PROPOSED GARAGES
(OPTIONAL)

PROPOSED ENTRANCE STRUCTURE
(OPTIONAL)

*STRUCTURE SHALL BE DESIGNED BY OTHERS
*SETBACKS TO BE APPROVED BY THE ZBA
*REQUIRES EASEMENTS FOR ACCESS, OPERATION & MAINTENANCE AGREEMENT BETWEEN THE OWNER AND ABUTTERS

NITROGEN LOADING LIMITATIONS

NOTE: ASSESSORS LOT G12-29-02 AND H12-01-09B ARE BOTH WITHIN A ZONE II AQUIFER PROTECTION ZONE.
ASSESSORS LOT G12-29-02 AND H12-01-09B ARE NOT WITHIN 400 FEET OF A PUBLIC WELL.
ASSESSORS LOT G12-29-02 AND H12-01-09B ARE NOT WITHIN A NATURAL RESOURCE AREA PER 15.214 (1)(b)

15.215: NITROGEN LOADING LIMITATIONS
PUBLIC AND PRIVATE WATER SUPPLY PROTECTION AREAS. NO FACILITY OWNER FOR NEW CONSTRUCTION IN NITROGEN SENSITIVE AREAS DESIGNATED IN 310 CMR 15.214(1)(A) SHALL INSTALL A SYSTEM DESIGNED TO RECEIVE OR ALLOW 310 CMR 15.202 (USE OF RECIRCULATING SAND FILTERS), A SYSTEM TO RECEIVE MORE THAN 440 GALLONS OF DESIGN FLOW PER DAY PER ACRE EXCEPT AS SET FORTH IN 310 CMR 15.216 (AGGREGATE FLOWS) OR 15.217 (ENHANCED NITROGEN REMOVAL)

15.216: AGGREGATE DETERMINATIONS OF FLOWS AND NITROGEN LOADINGS
(1)THE 440 GALLONS PER DAY PER ACRE NITROGEN LOADING LIMITATION IMPOSED BY 310 CMR 15.215(1) MAY BE CALCULATED IN THE AGGREGATE BY USING NITROGEN CREDIT LAND IN ACCORDANCE WITH AN APPROVED FACILITY AGGREGATION PLAN OR COMMUNITY AGGREGATION PLAN. APPLICANTS PROPOSING SYSTEMS TO BE LOCATED WITHIN A COMMUNITY OR REGION COVERED BY A COMMUNITY AGGREGATION PLAN APPROVED BY THE DEPARTMENT SHALL CALCULATE AGGREGATE DETERMINATIONS OF FLOWS AND NITROGEN LOADINGS IN ACCORDANCE WITH THE PLAN AND THE DEPARTMENT'S GUIDELINES FOR TITLE 5 AGGREGATION OF FLOWS AND NITROGEN LOADING. ALL OTHER APPLICANTS SEEKING AGGREGATE DETERMINATION OF FLOWS AND NITROGEN LOADING SHALL PREPARE A FACILITY AGGREGATION PLAN IN ACCORDANCE WITH 310 CMR 15.216 AND THE DEPARTMENT'S GUIDELINES FOR TITLE 5 AGGREGATION OF FLOWS AND NITROGEN LOADING

PROPOSED DESIGN FLOW: 88 BEDROOMS X 110 GPD = 9,680 GPD

LOT AREA: G12-29-02 435,600 S.F. H12-01-09B 220,349 S.F.

NITROGEN LOADING RATE: = 40,000 X 9,680 / (435,600 + 220,349) = 591 GPD/ACRE
> 440 GPD/ACRE ALLOWED
(660 GPD DENITE SYSTEM IS AN ALTERNATIVE)

BUILDING TABLE

BUILDING #	UNITS/BUILDING	BEDROOMS	BEDROOMS/BLD	SEPTIC SYSTEM DESIGN FLOW GPD
OFFICE	1	=364 x 50 GPD/1000 S.F.		20
1	7	4-1BR, 2-2BR, 1-3BR	11	1210
2	7	4-1BR, 2-2BR, 1-3BR	11	1210
3	7	4-1BR, 2-2BR, 1-3BR	11	1210
4	7	4-1BR, 2-2BR, 1-3BR	11	1210
5	7	4-1BR, 2-2BR, 1-3BR	11	1210
6	7	4-1BR, 2-2BR, 1-3BR	11	1210
7	7	4-1BR, 2-2BR, 1-3BR	11	1210
8	7	4-1BR, 2-2BR, 1-3BR	11	1210
TOTAL	57		88	9700

NOTE:
APPLICANT HAS AGREED TO PERFORM THE FOLLOWING WORK AS REQUESTED BY THE TOWN OF MARSHFIELD

1. ON PARCEL G11-03-13 WHICH IS THE MARSHFIELD ANIMAL SHELTER AT 156 CLAY PIT RD, WE WILL REMOVE TREES AND REGRADE THE SOUTHWEST CORNER OF THE PROPERTY WHERE IT ABUTS THE TRAIL TO IMPROVE SITE DISTANCE.

2. LIGHT GRADING AND SOME BOULDERS PLACED TO IMPROVE PARKING AT THE EXISTING LOT FOR BRIDLE PATH PARKING ON THE NORTH SIDE OF FERRY ST AT CROSSING AJACENT TO PARCEL G12-30-03

LOCATION MAP SCALE: 1" = 1,000'

REFERENCES:
1. PLAN OF LAND SHOWING TOWN OF MARSHFIELD GRAVEL PIT & AREAS CONVEYED TO MARSHFIELD SAND & GRAVEL COMPANY & GINO RUGANI, DATED APRIL 26, 1954, BY STENBECK & TAYLOR, PLAN #608 OF 1956.

2. COMPILED PLAN OF LAND IN MARSHFIELD, MA BEING A SUBDIVISION OF PARCELS H12-01-01B & G12-29-03 GROVE & FERRY STREETS, DRAWN FOR P.A. REALTY TRUST, DATED 19 MARCH 2001, REVISED 11 APRIL 2001, DRAWN BY STENBECK & TAYLOR, INC., PLAN BK 45, PG 50.

3. PLAN OF ROAD IN THE TOWN OF MARSHFIELD PLYMOUTH COUNTY DISCONTINUANCE AS A STATE HIGHWAY BY THE DEPARTMENT OF PUBLIC WORKS, OCTOBER 15, 1929.

4. NEW YORK, NEW HAVEN AND HARTFORD RAILROAD REAL ESTATE AND RIGHT OF WAY DEPARTMENT, LAND IN MARSHFIELD, MASS. TO BE CONVEYED TO THE TOWN OF MARSHFIELD, APRIL 1940, PLAN BK 6, PG 278.

5. PLAN OF LOTS IN MARSHFIELD, MASS., DRAWN FOR ROBERT T. AMES AND JOHN N. FLAGG, DATED MAY 1968, BY STENBECK AND TAYLOR, INC. ENGINEERS, MARSHFIELD, MASSACHUSETTS, PLAN BK 14, PG 943.

DISTRICT: R-1 RESIDENTIAL RURAL & WATER RESOURCE PROTECTION DISTRICT

	REQUIRED	PROPOSED
LOT AREA:	43,560 SF	435,600 SF
FRONTAGE:	125'	0'
LOT WIDTH:	125'	435.6'
(MEASURED PARALLEL TO THE FRONT LOT LINE AT THE REAR BUILDING LINE AND ALL POINTS BETWEEN)		
IMAGINARY CIRCLE:	125'	125'
FRONT SETBACK:	40'	47.5'
(RIGHT OF WAY LESS THAN 40', MEASURED TO CENTERLINE OF THE WAY)		
SIDE SETBACK:	20'	7.9'
REAR SETBACK:	40'	119'
BUILDING HEIGHT:	35'	34'
BUILDING COVERAGE:	15% MAX	10.3%
LOT COVERAGE	–	35%
OPEN SPACE	50% MIN	65%

DENSITY = 56 UNITS/ 10 ACRES = 5.6 UNITS PER ACRE

PROPOSED BUILDING SPACING = 12.4' (MIN)

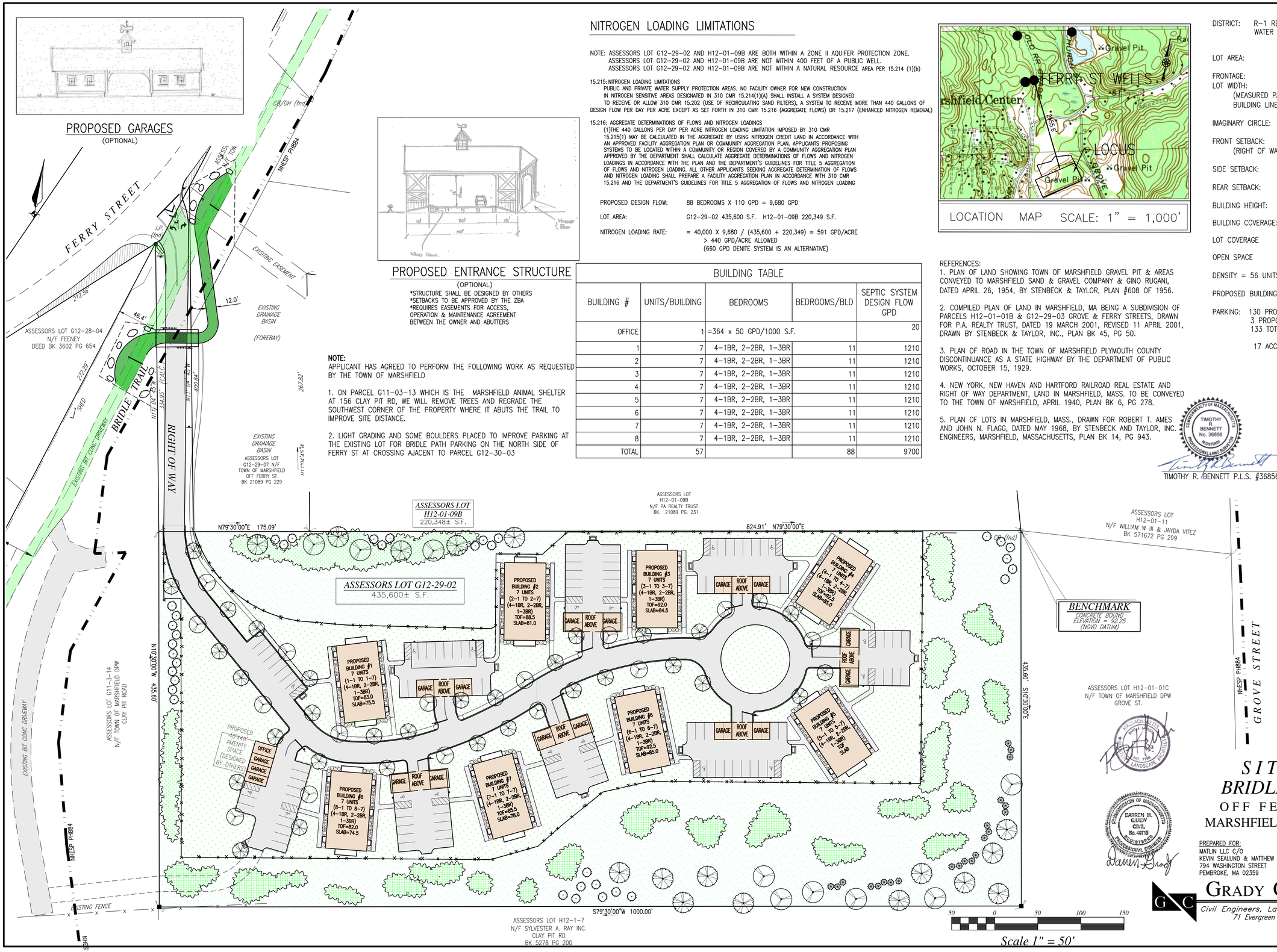
PARKING: 130 PROPOSED PARKING SPACES (2.3 SPACES/UNIT)
3 PROPOSED PARKING SPACES FOR OFFICE
133 TOTAL PARKING SPACES

17 ACCESSIBLE SPACES

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY R. BENNETT
No. 36856
REGISTERED PROFESSIONAL LAND SURVEYOR

1/5/2024
TIMOTHY R. BENNETT P.L.S. #36856 DATE

SHEET INDEX



MASSACHUSETTS
DARREN M. GRADY
LANDSCAPE ARCHITECT
No. 1295

COMMONWEALTH OF MASSACHUSETTS
DARREN M. GRADY
CIVIL
No. 40715
REGISTERED PROFESSIONAL ENGINEER

RECORD OWNER:
ASSESSORS MAPS G12-29-02

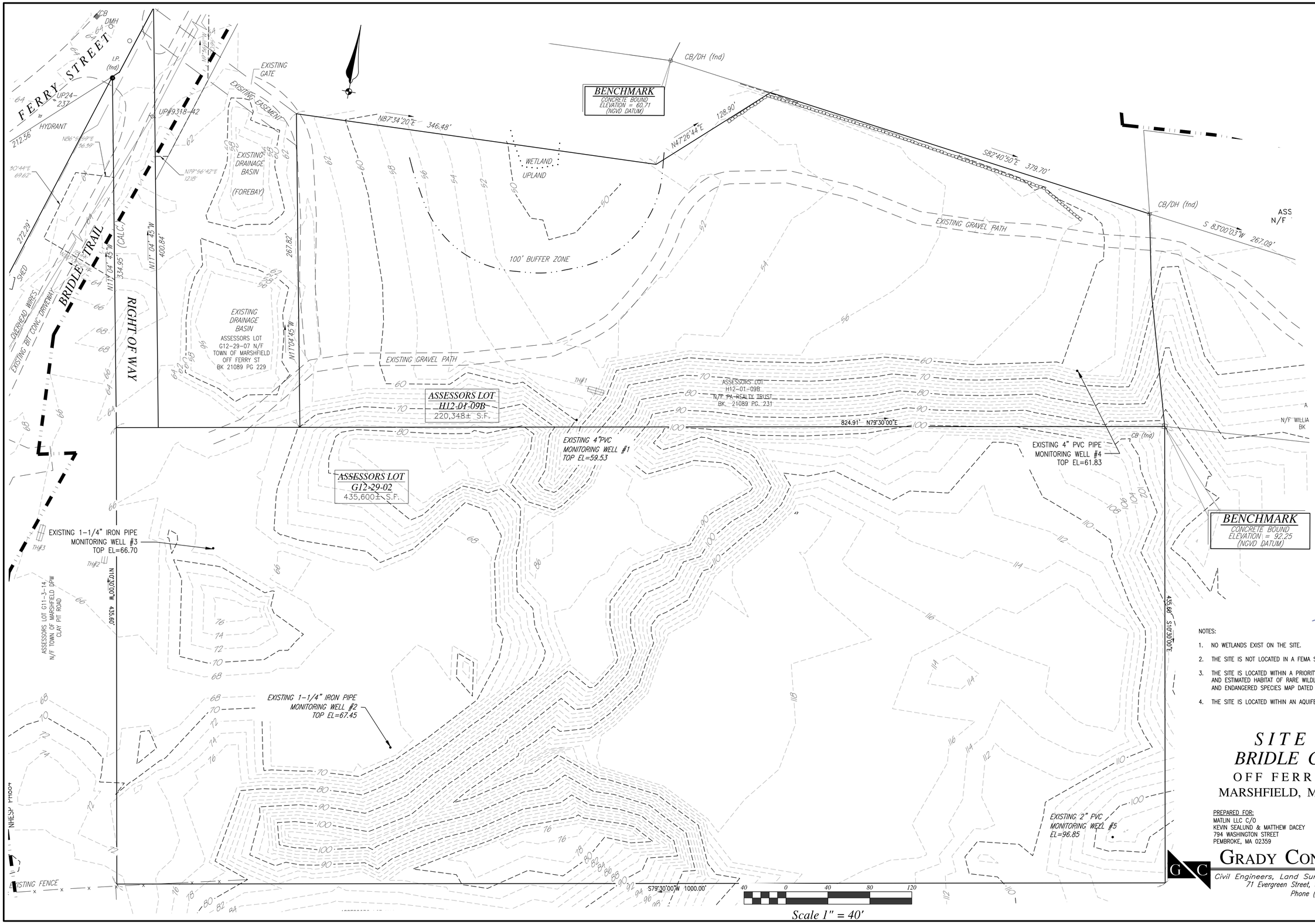
PETER ARMSTRONG
44 ALLERTON STREET
MARSHFIELD, MA 02050
DEED BOOK 31665 PAGE 346
PLAN BOOK 10 PAGE 1007

SITE PLAN
BRIDLE CROSSING
OFF FERRY STREET
MARSHFIELD, MASSACHUSETTS

PREPARED FOR:
MATLIN LLC C/O
KEVIN SEALUND & MATTHEW DACEY
794 WASHINGTON STREET
PEMBROKE, MA 02359

NOVEMBER 9, 2023
SCALE: AS SHOWN
JOB No. 12-243

GRADY CONSULTING, L.L.C.
Civil Engineers, Land Surveyors & Landscape Architects
71 Evergreen Street, Suite 1, Kingston, MA 02364
Phone (781) 585-2300



COMMONWEALTH OF MASSACHUSETTS
TIMOTHY R. BENNETT
No. 36856
REGISTERED PROFESSIONAL LAND SURVEYOR

NOTES:

1. NO WETLANDS EXIST ON THE SITE.
2. THE SITE IS NOT LOCATED IN A FEMA SPECIAL FLOOD HAZARD AREA.
3. THE SITE IS LOCATED WITHIN A PRIORITY HABITAT OF RARE AND ENDANGERED SPECIES AND ESTIMATED HABITAT OF RARE WILDLIFE ACCORDING THE THE NATURAL HERITAGE AND ENDANGERED SPECIES MAP DATED 10/1/08.
4. THE SITE IS LOCATED WITHIN AN AQUIFER PROTECTION ZONE.

SITE PLAN
BRIDLE CROSSING
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MARSHFIELD, MASSACHUSETTS

EXISTING CONDITIONS

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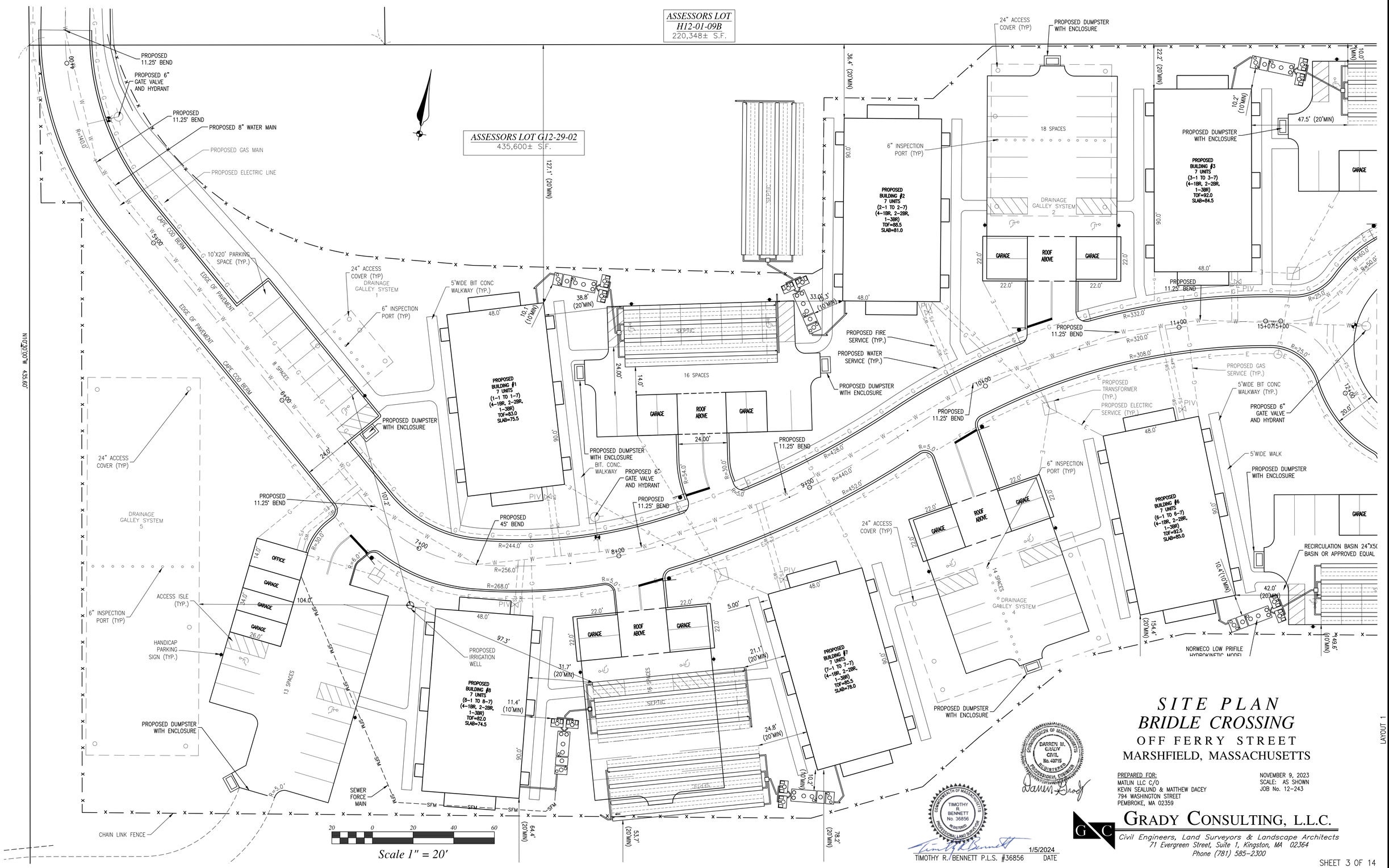

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MARSHFIELD, MASSACHUSETTS

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COMMONWEALTH OF MASSACHUSETTS
DARREN M. GRADY
CIVIL
No. 49715
REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY R. BENNETT
No. 36856
REGISTERED PROFESSIONAL LAND SURVEYOR

TIMOTHY R. BENNETT P.L.S. #36856 — 1/5/2024 DATE

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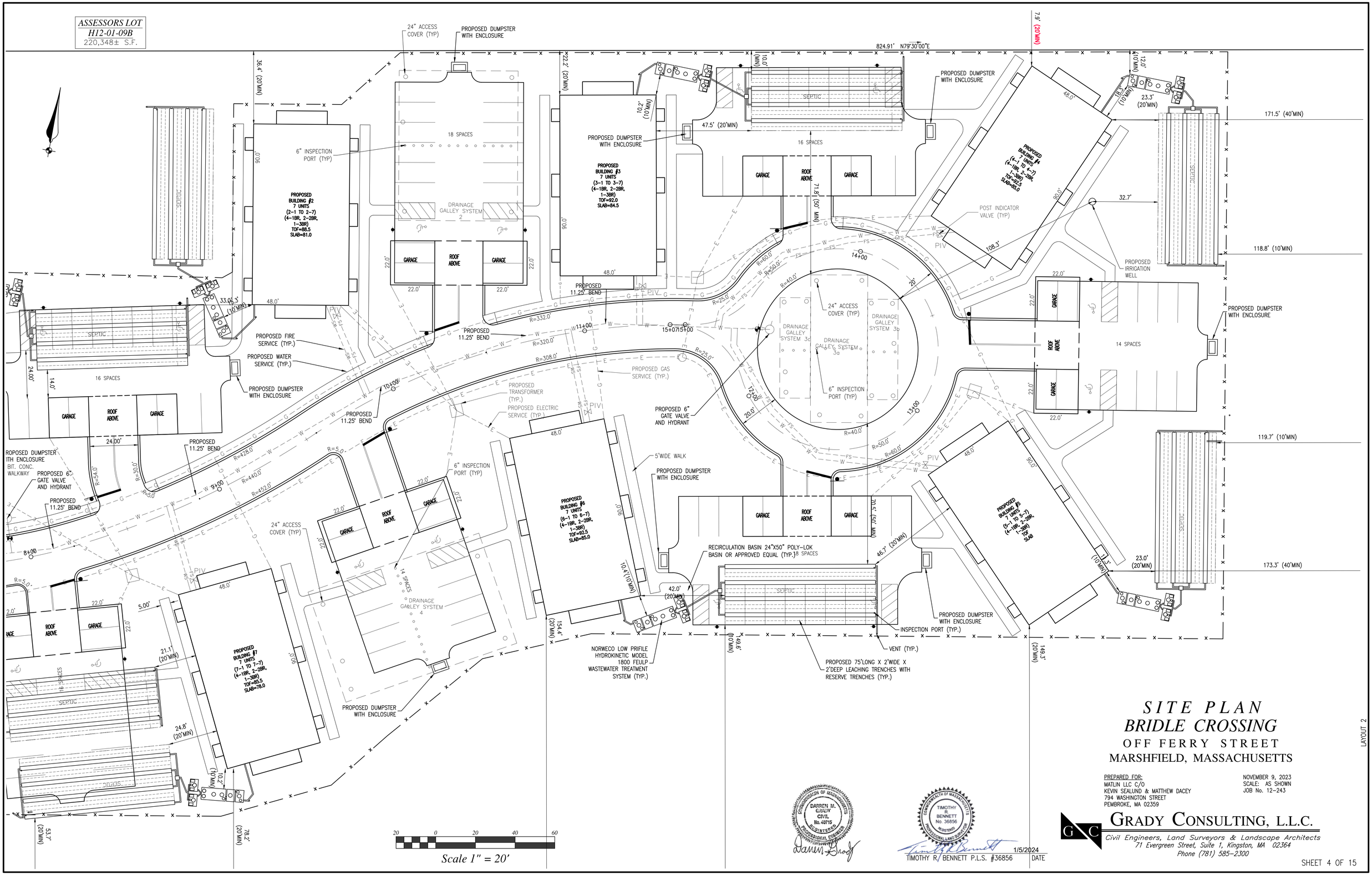
LAYOUT 1



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DARREN M. GRADY CIVIL No. 40715 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

TIMOTHY R. BENNETT No. 36856 REGISTERED PROFESSIONAL LAND SURVEYOR COMMONWEALTH OF MASSACHUSETTS

TIMOTHY R. BENNETT P.L.S. #36856 — 1/5/2024 DATE

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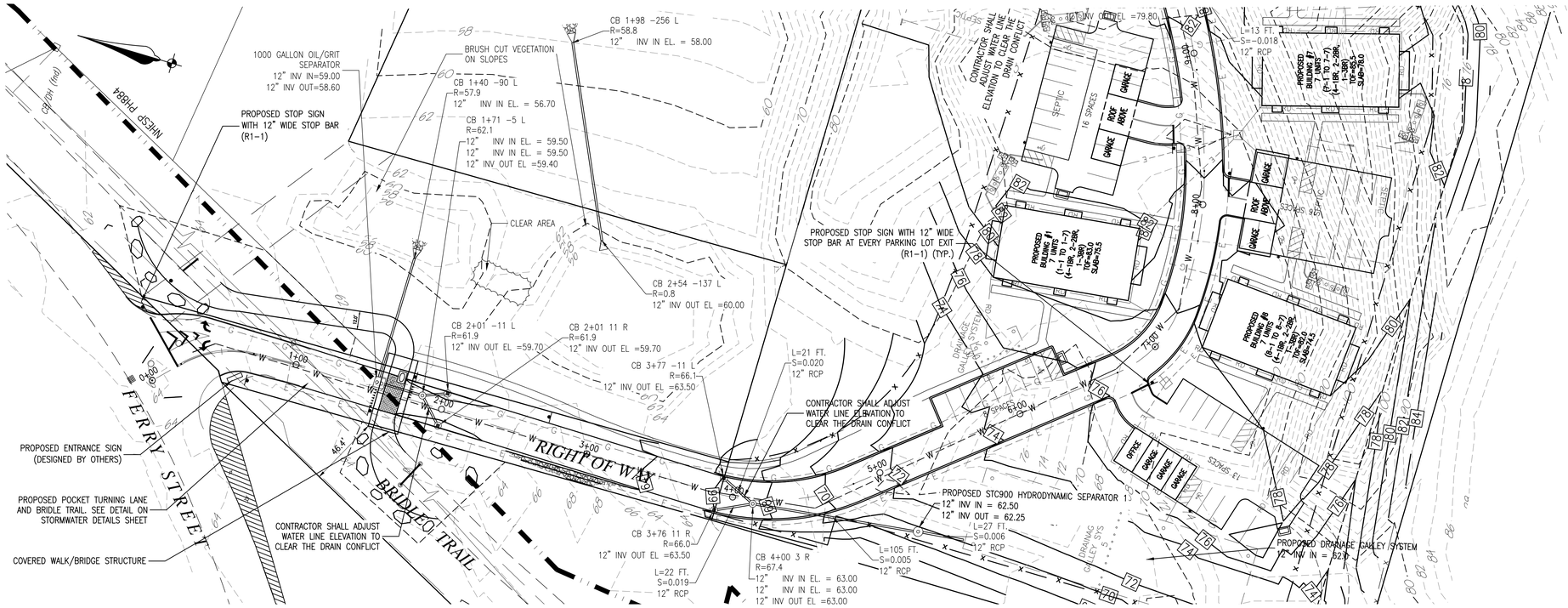
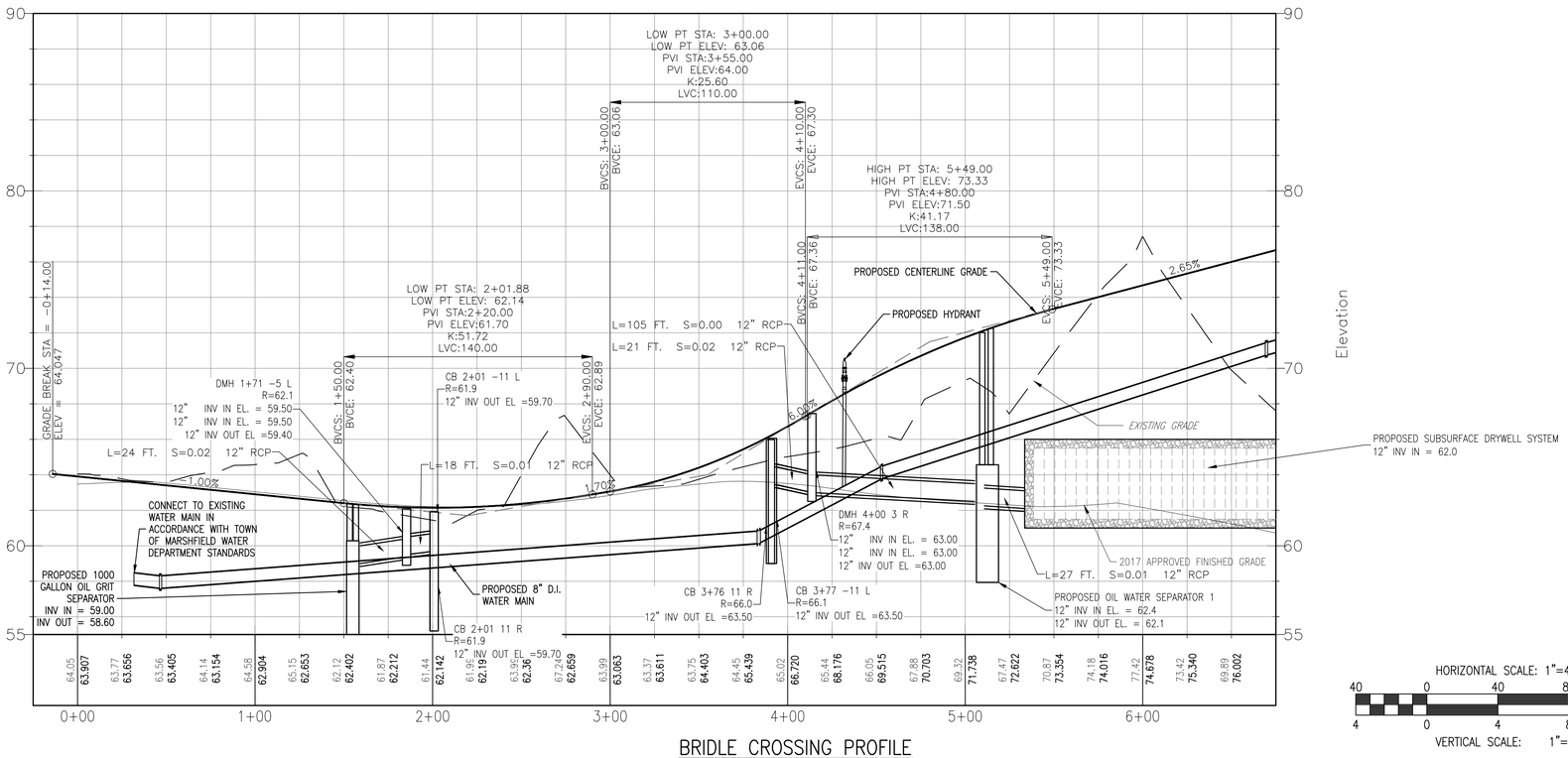
LAYOUT 2



BRIDLE CROSSING PLAN

SCALE: 1"=40'



BRIDLE CROSSING PROFILE

SCALE: H: 1"=40' V:1"=4'

HORIZONTAL SCALE: 1"=40'

40 0 40 80 120

4 0 4 8 12

VERTICAL SCALE: 1"=4'

STRIPING LEGEND

DYCL – DOUBLE YELLOW CENTER LINE
DYL – DOUBLE YELLOW LINE
SWEL – SOLID WHITE EDGE LINE
SWLL – SOLID WHITE LANE LINE
SWGL – SOLID WHITE GORE LINE
SYGL – SOLID YELLOW GORE LINE
SL – STOP LINE

SIGN LEGEND	
R1–1	STOP
W11–7	
W16–9P	AHEAD
R1–5A	HERE TO PEDESTRIANS

NOTE: ALL SIGNAGE AND LANE MARKING SHALL COMPLY WITH THE STANDARDS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD, 11th EDITION).

COMMONWEALTH OF MASSACHUSETTS
DARREN M. GRADY
CIVIL
No. 40715
REGISTERED PROFESSIONAL ENGINEER

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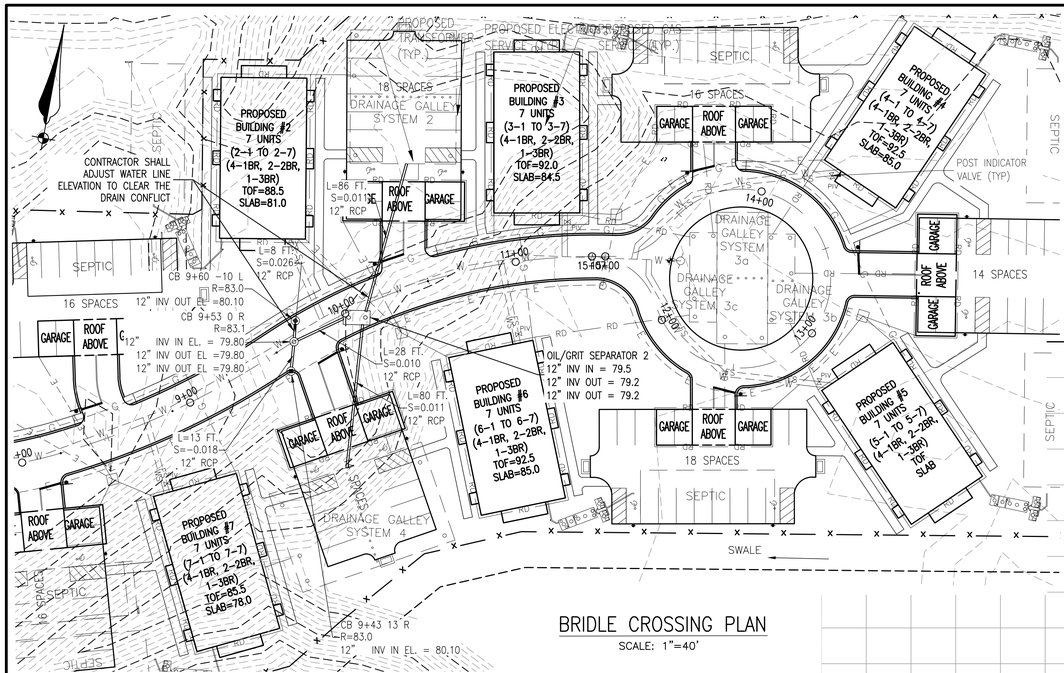
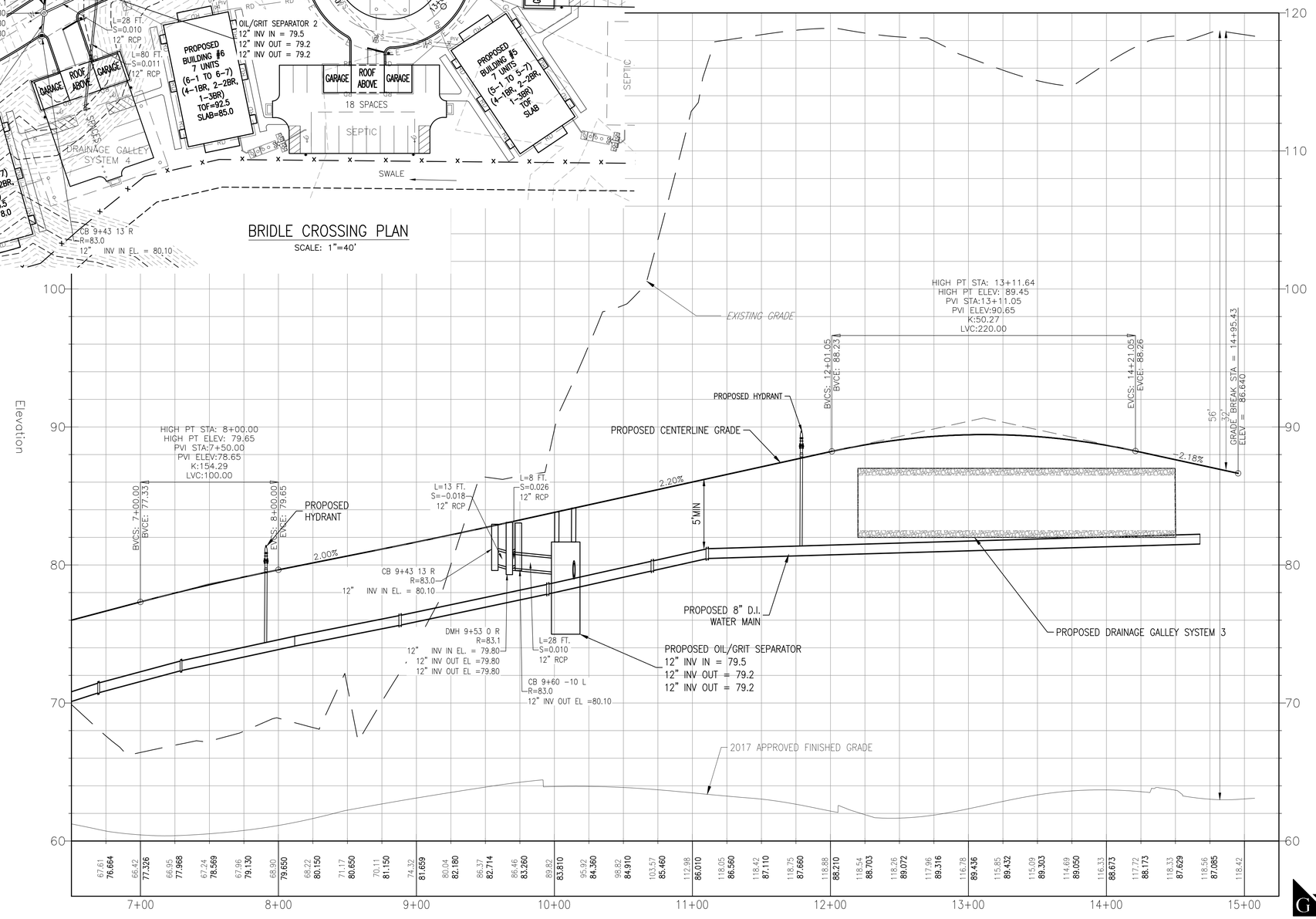
PLAN, PROFILE, & SIGNAGE



BRIDLE CROSSING PLAN

SCALE: 1"=40'



BRIDLE CROSSING PROFILE

SCALE: H: 1"=40' V:1"=4'

HORIZONTAL SCALE: 1"=40'

40 0 40 80 120

4 0 4 8 12

VERTICAL SCALE: 1"=4'

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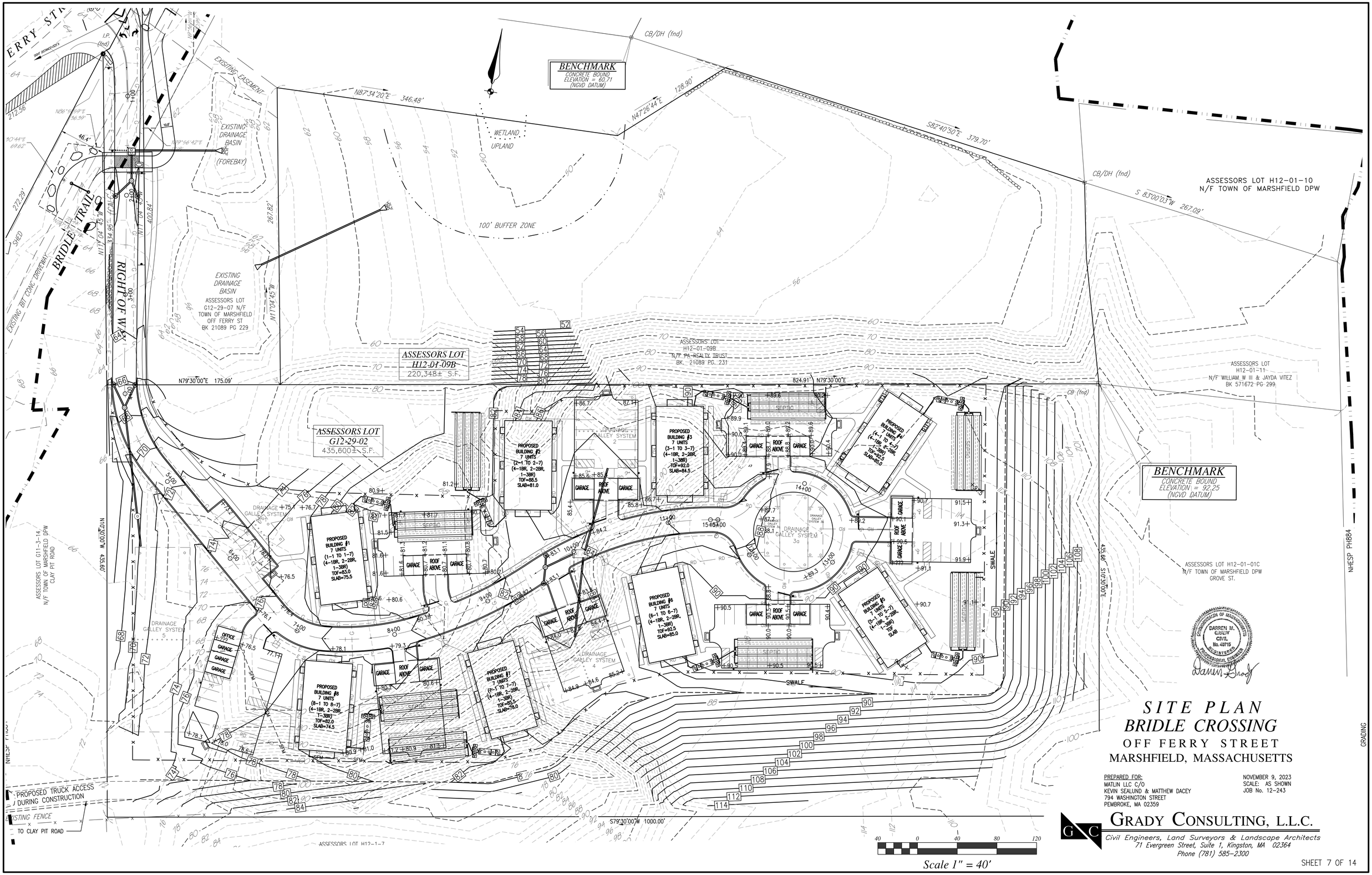
PLAN & PROFILE 2



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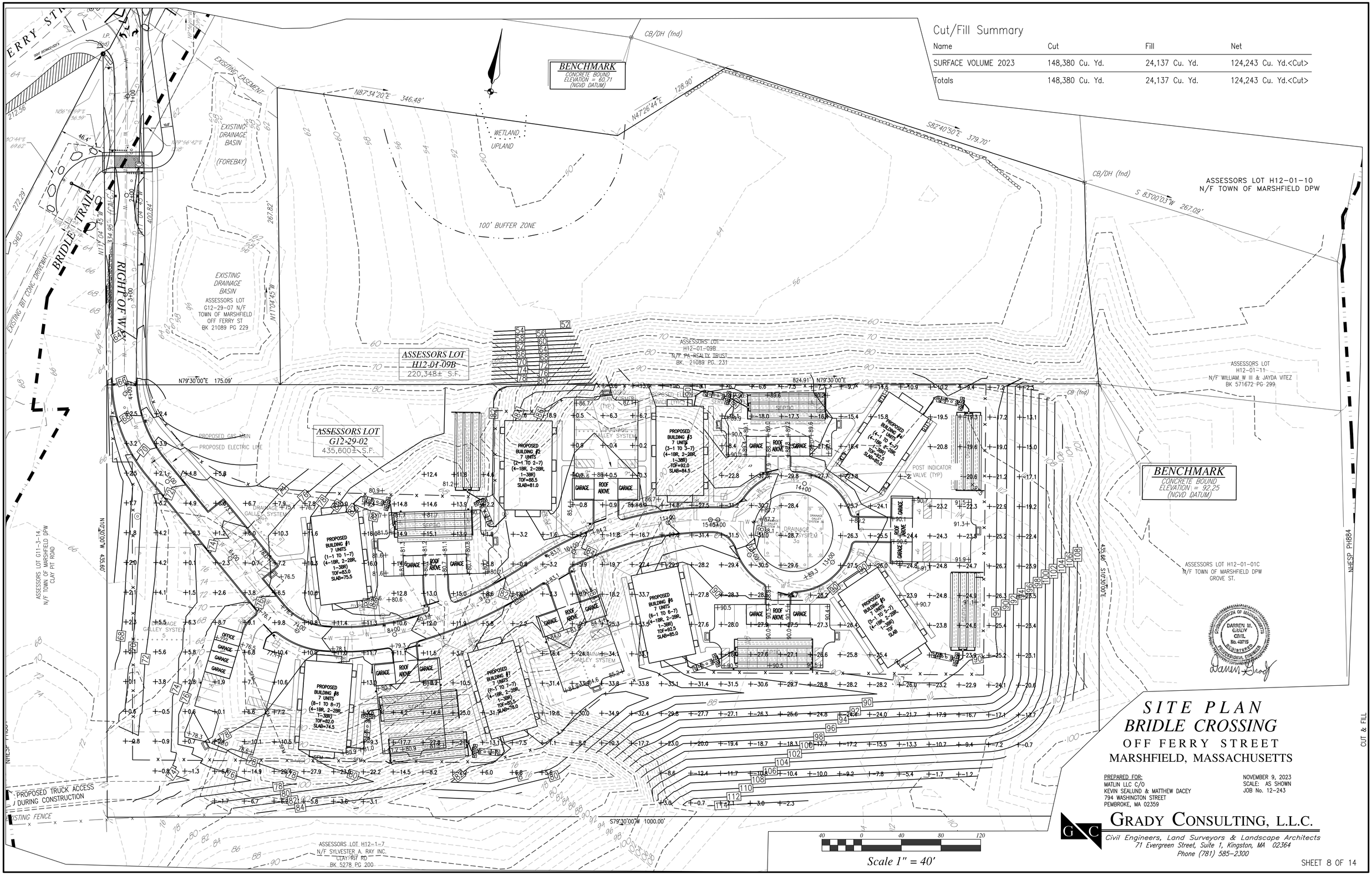
Cut/Fill Summary

Name	Cut	Fill	Net
SURFACE VOLUME 2023	148,380 Cu. Yd.	24,137 Cu. Yd.	124,243 Cu. Yd.<Cut>
Totals	148,380 Cu. Yd.	24,137 Cu. Yd.	124,243 Cu. Yd.<Cut>



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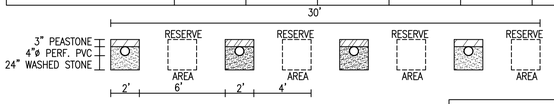
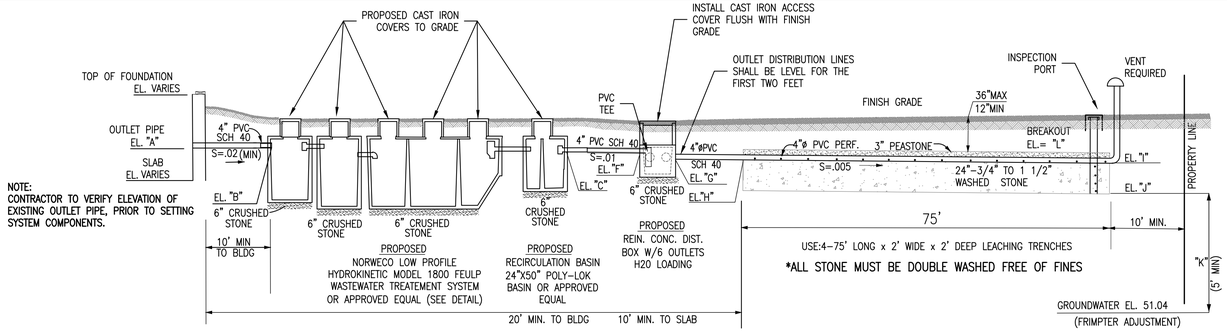
SCHEDULE OF INVERTS / ELEVATIONS									
BUILDING #'S	"A"	"B"	"C"	"F	"G"	"H"	"I"	"J"	"K"
1	80.00	79.55	79.13	78.82	78.65	78.55	78.20	76.20	25.16
2	78.50	78.25	77.83	77.82	77.65	77.55	77.20	75.20	24.16
3	89.55	89.25	88.83	88.67	88.5	88.40	88.05	86.05	35.01
4	89.20	89.00	88.58	88.42	88.25	88.15	87.80	85.80	34.76
5	89.10	88.70	88.28	88.07	87.90	87.80	87.45	85.45	34.41
6	89.00	88.44	88.02	87.82	87.65	87.55	87.20	85.20	34.16
7	79.92	79.42	79.00	78.82	78.65	78.55	78.20	76.20	25.16
8	79.20	78.67	78.25	78.07	77.9	77.80	77.45	75.45	24.41



LEACHING TRENCHES X-SECTION A-A

(NOT TO SCALE)



NOTE:
CONTRACTOR TO VERIFY ELEVATION OF EXISTING OUTLET PIPE, PRIOR TO SETTING SYSTEM COMPONENTS.

SUBSURFACE SEWAGE DISPOSAL SYSTEM

(NOT TO SCALE)

SEPTIC DESIGN (NOT DESIGNED FOR GARBAGE GRINDER)

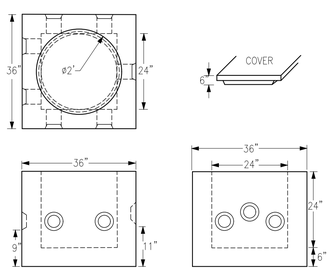
1. DESIGN DAILY FLOW: 11 BR. x 110 GPD = 1,320 GPD
2. SEPTIC TANK: 1,320 GPD x 2 = 2,640 GAL. USE: 1500 GAL (MIN)
3. LEACHING: P.R. < 2 MIN/IN CLASS I ASSUMED

USE: 4 – 75' LONG x 2' WIDE x 2' DEEP LEACHING TRENCHES

TITLE 5

PROPOSED AREA: 4 X 75 LF x 6 SF/LF = 1,800 S.F.
CAPACITY: 1,800 S.F. x 0.74 GPD/S.F. = 1,332 > 1,320 GPD(D.D.F.)

2'X2' H-20 LOADING 6 OUTLET DISTRIBUTION BOX

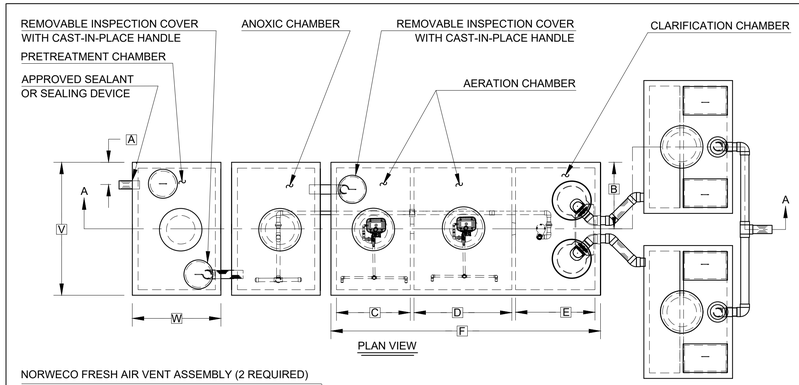


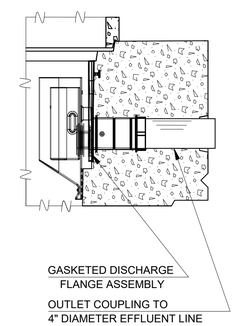
DESIGN NOTES

1. 4,000 P.S.I. CONCRETE @ 28 DAYS
2. KNOCK-OUT OPENINGS FOR 4" PVC
3. REINFORCING ASTM A-615, GRADE-60
4. BUTYL SEALANT AVAILABLE
5. DESIGN LOADING AASHTO HS-20

D-BOX DETAIL

(NOT TO SCALE)





FLOW EQUALIZATION DEVICE DETAIL

GENERAL NOTES:

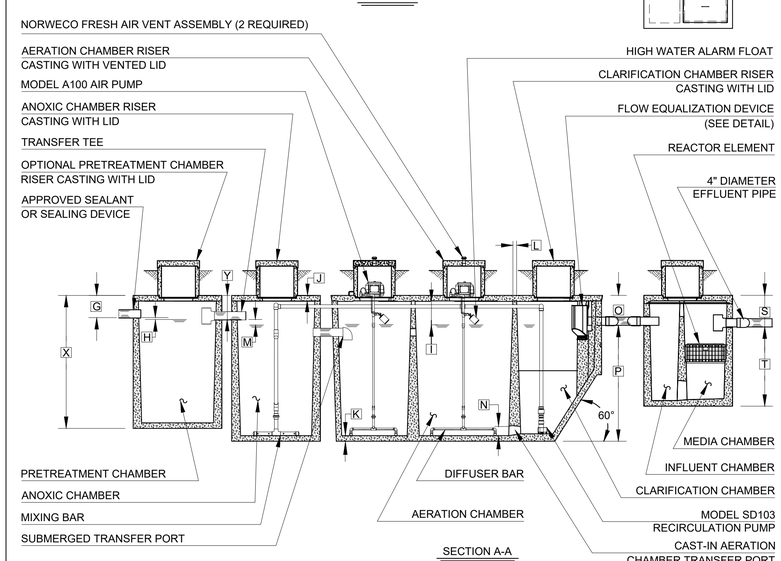
① FALL THROUGH THE HYDRO-KINETIC® PLANT FROM INLET INVERT TO OUTLET INVERT IS FOUR INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.

② ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND CASTINGS TO GRADE. INSPECTION COVERS MUST BE DEVELOPED TO WITH TWELVE INCHES OF GRADE.

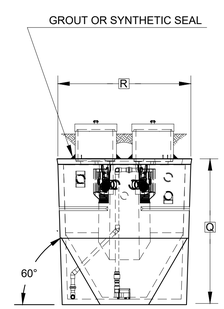
③ TANK REINFORCED PER ACI STD. 318.

④ REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.

⑤ CONTACT THE LOCAL, LICENSED HYDRO-KINETIC® DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.



SECTION A-A



OUTLET END VIEW

NOTE: PRETREATMENT CHAMBER MINIMUM REQUIREMENTS SHALL BE: 1,000 GALLONS CAPACITY, 15 GALLONS PER INCH OF LIQUID LEVEL AND 9 INCHES OF FREEBOARD.

NOTE: ANOXIC CHAMBER MINIMUM REQUIREMENTS SHALL BE: 1,000 GALLONS CAPACITY, 15 GALLONS PER INCH OF LIQUID LEVEL AND 9 INCHES OF FREEBOARD.

NOTE: TOTAL SYSTEM CAPACITY: 4,550 GALLONS
RATED CAPACITY: 1,500 GALLONS PER DAY

NORWECO LOW PROFILE HYDROKINETIC MODEL 1800 FEULP WASTEWATER TREATEMENT SYSTEM

(NOT TO SCALE)

PROJECT ENGINEER'S APPROVAL:
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE:_____

NAME:_____

CONTRACTOR'S CERTIFICATION:
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE:_____

NAME:_____

CRITICAL DIMENSIONS			
A	1'- 0"	N	0'- 6"
B	3'- 0"	O	1'- 4"
C	3'- 4"	P	5'- 3"
D	4'- 5"	Q	6'- 7"
E	3'- 7"	R	6'- 0"
F	12'- 2"	S	1'- 5"
G	1'- 0"	T	3'- 7"
H	0'- 1"	U	
I	1'- 1"	V	
J	0'- 3"	W	
K	0'- 3"	X	
L	0'- 2"	Y	1'- 1"
M	0'- 3"	Z	

U.S. AND FOREIGN PATENTS PENDING

© MMXXIII

norweco

LOW PROFILE HYDRO-KINETIC® MODEL 1500 FEU LP WASTEWATER TREATMENT SYSTEM

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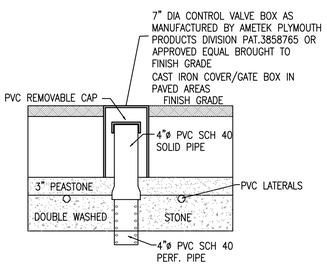
REVISION DATE	REVISION
08-29-2022	A
DRAWN BY: MT	
APPROVED BY: JMM	
DATE: 9-30-2019	
SCALE: NTS	
DRAWING NO. PC-5-1214	

INSPECTION PORT DETAIL

NOT TO SCALE



REQUIRED INSPECTIONS

1. AFTER SYSTEM CONSTRUCTION PRIOR TO BACKFILLING.
2. AFTER FINAL GRADING IS COMPLETED.

(ADDITIONAL INSPECTIONS MAY BE REQUIRED BY THE BOARD OF HEALTH)

COMMONWEALTH OF MASSACHUSETTS
DARREN M. GRADY
CIVIL
No. 40715
REGISTERED PROFESSIONAL ENGINEER

SITE PLAN
BRIDLE CROSSING
OFF FERRY STREET
MARSHFIELD, MASSACHUSETTS

PREPARED FOR:
MATLIN LLC C/O
KEVIN SEALUND & MATTHEW DACEY
794 WASHINGTON STREET
PEMBROKE, MA 02359

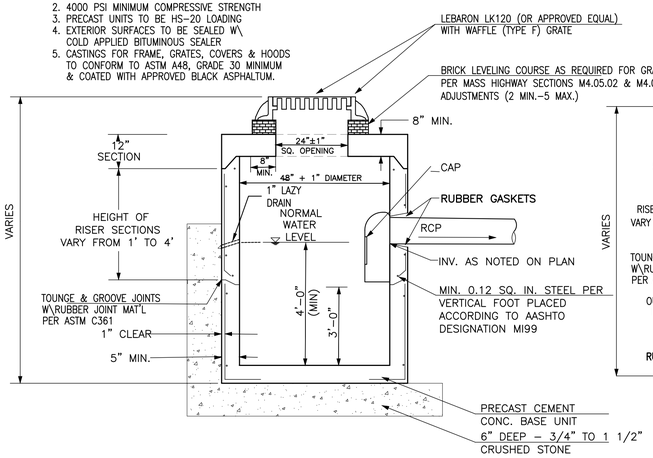
NOVEMBER 9, 2023
SCALE: AS SHOWN
JOB No. 12-243

GRADY CONSULTING, L.L.C.
Civil Engineers, Land Surveyors & Landscape Architects
71 Evergreen Street, Suite 1, Kingston, MA 02364
Phone (781) 585-2300

SEPTIC DETAILS

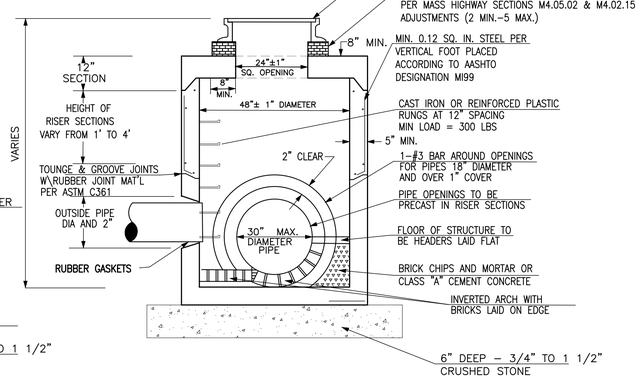
NOTES:

1. PRECAST CONCRETE UNITS TO CONFORM TO THE MASS HIGHWAY SECTION M4.02.14
2. 4000 PSI MINIMUM COMPRESSIVE STRENGTH
3. PRECAST UNITS TO BE HS-20 LOADING
4. EXTERIOR SURFACES TO BE SEALED W\ COLD APPLIED BITUMINOUS SEALER
5. CASTINGS FOR FRAME, GRATES, COVERS & HOODS TO CONFORM TO ASTM A48, GRADE 30 MINIMUM & COATED WITH APPROVED BLACK ASPHALTUM.



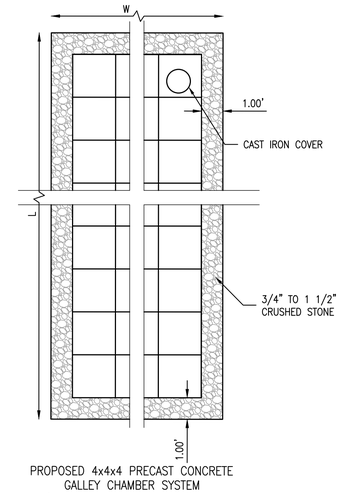
PRECAST GASOLINE TRAP CATCH BASIN

(NOT TO SCALE)



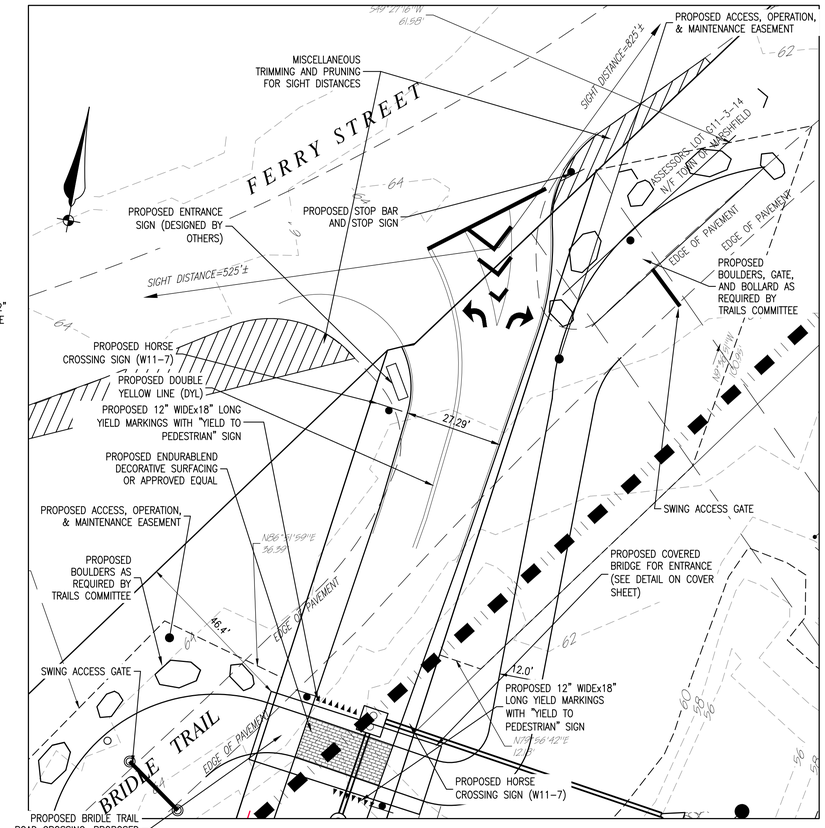
PRECAST CONCRETE MANHOLE

(NOT TO SCALE)



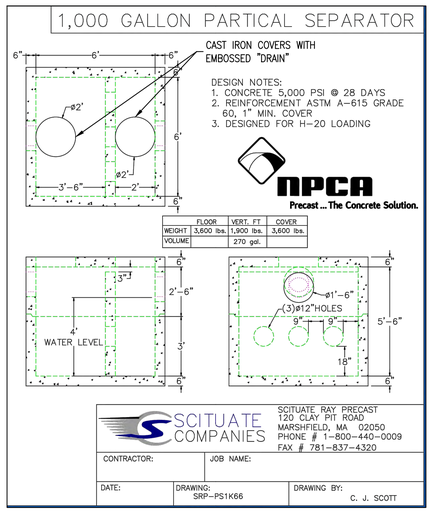
PROPOSED GALLEY SYSTEM DETAIL

(NOT TO SCALE)



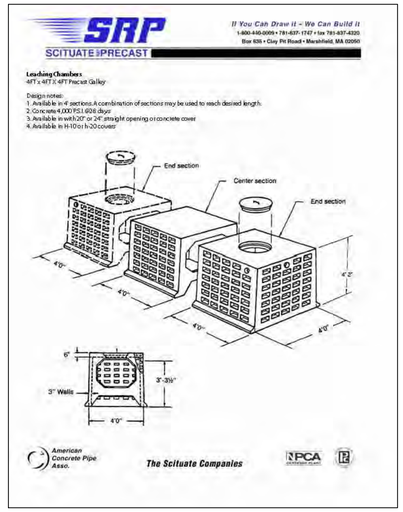
POCKET TURNING LANE LAYOUT AND BRIDLE TRAIL

(NOT TO SCALE)



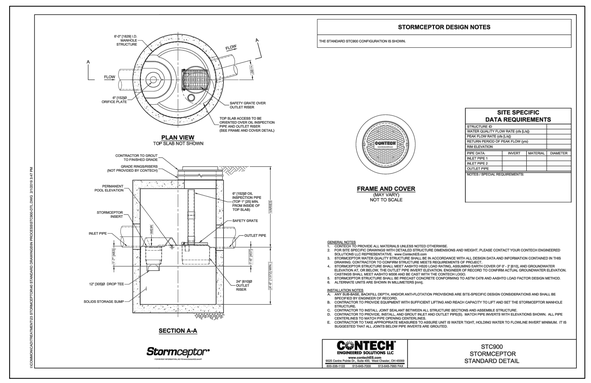
1,000 GALLON OIL/GRIT SEPARATOR

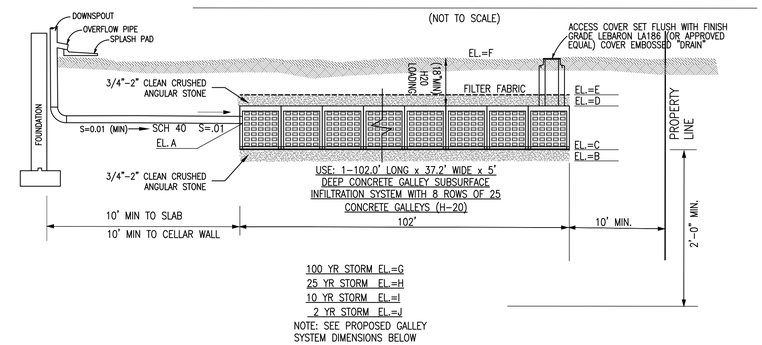
NOT TO SCALE



4'x4'x4' PRECAST GALLEY (H-20)

NOT TO SCALE





PROPOSED 4X4X4 PRECAST CONCRETE GALLEY CHAMBER SYSTEM

(NOT TO SCALE)

PROPOSED GALLEY SYSTEMS DIMENSIONS

UNIT	INVERT IN A	BOT. STONE B	BOT. DRYWELL C	TOP DRYWELL D	TOP STONE E	FG F	2YR. G	10YR. H	25YR. I	100YR. J	LENGTH (L)	WIDTH (W)	CONFIGURATION
1	67.00	66.00	66.50	70.50	71.00	72.00	67.98	68.77	6.25	70.06	32.80	265.00	7X6
2	78.30	77.80	78.30	82.30	82.80	85.50	79.23	80.19	0.87	82.62	78.00	59.20	13X19
3a	83.00	82.00	82.50	86.50	87.00	88.00	84.10	84.94	65.45	86.82	74.00	28.40	6X18
3b	83.00	82.00	82.50	86.50	87.00	88.00	84.10	84.94	85.45	86.82	50.00	15.20	3X12
3c	83.00	82.00	82.50	86.50	87.00	88.00	84.10	84.94	85.45	86.82	50.00	15.20	3X12
4	78.30	77.80	78.30	82.30	82.30	83.90	79.16	80.19	80.87	82.62	90.00	58.00	20X14
5	62.00	61.05	61.55	65.55	66.05	72.00	62.50	63.52	64.19	65.93	186.00	55.40	11X46

COMMONWEALTH OF MASSACHUSETTS
DARREN M. GRADY
CIVIL
No. 40715
REGISTERED PROFESSIONAL ENGINEER

REQUIRED INSPECTIONS

CONTRACTOR SHALL CONTACT GRADY CONSULTING 781 585-2300 AND MERRILL ENGINEERS AND LAND SURVEYORS 781-826-9200 FOR INSPECTIONS

1. AFTER EXCAVATION OF LEACHING AREA PRIOR TO INSTALLING SAND.
2. AFTER SYSTEM CONSTRUCTION PRIOR TO BACKFILLING.

SITE PLAN
BRIDLE CROSSING
OFF FERRY STREET
MARSHFIELD, MASSACHUSETTS

PREPARED FOR:
MATLIN LLC C/O
KEVIN SEALUND & MATTHEW DACEY
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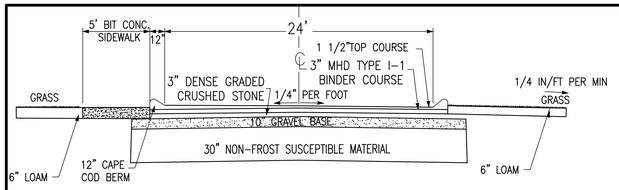
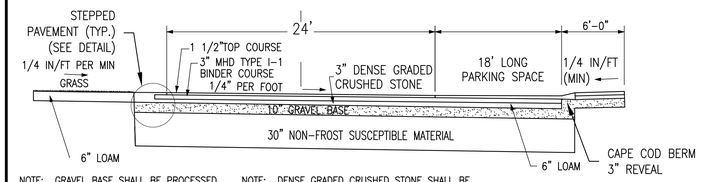


ROADWAY SECTION

(NOT TO SCALE)



NOTE: GRAVEL BASE SHALL BE PROCESSED GRAVEL MEETING MASSDOT SPEC M1.03.1

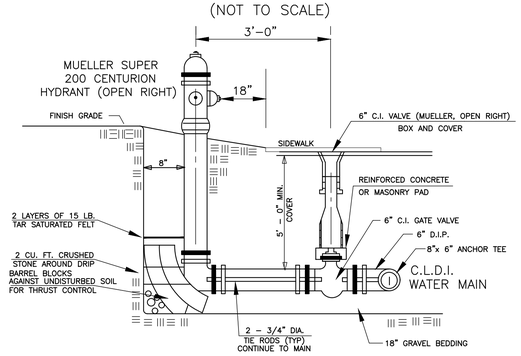
SIEVE DESIGNATION	PERCENT PASSING
3 INCH	100%
1 1/2 INCH	70%-100%
1/4 INCH	30%-60%
NO. 200	0%-10%

NOTE: DENSE GRADED CRUSHED STONE SHALL BE CONFORM TO MASSDOT SPEC M2.01.7

SIEVE DESIGNATION	PERCENT PASSING
2 INCH	100%
1 1/2 INCH	70%-100%
3/4 INCH	50%-85%
NO. 4	30%-55%
NO. 50	8%-24%
NO. 200	3%-10%

ROADWAY AND PARKING SECTION

(NOT TO SCALE)



TYPICAL HYDRANT DETAIL

(NOT TO SCALE)

CONSTRUCTION SEQUENCE:

INSTALL GATES, AND "KEEP OUT - DANGER" SIGNS.

POST EMERGENCY RESPONSE PLAN AND PLACE SPILL KITS ON-SITE (SPILL KITS SHALL BE KEPT AT A MINIMUM OF 500 FEET FROM EXCAVATION AREA)

CONSTRUCT TEMPORARY EARTH BERM

CONSTRUCT CRUSHED STONE APRON(S) AND ACCESS DRIVE FOR EARTH REMOVAL

REMOVE STUMPS FROM SITE

STOCKPILE LOAM ON-SITE

EXCAVATION WILL START AT THE WEST END PROPERTY LINE AND MOVE IN AN EASTERLY DIRECTION DOWN TO ROUGH GRADE LEVEL AS SHOWN ON THE PHASING PLANS

STABILIZE SLOPES AS EXCAVATION PROCEED EASTERLY

CONSTRUCT PROPOSED INTERSECTION IMPROVEMENTS ON FERRY STREET AT ACCESS DRIVE

INSTALL UTILITIES (I.E. DRAINAGE, WATER, GAS, ELECTRIC, TELEPHONE, CABLE)

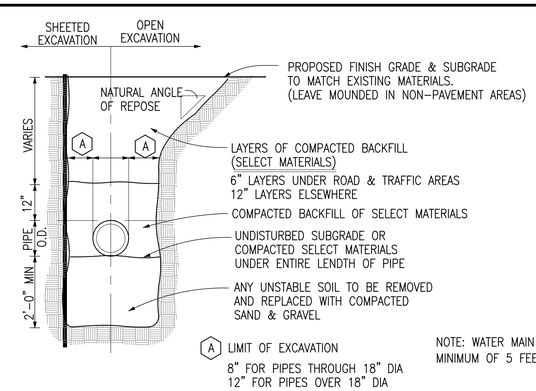
REMOVE TEMPORARY EARTH BERM AND EARTH REMOVAL ACCESS DRIVE

PREPARE SUBGRADE FOR ACCESS DRIVEWAY AND PARKING AREA

INSTALL LOAM, SEED, LANDSCAPING, AT FINISH GRADES

INSTALL FINISHED DRIVEWAY AND PARKING SURFACES.

INSTALL FENCING.



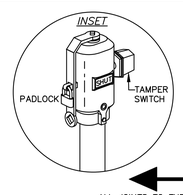
NOTE: WATER MAIN SHALL HAVE A MINIMUM OF 5 FEET OF COVER

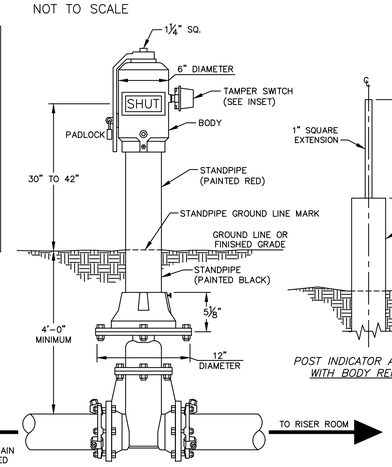
TRENCH EXCAVATION DETAIL

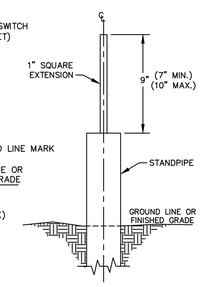
NOT TO SCALE

FIELD ADJUSTMENT INSTRUCTIONS

1. REMOVE THE BODY FROM THE TOP OF THE INDICATOR POST ASSEMBLY.
2. CUT THE REQUIRED LENGTH OFF THE BOTTOM OF THE STANDPIPE FOR THE GROUND LINE TO MATCH UP WITH STANDPIPE GROUND LINE MARK.
3. CUT THE 1 INCH SQ. EXTENSION AT A DISTANCE OF 9 INCHES ABOVE THE TOP OF THE STANDPIPE.
4. SET THE "OPEN" AND "SHUT" TARGETS FOR THE APPROPRIATE VALVE SIZE.
5. RE-ATTACH THE BODY TO THE TOP OF THE INDICATOR POST ASSEMBLY.
6. ALL POST INDICATOR VALVES SHALL BE INSTALLED WITH AN ELECTRONIC UL LISTED TAMPER SWITCH.
7. THERE SHALL BE 36 INCHES OF UNOBSTRUCTED CLEARANCE AROUND THE PERIMETER OF ALL POST INDICATOR VALVES.
8. POST INDICATOR VALVE SHALL BE LOCATED AT A MINIMUM 5 FEET FROM BUILDING.



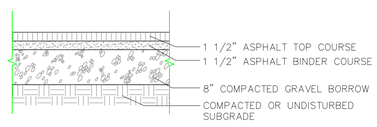




POST INDICATOR ASSEMBLY WITH BODY REMOVED

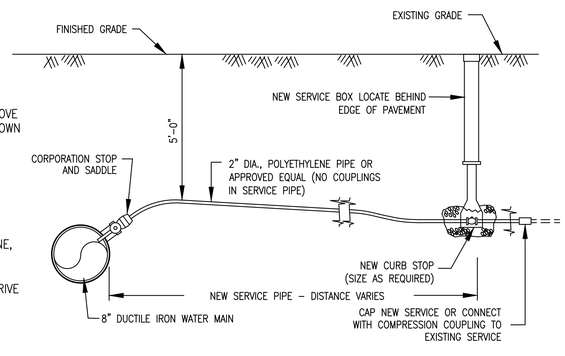
POST INDICATOR VALVE

(NOT TO SCALE)



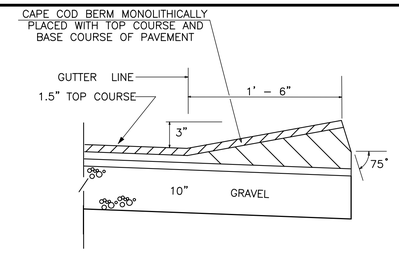
BIT CONCRETE SIDEWALK

(NOT TO SCALE)



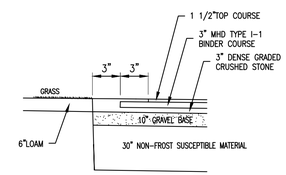
2"ø DOMESTIC WATER SERVICE DETAIL

NOT TO SCALE



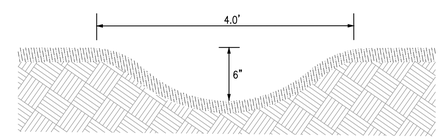
CAPE COD BERM DETAIL

(NOT TO SCALE)



STEPPED PAVEMENT DETAIL

NOT TO SCALE



SWALE DETAIL

NOT TO SCALE

DATE	OBSERVATION WELL ELEVATIONS					WITNESS
	#1	#2	#3	#4	#5	
3/28/08	41.63	43.65	–	–	–	RP +JP
5/30/08	41.01	43.25	44.40	40.66	–	PGB
3/13/09	41.71	44.35	44.90	40.66	40.45	PGB
4/29/10	45.41	48.75	49.30	45.13	44.85	PF
3/4/11	41.44	44.05	45.00	40.66	40.05	PF + LT
12/30/16	–	38.95	NW	–	–	EP
12/30/16	–	40.95	NW	NW	37.25	EP

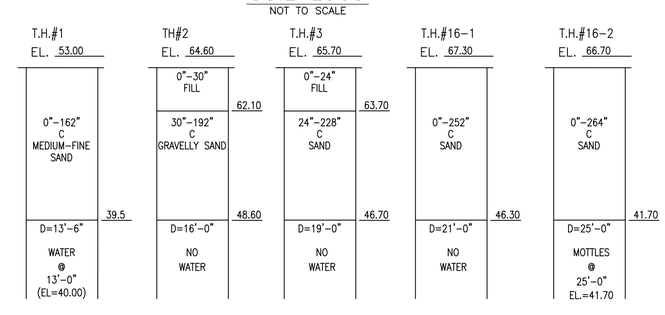
FRIMPTER ADJUSTMENT

Sh = Sc - [(Sr/Owr) * (Owc - Owmax)]
Sh = 17.4 - [(4.20/4.11) * (7.56 - 5.86)]
Sh = 17.4 - 1.74 = 15.7

ADJUSTED GROUNDWATER ELEVATION WELL #3 (4/29/10) =49.3 + 1.74 = EL. 51.04

SOIL LOGS

NOT TO SCALE



TEST HOLES 1, 2, 3 WERE PERFORMED BY DARREN GRADY, P.E. ON MARCH 14, 2007
TEST HOLES 16-1, 16-2 WERE PERFORMED BY DARREN GRADY, P.E. AND WITNESSED BY ED PESCE, P.E. ON DECEMBER 30, 2016

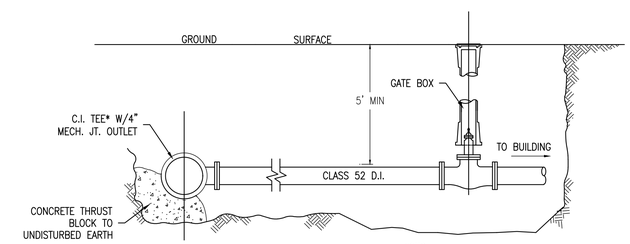
CONSTRUCTION NOTES

GENERAL:

1. THE ACCURACY OF EXISTING UTILITY LOCATIONS, DIMENSIONS AND LINES IS FROM EXISTING INFORMATION OF RECORD AND IS NOT WARRANTED. CONTRACTOR TO VERIFY PRIOR TO INITIATING CONSTRUCTION.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SECURE ALL NECESSARY STATE, MUNICIPAL AND OTHER UTILITY PERMITS AND VERIFY THE PROPOSED LOCATIONS OF UTILITIES WITH UTILITY COMPANIES.
3. CONTRACTOR SHALL NOTIFY "DIG SAFE" (1-800-322-4844) AT LEAST 4 DAYS PRIOR TO CONSTRUCTION.
4. UNDERGROUND UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE APPROPRIATE DEPARTMENT OR COMPANY. THE CONTRACTOR SHALL NOTIFY THE MARSHFIELD D.P.W. (834-5589) AT LEAST 4 DAYS PRIOR TO CONSTRUCTION OF DRAINAGE & WATER SYSTEMS.
5. SEWAGE DISPOSAL TO CONSISTS OF SEPTIC SYSTEMS.
6. ALL STUMPS SHALL BE DISPOSED OFF SITE.

WATER SYSTEM NOTES:

1. ALL MAINS SHALL BE 8" CEMENT LINED DUCTILE IRON PIPE, CLASS 52.
2. ALL WATER SERVICES SHALL BE 2" POLYETHYLENE PIPE.
3. ALL CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO TOWN OF MARSHFIELD WATER DEPARTMENT REQUIREMENTS.
4. PROVIDE THRUST BLOCKS AT ALL WATER MAIN FITTINGS.
5. HYDRANTS SHALL BE MUELLER CENTURION 200 WITH BRASS FITTINGS, MECHANICAL JOINT ANCHORING TEES AND THRUST BLOCKS.



*ALL VALVES AND FITTINGS ARE TO BE MECHANICAL JOINTS

VALVE BOXES SHALL BE CAST IRON, ADJUSTABLE, SLIP AND MANUFACTURED IN NORTH AMERICA. MUELLER, AM. FLOW CONTROL OR CLOW CORP. OPEN LEFT (COUNTER CLOCKWISE)

NOTES:
FIRE SERVICES SHALL BE 4"

SEE PLUMBING PLAN FOR CONNECTIONS AT BUILDINGS

FIRE SERVICE SHALL BE INSTALLED IN ACCORDANCE WITH MARSHFIELD WATER DEPARTMENT AND FIRE DEPARTMENT STANDARDS

FIRE SERVICE DETAIL

NOT TO SCALE

COMMONWEALTH OF MASSACHUSETTS
DARREN M. GRADY
CIVIL
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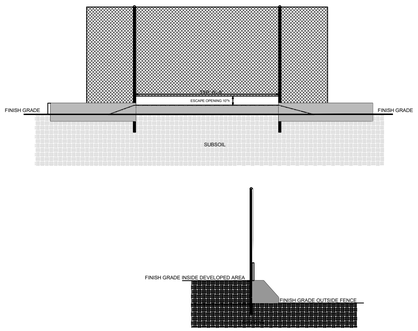
Civil Engineers, Land Surveyors & Landscape Architects
71 Evergreen Street, Suite 1, Kingston, MA 02364
Phone (781) 585-2300

WATER DETAILS

EASTERN BOX TURTLE EXCLUSION FENCE WITH ESCAPE DETAIL
NOT TO SCALE

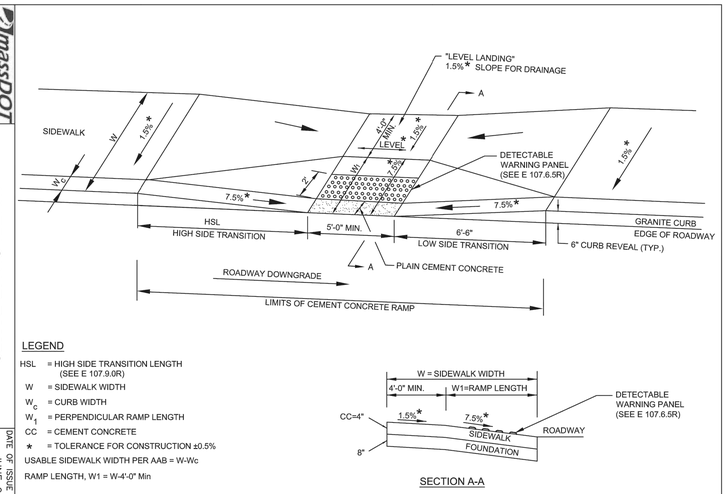


FENCE DETAIL
(NOT TO SCALE)

massDOT CONSTRUCTION STANDARDS

WHEELCHAIR RAMPS
LESS THAN 12'-4" SIDEWALK

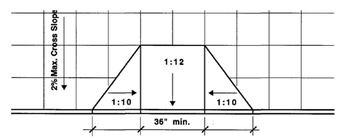
DATE OF ISSUE JUNE 2014
DRAWING NUMBER E 107.2.0



LEGEND

HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0R)
W = SIDEWALK WIDTH
W_C = CURB WIDTH
W_1 = PERPENDICULAR RAMP LENGTH
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION ±0.5%
USABLE SIDEWALK WIDTH PER AAB = W-Wc
RAMP LENGTH, W1 = W-4'-0" Min

SECTION A-A

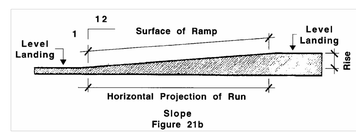


Curb Cut with Flared Sides
Figure 21c

21.8 **RETURNED SIDES**
Curb cuts with returned sides are only permitted where they are protected by handrails pursuant to **521 CMR 24.5, Handrails** or where pedestrian travel across the *ramp* is obstructed by permanently installed street hardware or landscaping. **See Fig. 21d**.

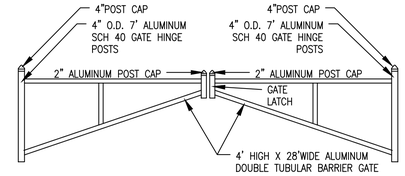
RAMP FLARED SIDES DETAIL
(NOT TO SCALE)

21.3 **SLOPE**
The least possible slope should be used for any ramp. The maximum slope shall be one-in-12 (1:12) (8.3%). Where *sidewalks* are too narrow to install a straight-line *curb cut* at a slope of one-in-12 (1:12) (8.3%), the sides of the *curb cut* shall not exceed one-in-12 (1:12) (8.3%). **See Fig. 21b**. The maximum cross-slope for any *curb cut* shall be 1:50 (2%). (There is no tolerance allowed on slope requirements). (Refer to 521 CMR 2.4.4d).



Slope
Figure 21b

RAMP SLOPE DETAIL
(NOT TO SCALE)



1. THE GATE SHALL BE AS SHOWN OR APPROVED EQUAL.
2. GATE HINGE POSTS SHALL BE SET IN CONCRETE IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION MANUAL
3. ACCESS GATE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS GUIDELINES
4. THE GATE SHALL BE FITTED WITH "DANGER KEEP OUT" SIGNAGE.

ACCESS GATE DETAIL
(NOT TO SCALE)

: **PARKING AND PASSENGER LOADING ZONES**

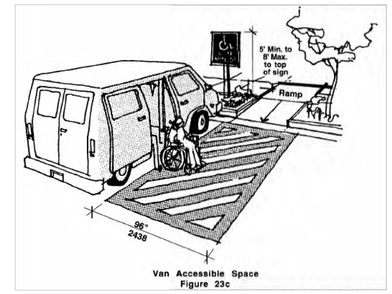
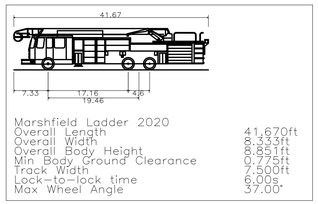


Figure 23c

b. Each *space* shall have a sign designating it "Van Accessible" as required by **521 CMR 23.6, Signage**.
c. All such *spaces* may be grouped on one level of a parking structure.
d. Eight foot minimum (8' = 2438mm) wide *space*.
e. Provide an *access aisle* of eight feet (8' = 2438mm).

ACCESSIBILITY LOADING ZONE
(NOT TO SCALE)



Marshfield Ladder 2020	
Overall Length	41.670ft
Overall Width	8.333ft
Overall Body Height	8.851ft
Min Body Ground Clearance	0.775ft
Track Width	7.500ft
Lock-to-lock time	6.00s
Max Wheel Angle	37.00°

23.4.6 *Access aisles*: All *accessible spaces* shall have *access aisles* that comply with the following:

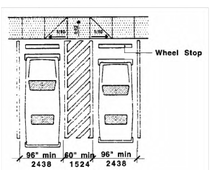
a. Parking *access aisles* shall be part of an *accessible route* to the *building* or *facility entrance* and shall comply with **521 CMR 20.00: ACCESSIBLE ROUTE**.

Exception: For temporary accessible parking, directional signage along the entire accessible route, using the international symbol of accessibility and an arrow, shall be used to direct people to the closest accessible entrance.

b. *Access aisles* adjacent to *accessible spaces* shall be five feet (5' = 1524mm) wide minimum, except adjacent to van *accessible spaces* the *access aisle* shall be a minimum of eight feet (8' = 2438mm) wide.

Exception: When temporary accessible parking is located within a field or otherwise unpaved site, when such area has not been improved in accordance with 521 CMR, the spaces shall be located on the least sloping area of the parking lot in conjunction with the temporary accessible parking spaces.

c. Two *accessible* parking spaces may share a common *access aisle*. *See* **Fig. 23a** and **23b**.



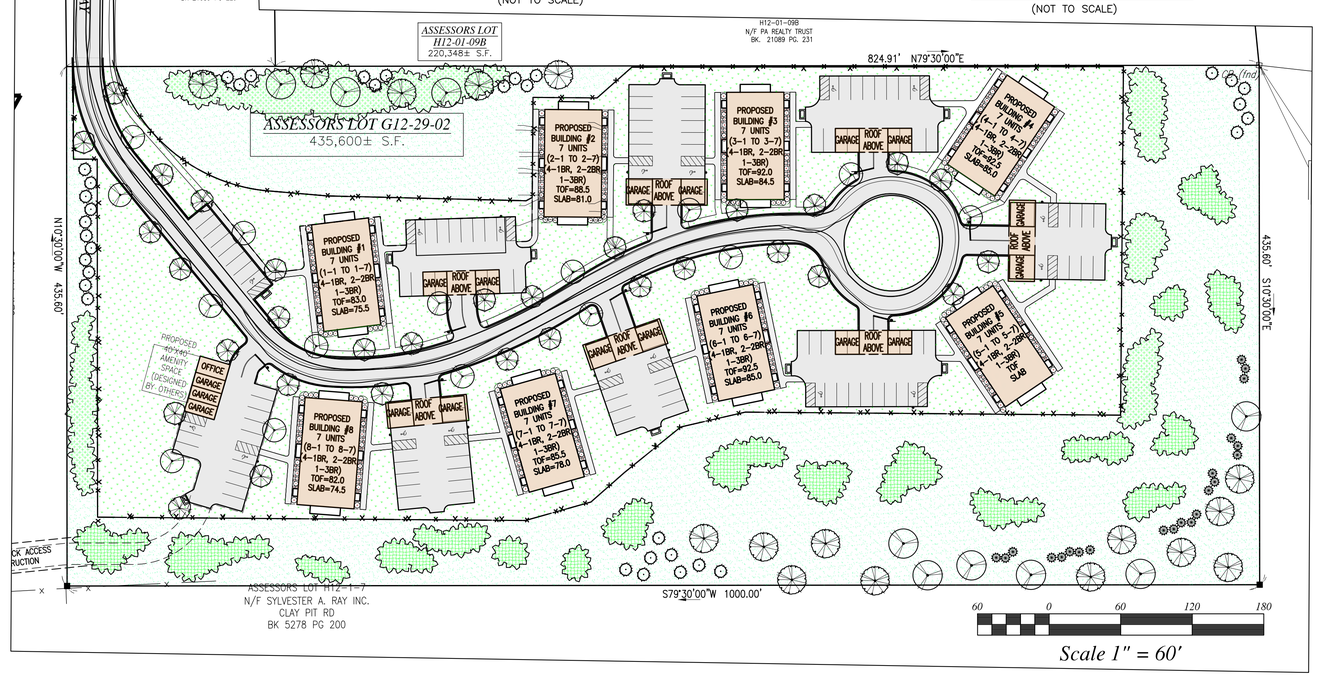
Alternate Stall
Figure 23a

d. *Access aisles* shall be *level* with surface slopes not exceeding 1:50 (2%) in all directions.
e. *Access aisles* shall be clearly marked by means of diagonal stripes.

23.4.7 Van *Accessible spaces* shall comply with the following:

a. Provide minimum vertical clearance of eight feet, two inches (8'2" = 2489mm) at the parking *space* and along at least one vehicle *access route* to such spaces from site entrance(s) and exit(s). *See* **Fig. 23c**.

ACCESSIBILITY PARKING
(NOT TO SCALE)



DANGER – KEEP OUT SIGN
(NOT TO SCALE)

HANDICAP PARKING SIGN
(NOT TO SCALE)

COMMONWEALTH OF MASSACHUSETTS
DARREN M. GRADY
CIVIL
No. 40715
REGISTERED PROFESSIONAL ENGINEER

SITE PLAN
BRIDLE CROSSING
OFF FERRY STREET
MARSHFIELD, MASSACHUSETTS

PREPARED FOR:
MATLIN LLC C/O
KEVIN SEALUND & MATTHEW DACEY
794 WASHINGTON STREET
PEMBROKE, MA 02359

NOVEMBER 9, 2023
SCALE: AS SHOWN
JOB No. 12-243

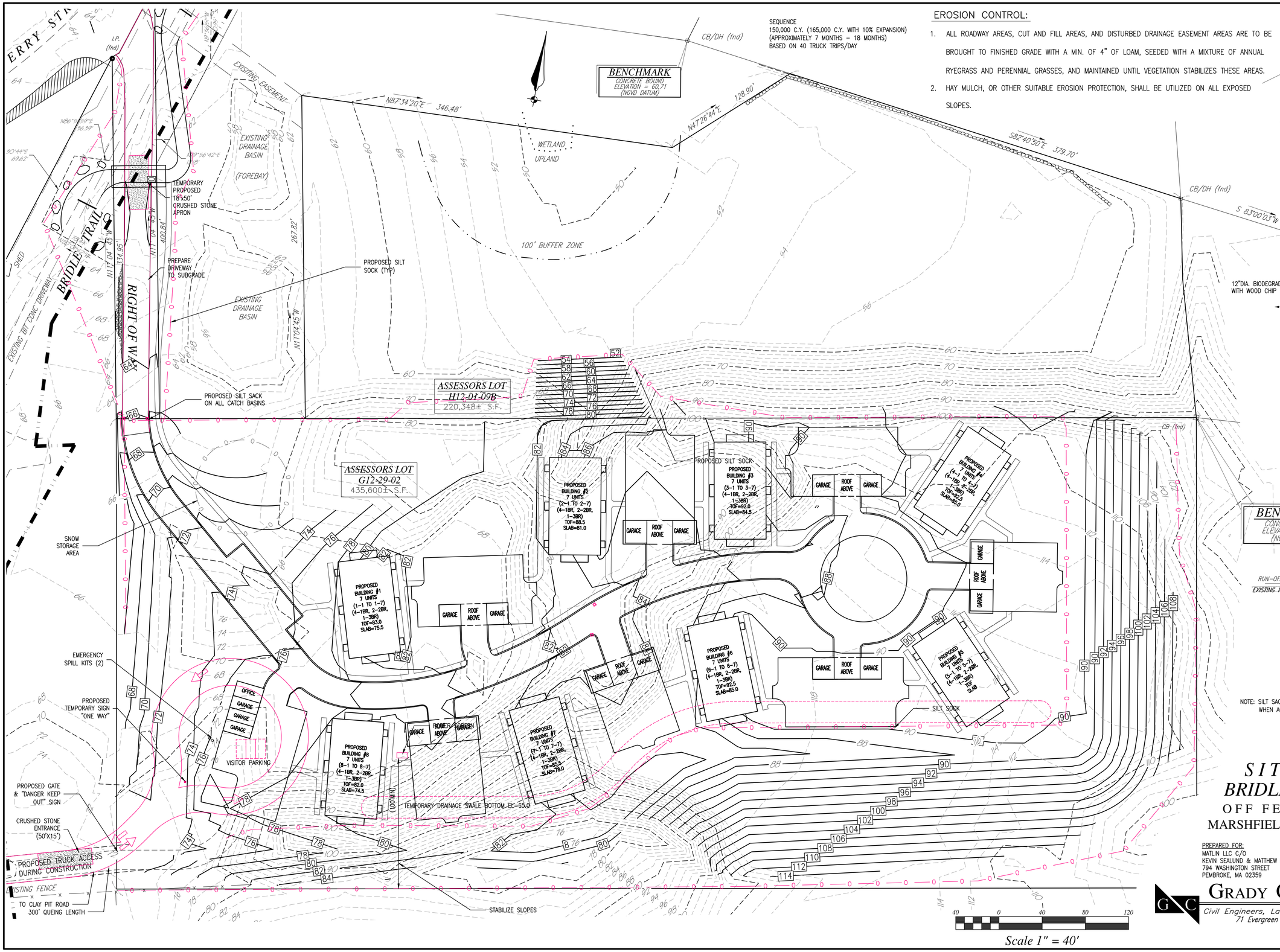
GRADY CONSULTING, L.L.C.
Civil Engineers, Land Surveyors & Landscape Architects
71 Evergreen Street, Suite 1, Kingston, MA 02364
Phone (781) 585-2300

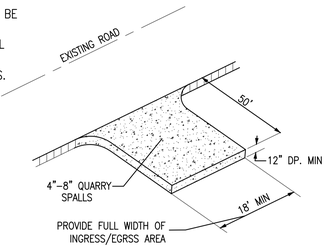
PARKING DETAILS

SEQUENCE
150,000 C.Y. (165,000 C.Y. WITH 10% EXPANSION)
(APPROXIMATELY 7 MONTHS – 18 MONTHS)
BASED ON 40 TRUCK TRIPS/DAY

EROSION CONTROL:

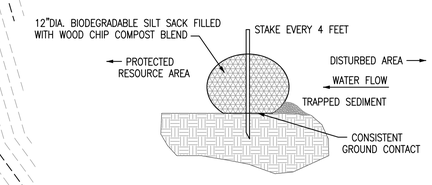
1. ALL ROADWAY AREAS, CUT AND FILL AREAS, AND DISTURBED DRAINAGE EASEMENT AREAS ARE TO BE BROUGHT TO FINISHED GRADE WITH A MIN. OF 4" OF LOAM, SEEDED WITH A MIXTURE OF ANNUAL RYEGRASS AND PERENNIAL GRASSES, AND MAINTAINED UNTIL VEGETATION STABILIZES THESE AREAS.
2. HAY MULCH, OR OTHER SUITABLE EROSION PROTECTION, SHALL BE UTILIZED ON ALL EXPOSED SLOPES.





CRUSHED STONE CONSTRUCTION ENTRANCE

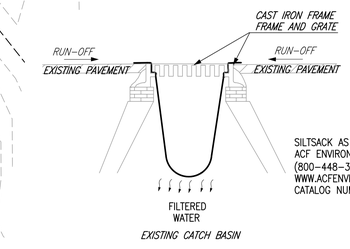
(NOT TO SCALE)



SILT SOCK DETAIL

NOT TO SCALE

BENCHMARK
CONCRETE BOUND
ELEVATION = 92.25
(NGVD DATUM)



SILTSACK AS MANUFACTURED BY ACF ENVIRONMENTAL (800-448-3636) WWW.ACFENVIRONMENTAL.COM CATALOG NUMBER SILT02X02

NOTE: SILT SACKS SHALL BE INSPECTED WEEKLY AND SILT SHALL BE REMOVED WHEN ACCUMULATED TO ALLOW CATCH BASIN TO FUNCTION PROPERLY.

SILT SACK

(NOT TO SCALE)

COMMONWEALTH OF MASSACHUSETTS
DARREN M. GRADY
CIVIL
No. 49716
REGISTERED PROFESSIONAL ENGINEER

SITE PLAN
BRIDLE CROSSING
OFF FERRY STREET
MARSHFIELD, MASSACHUSETTS

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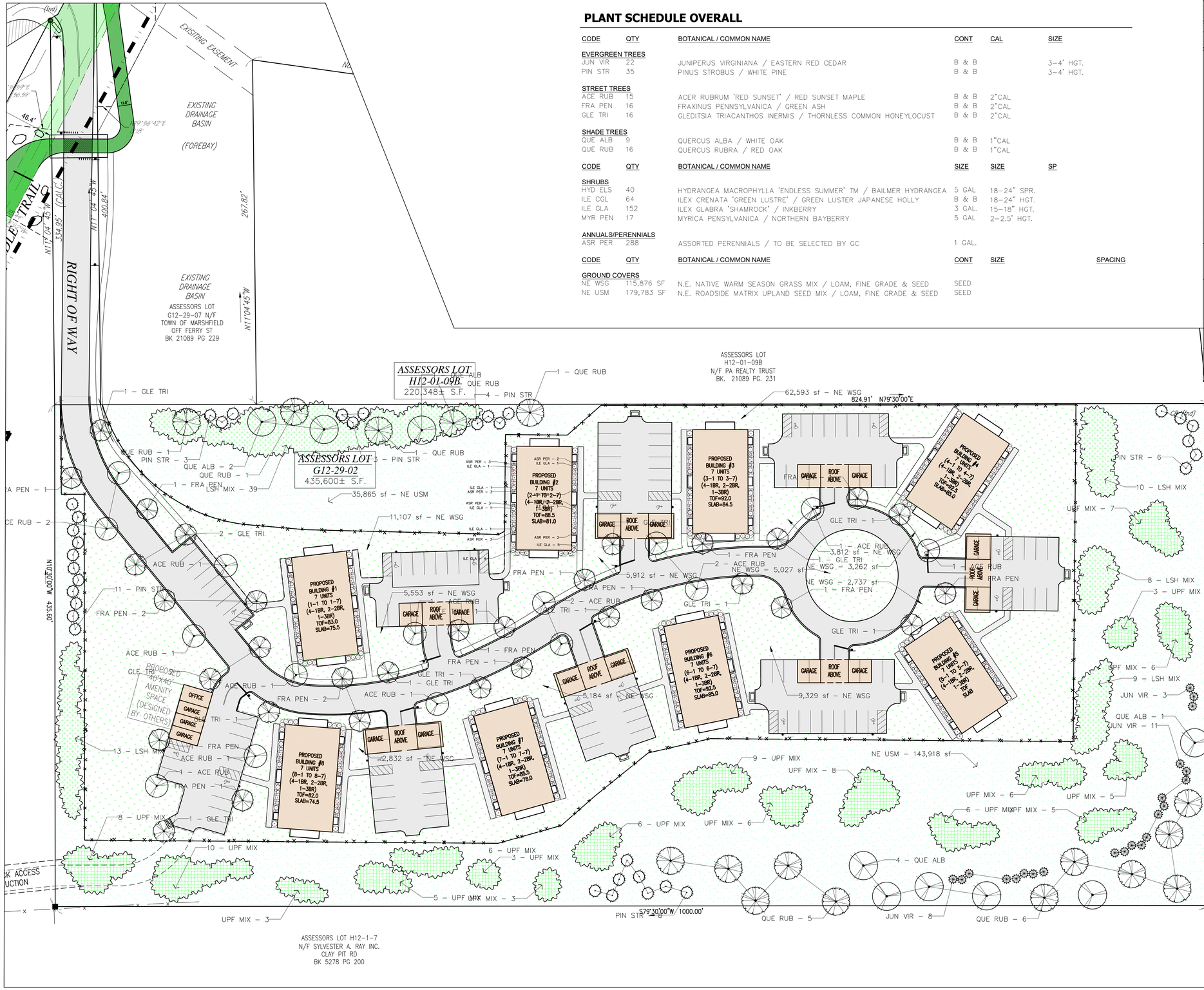
EROSION CONTROL / PHASING

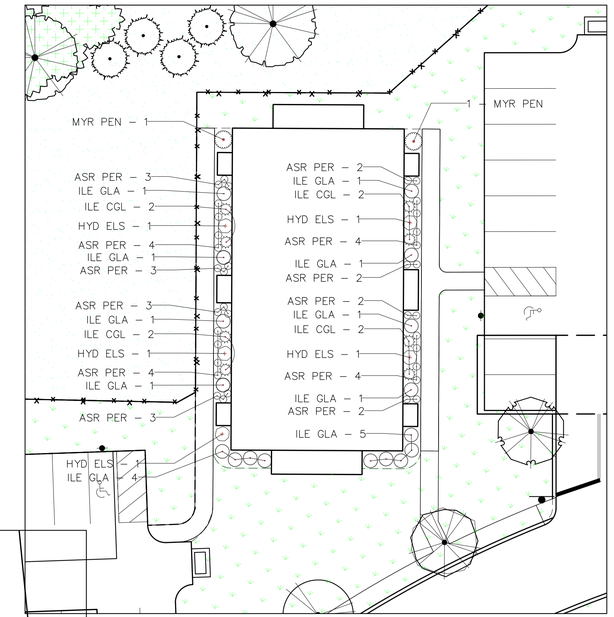
PLANT SCHEDULE OVERALL

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
EVERGREEN TREES					
JUN VIR	22	JUNIPERUS VIRGINIANA / EASTERN RED CEDAR	B & B		3–4' HGT.
PIN STR	35	PINUS STROBUS / WHITE PINE	B & B		3–4' HGT.
STREET TREES					
ACE RUB	15	ACER RUBRUM 'RED SUNSET' / RED SUNSET MAPLE	B & B	2"CAL	
FRA PEN	16	FRAXINUS PENNSYLVANICA / GREEN ASH	B & B	2"CAL	
GLE TRI	16	GLEDITSIA TRIACANTHOS INERMIS / THORNLESS COMMON HONEYLOCUST	B & B	2"CAL	
SHADE TREES					
QUE ALB	9	QUERCUS ALBA / WHITE OAK	B & B	1"CAL	
QUE RUB	16	QUERCUS RUBRA / RED OAK	B & B	1"CAL	

CODE	QTY	BOTANICAL / COMMON NAME	SIZE	SIZE	SP
SHRUBS					
HYD ELS	40	HYDRANGEA MACROPHYLLA 'ENDLESS SUMMER' TM / BAILMER HYDRANGEA	5 GAL	18–24" SPR.	
ILE CGL	64	ILEX CRENATA 'GREEN LUSTRE' / GREEN LUSTER JAPANESE HOLLY	B & B	18–24" HGT.	
ILE GLA	152	ILEX GLABRA 'SHAMROCK' / INKBERRY	3 GAL.	15–18" HGT.	
MYR PEN	17	MYRICA PENSYLVANICA / NORTHERN BAYBERRY	5 GAL	2–2.5' HGT.	
ANNUALS/PERENNIALS					
ASR PER	288	ASSORTED PERENNIALS / TO BE SELECTED BY GC	1 GAL.		

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE	SPACING
GROUND COVERS					
NE WSG	115,876 SF	N.E. NATIVE WARM SEASON GRASS MIX / LOAM, FINE GRADE & SEED	SEED		
NE USM	179,783 SF	N.E. ROADSIDE MATRIX UPLAND SEED MIX / LOAM, FINE GRADE & SEED	SEED		





TYPICAL BUILDING PLANTING PLAN

1" = 20'-0"

SITE PLAN
BRIDLE CROSSING
OFF FERRY STREET
MARSHFIELD, MASSACHUSETTS

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LANDSCAPING

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts	Total Watts
	1	AURORA 50W-3KK-519-TYPE V	Single		P5	0.970	5477	54.7	54.7
	5	AURORA 50W-35K-TYPE II W SHIELD	Single		P2S	0.970	3843	53	265
	9	AURORA 50W-35K-519-TYPE III	Single		P3	0.970	5878	54.6	491.4
	21	AURORA 50W-35K-TYPE IV W SHIELD	Single		P4S	0.970	3695	53	1113

ALL POLES ARE 12 FEET. OVERALL HEIGHT IS 14 FEET.

SITE PLAN
BRIDLE CROSSING

OFF FERRY STREET

MARSHFIELD, MASSACHUSETTS

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LIGHTING