APPLICANT:**  
ESTATE OF LEWIS BULGARIS  
C/O DIANNE YURKAVICH  
2 LAVALLEE LANE  
NEWBURYPORT, MA 01950

No.	Date	Description
1	4/13/23	UPDATE LOT 4 AREA.

**Revisions**

**LEBLANC SURVEY ASSOCIATES**  
161 HOLTEN STREET  
DANVERS, MA 01923  
978-774-6012



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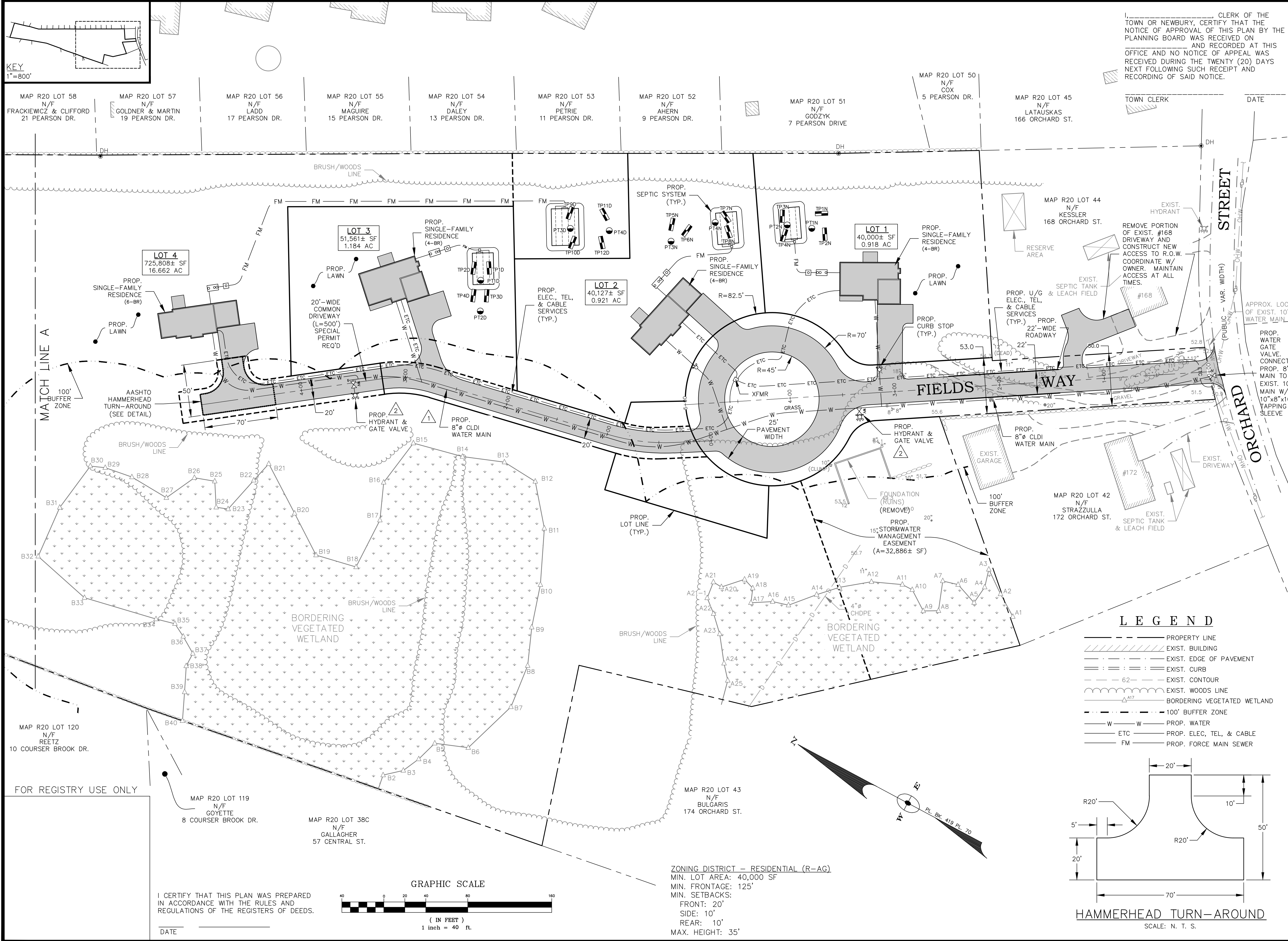
**FIELDS WAY SUBDIVISION**  
170 ORCHARD ST.  
NEWBURY, MA

LOTING PLAN II  
(2 OF 2)

Scale: 1"=40'  
Job No: 2043  
Date: 1/4/23

C-5





I, \_\_\_\_\_, CLERK OF THE TOWN OF NEWBURY, CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON \_\_\_\_\_ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY (20) DAYS NEXT FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK \_\_\_\_\_ DATE \_\_\_\_\_

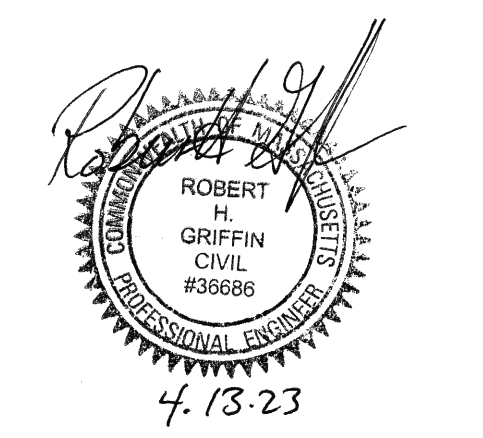
TOWN OF NEWBURY  
PLANNING BOARD

DATE: \_\_\_\_\_

**OWNER & APPLICANT:**  
ESTATE OF LEWIS BULGARIS  
C/O DIANNE YURKAVICH  
2 LAVALLEE LANE  
NEWBURYPORT, MA 01950

No.	Date	Description
2	4/13/23	RELOCATE HYDRANTS.
1	3/8/23	ADD HYD @ END OF CMN DWY PER FD COMMENTS.

Revisions



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**FIELDS WAY  
SUBDIVISION**

170 ORCHARD ST.  
NEWBURY, MA

**SITE LAYOUT  
&  
UTILITIES PLAN**

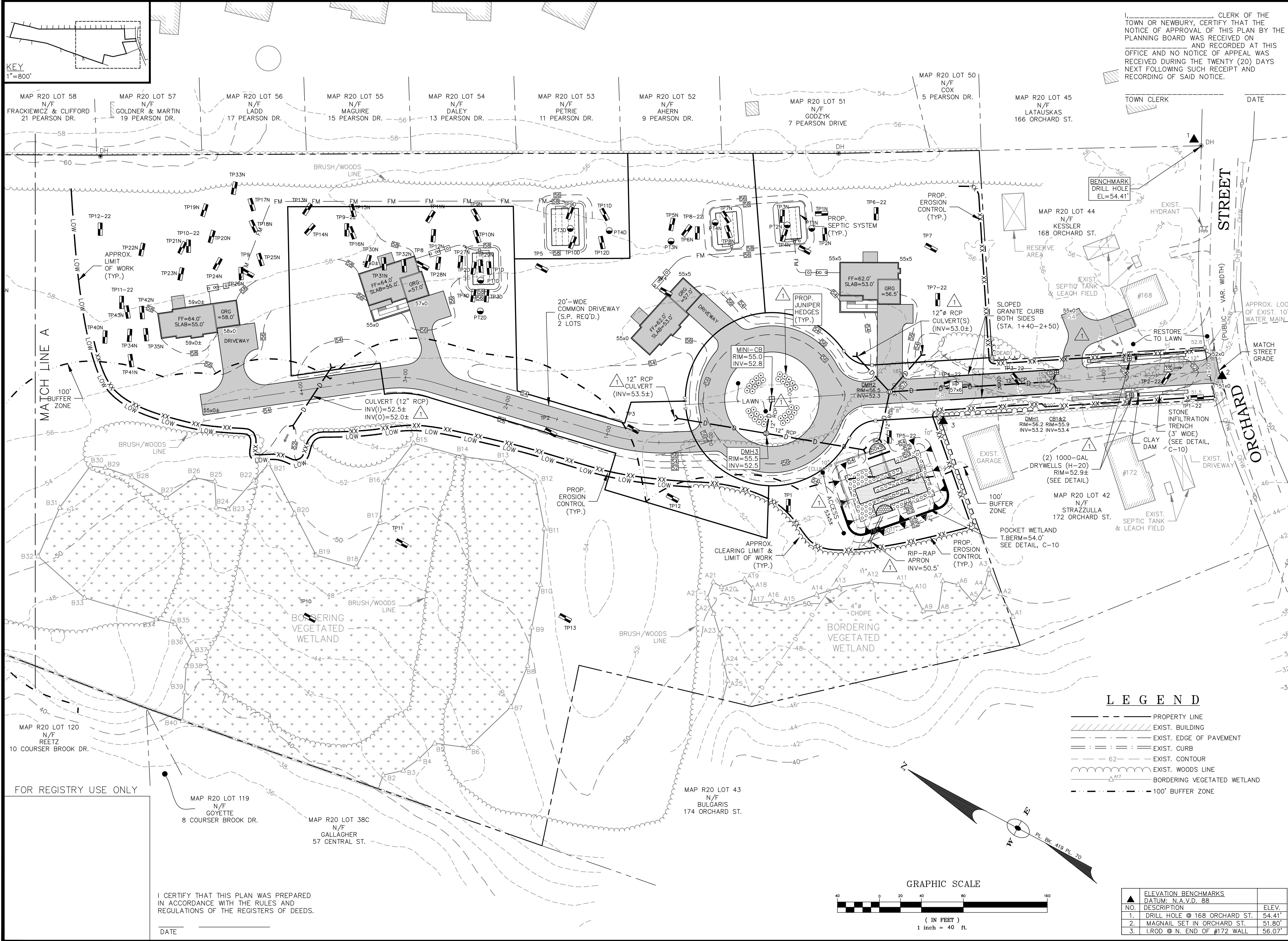
Scale: 1"=40'

Job No: 2043

Date: 1/4/23

C-6





KEY  
1"=800'

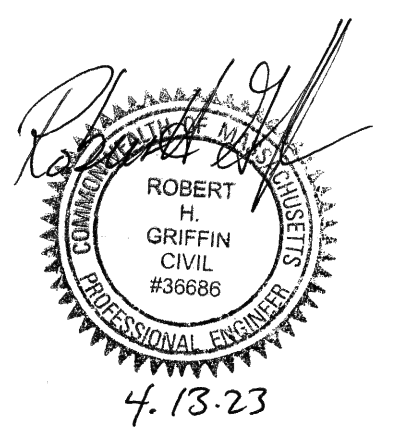
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TOWN OF NEWBURY  
PLANNING BOARD

TOWN CLERK \_\_\_\_\_ DATE \_\_\_\_\_  
DATE: \_\_\_\_\_

OWNER & APPLICANT:  
ESTATE OF LEWIS BULGARIS  
C/O DIANNE YURKAVICH  
2 LAVALLEE LANE  
NEWBURYPORT, MA 01950

No.	Date	Description
2	4/13/23	MOVE LOT 3 & 4 LOT LINE.
1	3/8/23	CLARIFY ROAD GRADES; ADD PROP. SPOT GRADES; ADD SEPTIC GRADES; ADD ISLAND PLANTS; MOVE RIPRAP APRON; ADD BM #3; ADD EXIST. DRAIN PIPE @ B.V.W. REV. 10" PIPES TO 12" PER TOWN REGS. ADD #168 ACCESS REV. SWM @ ENTRANCE.



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FIELDS WAY  
SUBDIVISION

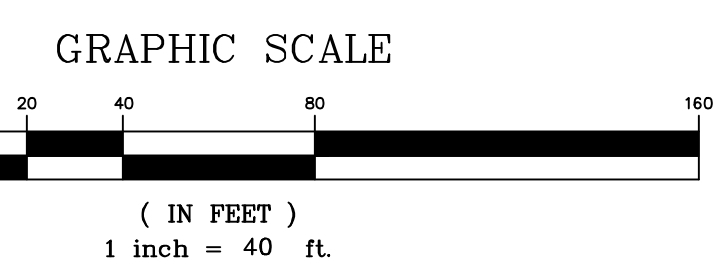
170 ORCHARD ST.  
NEWBURY, MA

SITE GRADING  
&  
DRAINAGE PLAN

Scale: 1"=40'  
Job No: 2043  
Date: 1/4/23

LEGEND

- PROPERTY LINE
- ▨ EXIST. BUILDING
- · — · — EXIST. EDGE OF PAVEMENT
- · — · — EXIST. CURB
- · — · — 62' EXIST. CONTOUR
- · — · — EXIST. WOODS LINE
- · — · — BORDERING VEGETATED WETLAND
- · — · — 100' BUFFER ZONE



ELEVATION BENCHMARKS		
DATUM: N.A.V.D. 88		
NO.	DESCRIPTION	ELEV.
1.	DRILL HOLE @ 168 ORCHARD ST.	54.41'
2.	MAGNAIL SET IN ORCHARD ST.	51.80'
3.	I.ROD @ N. END OF #172 WALL	56.07'

I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE \_\_\_\_\_

FOR REGISTRY USE ONLY

MAP R20 LOT 120  
N/F  
REETZ  
10 COURSER BROOK DR.

MAP R20 LOT 119  
N/F  
GOYETTE  
8 COURSER BROOK DR.

MAP R20 LOT 38C  
N/F  
GALLAGHER  
57 CENTRAL ST.

MAP R20 LOT 43  
N/F  
BULGARIS  
174 ORCHARD ST.

MAP R20 LOT 58  
N/F  
FRACKIEWICZ & CLIFFORD  
21 PEARSON DR.

MAP R20 LOT 57  
N/F  
GOLDNER & MARTIN  
19 PEARSON DR.

MAP R20 LOT 56  
N/F  
LADD  
17 PEARSON DR.

MAP R20 LOT 55  
N/F  
MAGUIRE  
15 PEARSON DR.

MAP R20 LOT 54  
N/F  
DALEY  
13 PEARSON DR.

MAP R20 LOT 53  
N/F  
PETRIE  
11 PEARSON DR.

MAP R20 LOT 52  
N/F  
AHERN  
9 PEARSON DR.

MAP R20 LOT 51  
N/F  
GODZYK  
7 PEARSON DRIVE

MAP R20 LOT 50  
N/F  
COX  
5 PEARSON DR.

MAP R20 LOT 45  
N/F  
LATAUSKAS  
166 ORCHARD ST.

MAP R20 LOT 44  
N/F  
KESSLER  
168 ORCHARD ST.

MAP R20 LOT 42  
N/F  
STRAZZULLA  
172 ORCHARD ST.



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TOWN CLERK \_\_\_\_\_ DATE \_\_\_\_\_

TOWN OF NEWBURY  
PLANNING BOARD

DATE: \_\_\_\_\_

OWNER & APPLICANT:  
ESTATE OF LEWIS BULGARIS  
C/O DIANNE YURKAVICH  
2 LAVALLEE LANE  
NEWBURYPORT, MA 01950

No.	Date	Description
2	4/13/23	RELOCATE HYDRANTS.
1	3/8/23	REV. GRAVEL BASE NOTE; ADD CUL-DE-SAC, X-SECT; REV. C.M. DWY. PROFILE.

Revisions



495 Cabot Street, 2nd Floor  
Beverly, MA 01915

Tel: 978-927-5111  
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FIELDS WAY  
SUBDIVISION

170 ORCHARD ST.  
NEWBURY, MA

PROFILES &  
CROSS-SECTIONS

Scale: AS-SHOWN

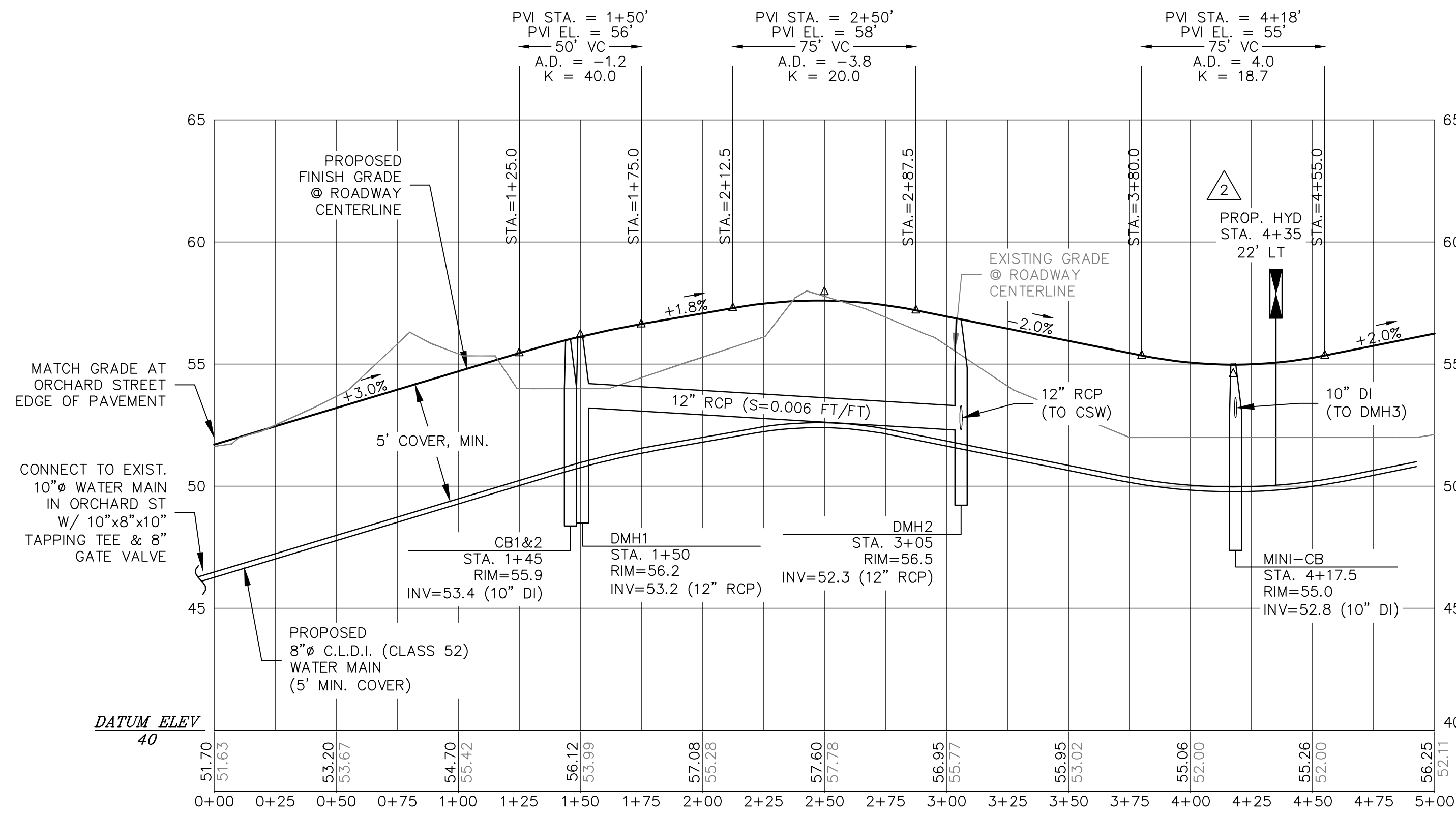
Job No: 2043

Date: 1/4/23

C-8

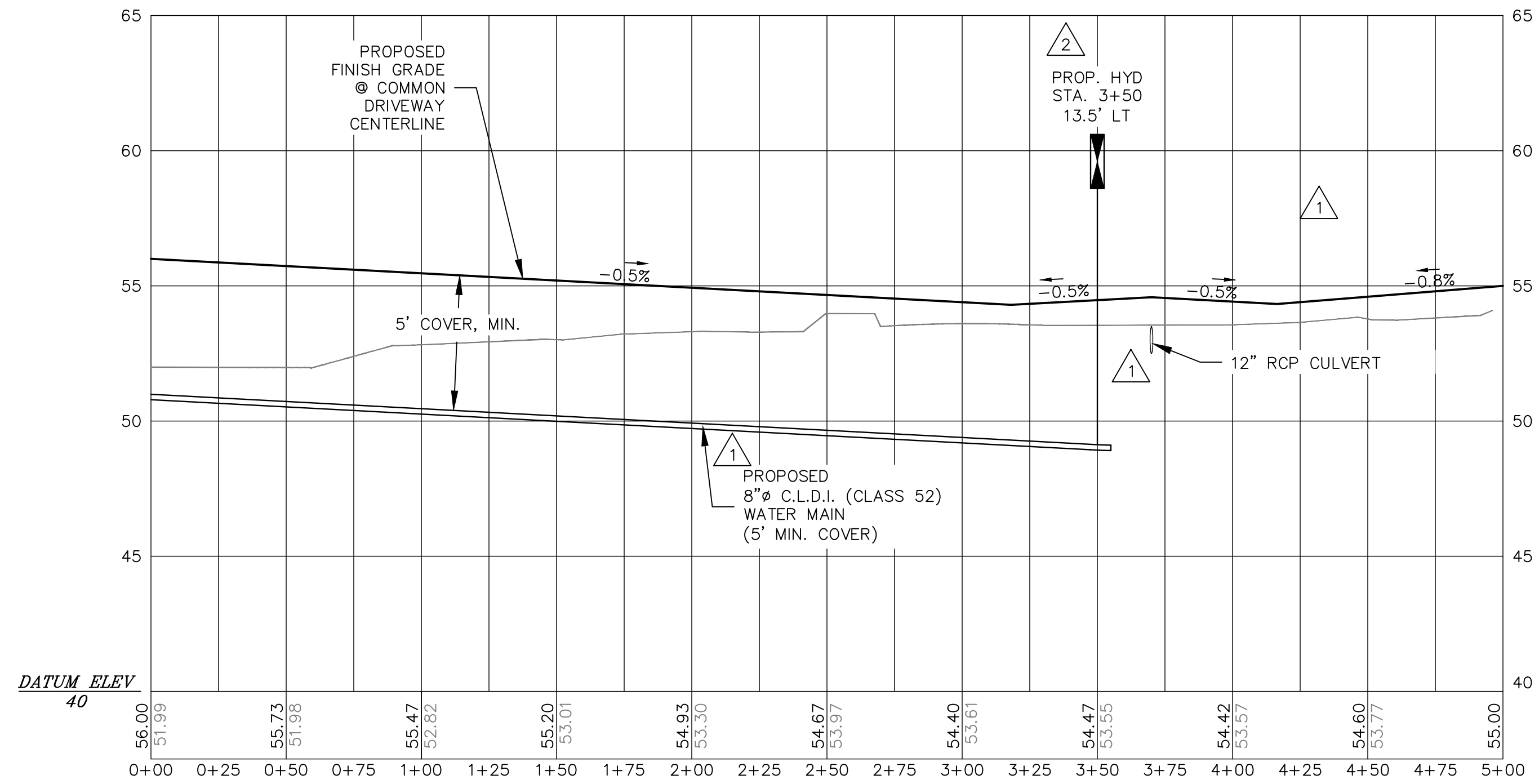
**LEGEND**

- EXISTING GRADE \_\_\_\_\_
- PROPOSED CENTERLINE \_\_\_\_\_
- PROP. WATER LINE \_\_\_\_\_



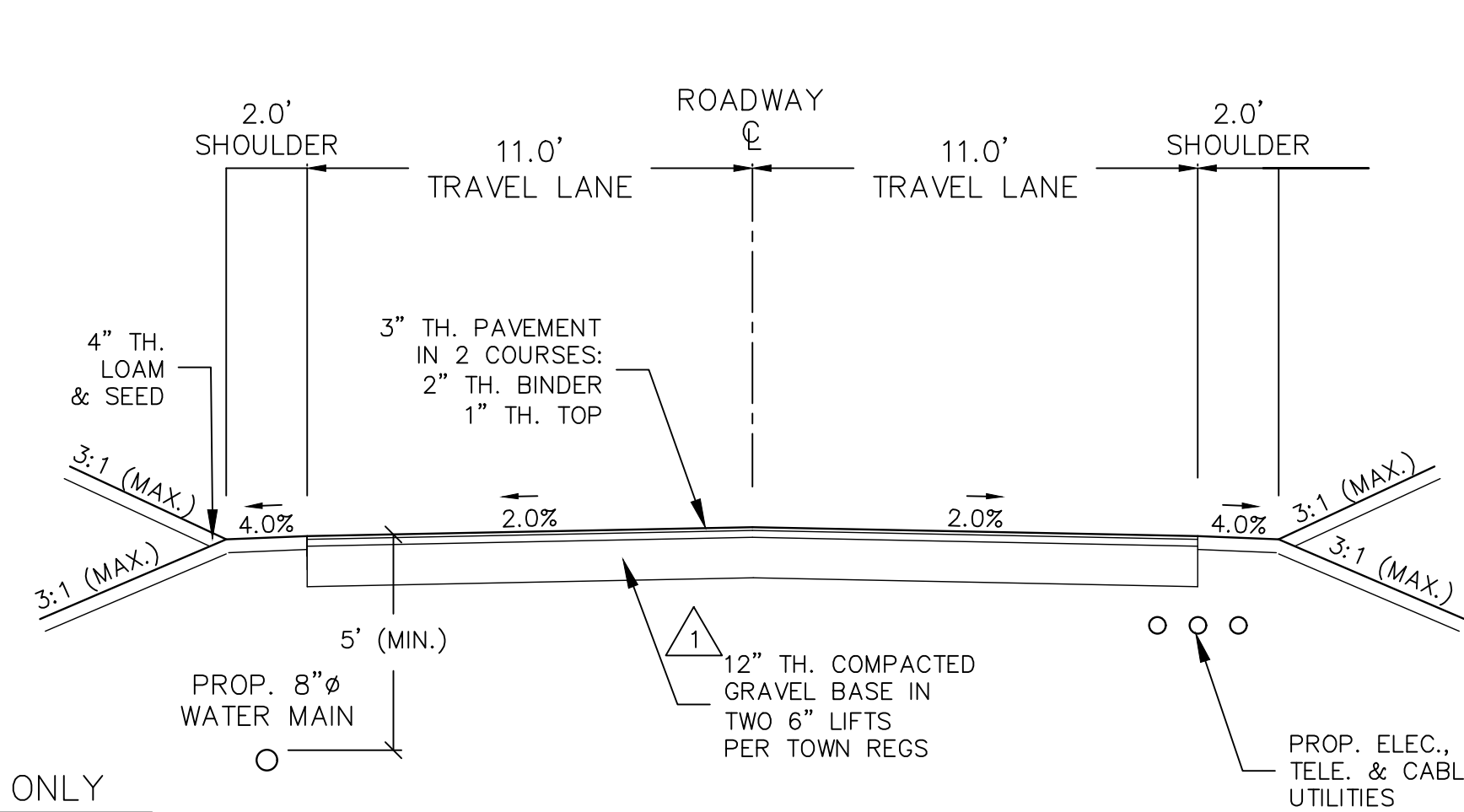
**ROADWAY CENTERLINE PROFILE**

HORIZONTAL SCALE: 1" = 40'  
VERTICAL SCALE: 1" = 4'



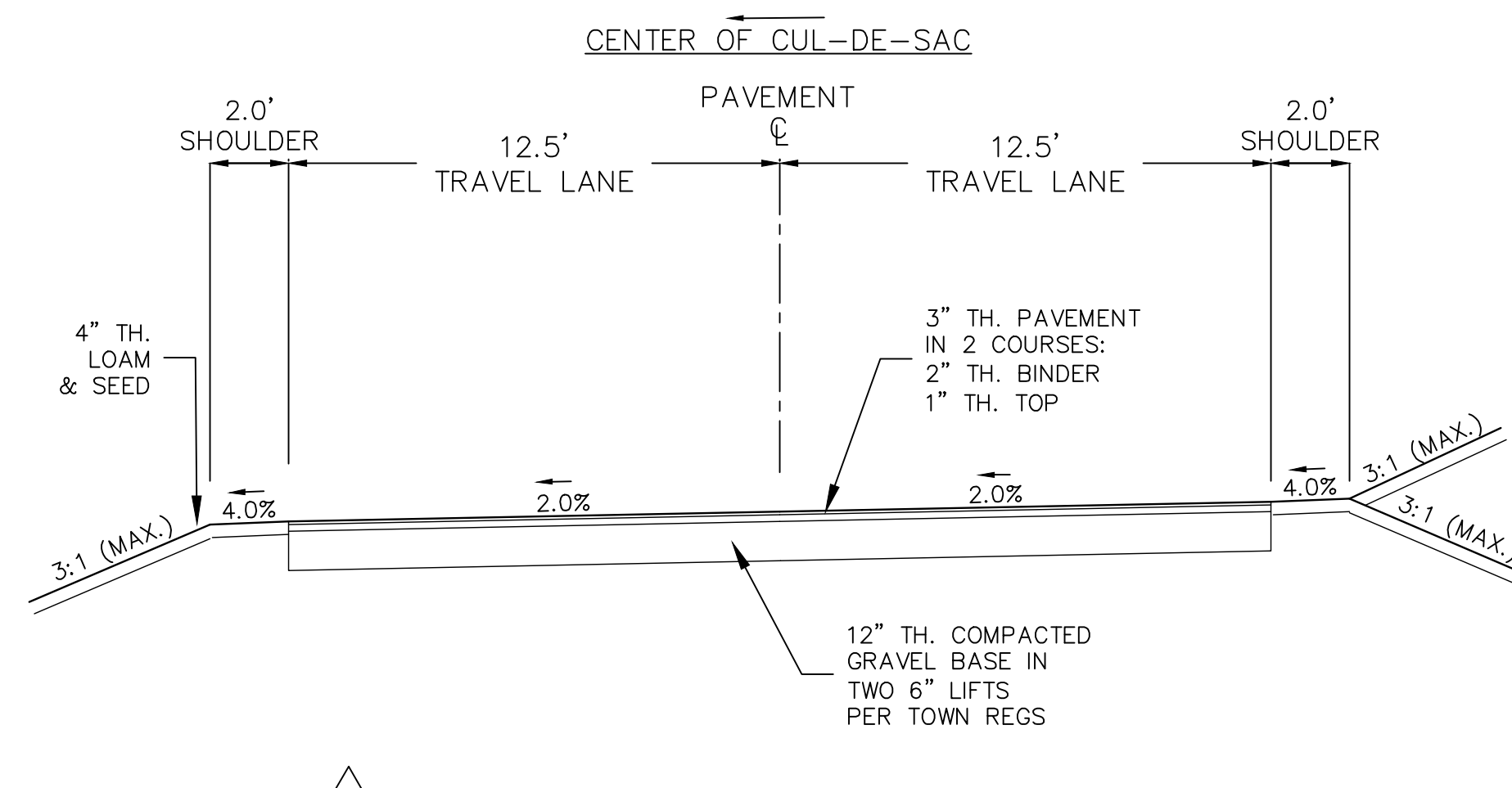
**COMMON DRIVEWAY CENTERLINE PROFILE**

HORIZONTAL SCALE: 1" = 40'  
VERTICAL SCALE: 1" = 4'



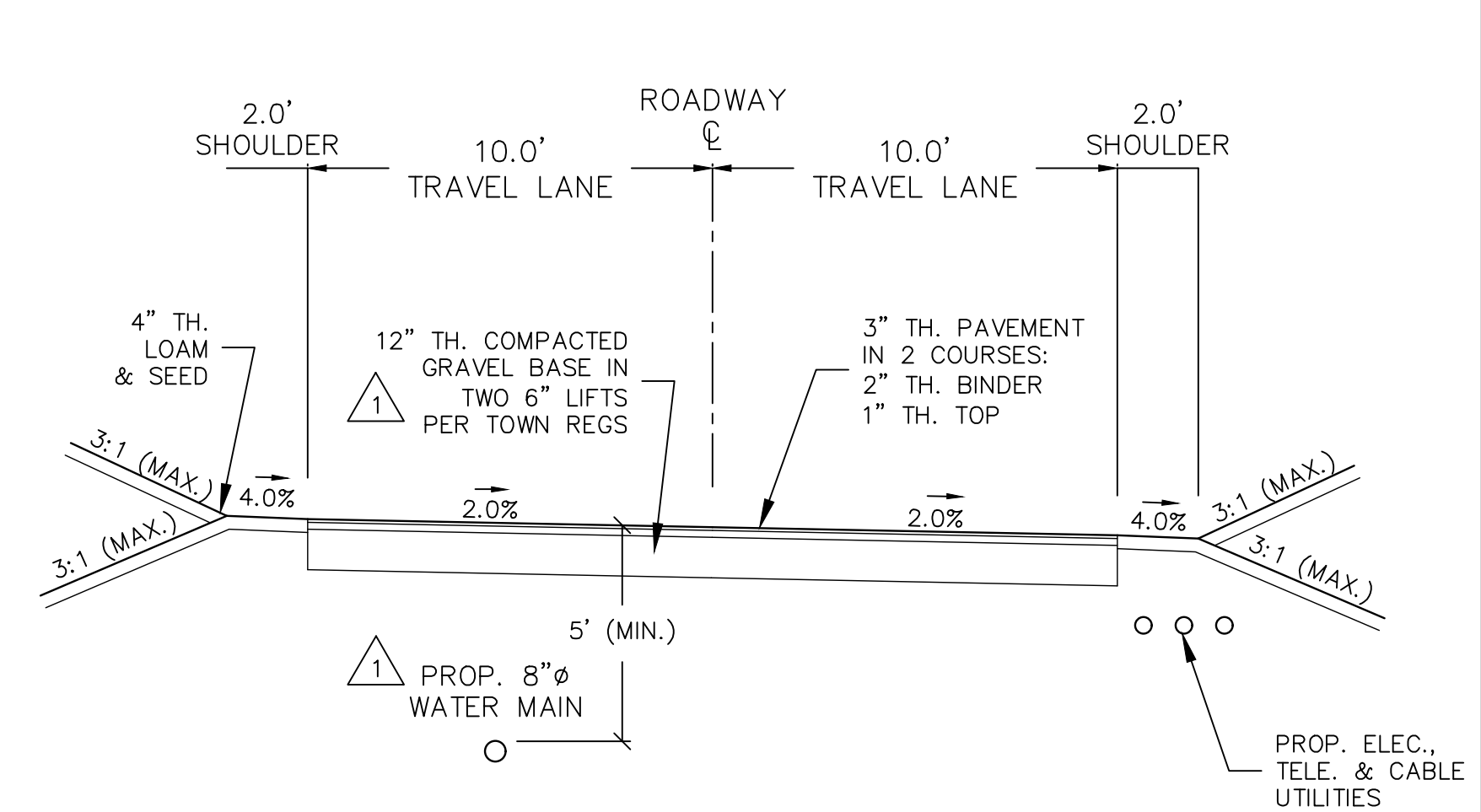
**ROADWAY SECTION (TYP.)**

SCALE: 1" = 4'



**CUL-DE-SAC SECTION (TYP.)**

SCALE: 1" = 4'



**COMMON DRIVEWAY SECTION (TYP.)**

SCALE: 1" = 4'

**NOTES:**

1. REMOVE ALL LOAM, ROOTS, SUBSOIL AND DELETERIOUS MATERIALS.
2. 4" LOAM, SEED AND MULCH ALL DISTURBED AREAS.  
LOAM = M 1.05.0  
SEED = M 6.03.0 SLOPE MIX  
MULCH = M 6.04.0 ANY TYPE
3. COMPACT ALL LAYERS, AND SUBGRADE, TO 95% MOD. PROCTOR.
4. MATERIAL REFERENCES ARE TO 1995 EDITION OF MASS. HIGHWAY STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
5. ALL UTILITIES TO MEET PROVIDER REQUIREMENTS.
6. ENGINEER TO SET BENCHMARKS IN THE FIELD PRIOR TO CONSTRUCTION.

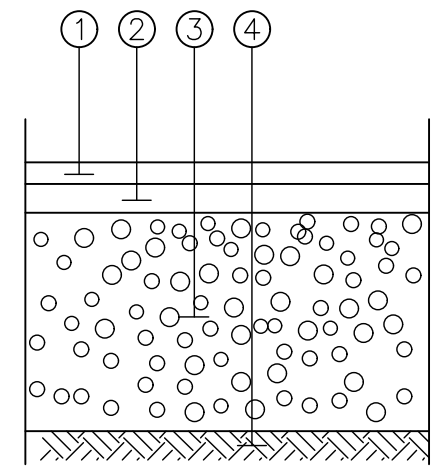
FOR REGISTRY USE ONLY

I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE \_\_\_\_\_



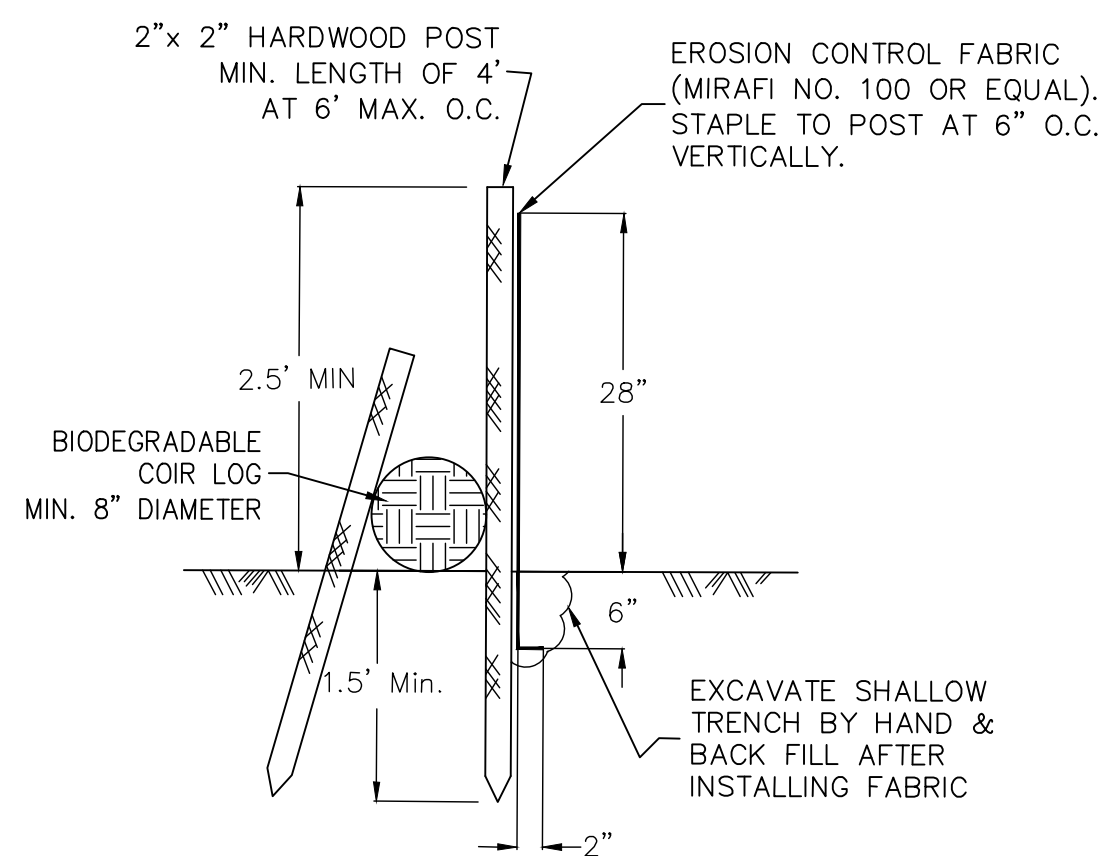
- KEY:**
- 1" CLASS 1 BIT. CONCRETE TOP COURSE TYPE I-1 (M3.11.0 - TABLE A).
  - 2" CLASS 1 BIT. CONCRETE BINDER COURSE (M3.11.0 - TABLE A).
  - 12" DENSE GRADED CRUSHED STONE FOR SUB-BASE (M2.01.7)
  - PREPARED SUBGRADE.



**FULL DEPTH PAVEMENT**

SCALE: N. T. S.

- NOTES:**
1. REMOVE ALL LOAM, ROOTS, SUBSOIL AND DELETERIOUS MATERIALS.
  2. COMPACT ALL LAYERS, AND SUBGRADE, TO 95% MOD. PROCTOR.
  3. MATERIAL REFERENCES ARE TO 1995 EDITION OF MASS HIGHWAY STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
  4. 4" LOAM, SEED AND MULCH ALL DISTURBED AREAS.  
LOAM = M 1.05.0  
SEED = M 6.03.0 SLOPE MIX  
MULCH = M 6.04.0 ANY TYPE
  5. IN LEDGE, REMOVE LEDGE TO MIN. DEPTH OF 24" BELOW FINISH GRADE; BACKFILL WITH COMPACTED GRAVEL.



**SILT FENCE & COIR LOG  
EROSION CONTROL**

SCALE: N. T. S.

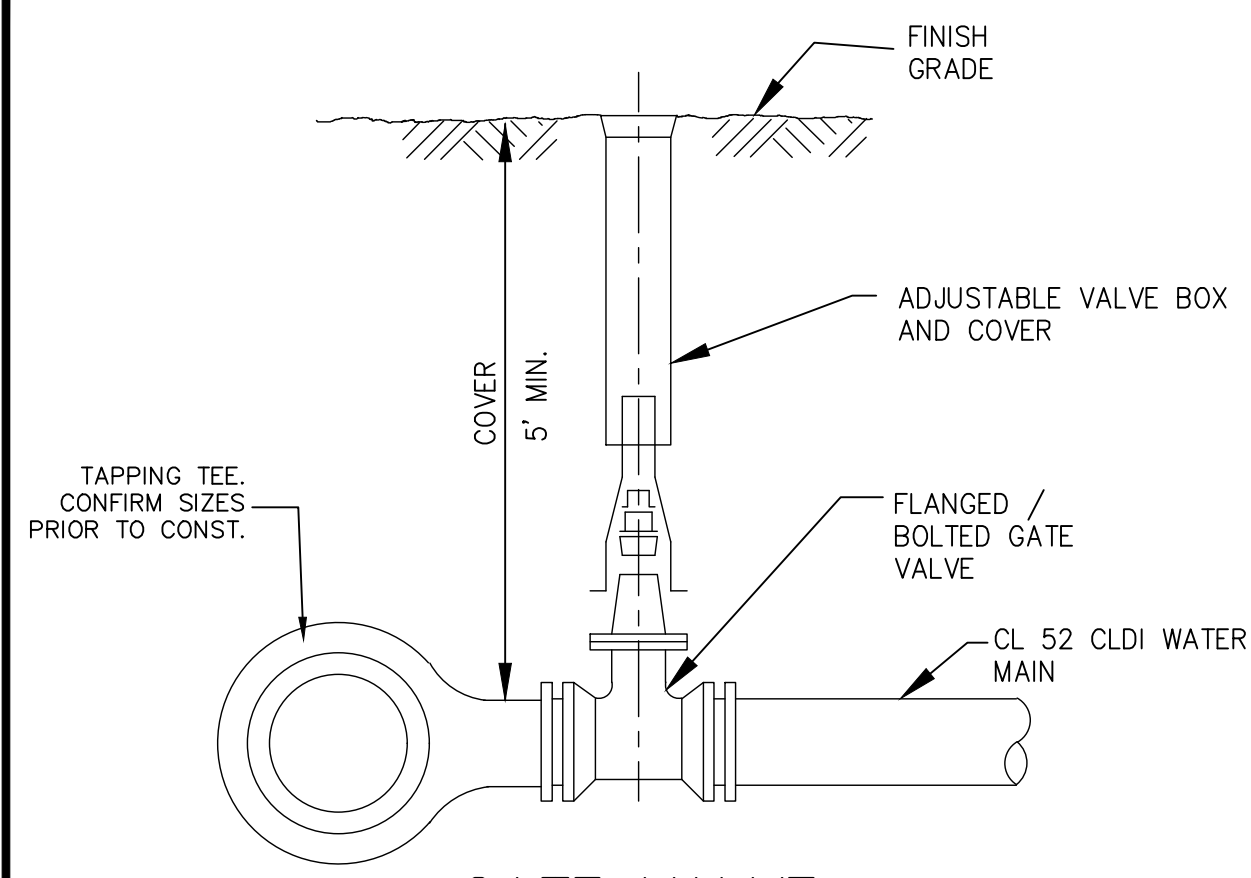
I, \_\_\_\_\_, CLERK OF THE TOWN OF NEWBURY, CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON \_\_\_\_\_ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY (20) DAYS NEXT FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK \_\_\_\_\_ DATE \_\_\_\_\_

FOR REGISTRY USE ONLY

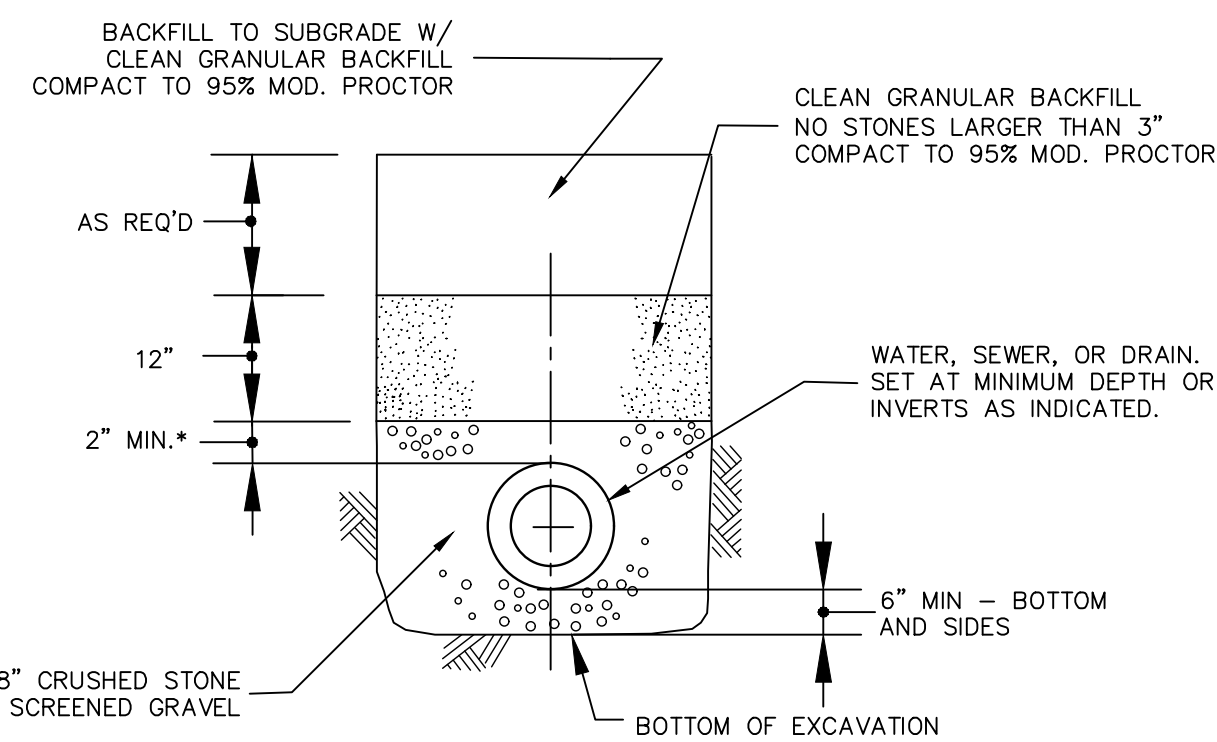
I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE \_\_\_\_\_



**GATE VALVE**

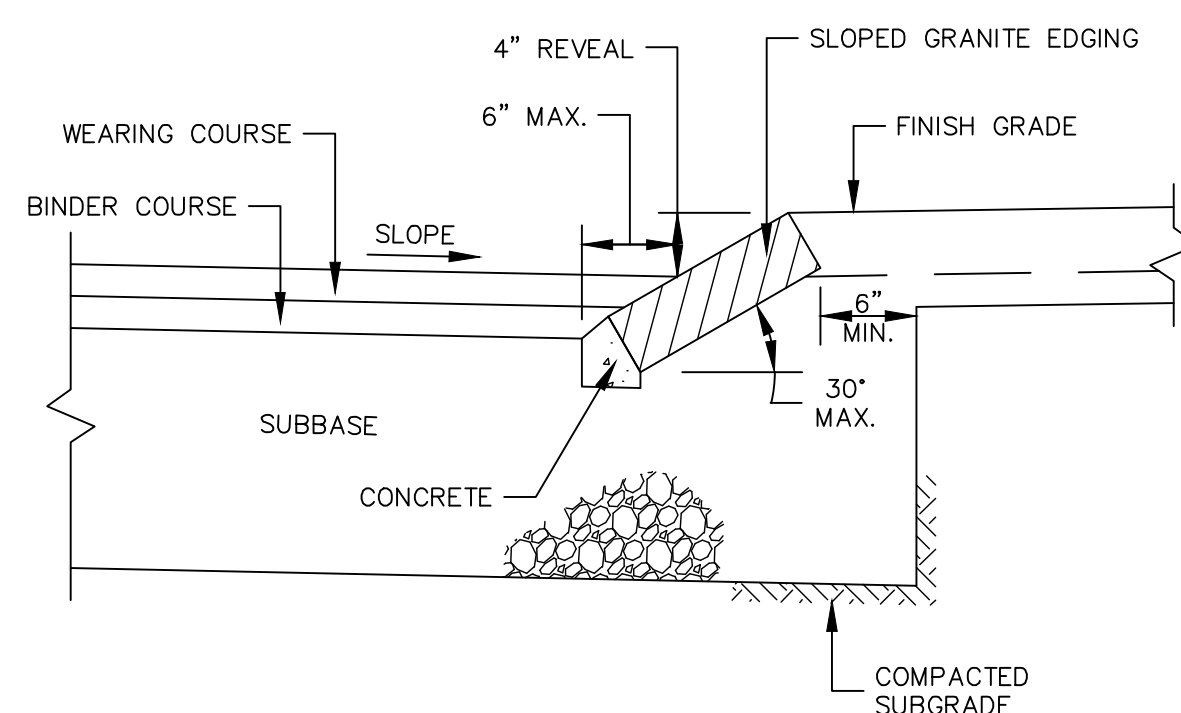
SCALE: N. T. S.



**TYPICAL PIPE BEDDING SECTION**

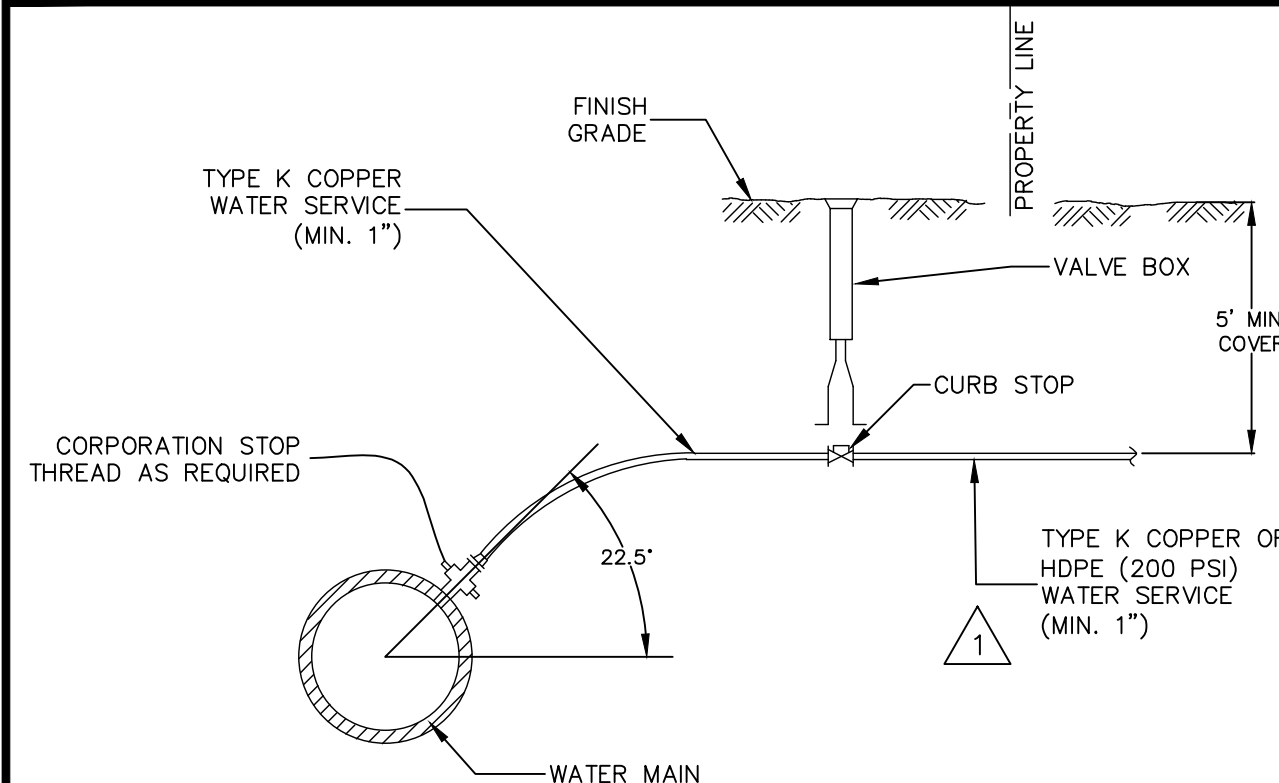
SCALE: N. T. S.

\* FOR DUCTILE IRON OR RCP PIPE: TOP OF STONE IS MID-DEPTH (SPRING LINE) OF CONDUIT.



**SLOPED GRANITE CURB**

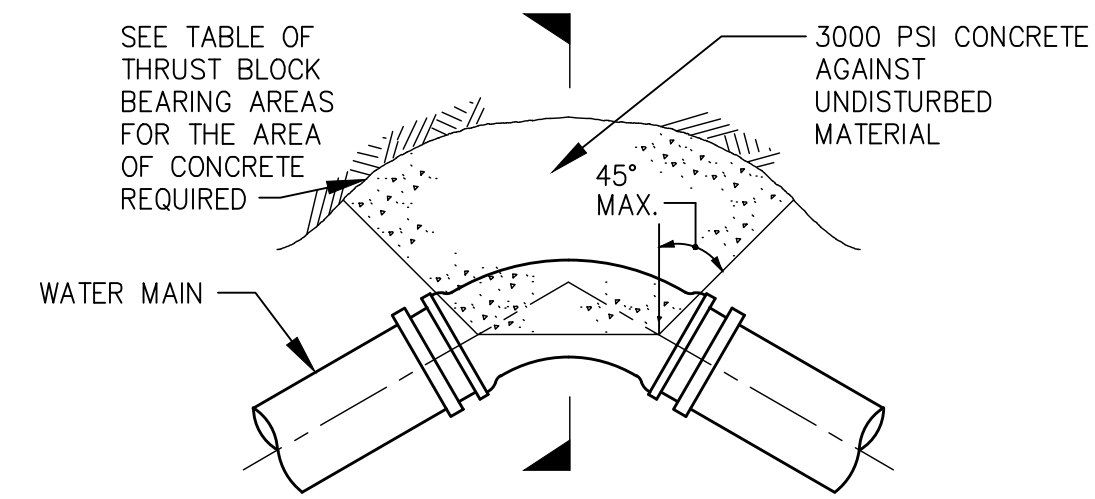
SCALE: N. T. S.



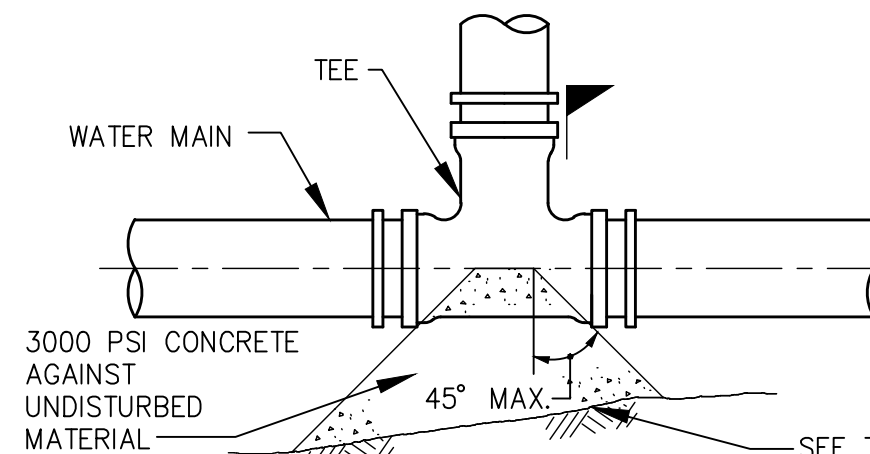
**WATER SERVICE CONNECTION**

SCALE: N. T. S.

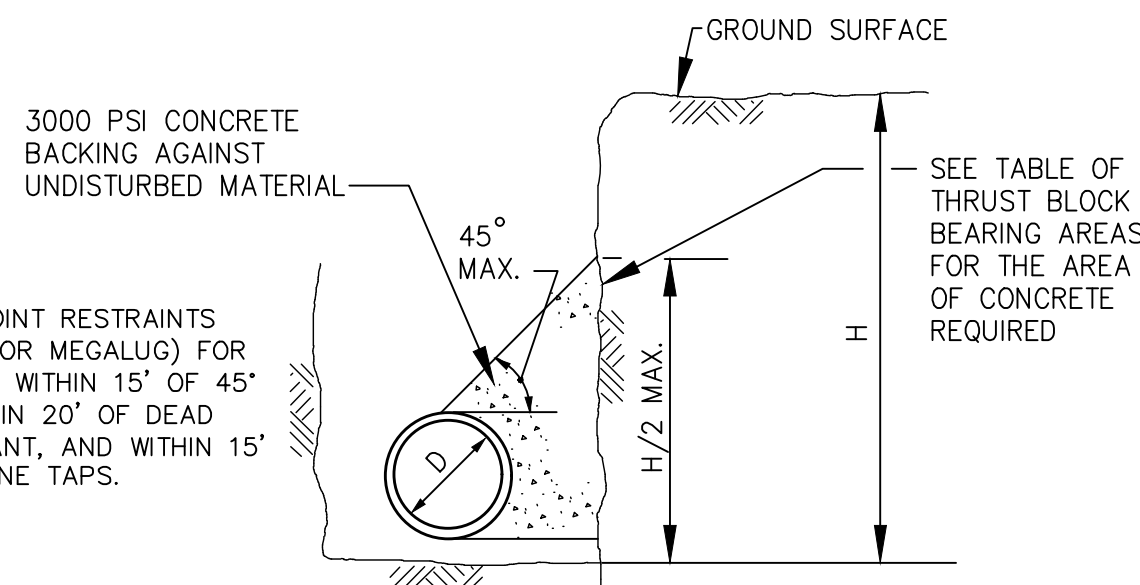
- NOTES:**
1. ALL CONNECTIONS PER TOWN OF NEWBURY REQUIREMENTS.



**PLAN OF THRUST BLOCK AT BEND**



**PLAN OF THRUST BLOCK AT TEE**



**THRUST BLOCK SECTION**

**CONCRETE THRUST BLOCK**

SCALE: N. T. S.

**TABLE OF MINIMUM BEARING AREAS IN SQ. FT. AGAINST UNDISTURBED MATERIAL**

PIPE SIZE	BEND	PRESSURE 150 PSI						
		TYPE OF SOIL CONDITION						
		A	B	C	D	E	F	G
6" and smaller	TEES & PLUGS	8.5	4.5	3	2.5	1.5	1.5	1
	90	12	6	4	3	2	1.5	1.5
	45	6.5	3.5	2.5	2	1.5	1	1
8"	22 1/2	3.5	2	1.5	1	1	0.5	0.5
	TEES & PLUGS	15.5	8	5.5	4	3	2	1.5
	90	21.5	11	7.5	5.5	4	3	2.5
8"	45	12	6	4	3	2	1.5	1.5
	22 1/2	6	3	2	1.5	1	1	1

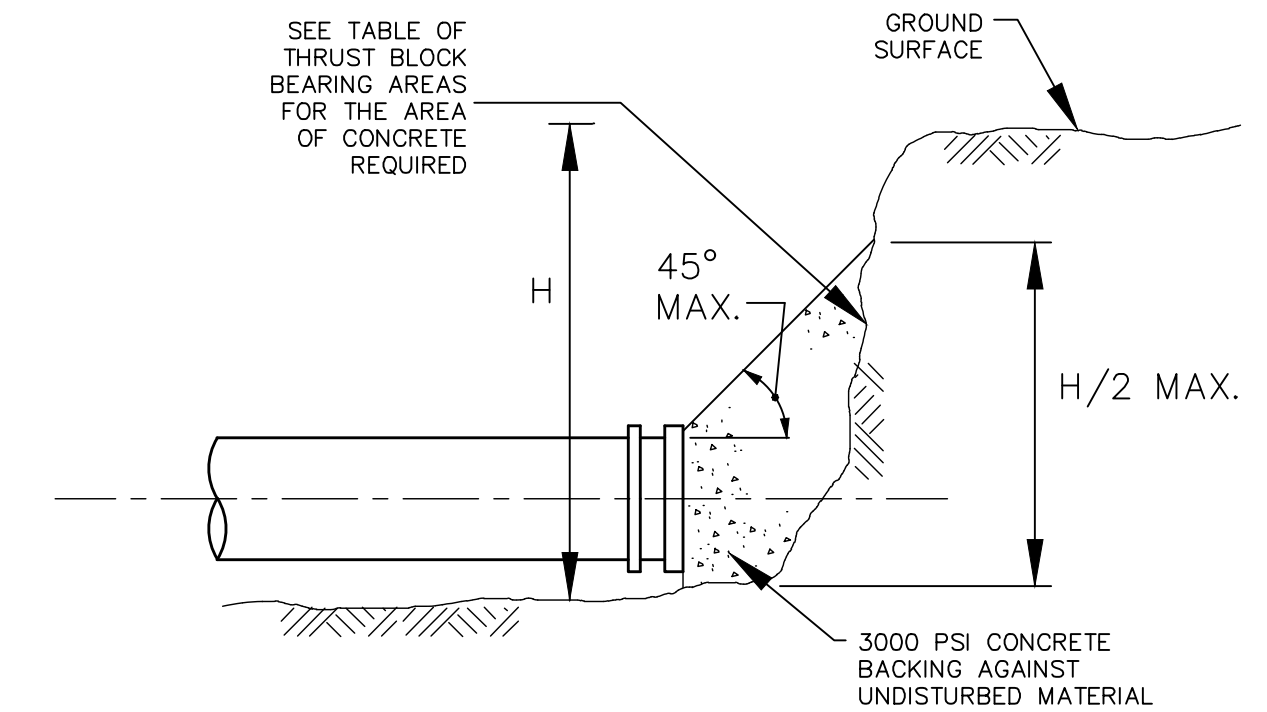
**TYPE OF SOIL CONDITION**

- A - SOFT CLAY; FINE LOOSE SAND
- B - SAND & CLAY; MIXED OR IN LAYERS; FINE CONFINED SAND
- C - HARD DRY CLAY
- D - COARSE SAND
- E - GRAVEL
- F - SOFT ROCK
- G - HARD PAN

- NOTES:**
1. FOR FITTINGS WITH LESS THAN 22 1/2 DEGREE DEFLECTION USE BEARING AREAS FOR 22 1/2 BEND.
  2. JOINTS SHALL NOT BE ENCASED IN CONCRETE. BEARING AREAS MAY BE DISREGARDED FOR TRENCHES IN ROCK WHERE THE TOP OF THE ROCK FACE IS AT OR ABOVE THE CROWN OF THE PIPE. HOWEVER, CONCRETE BACKING SHALL BE PLACED BETWEEN THE PIPE AND ROCK FACE.

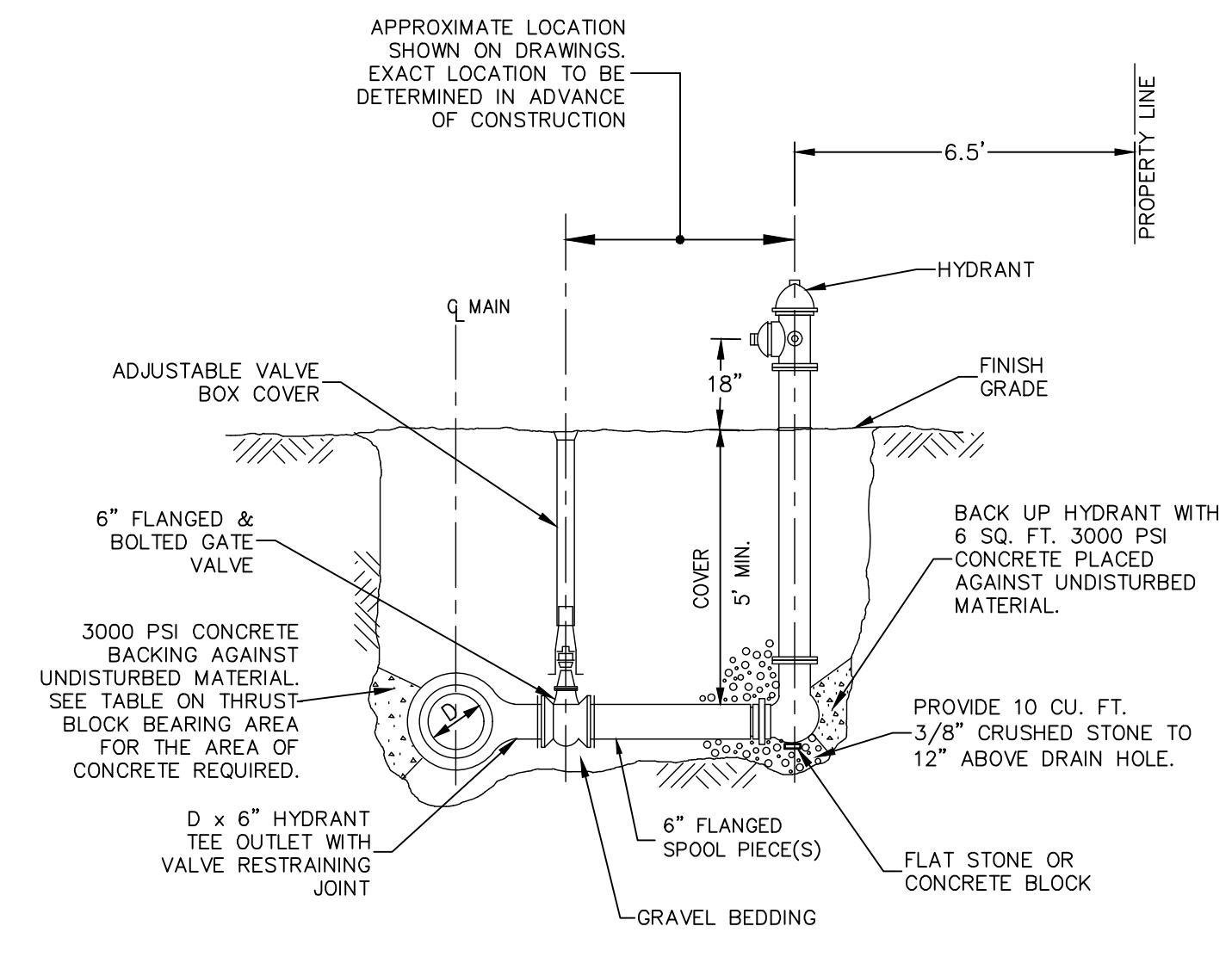
**CONCRETE THRUST BLOCK BEARING AREA**

SCALE: N. T. S.



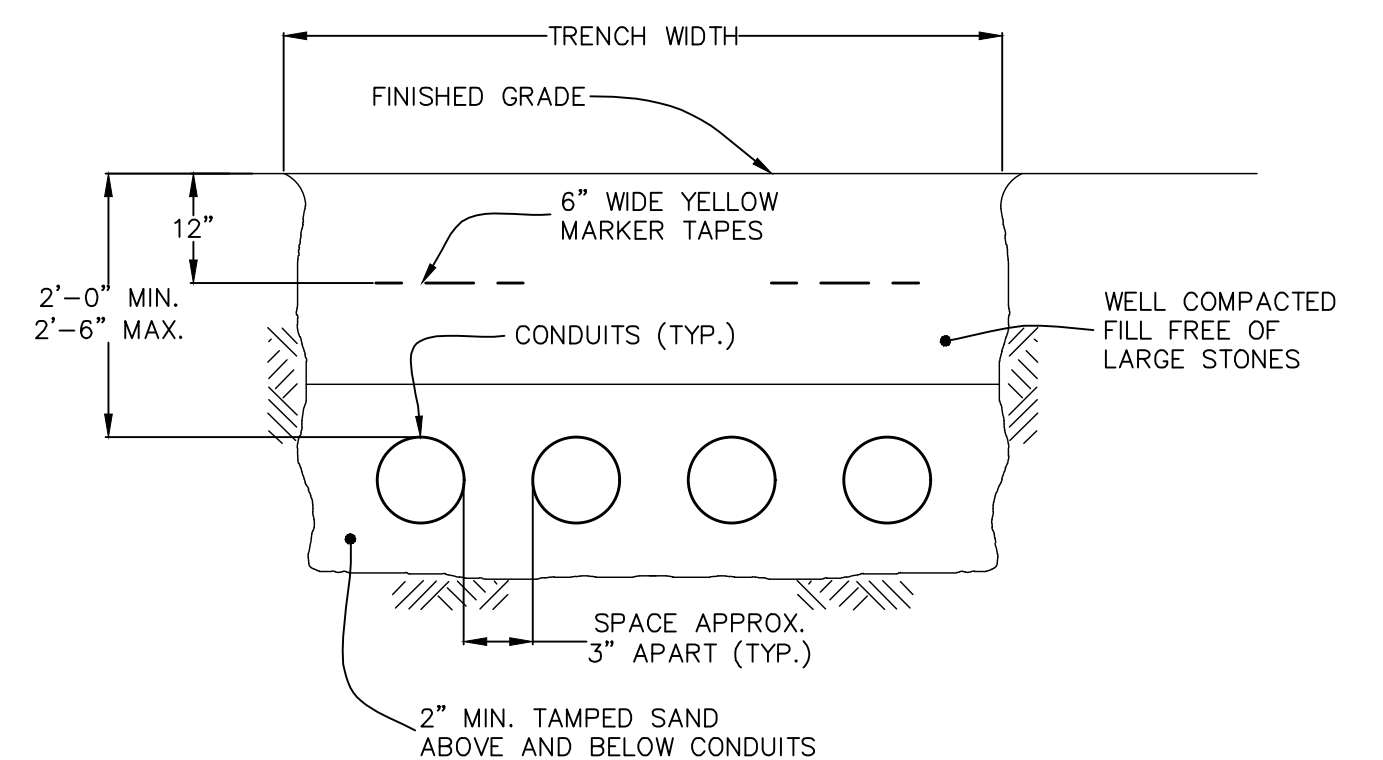
**CONCRETE THRUST BLOCK AT PLUG**

SCALE: N. T. S.



**TYPICAL HYDRANT ASSEMBLY**

SCALE: N. T. S.



**UNDERGROUND CONDUIT TRENCH FOR MULTIPLE CONDUITS**

SCALE: N. T. S.

TOWN OF NEWBURY  
PLANNING BOARD

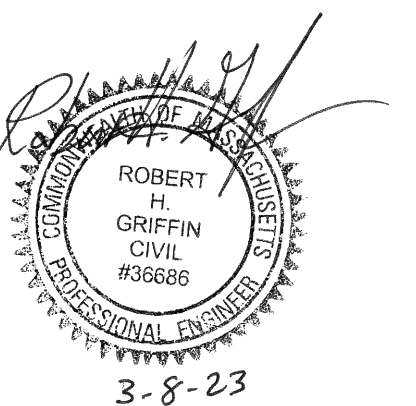
DATE: \_\_\_\_\_

OWNER & APPLICANT:  
ESTATE OF LEWIS BULGARIS  
C/O DIANNE YURKAVICH  
2 LAVALLEE LANE  
NEWBURYPORT, MA 01950

1 3/8/23 ADD HDPE WTR SERVICE NOTE.

No. Date Description

**Revisions**



495 Cabot Street, 2nd Floor  
Beverly, MA 01915

Tel: 978-927-5111  
Fax: 978-927-5103

**FIELDS WAY  
SUBDIVISION**

170 ORCHARD ST.  
NEWBURY, MA

**DETAILS I**

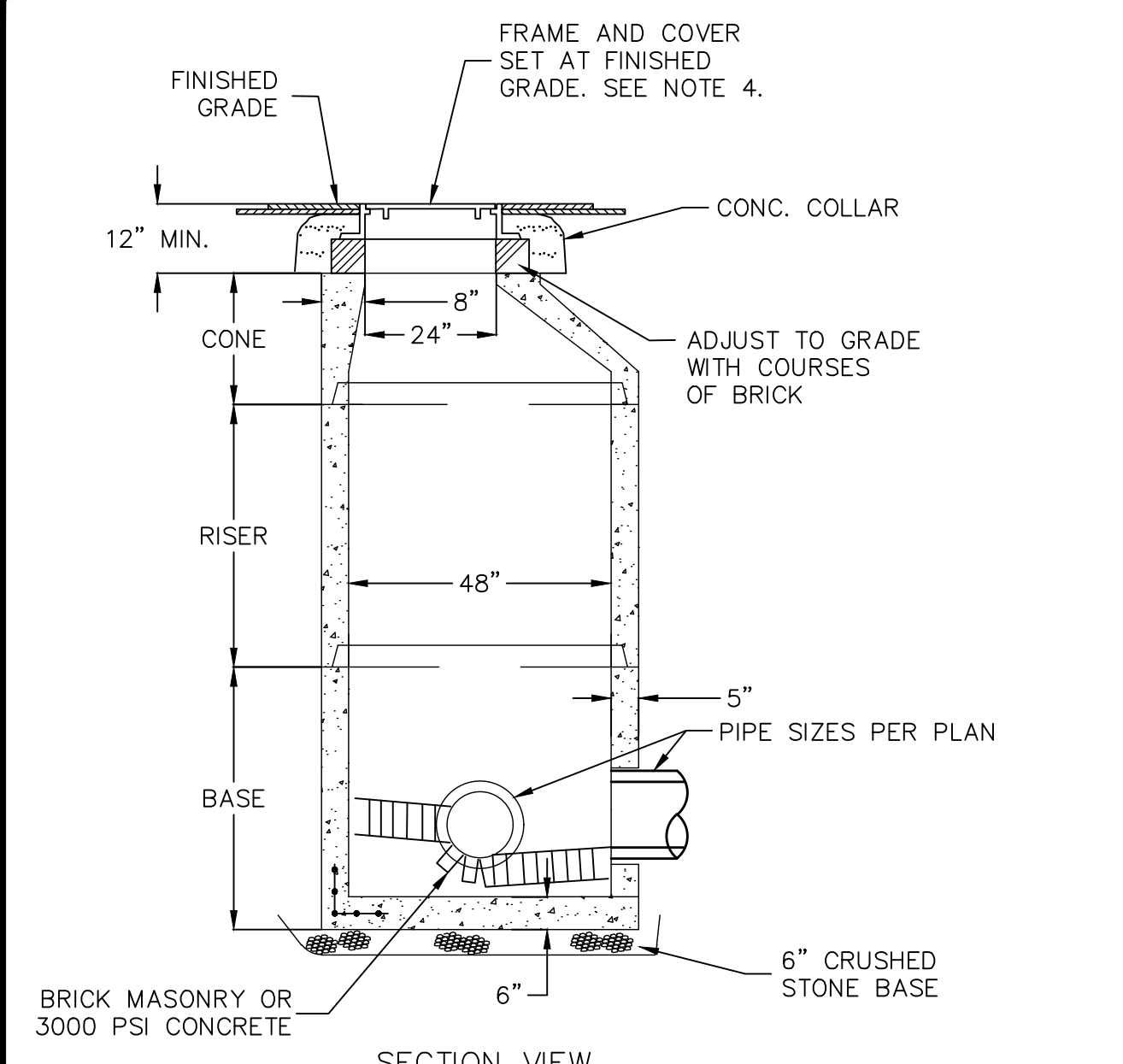
Scale: AS-SHOWN

Job No: 2043

Date: 1/4/23

C-9

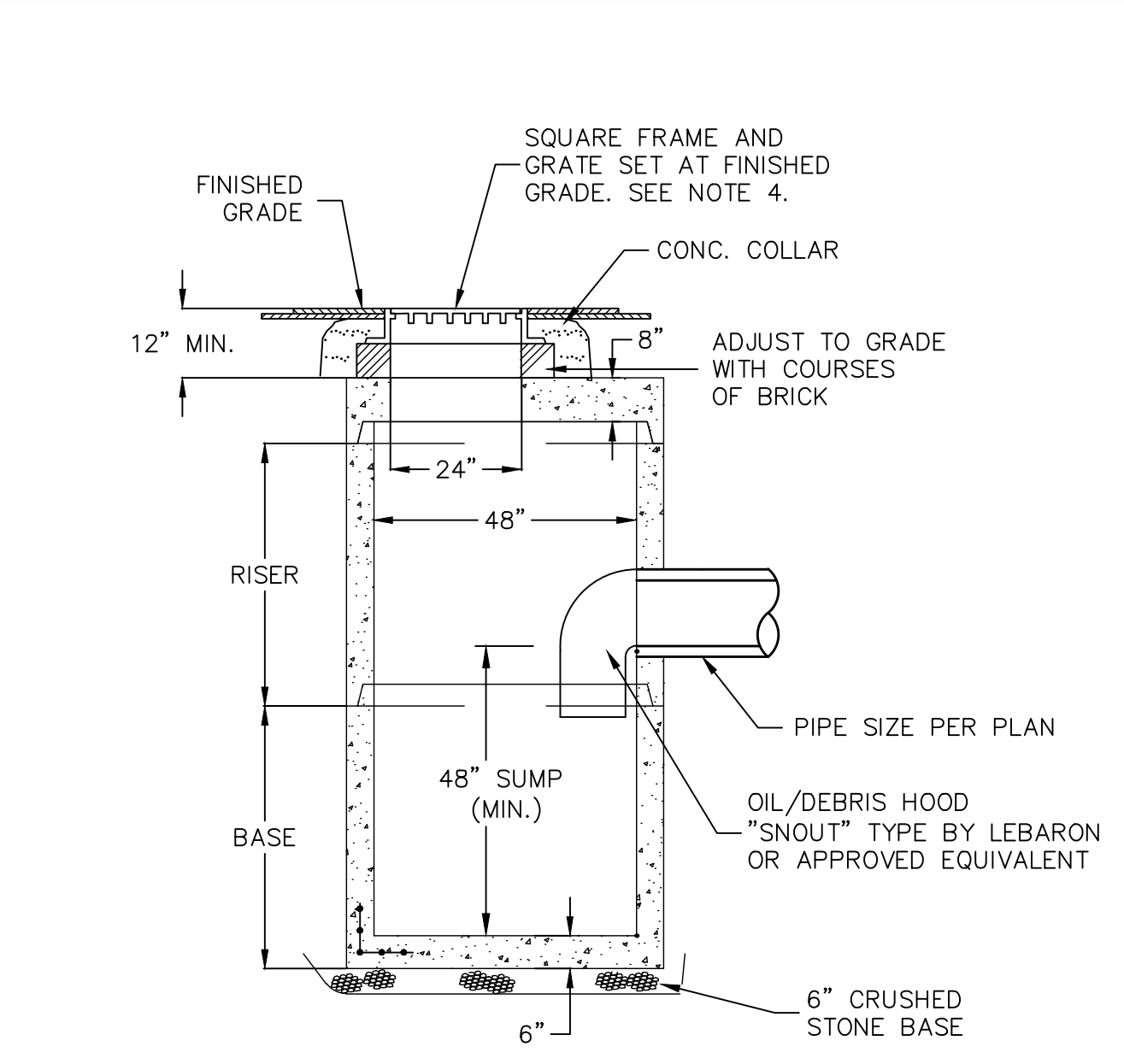




**SECTION VIEW**  
SCALE: N. T. S.

NOTES:  
1. CONCRETE 4,000 PSI MINIMUM AFTER 28 DAYS.  
2. REINFORCED STEEL SHALL CONFORM TO LATEST ASTM A185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.  
3. H-20 DESIGN LOADING.  
4. EJCO OMA12400023 FRAME & SOLID COVER OMA12400026 (MARKED DRAIN) OR APPROVED EQUIVALENT.  
5. SHEA PRECAST OR APPROVED EQUIVALENT.  
6. TONGUE & GROOVE JOINTS SEALED WITH BUTYL RESIN. BUTYL RESIN.

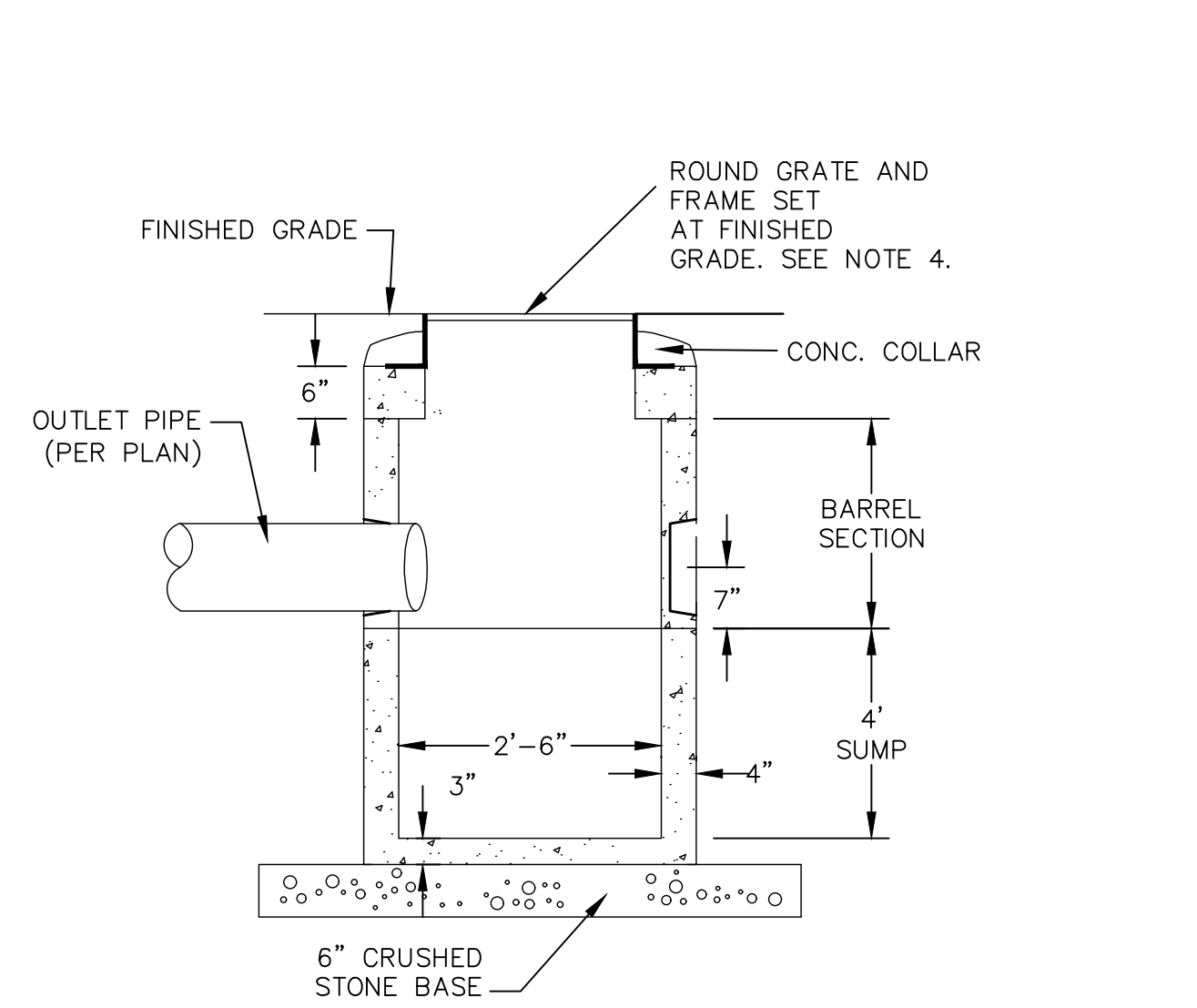
**PRECAST DRAIN MANHOLE**  
SCALE: N. T. S.



**SECTION VIEW**  
SCALE: N. T. S.

NOTES:  
1. CONCRETE 4,000 PSI MINIMUM AFTER 28 DAYS.  
2. REINFORCED STEEL SHALL CONFORM TO LATEST ASTM A185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.  
3. H-20 DESIGN LOADING.  
4. EJCO OMA55200029 FOUR FLANGE OR APPROVED EQUIVALENT.  
5. SHEA PRECAST OR APPROVED EQUIVALENT.  
6. TONGUE & GROOVE JOINTS SEALED WITH BUTYL RESIN. BUTYL RESIN.  
7. FOUNDATION SUPPORT PER GEOTECHNICAL ENGINEER.

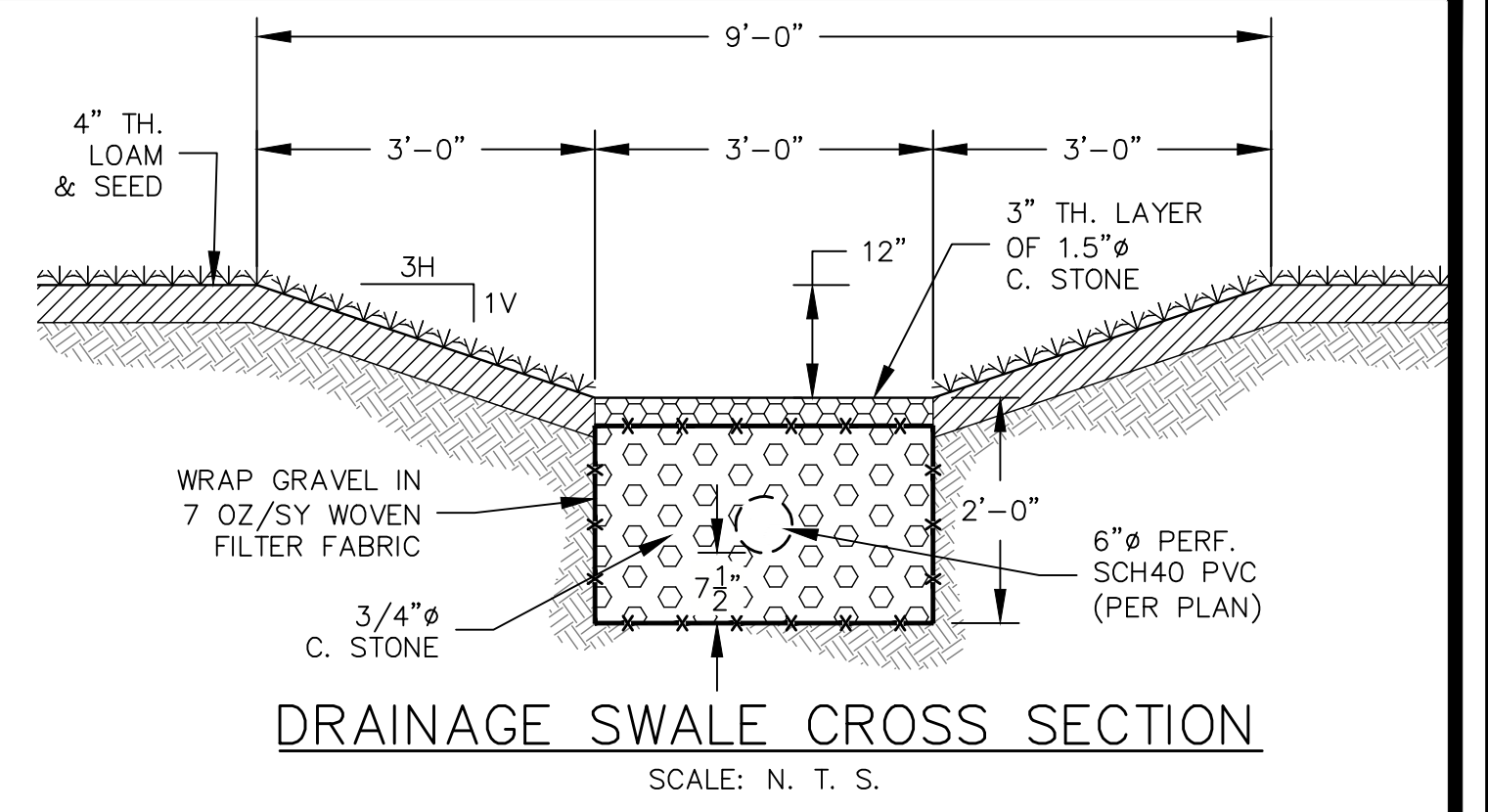
**4" Ø PRECAST CATCH BASIN**  
SCALE: N. T. S.



**SECTION VIEW**  
SCALE: N. T. S.

NOTES:  
1. CONCRETE 4,000 PSI MINIMUM AFTER 28 DAYS.  
2. REINFORCED STEEL SHALL CONFORM TO LATEST ASTM A185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.  
3. H-20 DESIGN LOADING.  
4. EAST JORDAN IRON WORKS, INC 24" DIA. HEAVY DUTY GRATE & FRAME (PRODUCT #00113040C03) OR APPROVED EQUIVALENT.  
5. E.F. SHEA 30" PRECAST DRAIN MANHOLE OR APPROVED EQUIVALENT.  
6. TONGUE & GROOVE JOINTS SEALED WITH BUTYL RESIN. BUTYL RESIN.  
7. ALL DRAIN AND SEWER STRUCTURES AT THIS SITE REQUIRES FLEXIBLE RUBBER BOOT AT PIPE TO MANHOLE CONNECTIONS.

**30" Ø MINI CATCH BASIN**  
SCALE: N. T. S.

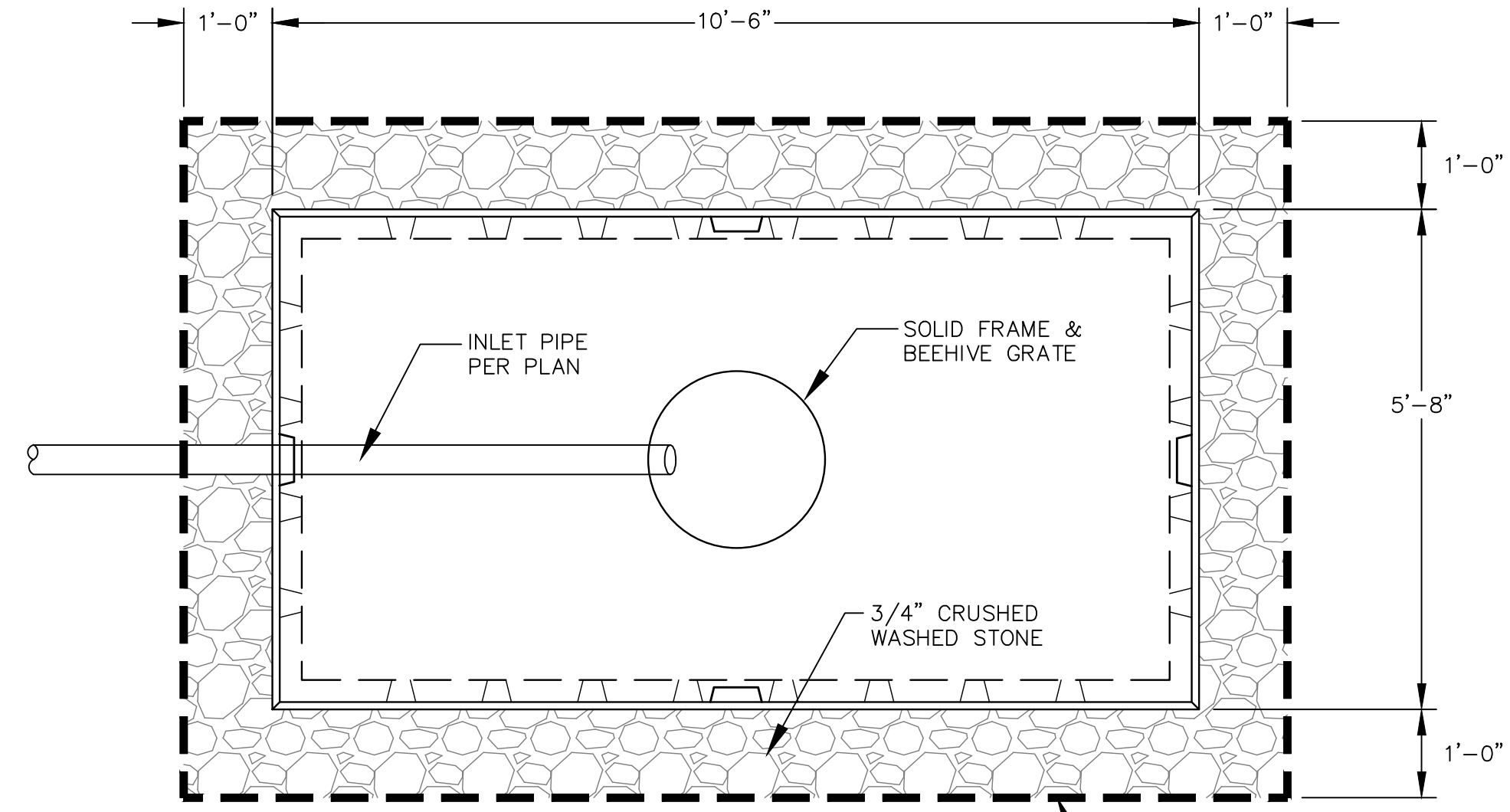


**DRAINAGE SWALE CROSS SECTION**  
SCALE: N. T. S.

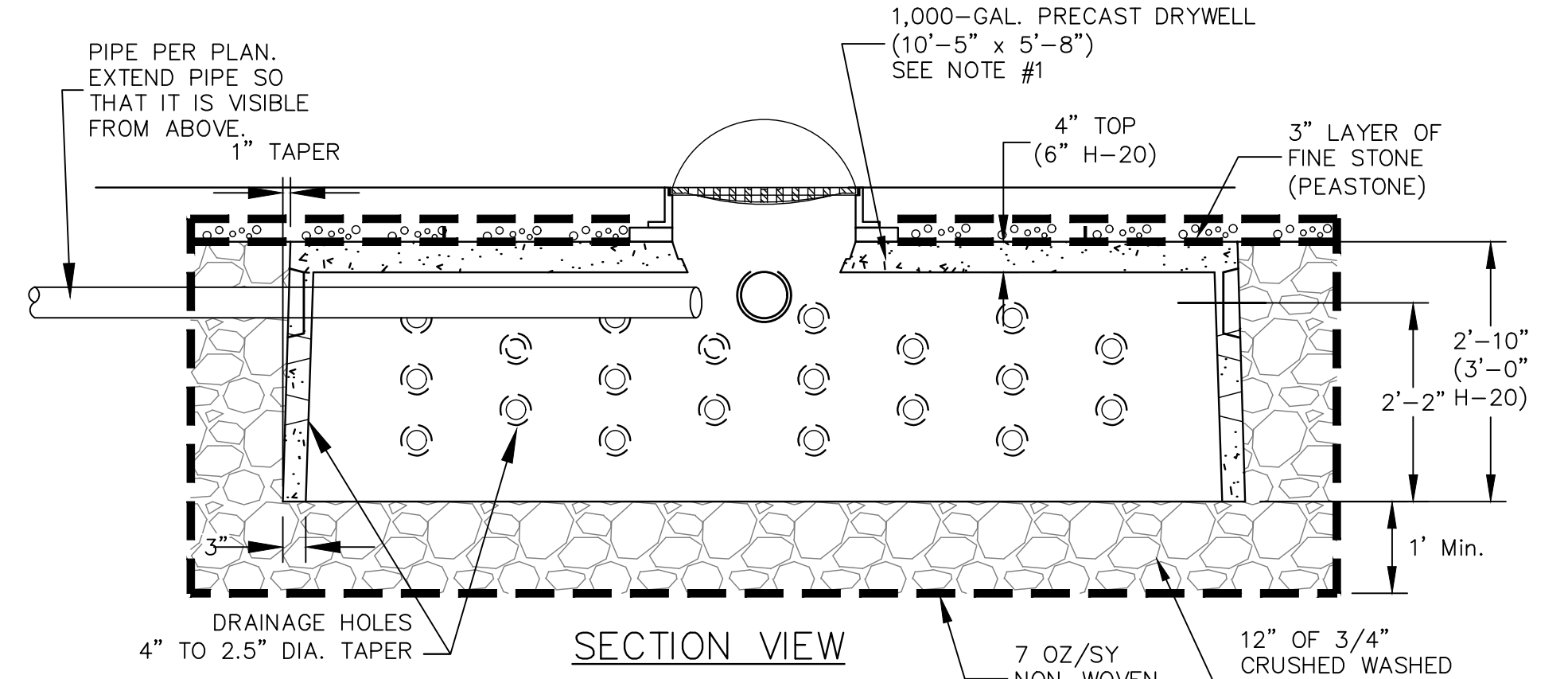
TREES AND SHRUBS	WETLAND PLANTS
Smooth Alder ( <i>Alnus serrulata</i> )	Red Maple ( <i>Acer rubrum</i> )
American Beech ( <i>Fagus grandifolia</i> )	Red-osier Dogwood ( <i>Cornus stolonifera</i> )
American Holly ( <i>Ilex opaca</i> )	Rhododendron spp
Blackgum, Sourgum ( <i>Nyssa sylvatica</i> )	River Birch ( <i>Betula nigra</i> )
Black Willow ( <i>Salix nigra</i> )	Shadbush, Common Serviceberry ( <i>Amelanchier arborea</i> )
Buttonbush ( <i>Cephalanthus occidentalis</i> )	Silky Dogwood ( <i>Cornus amomum</i> )
Chokecherry ( <i>Prunus virginiana</i> )	Silver Maple ( <i>Acer saccharinum</i> )
Elderberry ( <i>Sambucus canadensis</i> )	Southern Arrowwood ( <i>Viburnum dentatum</i> )
Fringe Tree ( <i>Chionanthus virginicus</i> )	Spice Bush ( <i>Lindera benzoin</i> )
Green Ash, Red Ash ( <i>Fraxinus pennsylvanica</i> )	Swamp Magnolia, Sweetbay ( <i>Magnolia virginiana</i> )
Honey Locust ( <i>Gleditsia triacanthos</i> )	Swamp Oak ( <i>Quercus bicolor</i> )
Highbush Cranberry ( <i>Viburnum trilobum</i> )	Sweetgum ( <i>Liquidambar styraciflua</i> )
Larch, Tamarack ( <i>Larix laricina</i> )	Sycamore ( <i>Platanus occidentalis</i> )
Mountain Laurel ( <i>Kalmia latifolia</i> )	Tulip-tree ( <i>Liriodendron tulipifera</i> )
Persimmon ( <i>Diospyros virginiana</i> )	Tupelo ( <i>Nyssa sylvatica vari biflora</i> )
Red Chokeberry ( <i>Pyrus arbutifolia</i> )	Willow Oak, Pin Oak ( <i>Quercus phellos/palustris</i> )
	Winterberry ( <i>Ilex laevigata</i> )
	Witch Hazel ( <i>Hamamelis virginiana</i> )
	Arrow Arum, Duck Corn ( <i>Peltandra virginica</i> )
	Arrowhead, Duck Potato ( <i>Sagittaria latifolia</i> )
	Broomsedge ( <i>Andropogon virginianus</i> )
	Cattail ( <i>Typha spp</i> )
	Coontail ( <i>Ceratophyllum demersum</i> )
	Common Three-Square ( <i>Scirpus americanus</i> )
	Soft-stem Butrush ( <i>Scirpus validus</i> )
	Lizard's Tail ( <i>Saururus cernuus</i> )
	Pickerelweed ( <i>Pontederia cordata</i> )
	Pondweed ( <i>Potamogeton</i> )
	Rice Cutgrass ( <i>Leersia oryzoides</i> )
	Sedges ( <i>Carex spp</i> )
	Smartweed ( <i>Polygonum spp</i> )
	Spatterdock ( <i>Nuphar luteum</i> )
	Switchgrass ( <i>Panicum virgatum</i> )
	Sweet Flag ( <i>Acorus calamus</i> )
	Water Iris ( <i>Iris pseudoacorus</i> )

NOTE:  
1. PLANTS SHALL BE SELECTED FROM THIS LIST OR APPROVED ALTERNATIVE. SUBSTITUTIONS MAY BE MADE BASED ON NURSERY STOCK.  
2. REF. SCHUELER 1992

**PLANT LIST FOR CONSTRUCTED STORMWATER WETLAND**  
SCALE: N. T. S.



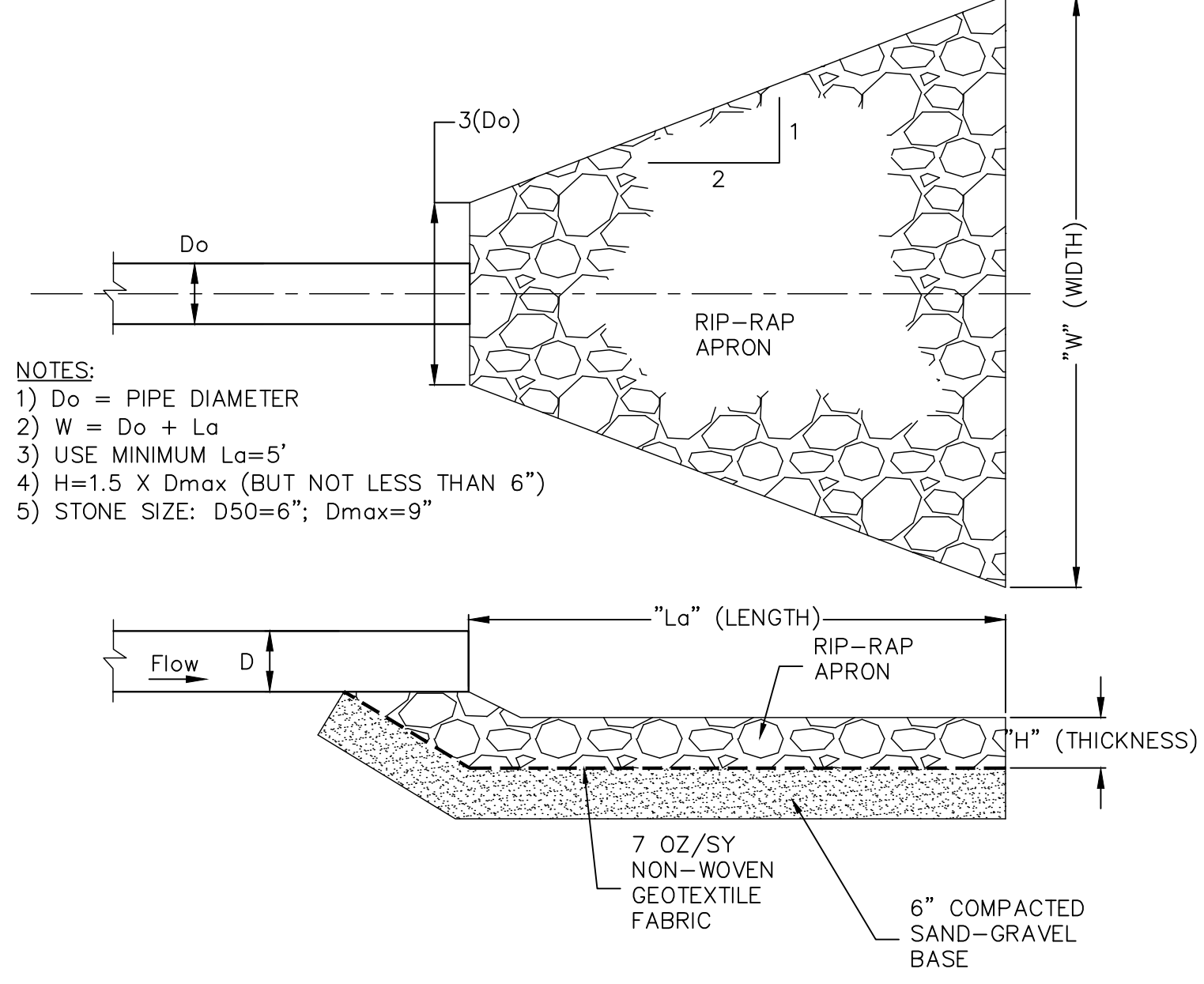
**PLAN VIEW**



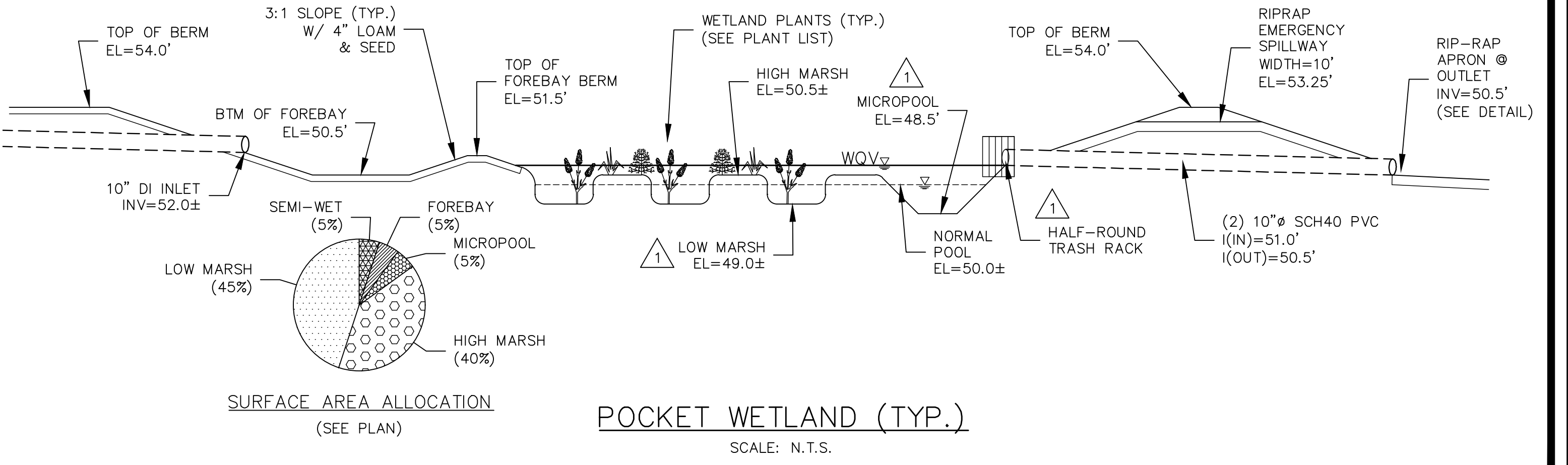
**SECTION VIEW**  
SCALE: N. T. S.

NOTES:  
1) 1,000 GALLON DRYWELL SHALLOW: SHEA DW-SDWH OR APPROVED ALTERNATE.  
2) DRYWELL SHALL HAVE A CAST IRON FRAME & GRATE, UNLESS NOTED OTHERWISE.

**1,000 GAL. DRYWELL DETAIL**  
SCALE: N. T. S.



**RIP-RAP APRON DETAIL**  
SCALE: N. T. S.



**POCKET WETLAND (TYP.)**  
SCALE: N.T.S.

I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE \_\_\_\_\_

I, \_\_\_\_\_, CLERK OF THE TOWN OR NEWBURY, CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON \_\_\_\_\_ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY (20) DAYS NEXT FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK \_\_\_\_\_ DATE \_\_\_\_\_

FOR REGISTRY USE ONLY

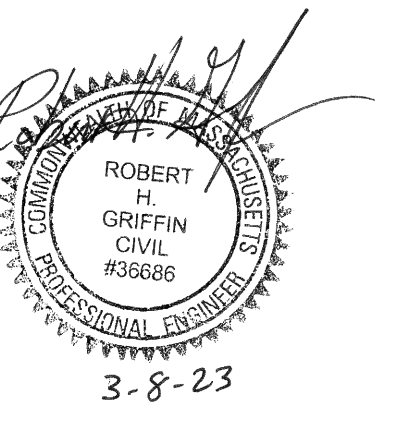
TOWN OF NEWBURY PLANNING BOARD

DATE: \_\_\_\_\_

OWNER & APPLICANT:  
ESTATE OF LEWIS BULGARIS  
C/O DIANNE YURKAVICH  
2 LAVALLEE LANE  
NEWBURYPORT, MA 01950

No.	Date	Description
1	3/8/23	REMOVE AREA DRAIN DETAIL; ADD DRYWELL DETAIL; REV. POCKET WETLAND ELEV.; ADD TRASH RACK.

**Revisions**



**Griffin Engineering Group, LLC**

495 Cabot Street, 2nd Floor  
Beverly, MA 01915

Tel: 978-927-5111  
Fax: 978-927-5103

**FIELDS WAY SUBDIVISION**

170 ORCHARD ST.  
NEWBURY, MA

DETAILS II

Scale: AS-SHOWN  
Job No: 2043  
Date: 1/4/23  
C-10