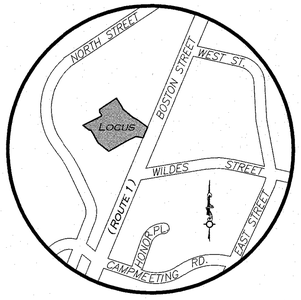
SITE DEVELOPMENT PLANS FOR OVER 55 RESIDENTIAL DEVELOPMENT

470 BOSTON STREET

TOPSFIELD, MA



LOCUS MAP
(NOT TO SCALE)

OWNER\APPLICANT:
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810
978.475.4055

ARCHITECT:
THE MZO GROUP
335 MAIN STREET, SUITE 201
STONEHAM, MA 02180
781.279.4446

LAND SURVEYOR & CIVIL ENGINEER
ALLEN & MAJOR ASSOCIATES, INC.
100 COMMERCE WAY
WOBURN, MA 01888-0118
781.935.6889

SANITARY SEWER ENGINEER:
EAGLEBROOK ENGINEERING AND SURVEY, LCC
491 MAPLE STREET, SUITE 304
DANVERS, MA 01923
978.777.0494

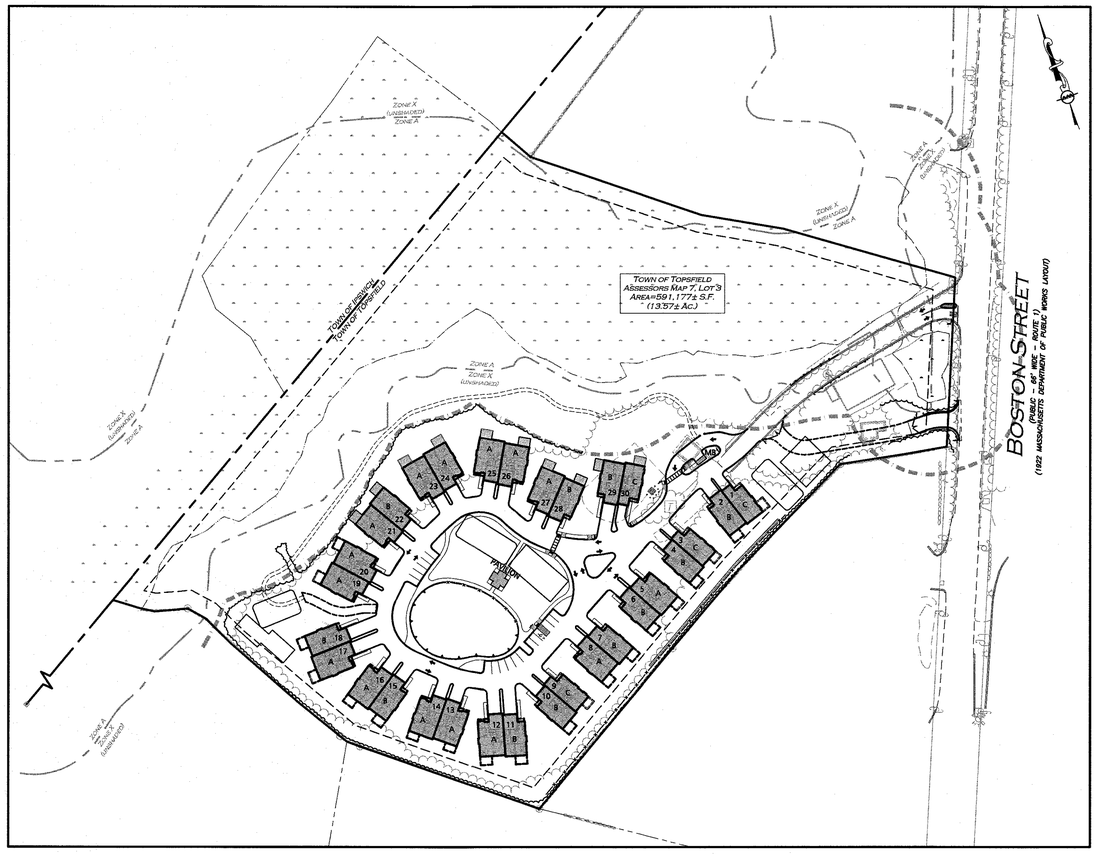
LANDSCAPE ARCHITECT:
BROWN SARDINA
24 ROLAND STREET
BOSTON, MA 02129
617.482.4703

TRAFFIC ENGINEER:
VANASSE & ASSOCIATES, INC.
35 NEW ENGLAND BUSINESS CENTER DRIVE
SUITE 140
978.688.6508

WETLAND SCIENTIST:
SEEKAMP ENVIRONMENTAL CONSULTANTS
129 ROUTE 125
KINGSTON, NH 03848
603.642.8300

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233



PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
P.O. BOX 2118
WOBURN MA 01888-0118
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER
3/16/17

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

CIVIL LIST OF DRAWINGS

DRAWING TITLE	SHEET NO.	ISSUED	LAST REVISED
EXISTING CONDITIONS PLAN	1	10-13-2016	3-16-17
ABBREVIATIONS & NOTES	ABB-1 - ABB-3	10-13-2016	2-27-17
DEMOLITION & EROSION CONTROL PLAN	C-1	10-13-2016	3-16-17
LAYOUT & MATERIALS PLAN	C-2	10-13-2016	3-16-17
GRADING & SPOT GRADES PLAN	C-3A - C3B	10-13-2016	3-16-17
DRAINAGE PLAN	C-4A - C4-B	10-13-2016	3-16-17
DRAINAGE PROFILES	C-4C - C-4D	10-13-2016	3-16-17
WATER & GAS UTILITIES PLAN	C-5A	10-13-2016	3-16-17
SITE ELECTRIC PLAN	C-5B	10-13-2016	3-16-17
FIRE TRUCK TURNING PLAN	C-6	10-13-2016	3-16-17
SNOW STORAGE PLAN	C-7	10-13-2016	3-16-17
TEST PITS PLAN	TPP-1	10-13-2016	3-16-17
DETAILS	D-1 - D-10	10-13-2016	2-27-17

LANDSCAPE ARCHITECTS LIST OF DRAWINGS

DRAWING TITLE	SHEET NO.	ISSUED	LAST REVISED
PLANTING PLAN	L-1	10-13-2016	3-16-17
PLANT LIST AND SEEDING PLAN	L-2	10-13-2016	3-16-17
LIGHTING CUT SHEETS	L-3	2-27-17	3-16-17
LIGHTING CUT SHEETS	L-4	2-27-17	3-16-17

SANITARY SEWER LIST OF DRAWINGS

DRAWING TITLE	SHEET NO.	ISSUED	LAST REVISED
SDS PLAN	SDS-1	10-13-2016	3-13-17
SDS PLAN	SDS-1.1	10-13-2016	3-13-17
SDS PLAN	SDS-2.1	10-13-2016	3-13-17
SDS PLAN	SDS-3.1	10-13-2016	3-13-17
SDS PLAN	SDS-4	10-13-2016	2-27-17
SDS PLAN	SDS-5	10-13-2016	3-13-17

ARCHITECTURAL LIST OF DRAWINGS

DRAWING TITLE	SHEET NO.	ISSUED	LAST REVISED
COVER	COVER	10-05-16	11-23-16
UNIT A ELEVATIONS I	A-1	10-05-16	11-23-16
UNIT A ELEVATIONS II	A-2	10-05-16	11-23-16
UNIT A FIRST FLOOR	A-3	10-05-16	11-23-16
UNIT A SECOND FLOOR	A-4	10-05-16	11-23-16
UNIT B ELEVATIONS I	A-5	10-05-16	11-23-16
UNIT B ELEVATIONS II	A-6	10-05-16	11-23-16
UNIT B FIRST FLOOR	A-7	10-05-16	11-23-16
UNIT B SECOND FLOOR	A-8	10-05-16	11-23-16
UNIT C ELEVATIONS I	A-9	10-05-16	11-23-16
UNIT C ELEVATIONS II	A-10	10-05-16	11-23-16
UNIT C FIRST FLOOR	A-11	10-05-16	11-23-16
UNIT C SECOND FLOOR	A-12	10-05-16	11-23-16

RE-ISSUED FOR SPECIAL PERMIT,
SITE PLAN REVIEW & NOTICE OF INTENT :
MARCH 16, 2017

RE-ISSUED FOR SPECIAL PERMIT, SITE PLAN REVIEW & NOTICE OF INTENT: FEBRUARY 27, 2017
RE-ISSUED FOR SPECIAL PERMIT & SITE PLAN REVIEW : JANUARY 17, 2017
ISSUED FOR SPECIAL PERMIT, SITE PLAN REVIEW & NOTICE OF INTENT: OCTOBER 13, 2016

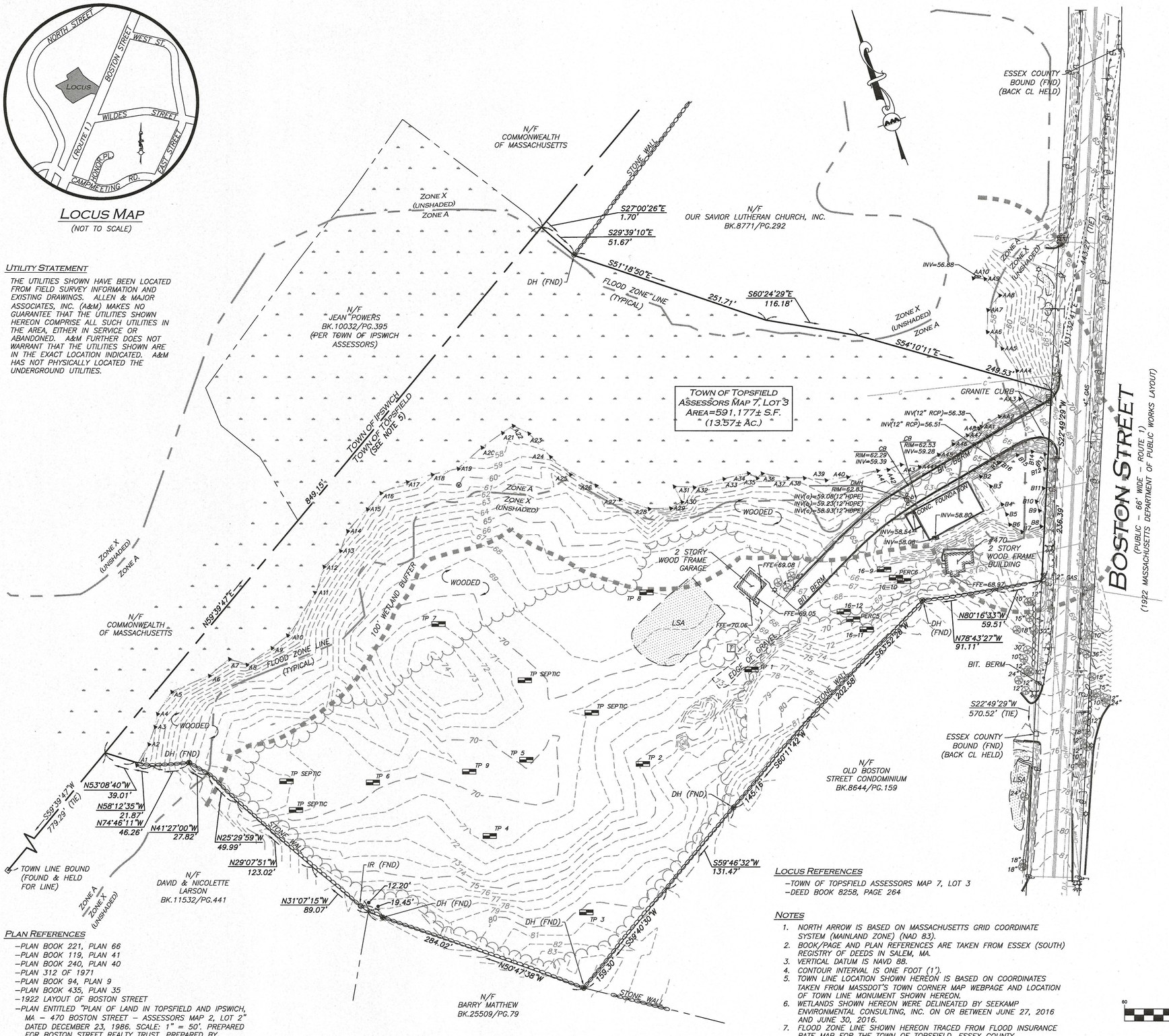
N:\PROJECTS\2165-01A\CIVIL\DRAWINGS\CURRENT\C-2165-01A - COVER.DWG

LOCUS MAP

(NOT TO SCALE)

UTILITY STATEMENT

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. ALLEN & MAJOR ASSOCIATES, INC. (A&M) MAKES NO GUARANTEE THAT THE UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. A&M FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. A&M HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.



PLAN REFERENCES

- –PLAN BOOK 221, PLAN 66
- –PLAN BOOK 119, PLAN 41
- –PLAN BOOK 240, PLAN 40
- –PLAN 312 OF 1971
- –PLAN BOOK 94, PLAN 9
- –PLAN BOOK 435, PLAN 35
- –1922 LAYOUT OF BOSTON STREET
- –PLAN ENTITLED "PLAN OF LAND IN TOPSFIELD AND IPSWICH, MA – 470 BOSTON STREET – ASSESSORS MAP 2, LOT 2" DATED DECEMBER 23, 1986. SCALE: 1" = 50'. PREPARED FOR BOSTON STREET REALTY TRUST. PREPARED BY HANCOCK SURVEY ASSOCIATES, INC.

LOCUS REFERENCES

- –TOWN OF TOPSFIELD ASSESSORS MAP 7, LOT 3
- –DEED BOOK 8258, PAGE 264

NOTES

1. NORTH ARROW IS BASED ON MASSACHUSETTS GRID COORDINATE SYSTEM (MAINLAND ZONE) (NAD 83).
2. BOOK/PAGE AND PLAN REFERENCES ARE TAKEN FROM ESSEX (SOUTH) REGISTRY OF DEEDS IN SALEM, MA.
3. VERTICAL DATUM IS NAVD 88.
4. CONTOUR INTERVAL IS ONE FOOT (1').
5. TOWN LINE LOCATION SHOWN HEREON IS BASED ON COORDINATES TAKEN FROM MASSDOT'S TOWN CORNER MAP WEBPAGE AND LOCATION OF TOWN LINE MONUMENT SHOWN HEREON.
6. WETLANDS SHOWN HEREON WERE DELINEATED BY SEEKAMP ENVIRONMENTAL CONSULTING, INC. ON OR BETWEEN JUNE 27, 2016 AND JUNE 30, 2016.
7. FLOOD ZONE LINE SHOWN HEREON TRACED FROM FLOOD INSURANCE RATE MAP FOR THE TOWN OF TOPSFIELD, ESSEX COUNTY, MASSACHUSETTS AS SHOWN ON COMMUNITY PANEL NUMBER 250106 0266F, HAVING AN EFFECTIVE DATE OF JULY 3, 2012.

FOR REGISTRY USE ONLY

LEGEND

DRILL HOLE (DH)	
IRON ROD (IR)	
DRAIN MANHOLE (DMH)	
CATCH BASIN (CB)	
ROUND CATCH BASIN (RCB)	
UTILITY POLE	
UTILITY POLE W/RISER	
FIRE HYDRANT	
GAS GATE	GG
INVERT (INV)	
FLARED END SECTION	
LIGHT	
TREE	
TEST PIT LOCATION	
SIGN	
MAILBOX	MB
WETLAND FLAG	A31
HAND HOLE	H.H.
CABLE BOX	C
TELEPHONE BOX	T
ELECTRIC BOX	E
ELECTRIC METER	E
CONCRETE	
LANDSCAPED AREA (LSA)	
WETLAND AREA	
BUILDING	
WETLAND	
BUFFER ZONE	
1' CONTOUR	53
5' CONTOUR	55
PROPERTY LINE	
ABUTTERS LINE	
TOWN LINE	
STONE WALL	
CONCRETE RETAINING WALL	
TREE LINE	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
CURB	
STEEL GUARDRAIL	
DRAIN LINE	D
TELEPHONE LINE	T
WATER LINE	W
GAS LINE	G
COMCAST LINE	C
OVERHEAD WIRES	OHW
DUCTILE IRON	D.I.
FINISHED FLOOR ELEVATION	FFE
BITUMINOUS	BIT.
CONCRETE	CONC.
HIGH DENSITY POLYETHYLENE PIPE	HDPE
FOUND	FND
NOW OR FORMERLY	N/F
BOOK	BK.
PAGE	PG.
PLAN	PL.
CERTIFICATE OF TITLE	COT
LAND COURT	L.C.
LAND COURT CASE	L.C.C.

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

N:\PROJECTS\2165-01A\SURVEY\DRAWINGS\S-2165-01A-EC.DWG
FB# 1707 PG. 104

WE HEREBY CERTIFY THAT:

THIS PLAN IS THE RESULT OF AN ACTUAL ON THE GROUND SURVEY PERFORMED ON OR BETWEEN JUNE 30, 2016 AND JULY 12, 2016.

THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS DATED JANUARY 1, 1976 AND REVISED JANUARY 12, 1988.

ACCORDING TO DEEDS AND PLANS OF RECORD, THE PROPERTY LINES SHOWN ON THIS PLAN ARE THE LINES DIVIDING EXISTING OWNERSHIP, AND THE LINES OF THE STREETS OR WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS AND WAYS ALREADY ESTABLISHED, AND THAT NO NEW LINES FOR THE DIVISION OF EXISTING OWNERSHIP OR FOR NEW WAYS ARE SHOWN.

THE ABOVE CERTIFICATION IS INTENDED TO MEET REGISTRY OF DEEDS REQUIREMENTS FOR THE RECORDING OF PLANS AND IS NOT A CERTIFICATION TO THE TITLE OR OWNERSHIP OF THE PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN OF TOPSFIELD AND TOWN OF IPSWICH ASSESSORS' INFORMATION.

THE ABOVE IS CERTIFIED TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF.

ALLEN & MAJOR ASSOCIATES, INC.

COMMONWEALTH OF MASSACHUSETTS
KEVIN J. KIERNAN
No. 40038
PROFESSIONAL LAND SURVEYOR

KJK 5/16/17

PROFESSIONAL LAND SURVEYOR FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
4.	03/16/17	REVISED PER TOWN COMMENTS
3.	02/27/17	VARIOUS REVISIONS
2.	01/17/17	WATER LINE PER TOWN COMMENTS
1.	10/13/16	FLOOD ZONE LINE ADDED

APPLICANT\OWNER:

SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:

470 BOSTON STREET
(ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	08/02/16
SCALE:	1" = 60'	DWG. NAME:	S-2165-01A-EC
DRAFTED BY:	COB\MSM	CHECKED BY:	KJK

PREPARED BY:

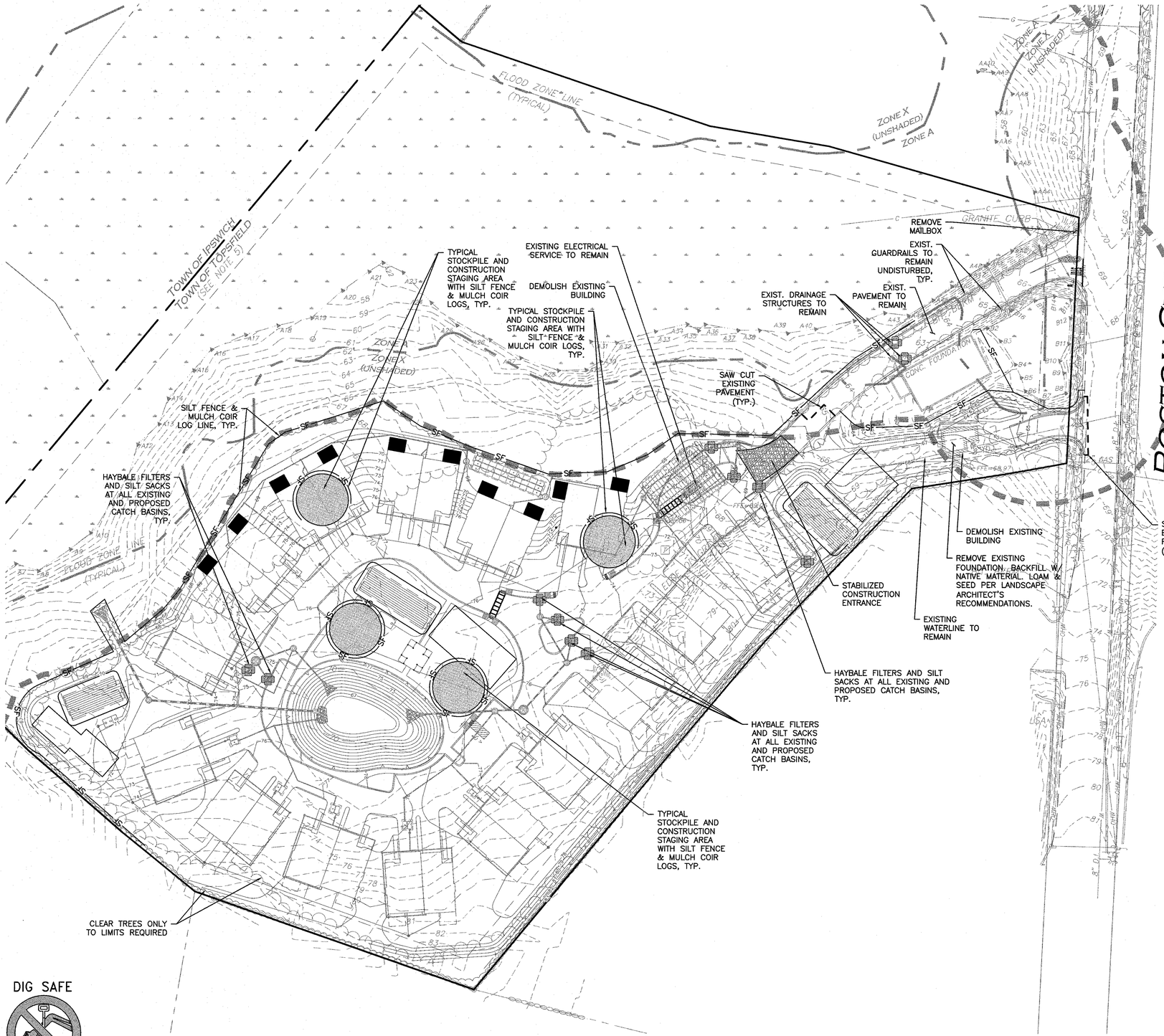
ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
P.O. BOX 2118
WOBURN MA 01888-0118
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE: EXISTING CONDITIONS

SHEET No. 1

Copyright©2016 Allen & Major Associates, Inc.
All Rights Reserved



LEGEND:

- SILT FENCE & MULCH COIR LOG —SF—
- HAYBALE FILTER W/ SILT SACK
- STABILIZED CONST. ENTRANCE
- PROPOSED GRADING —125—
- STOCKPILE/CONSTRUCTION STAGING AREA
- SAW CUT

NOTES:

1. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
2. THIS PLAN WAS PREPARED USING AVAILABLE SITE INFORMATION FROM SEVERAL SOURCES, SOME OF WHICH IS UNCONFIRMED. AS THE SITE PLAN IS FURTHER REFINED, THERE MAY BE CHANGES BASED ON ADDITIONAL INFORMATION.
3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR IT'S REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
4. ALL ELEVATIONS REFER TO NAVD 88.
5. ALTHOUGH CERTAIN ITEMS HAVE BEEN NOTED ON THIS DRAWING FOR DEMOLITION, NO ATTEMPT HAS BEEN MADE TO DELINEATE EACH AND EVERY ITEM THAT REQUIRES DEMOLITION FOR THE COMPLETION OF THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL NECESSARY DEMOLITION WORK TO COMPLETE THE PROJECT. ALLEN & MAJOR ASSOCIATES, INC. IS NOT RESPONSIBLE FOR SITE DEMOLITION ITEMS NOT SHOWN ON THE SURVEY, OR SPECIFICALLY NOTED. THE DEMOLITION NOTES AND ARROWS ON THIS PLAN ARE TYPICAL AND DO NOT REFLECT QUANTITY.
6. PORTIONS OF THE SITE ARE LOCATED WITHIN FEMA FLOODPLAIN ZONE A – AREAS SUBJECT TO INUNDATION BY THE 1–PERCENT–ANNUAL–CHANCE FLOOD EVENT AS SHOWN ON FEMA MAP 25009C0266F, EFFECTIVE DATE JULY 3, 2012.
7. THE CONTRACTOR SHALL CONTACT "DIGSAFE" AND THE TOWN OF TOPSFIELD DEPARTMENT OF PUBLIC WORKS AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE LOCATION OF THE EXISTING UTILITIES.

   DIGSAFE: 1–800–344–7233
   TOPSFIELD DEPT. OF PUBLIC WORKS:
   978–887–1517 (WATER DEPT.)
   978–887–1542 (HIGHWAY DEPT.
8. SEE THE ABBREVIATIONS AND NOTES PLAN, SHEETS ABB–1, ABB–2, & ABB–3 FOR GENERAL NOTES, AND EROSION CONTROL NOTES.
9. TYPICALLY, THE LIMIT OF WORK COINCIDES WITH COIR LOG AND SILT FENCE LINE UNLESS INDICATED OTHERWISE. IN THE INSTANCE A STABILIZED CONSTRUCTION ENTRANCE, CURB REMOVAL OR SILT SACK IS LOCATED BEYOND THE STRAW BALE AND SILT FENCE LINE IN WHICH CASE THAT IS THE LIMIT OF WORK LINE.
10. FOR OPERATIONS AND MAINTENANCE (O&M) INFORMATION BOTH DURING CONSTRUCTION AND POST CONSTRUCTION SEE SECTION 2 (O&M PLAN) IN THE REPORT ENTITLED "SITE DEVELOPMENT DRAINAGE REPORT" PREPARED BY A&M.
11. PRIOR TO AND DURING CONSTRUCTION, CONTRACTOR RESPONSIBLE FOR FOLLOWING THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). SEE SWPPP FOR ADDITIONAL SITE RESPONSIBILITIES.

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

DIG SAFE

BEFORE YOU DIG CALL 811 OR 1–888–DIG–SAFE 1–888–344–7233

N:\PROJECTS\2165–01A\CIVIL\DRAWINGS\CURRENT\C–2165–01A – EROSION CONTROL PLAN.DWG

3/16/17
COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No.43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:
RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=50'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

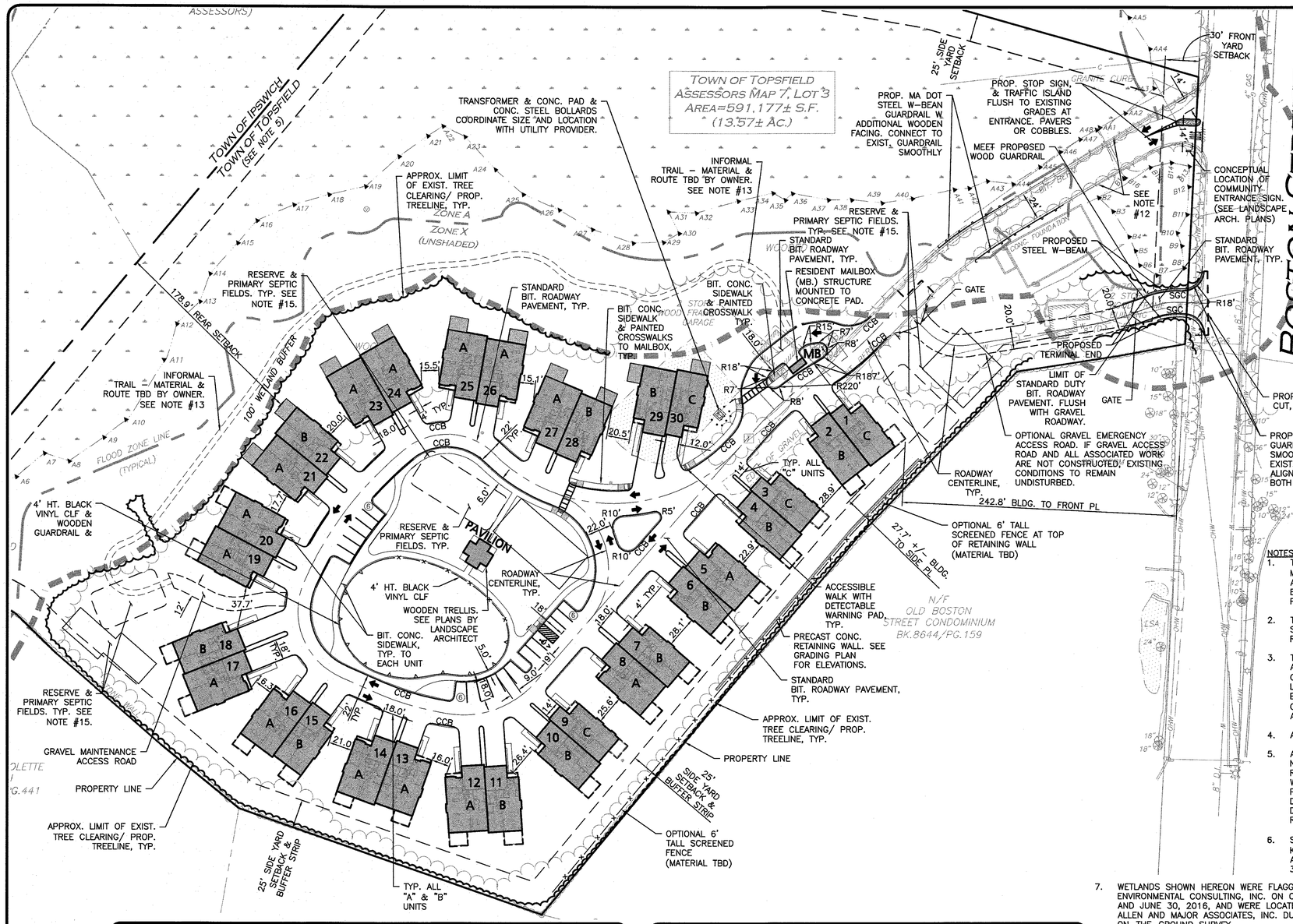
THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE:
DEMOLITION & EROSION CONTROL PLAN

SHEET No.
C-1

Copyright©2017 Allen & Major Associates, Inc. All Rights Reserved

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY



LEGEND:

PROPERTY LINE	
SIGN	
BOLLARD	
PROPOSED BUILDING	
BUILDING ARCHITECTURE	
BUILDING ROOF OVERHANG OR DECK	
CURB	
RETAINING WALL	
PARKING STRIPING	
ROADWAY STRIPING	
TRAFFIC ARROWS	
HEAVY DUTY CONCRETE	
ADA ACCESSIBLE RAMP	
ADA DET. WARNING SURFACE	
SETBACK LINE	
PARKING COUNT	20
CHAIN LINK FENCE (CLF)	
WOODEN GUARDRAIL	
TRANSFORMER	T
CAPE COD BERM	CCB
SLOPED GRANITE CURBING	SGC
UNIT NUMBER (FOR INITIAL REFERENCE ONLY. NOT AN OFFICIAL UNIT #)	1
UNIT ARCHITECTURAL TYPE	C
PRIMARY & RESERVE SEPTIC FIELDS (SHOWN FOR COORD. PURPOSES ONLY. SEE PLANS BY EAGLEBROOK ENGINEERING & SURVEY, INC.	
AT GRADE PATIO WALKOUTS	

NOTES:

1. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
2. THIS PLAN WAS PREPARED USING AVAILABLE SITE INFORMATION FROM SEVERAL SOURCES, SOME OF WHICH IS UNCONFIRMED. AS THE SITE PLAN IS FURTHER REFINED, THERE MAY BE CHANGES BASED ON ADDITIONAL INFORMATION.
3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR IT'S REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
4. ALL ELEVATIONS REFER TO NAVD 88.
5. ALTHOUGH CERTAIN ITEMS HAVE BEEN NOTED ON THIS DRAWING FOR DEMOLITION, NO ATTEMPT HAS BEEN MADE TO DELINEATE EACH AND EVERY ITEM THAT REQUIRES DEMOLITION FOR THE COMPLETION OF THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL NECESSARY DEMOLITION WORK TO COMPLETE THE PROJECT. ALLEN & MAJOR ASSOCIATES, INC. IS NOT RESPONSIBLE FOR SITE DEMOLITION ITEMS NOT SHOWN ON THE SURVEY, OR SPECIFICALLY NOTED. THE DEMOLITION NOTES AND ARROWS ON THIS PLAN ARE TYPICAL AND DO NOT REFLECT QUANTITY.
6. SITE IS LOCATED ENTIRELY WITHIN ELDERLY HOUSING DISTRICT (EHD) OVERLAY, KNOWN AS "ROLLING GREEN ELDERLY HOUSING DISTRICT," PER ARTICLE 33 OF ANNUAL AND SPECIAL TOWN MEETING WARRANT FOR FISCAL YEAR 2017, FROM MAY 3, 2016 TOWN MEETING.
7. WETLANDS SHOWN HEREON WERE FLAGGED BY SEEKAMP ENVIRONMENTAL CONSULTING, INC. ON OR BETWEEN JUNE 27 AND JUNE 30, 2016, AND WERE LOCATED BY INSTRUMENT BY ALLEN AND MAJOR ASSOCIATES, INC. DURING AN ON-THE-GROUND SURVEY.
8. ALL CURB RADII ARE TO BE 3 FEET UNLESS OTHERWISE SPECIFIED.
9. A PORTION OF THE SITE IS LOCATED WITHIN FEMA FLOODPLAIN ZONE A - AREAS SUBJECT TO INUNDATION BY THE 1-PERCENT-ANNUAL-CHANCE FLOOD EVENT AS SHOWN ON FEMA MAP 25009C0266F, EFFECTIVE DATE JULY 3, 2012. AS IT IS A ZONE A, NO BASE FLOOD ELEVATION IS DETERMINED. LOCATION OF ZONE A IS SHOWN ON THE A&M EXISTING CONDITIONS PLAN.
10. BUILDING FOOTPRINTS FROM CAD FILES PROVIDED TO A&M ON 8/3/16 BY THE ARCHITECT "THE MZO GROUP".
11. SEE ARCHITECT'S PLANS FOR ALL BUILDING INFORMATION. (DOORS, GUTTERS, LOCATIONS OF UTILITY CONNECTIONS TO BUILDING, DRAINAGE DOWNSPOUTS, STEPS, FOUNDATIONS, ETC.)
12. EXIST. STEEL GUARDRAIL TO REMAIN. INSTALL NEW WOODEN FACING ON TOP OF EXISTING STEEL. (ON SUBJECT PARCEL ONLY; EXIST. STEEL GUARDRAIL IN ROUTE 1 R.O.W. TO REMAIN UNDISTURBED).
13. PER APPLICANT, INFORMAL TRAIL IN WOODS TO AVOID TREE REMOVAL. PATH LAYOUT, MATERIALS, GRADES, & LOCATION TO BE DETERMINED BY APPLICANT. PATH LOCATION SHOWN ON PLANS IS CONCEPTUAL ONLY.
14. PER TOWN OF TOPSFIELD & APPLICANT THE PROPERTY IN TOPSFIELD SUBJECT TO THE SPECIAL PERMIT SHALL NOT BE FURTHER SUBDIVIDED.
15. SEE EAGLEBROOK ENGINEERING & SURVEY, INC. PLANS FOR SUBSURFACE SEWER DISPOSAL SYSTEM DESIGN.

470 BOSTON STREET
LAND USAGE TABLE - ELDERLY HOUSING DISTRICT (EHD)

ITEM	REQUIRED/ALLOWED	EXISTING	PROPOSED
LOT SIZE	435,600 S.F. 10.0 ACRES MIN.	TOTAL= 591,177± S.F. 13.57± ACRES	TOTAL = 591,177± S.F. 13.57± ACRES
LOT WIDTH (MIN.)	125 FEET	198.9± FEET	198.9± FEET
STREET FRONTAGE	50 FEET	236.39± FEET	236.39± FEET
FRONT YARD SETBACK	30 FEET	85.3± FEET	242.8± FEET
SIDE YARD SETBACK	25 FEET	22.5± FEET	27.7± FEET
REAR YARD SETBACK	25 FEET	472.4± FEET	178.9± FEET
BUILDING HEIGHT (MAX.)	35 FEET	<35 FEET	<35 FEET
BUILDING STORIES	2-½ STORIES	<2-½ STORIES	2-½ STORIES
BUILDING COVERAGE (MAX.)	30%	0.25%±	9.2%±
ABUTTING LOT BUFFER ZONE	25' MIN.	0'±	25.0±'
UNITS PER BUILDABLE ACRE* (MAX.)	5 UNITS/ACRE	0.2± UNITS/ACRE	3.2± UNITS/ACRE*

*9.45+/- BUILDABLE ACRES (UPLAND) CALCULATED (MAX. 47 UNITS)

OFF-STREET PARKING SUMMARY

REQUIRED PARKING FOR ELDERLY HOUSING DEVELOPMENT:
NOT LESS THAN SIX (6) NOR MORE THAN EIGHT (8) PARKING SPACES FOR EACH THREE (3) ELDERLY DWELLING UNITS CONTAINED IN THE DEVELOPMENT. (*SEE NOTES)

30 UNITS / 3 = 10

10*6 = 60 (MINIMUM)

10*8 = 80 (MAXIMUM)

PROPOSED 2 GARAGE SPACES PER UNIT FOR A & B UNITS, 1 SPACE FOR C UNITS
TOTAL 30 UNITS, (15) A UNITS, (11) B UNITS, (4) C UNITS

THEREFORE, 56 PROPOSED PARKING SPACES AT UNITS

PROVIDED PARKING:
COMMON PUBLIC SURFACE PARKING SPACES
= (17) 9' X 18' & (1) ACCESSIBLE 8' X 18' = 18 TOTAL COMMON SURFACE SPACES
GARAGE PARKING SPACES = 56
TOTAL PROPOSED PARKING SPACES = 18+56=74

EXISTING PARKING	PROPOSED PARKING	
	TOTAL PROVIDED	TOTAL REQUIRED
2	74	60 (MIN) - 80 (MAX)

PARKING NOTES:
*PARKING SPACES WITHIN A GARAGE SHALL BE COUNTED TOWARD THE REQUIRED NUMBER OF PARKING SPACES

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

N:\PROJECTS\2165-01A\CIVIL\DRAWINGS\CURRENT\C-2165-01A - LAYOUT & MATERIALS PLAN.DWG

DIG SAFE
BEFORE YOU DIG CALL 811 OR 1-888-DIG-SAFE 1-888-344-7233

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No.43119
REGISTERED PROFESSIONAL ENGINEER
3/16/17

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:
RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=50'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

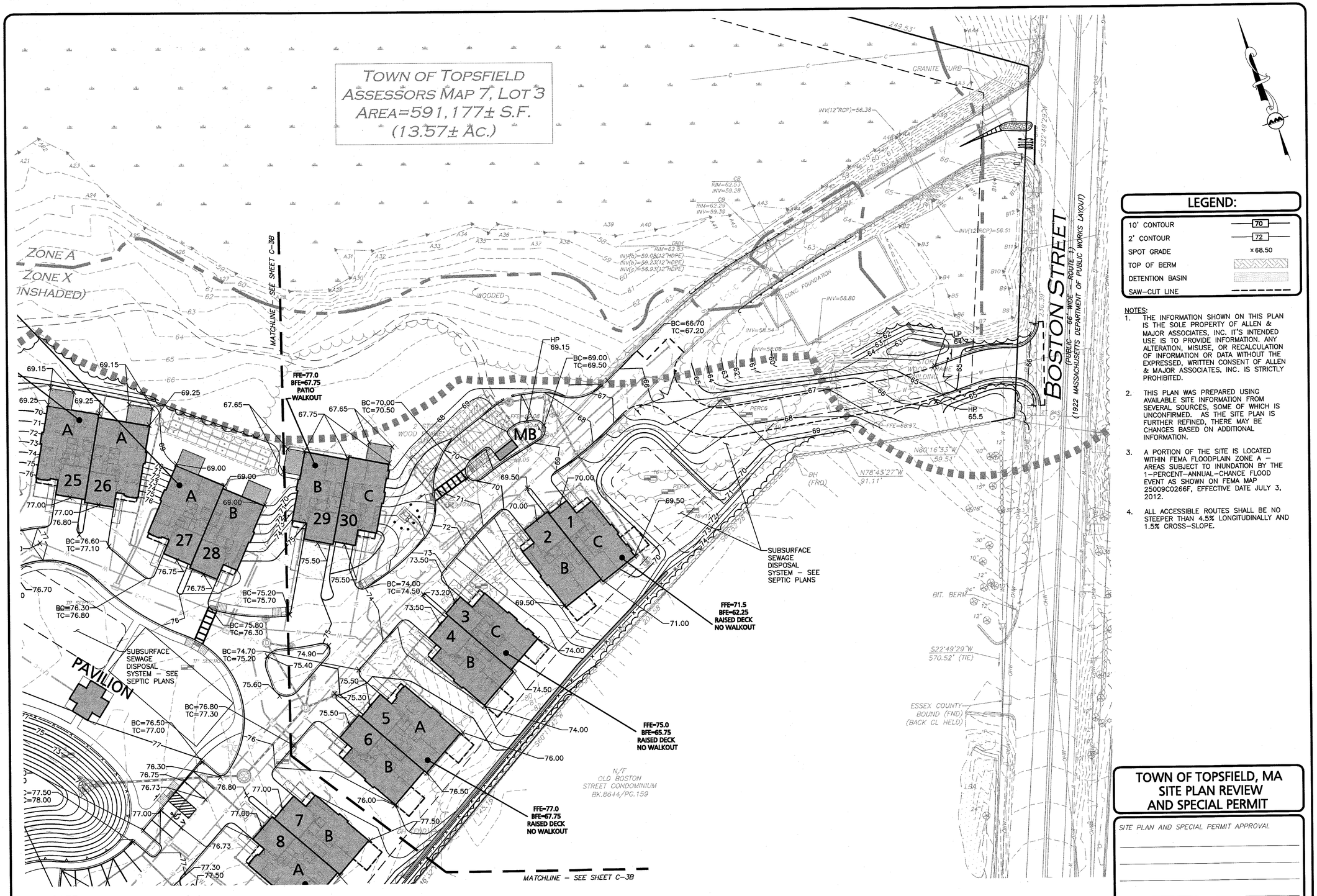
PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ♦ land surveying
environmental consulting ♦ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE: LAYOUT & MATERIALS PLAN
SHEET No. C-2

Copyright©2017 Allen & Major Associates, Inc. All Rights Reserved

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY



DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

LEGEND:

10' CONTOUR	70
2' CONTOUR	72
SPOT GRADE	×68.50
TOP OF BERM	
DETENTION BASIN	
SAW-CUT LINE	

NOTES:

1. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
2. THIS PLAN WAS PREPARED USING AVAILABLE SITE INFORMATION FROM SEVERAL SOURCES, SOME OF WHICH IS UNCONFIRMED. AS THE SITE PLAN IS FURTHER REFINED, THERE MAY BE CHANGES BASED ON ADDITIONAL INFORMATION.
3. A PORTION OF THE SITE IS LOCATED WITHIN FEMA FLOODPLAIN ZONE A – AREAS SUBJECT TO INUNDATION BY THE 1-PERCENT-ANNUAL-CHANCE FLOOD EVENT AS SHOWN ON FEMA MAP 25009C0266F, EFFECTIVE DATE JULY 3, 2012.
4. ALL ACCESSIBLE ROUTES SHALL BE NO STEEPER THAN 4.5% LONGITUDINALLY AND 1.5% CROSS-SLOPE.

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW
AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

N:\PROJECTS\2165-01A\CIVIL\DRAWINGS\CURRENT\C-2165-01A – GRADING AND SPOT GRADES PLAN.DWG

3/16/17

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:
RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=30'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

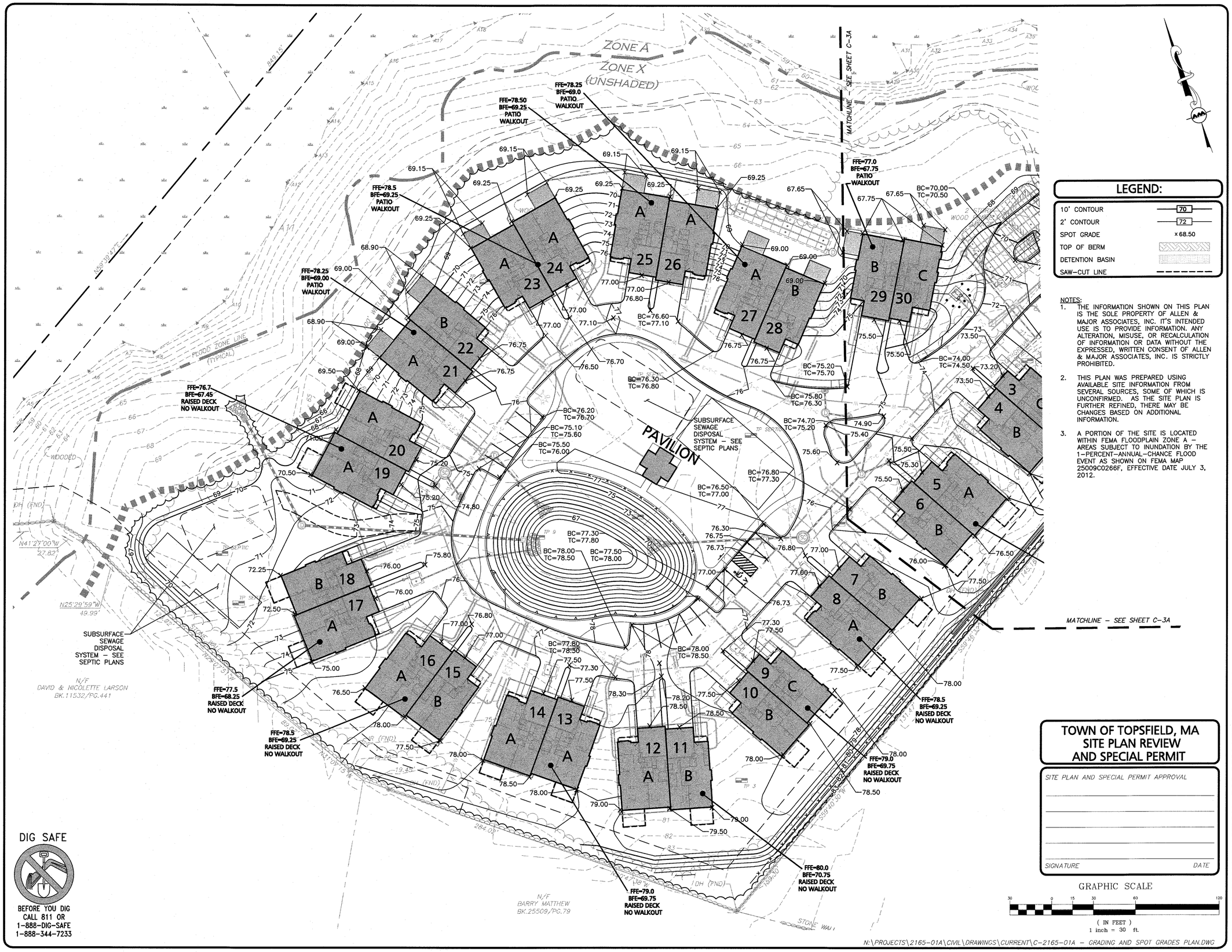
THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE:
GRADING AND SPOT GRADES PLAN

SHEET No.
C-3A

Copyright©2017 Allen & Major Associates, Inc.
All Rights Reserved

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY



LEGEND:

10' CONTOUR	70
2' CONTOUR	72
SPOT GRADE	×68.50
TOP OF BERM	
DETENTION BASIN	
SAW-CUT LINE	

NOTES:

1. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
2. THIS PLAN WAS PREPARED USING AVAILABLE SITE INFORMATION FROM SEVERAL SOURCES, SOME OF WHICH IS UNCONFIRMED. AS THE SITE PLAN IS FURTHER REFINED, THERE MAY BE CHANGES BASED ON ADDITIONAL INFORMATION.
3. A PORTION OF THE SITE IS LOCATED WITHIN FEMA FLOODPLAIN ZONE A – AREAS SUBJECT TO INUNDATION BY THE 1-PERCENT-ANNUAL-CHANCE FLOOD EVENT AS SHOWN ON FEMA MAP 25009C0266F, EFFECTIVE DATE JULY 3, 2012.

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW
AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

N:\PROJECTS\2165-01A\CIVIL\DRAWINGS\CURRENT\C-2165-01A – GRADING AND SPOT GRADES PLAN.DWG

3/16/17

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No.43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:

SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:

RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=30'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com

100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896

WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE:

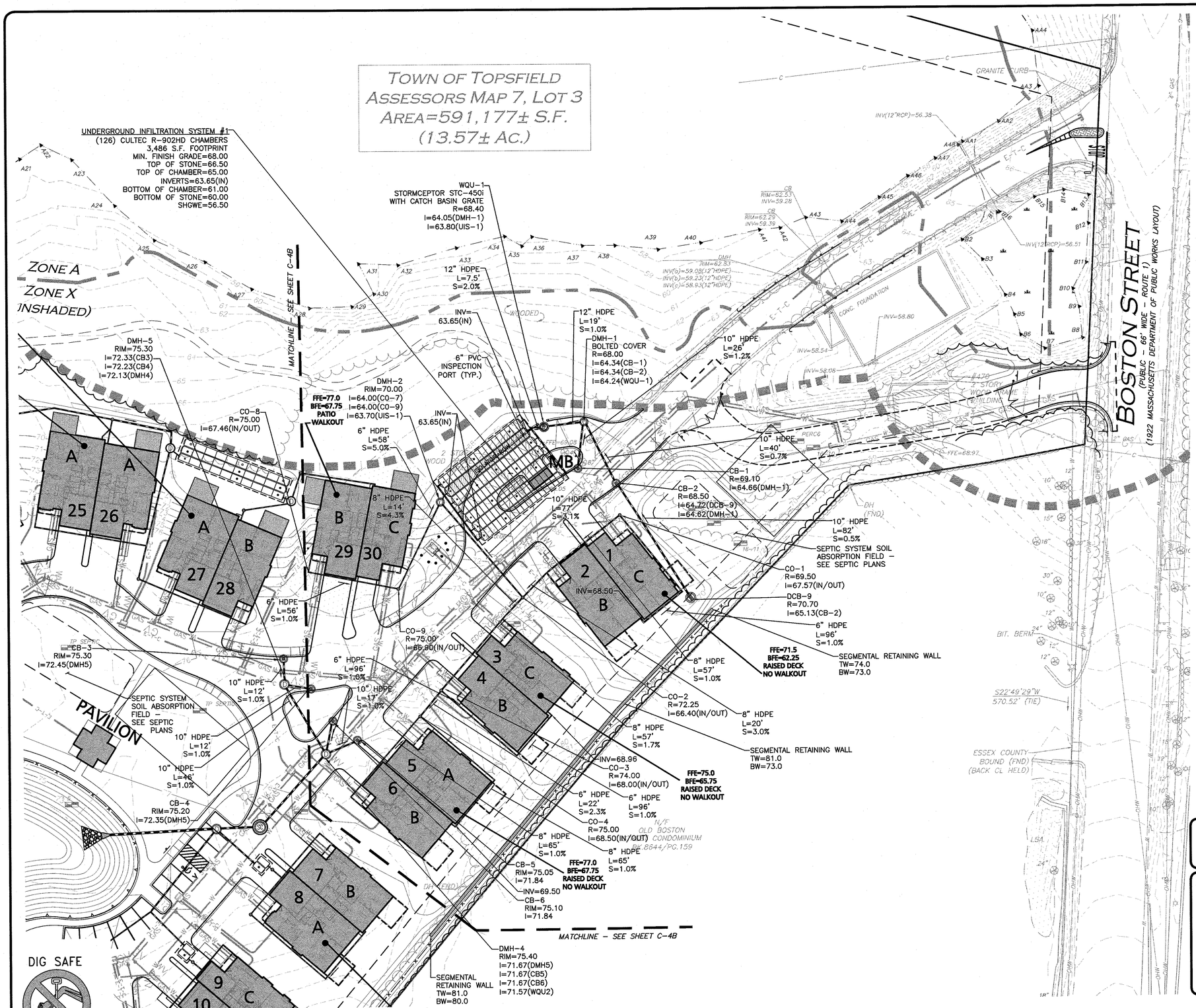
GRADING AND SPOT GRADES PLAN

SHEET No.

C-3B

Copyright©2017 Allen & Major Associates, Inc.
All Rights Reserved

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY



LEGEND:

- DRAIN MANHOLE
- CATCH BASIN
- CATCH BASIN – DOUBLE GRATE
- FLARED END SECTION
- DRAIN LINE
- RIPRAP OUTFALL
- OUTLET CONTROL STRUCT.
- 5' CONTOUR (70)
- 1' CONTOUR (72)
- SPOT GRADE (×68.50)
- TOP OF BERM
- DETENTION BASIN
- SAW-CUT LINE
- INFILTRATION SYSTEM

NOTES:

1. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
2. THIS PLAN WAS PREPARED USING AVAILABLE SITE INFORMATION FROM SEVERAL SOURCES, SOME OF WHICH IS UNCONFIRMED. AS THE SITE PLAN IS FURTHER REFINED, THERE MAY BE CHANGES BASED ON ADDITIONAL INFORMATION.
3. A PORTION OF THE SITE IS LOCATED WITHIN FEMA FLOODPLAIN ZONE A – AREAS SUBJECT TO INUNDATION BY THE 1-PERCENT-ANNUAL-CHANCE FLOOD EVENT AS SHOWN ON FEMA MAP 25009C0266F, EFFECTIVE DATE JULY 3, 2012.

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW
AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

N:\PROJECTS\2165-01A\CIVIL\DRAWINGS\CURRENT\C-2165-01A - DRAINAGE PLAN.DWG

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER
3/16/17

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:
RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=30'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering • land surveying
environmental consulting • landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

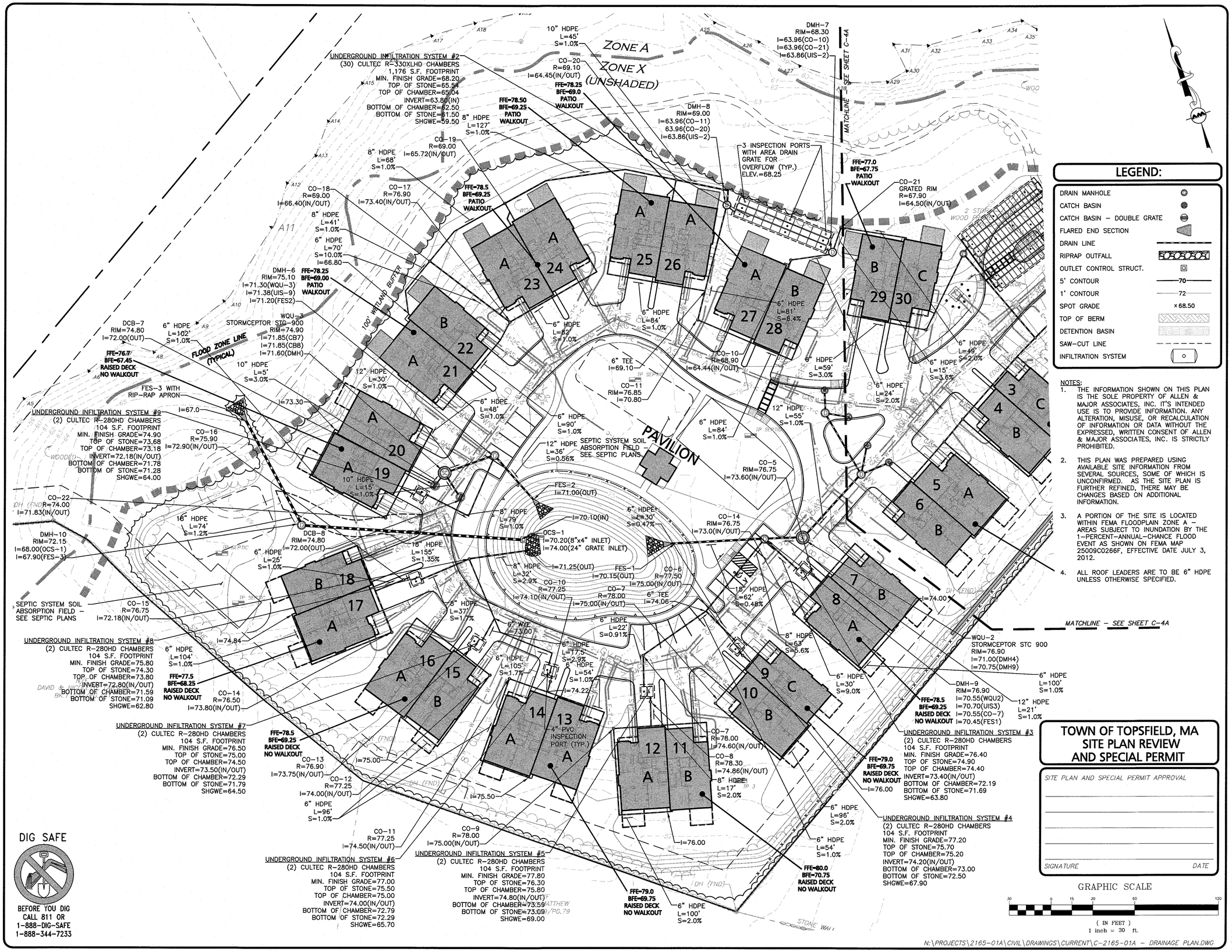
THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENTS REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE: DRAINAGE PLAN

SHEET No. C-4A

Copyright ©2017 Allen & Major Associates, Inc.
All Rights Reserved

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY



LEGEND:

- DRAIN MANHOLE
- CATCH BASIN
- CATCH BASIN – DOUBLE GRATE
- FLARED END SECTION
- DRAIN LINE
- RIPRAP OUTFALL
- OUTLET CONTROL STRUCT.
- 5' CONTOUR — 70
- 1' CONTOUR — 72
- SPOT GRADE × 68.50
- TOP OF BERM
- DETENTION BASIN
- SAW-CUT LINE
- INFILTRATION SYSTEM

NOTES:

1. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
2. THIS PLAN WAS PREPARED USING AVAILABLE SITE INFORMATION FROM SEVERAL SOURCES, SOME OF WHICH IS UNCONFIRMED. AS THE SITE PLAN IS FURTHER REFINED, THERE MAY BE CHANGES BASED ON ADDITIONAL INFORMATION.
3. A PORTION OF THE SITE IS LOCATED WITHIN FEMA FLOODPLAIN ZONE A – AREAS SUBJECT TO INUNDATION BY THE 1-PERCENT-ANNUAL-CHANCE FLOOD EVENT AS SHOWN ON FEMA MAP 25009C0266F, EFFECTIVE DATE JULY 3, 2012.
4. ALL ROOF LEADERS ARE TO BE 6" HDPE UNLESS OTHERWISE SPECIFIED.

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER
3/6/17

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:
RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=30'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

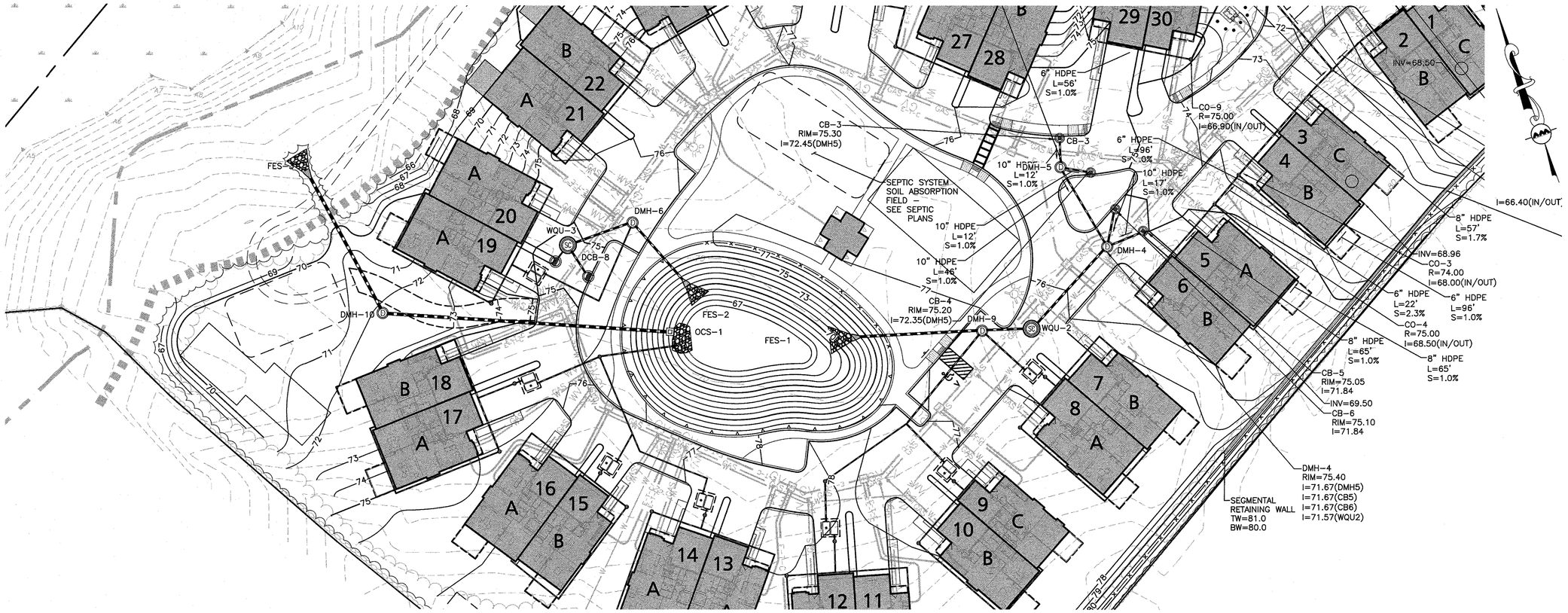
THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY

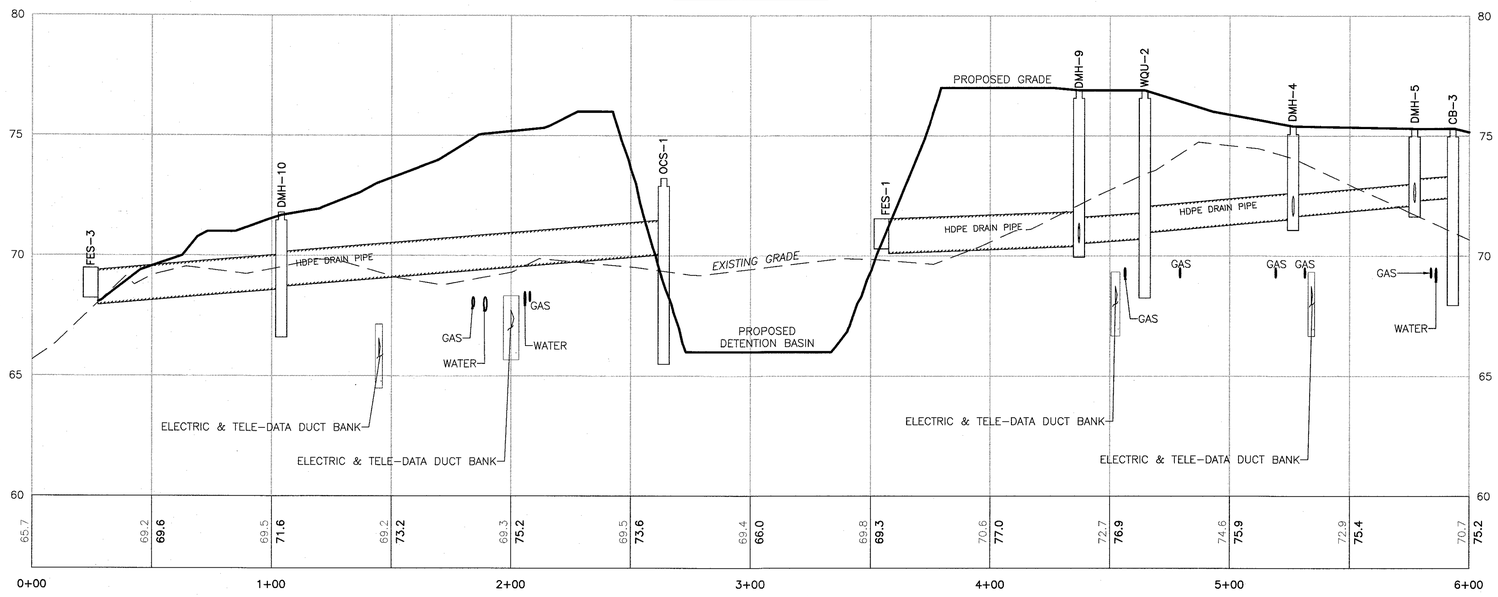
DRAWING TITLE: DRAINAGE PLAN

SHEET No. C-4B

Copyright©2017 Allen & Major Associates, Inc. All Rights Reserved



DRAINAGE 01 PROFILE



DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW
AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE

Horizontal: 1 inch = 30 ft.
Vertical: 1 inch = 3 ft.

N:\PROJECTS\2165-01A\CIVIL\DRAWINGS\CURRENT\C-2165-01A – PROFILES.DWG

3/16/17

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:
RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=30'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

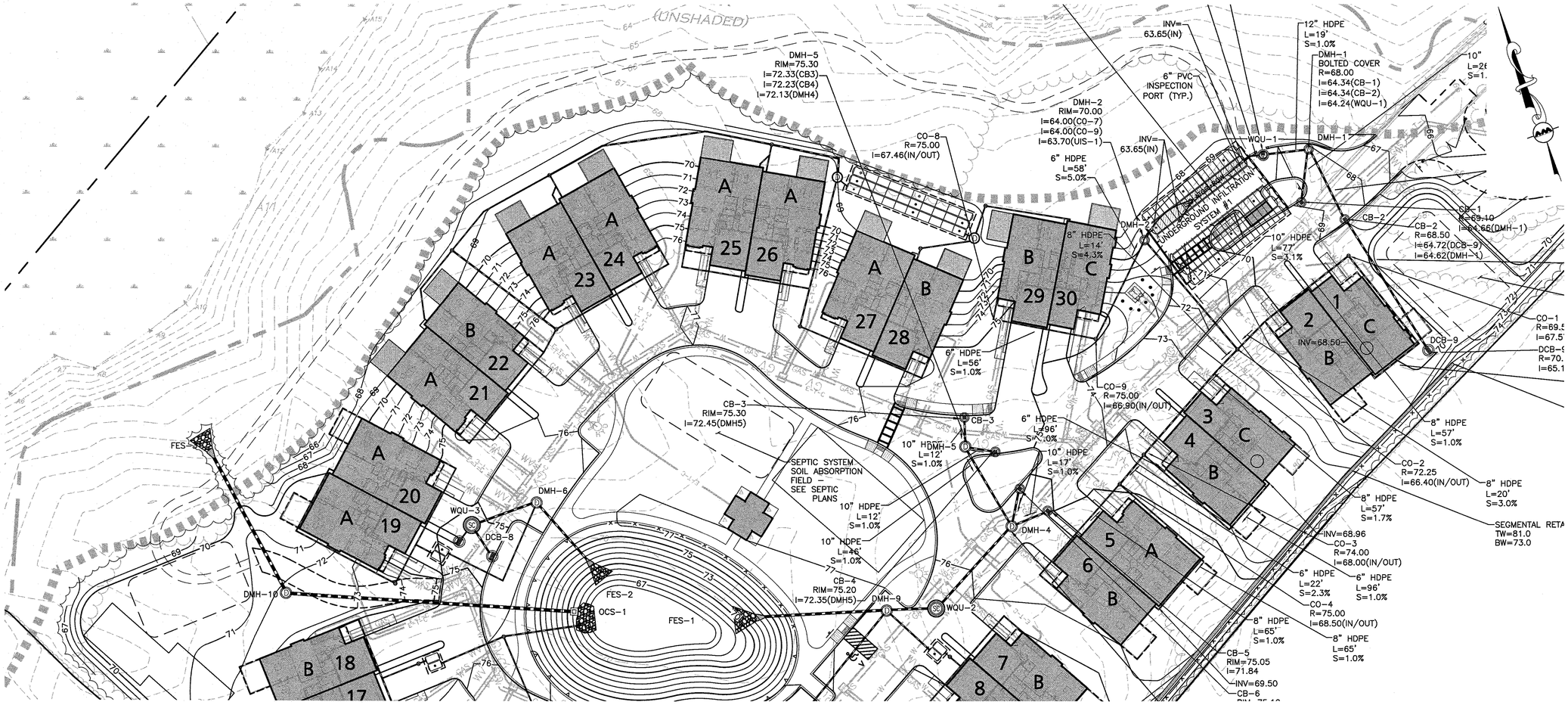
THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY

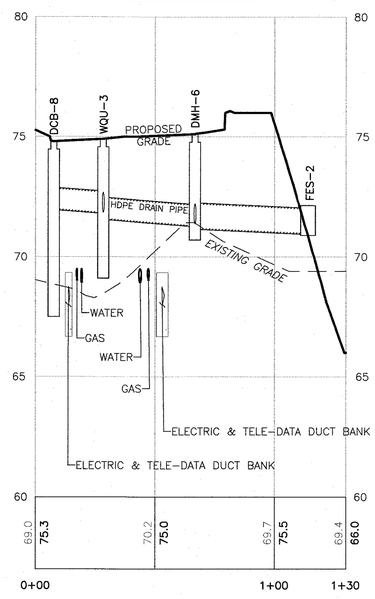
DRAWING TITLE: DRAINAGE PROFILE

SHEET No. C-4C

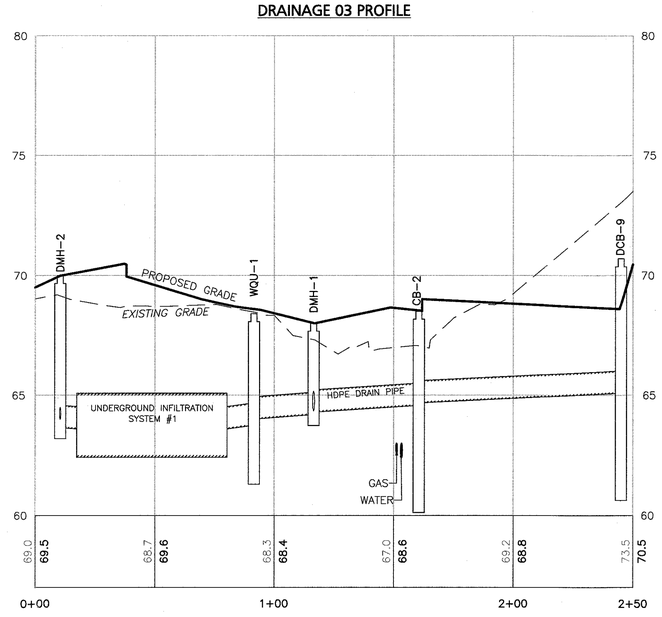
Copyright©2017 Allen & Major Associates, Inc.
All Rights Reserved



DRAINAGE 02 PROFILE



DRAINAGE 03 PROFILE



DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW
AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE

Horizontal: 1 inch = 30 ft.
Vertical: 1 inch = 3 ft.

N:\PROJECTS\2165-01A\CIVIL\DRAWINGS\CURRENT\C-2165-01A – PROFILES.DWG

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER
3/16/17

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:
RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=30'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

PREPARED BY:

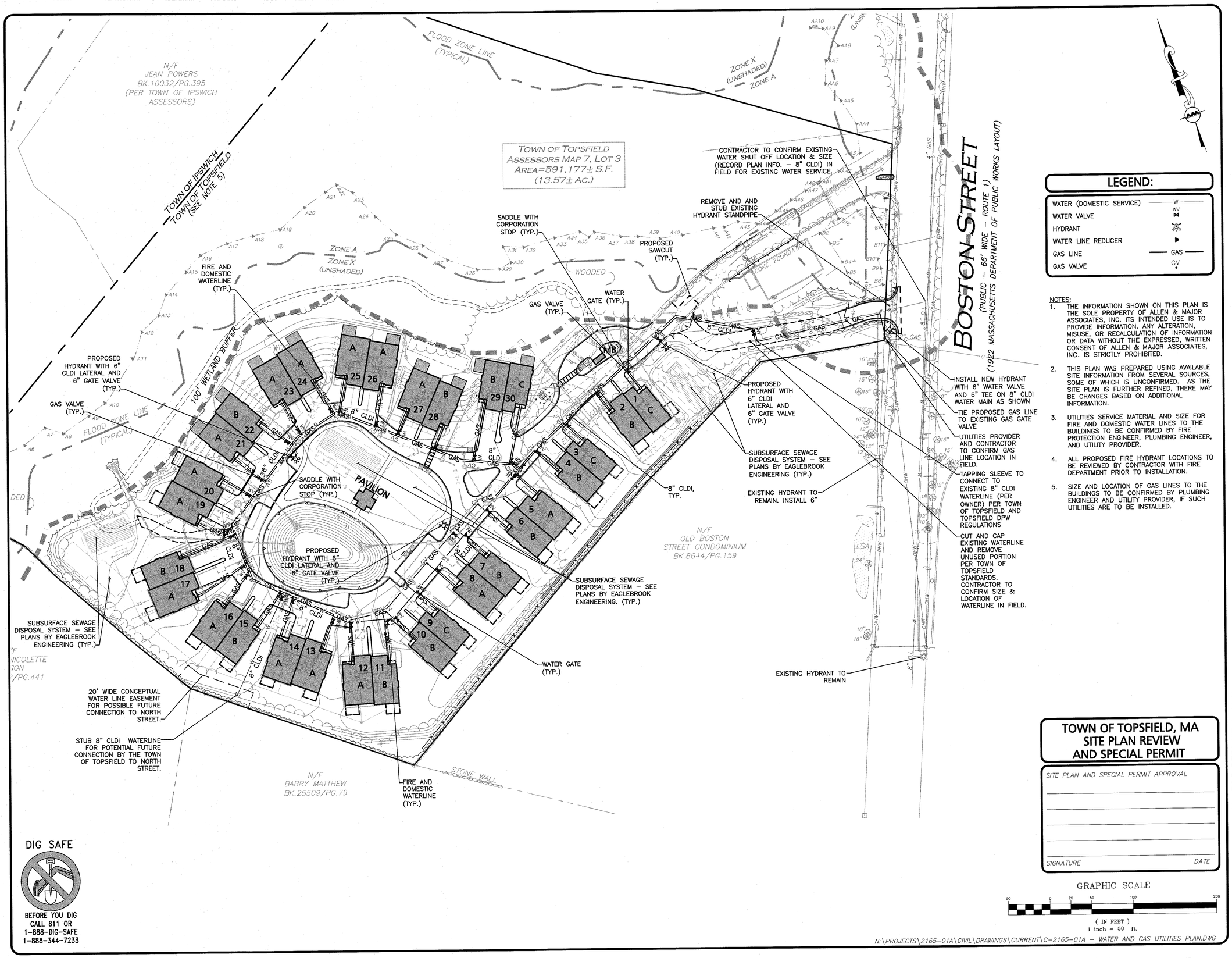
ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE:
DRAINAGE PROFILE

SHEET No.
C-4D

Copyright©2017 Allen & Major Associates, Inc.
All Rights Reserved



LEGEND:

WATER (DOMESTIC SERVICE)	W
WATER VALVE	WV
HYDRANT	
WATER LINE REDUCER	
GAS LINE	GAS
GAS VALVE	GV

NOTES:

1. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
2. THIS PLAN WAS PREPARED USING AVAILABLE SITE INFORMATION FROM SEVERAL SOURCES, SOME OF WHICH IS UNCONFIRMED. AS THE SITE PLAN IS FURTHER REFINED, THERE MAY BE CHANGES BASED ON ADDITIONAL INFORMATION.
3. UTILITIES SERVICE MATERIAL AND SIZE FOR FIRE AND DOMESTIC WATER LINES TO THE BUILDINGS TO BE CONFIRMED BY FIRE PROTECTION ENGINEER, PLUMBING ENGINEER, AND UTILITY PROVIDER.
4. ALL PROPOSED FIRE HYDRANT LOCATIONS TO BE REVIEWED BY CONTRACTOR WITH FIRE DEPARTMENT PRIOR TO INSTALLATION.
5. SIZE AND LOCATION OF GAS LINES TO THE BUILDINGS TO BE CONFIRMED BY PLUMBING ENGINEER AND UTILITY PROVIDER, IF SUCH UTILITIES ARE TO BE INSTALLED.

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

N:\PROJECTS\2165-01A\CIVIL\DRAWINGS\CURRENT\C-2165-01A – WATER AND GAS UTILITIES PLAN.DWG

3/16/17
COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No.43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:
RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=50'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

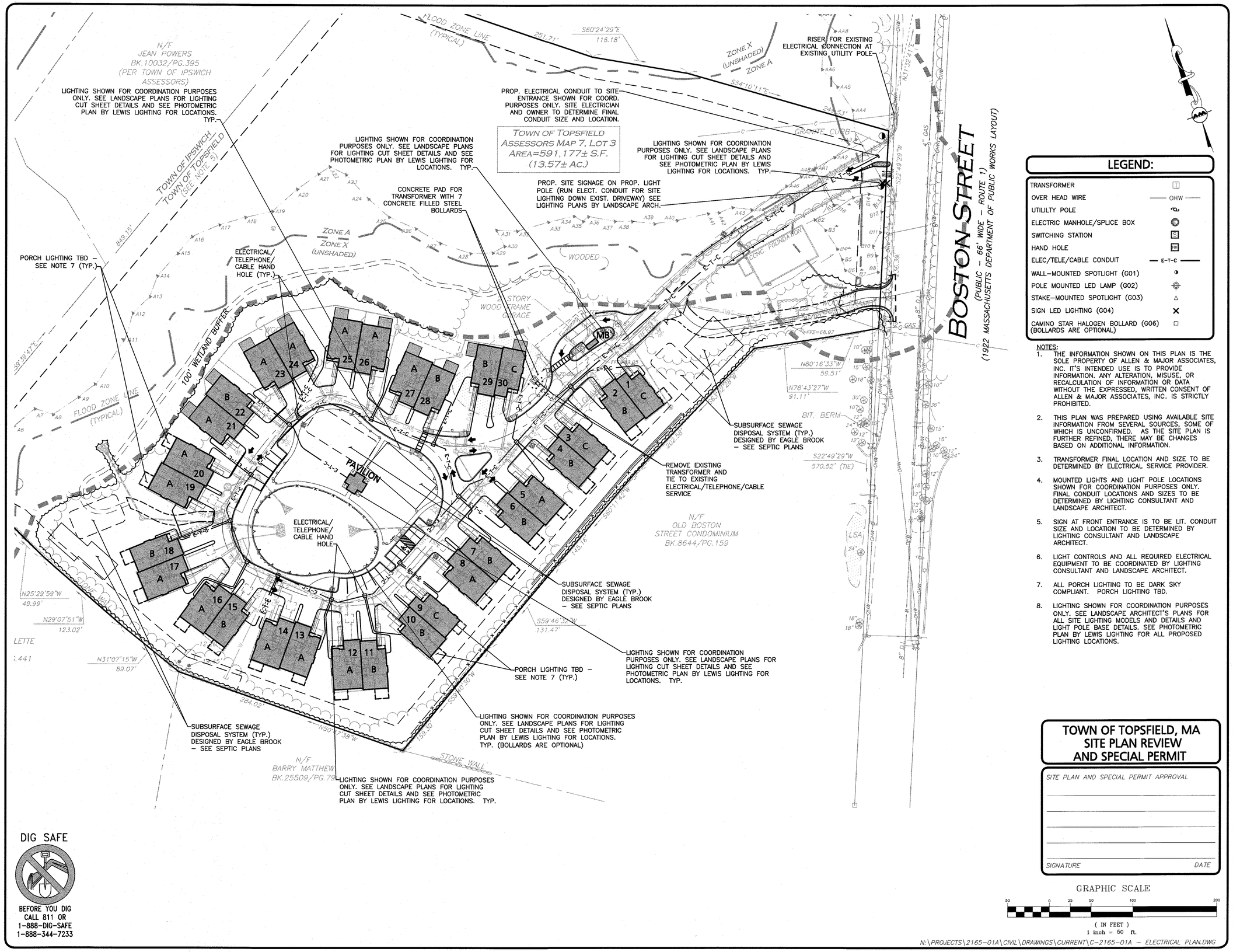
THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE:
WATER & GAS UTILITIES PLAN

SHEET No.
C-5A

Copyright©2017 Allen & Major Associates, Inc.
All Rights Reserved

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY



LEGEND:

TRANSFORMER	T
OVER HEAD WIRE	—— OHW ——
UTILILTY POLE	
ELECTRIC MANHOLE/SPLICE BOX	E
SWITCHING STATION	S
HAND HOLE	HH
ELEC/TELE/CABLE CONDUIT	— E-T-C —
WALL-MOUNTED SPOTLIGHT (G01)	
POLE MOUNTED LED LAMP (G02)	
STAKE-MOUNTED SPOTLIGHT (G03)	△
SIGN LED LIGHTING (G04)	×
CAMINO STAR HALOGEN BOLLARD (G06) (BOLLARDS ARE OPTIONAL)	□

NOTES:

1. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
2. THIS PLAN WAS PREPARED USING AVAILABLE SITE INFORMATION FROM SEVERAL SOURCES, SOME OF WHICH IS UNCONFIRMED. AS THE SITE PLAN IS FURTHER REFINED, THERE MAY BE CHANGES BASED ON ADDITIONAL INFORMATION.
3. TRANSFORMER FINAL LOCATION AND SIZE TO BE DETERMINED BY ELECTRICAL SERVICE PROVIDER.
4. MOUNTED LIGHTS AND LIGHT POLE LOCATIONS SHOWN FOR COORDINATION PURPOSES ONLY. FINAL CONDUIT LOCATIONS AND SIZES TO BE DETERMINED BY LIGHTING CONSULTANT AND LANDSCAPE ARCHITECT.
5. SIGN AT FRONT ENTRANCE IS TO BE LIT. CONDUIT SIZE AND LOCATION TO BE DETERMINED BY LIGHTING CONSULTANT AND LANDSCAPE ARCHITECT.
6. LIGHT CONTROLS AND ALL REQUIRED ELECTRICAL EQUIPMENT TO BE COORDINATED BY LIGHTING CONSULTANT AND LANDSCAPE ARCHITECT.
7. ALL PORCH LIGHTING TO BE DARK SKY COMPLIANT. PORCH LIGHTING TBD.
8. LIGHTING SHOWN FOR COORDINATION PURPOSES ONLY. SEE LANDSCAPE ARCHITECT'S PLANS FOR ALL SITE LIGHTING MODELS AND DETAILS AND LIGHT POLE BASE DETAILS. SEE PHOTOMETRIC PLAN BY LEWIS LIGHTING FOR ALL PROPOSED LIGHTING LOCATIONS.

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

N:\PROJECTS\2165-01A\CIVIL\DRAWINGS\CURRENT\C-2165-01A – ELECTRICAL PLAN.DWG

3/16/17

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No.43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:
RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=50'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

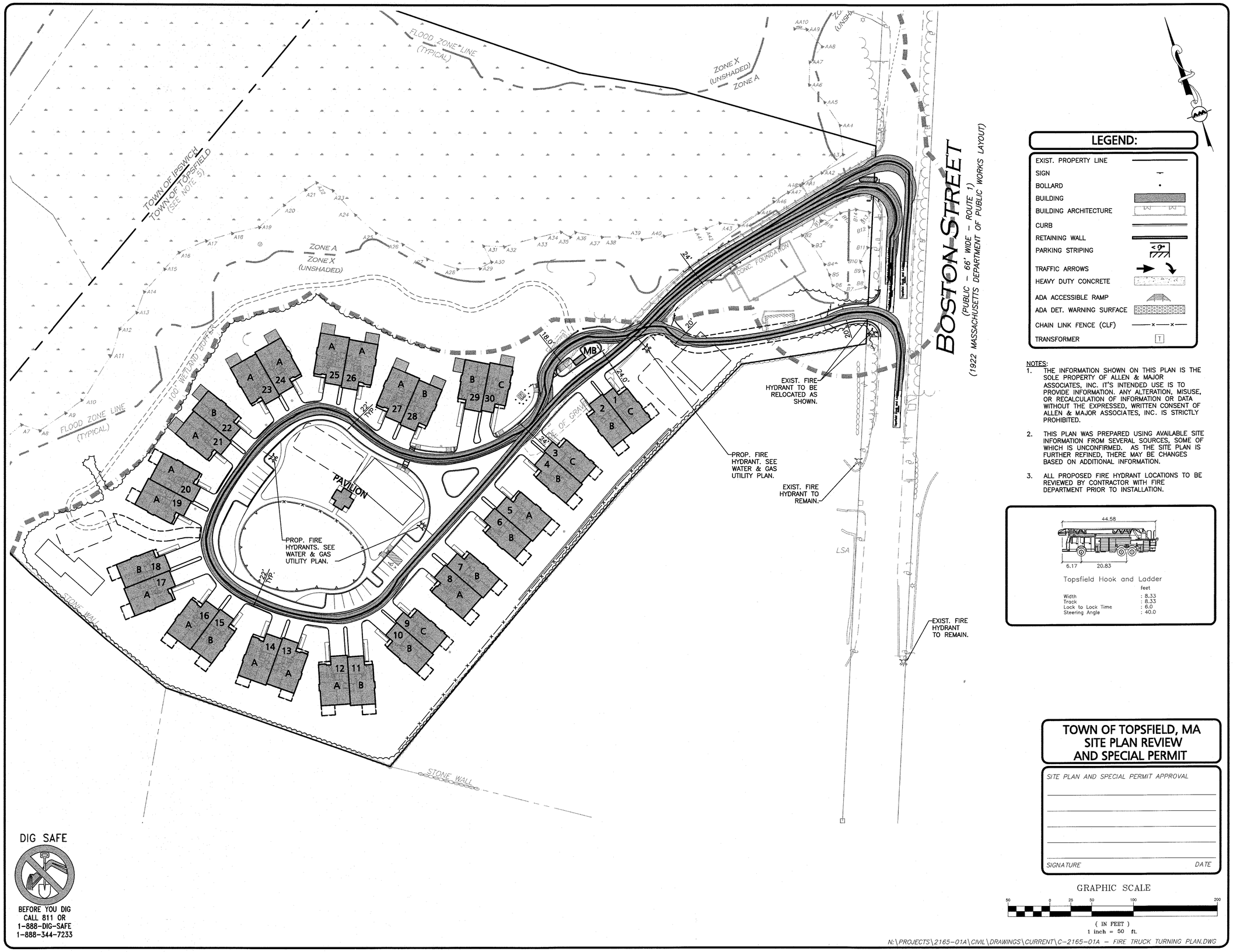
THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE: SITE ELECTRICAL PLAN

SHEET No. C-5B

Copyright©2017 Allen & Major Associates, Inc.
All Rights Reserved

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY



LEGEND:

EXIST. PROPERTY LINE	
SIGN	
BOLLARD	
BUILDING	
BUILDING ARCHITECTURE	
CURB	
RETAINING WALL	
PARKING STRIPING	
TRAFFIC ARROWS	
HEAVY DUTY CONCRETE	
ADA ACCESSIBLE RAMP	
ADA DET. WARNING SURFACE	
CHAIN LINK FENCE (CLF)	—x—x—
TRANSFORMER	T

NOTES:

1. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
2. THIS PLAN WAS PREPARED USING AVAILABLE SITE INFORMATION FROM SEVERAL SOURCES, SOME OF WHICH IS UNCONFIRMED. AS THE SITE PLAN IS FURTHER REFINED, THERE MAY BE CHANGES BASED ON ADDITIONAL INFORMATION.
3. ALL PROPOSED FIRE HYDRANT LOCATIONS TO BE REVIEWED BY CONTRACTOR WITH FIRE DEPARTMENT PRIOR TO INSTALLATION.

Topsfield Hook and Ladder

	feet
Width	: 8.33
Track	: 8.33
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW
AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

N:\PROJECTS\2165-01A\CIVIL\DRAWINGS\CURRENT\C-2165-01A – FIRE TRUCK TURNING PLAN.DWG

3/16/17

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:

SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:

RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=50'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com

100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896

WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENTS AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE:

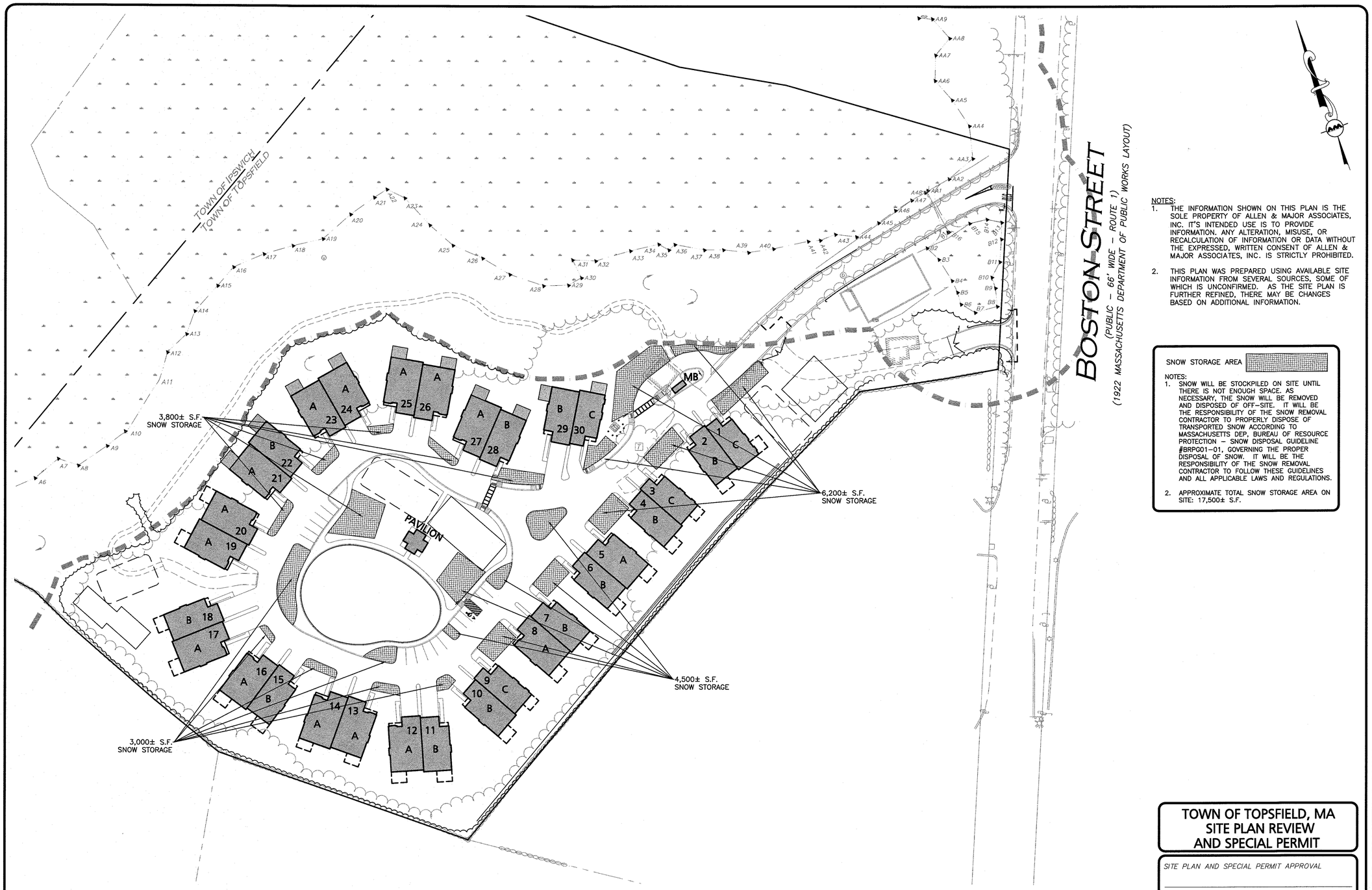
FIRE TRUCK TURNING PLAN

SHEET No.

C-6

Copyright©2017 Allen & Major Associates, Inc.
All Rights Reserved

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY



NOTES:

1. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
2. THIS PLAN WAS PREPARED USING AVAILABLE SITE INFORMATION FROM SEVERAL SOURCES, SOME OF WHICH IS UNCONFIRMED. AS THE SITE PLAN IS FURTHER REFINED, THERE MAY BE CHANGES BASED ON ADDITIONAL INFORMATION.

SNOW STORAGE AREA

NOTES:

1. SNOW WILL BE STOCKPILED ON SITE UNTIL THERE IS NOT ENOUGH SPACE. AS NECESSARY, THE SNOW WILL BE REMOVED AND DISPOSED OF OFF-SITE. IT WILL BE THE RESPONSIBILITY OF THE SNOW REMOVAL CONTRACTOR TO PROPERLY DISPOSE OF TRANSPORTED SNOW ACCORDING TO MASSACHUSETTS DEP, BUREAU OF RESOURCE PROTECTION – SNOW DISPOSAL GUIDELINE #BRPG01–01, GOVERNING THE PROPER DISPOSAL OF SNOW. IT WILL BE THE RESPONSIBILITY OF THE SNOW REMOVAL CONTRACTOR TO FOLLOW THESE GUIDELINES AND ALL APPLICABLE LAWS AND REGULATIONS.
2. APPROXIMATE TOTAL SNOW STORAGE AREA ON SITE: 17,500± S.F.

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW
AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

N:\PROJECTS\2165-01A\CIVIL\DRAWINGS\CURRENT\C-2165-01A – SNOW STORAGE PLAN.DWG

3/6/17

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No.43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:

SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:

RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=50'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

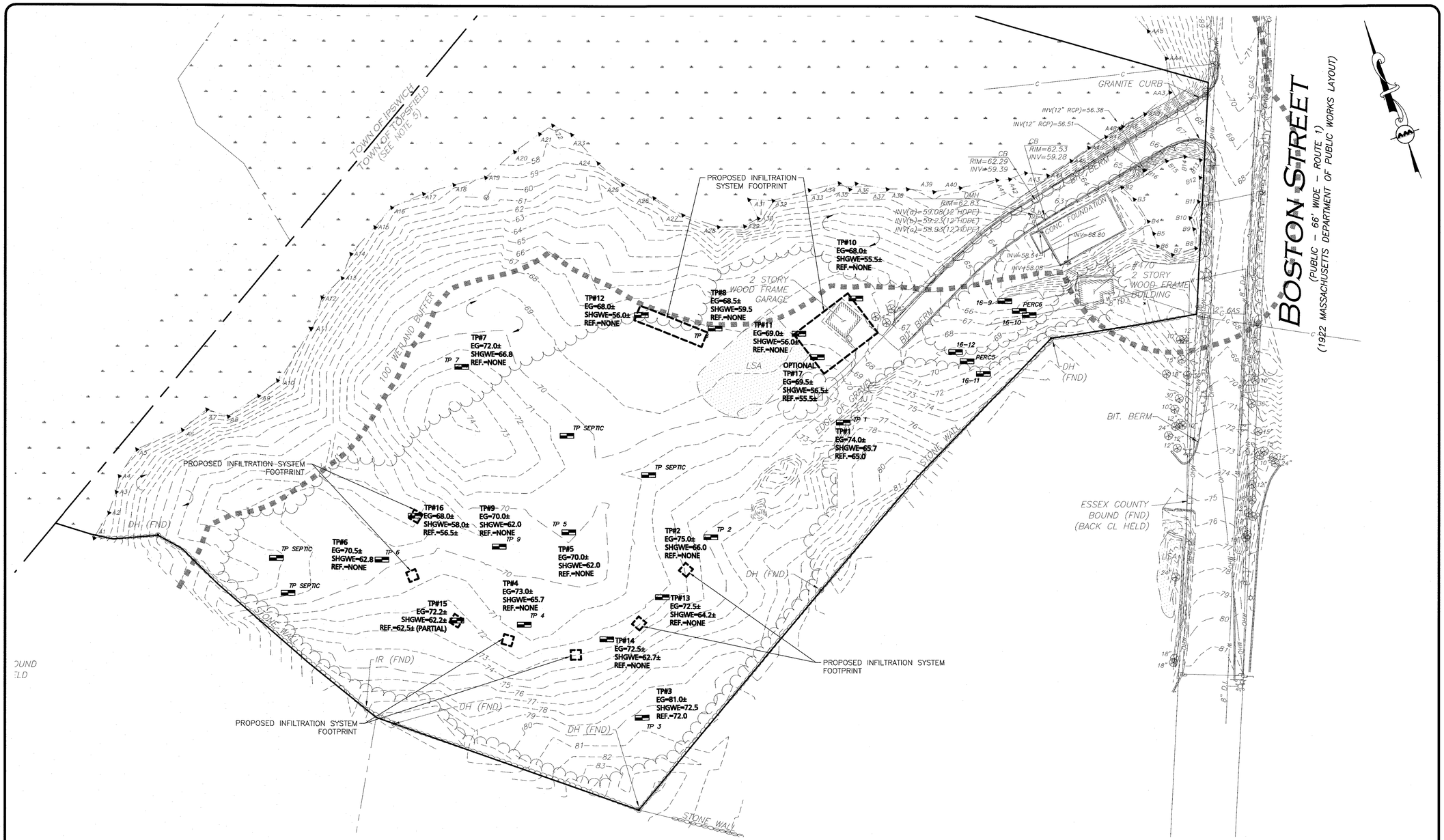
THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE: SNOW STORAGE PLAN

SHEET No. C-7

Copyright©2017 Allen & Major Associates, Inc.
All Rights Reserved

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY



DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW
AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

N:\PROJECTS\2165-01A\CIVIL\DRAWINGS\CURRENT\C-2165-01A – TEST PIT LOCATIONS PLAN.DWG

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY

3/16/17

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
3	3-16-2017	REVISIONS PER TOWN REQUEST
2	2-27-2017	REVISIONS PER TOWN COMMENTS
1	1-17-2017	REVISED PER PEER REVIEW & TOWN COMMENTS

APPLICANT\OWNER:
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:
RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	1"=50'	DWG. NAME:	C-2165-01A
DESIGNED BY:	DMR	CHECKED BY:	RB

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil & structural engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01801-8501
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE:
TEST PITS PLAN

SHEET No.
TPP-1

Copyright©2017 Allen & Major Associates, Inc.
All Rights Reserved

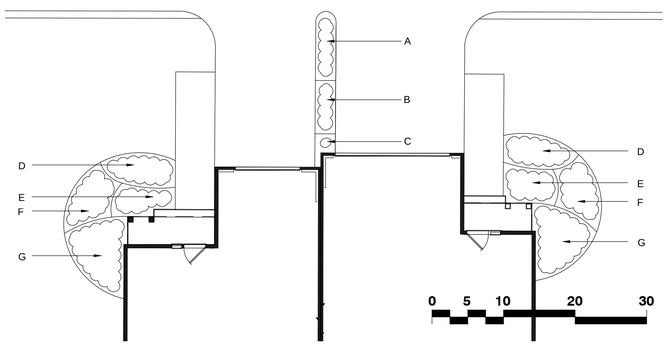
(1) CF
(1) NS
(1) ARK
(1) MDW
(1) CF
(2) JV
(1) CF
(1) ML
(1) QB
(3) AW
ALT: SUB (1) PA
(5) PG
ALT: SUB (1) PA
(3) PS
(3) IG
(4) CS
(3) JV
(2) MP
(2) VT
(2) PS
(3) JV
(3) AW
ALT: SUB (1) PA
(3) PS
(2) IG
(3) CS
(1) PS
(5) PG
(1) AW
ALT: SUB (1) PA
(2) MP
(3) VT
(2) PS
(2) IG
(3) CS
(1) PS
(1) PA
(3) PG
(1) AW
(1) PS
(4) JV
(1) PSC
(1) GT
(1) CF
(1) GT
(1) ARA
(1) UM
(1) CF
(1) QR
(1) UM
(1) ML
(3) CS
(2) MP
(2) PS
(3) IG
(4) CS
REFER TO 2 / L-2 FOR FOUNDATION
PLANTING PALETTE OPTIONS
(3) IG
(4) VT
(2) PS
(2) PS
(3) IG
(4) CS
(2) MP
(3) CS
(2) PS
(3) IG
(2) VT
(1) PS
(3) MP
(4) CS
(1) PS
(2) MP
(3) CS
(1) PS
(3) IG
(4) VT
(3) PG
(1) PA
(1) ARK
(1) AS
(1) ARK
(1) NS
(1) LT
(2) ARA
(3) LS
(1) AS
(1) UM
(1) QR
(12) IG
COMMUNITY TRELLIS / PAVILION
(1) ARA
(2) PYO
(2) AC
(5) MP
(1) ARR
(7) CS
(9) CAE
(5) MP
(7) CS
(3) AC
(3) BN
(2) PYO
(1) ARA
(1) UM
(1) LT
(1) MDW
(1) ARR
(1) ARK
(1) AS
(1) ARK
(1) ARR
(1) AR0
(1) NS
(1) LT
(1) UM
(1) LT
(1) NS
(1) NS
(1) AC
(1) GT
(1) MDW
(2) MP
(3) CS
(3) JV
(1) CJ
(1) PYO
(1) ML
(1) ARR
(1) ARK
(1) GT
(1) NS
(1) AC
(1) CJ
(1) MDW
(1) ARK
(1) AC
(1) GT
(1) ARA
(1) UM
(1) QR
(1) UM
(1) CF
(1) MDW
(1) ARR
(1) ARK
(1) AC
(1) CJ
(1) GT
(1) ARR
(1) ARK
(1) ARR
(1) ARK
(1) ARR
(1) ARK

1 / L-2 SEEDING PLAN

SCALE: 1" = 50'-0"

THREE FOUNDATION PLANTING PALETTES
CONTRACTOR CAN CHOOSE FOR EACH UNIT

	A	B	C	D	E	F	G
PALETTE 01	(11) AQ	(5) PA	(1) IG	(12) EP	(4) SAW	(7) PA	(6) GM
PALETTE 02	(11) RF	(5) MS	(1) IG	(12) AQ	(4) RK	(7) MS	(6) KL
PALETTE 03	(11) NF	(5) CSS	(1) IG	(12) SN	(4) RK	(7) CSS	(6) IGS



2 / L-2 FOUNDATION PLANTING PALETTES

SCALE: 1" = 10'-0"

SEEDING LEGEND

SEED MIX #1 - LAWN
40% FINE FESCUE
40% KENTUCKY BLUEGRASS
20% PERENNIAL RYE GRASS
DROUGHT TOLERANT MIX

SEED MIX #2 - MEADOW MIX
NEW ENGLAND CONSERVATION / WILDLIFE
MIX BY NEW ENGLAND WETLAND PLANTS

SEE MIX #3 - BASIN MIX
NEW ENGLAND EROSION CONTROL /
RESTORATION MIX FOR DETENTION
BASINS AND MOIST SITES
BY NEW ENGLAND WETLAND PLANTS

PLANTING LEGEND

CAL	CALIPER
B&B	BALLED IN BURLAP
TRIA. SP.	TRIANGULAR SPACING
O.C.	ON CENTER
#3 CONT	#3 SIZED CONTAINER
HT	HEIGHT
SPR	SPREAD
	PROPOSED TREES
	PROPOSED SHRUBS

PLANTING NOTES

1. REFER TO LAWNS AND GRASSES SPECIFICATIONS FOR FURTHER INFORMATION ON SEED MIXES.
2. ANY AREAS OF THE SITE, NOT OTHERWISE DESIGNATED, WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE HYDROSEEDED SEED MIXES, UNLESS OTHERWISE DIRECTED.
3. PLACE A 2" LAYER OF SHREDDED PINE BARK MULCH OVER ALL BEDS AND OVER ALL TREE PITS.
4. CONTRACTOR SHALL VERIFY PLANT COUNTS BY CONFIRMING PLANTING PLAN AND PLANT LIST FOR ACCURACY DURING THE BIDDING PROCESS. REPORT ANY DISCREPANCIES IMMEDIATELY FOR CLARIFICATION BY THE LANDSCAPE ARCHITECT DURING THE ADDENDUM PHASE OF THE PROJECT.

PLANT LIST

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
DECIDUOUS TREES				
ARA	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG RED MAPLE	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
ARK	ACER RUBRUM 'KARPICK'	KARPICK RED MAPLE	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
ARR	ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
ARO	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
AS	ACER SACCHARUM	SUGAR MAPLE	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
BN	BETULA NIGRA	RIVER BIRCH	6' - 8' HT.	B&B, MULTI-STEM.
CJ	CERCIDIPHYLLUM JAPONICUM	KATSURA TREE	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
GT	GLEDITSIA TRIACANTHOS VAR. INERMIS 'SKYLINE'	SKYLINE HONEYLOCUST	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
LS	LIQUIDAMBAR STYRACIFLUA 'HAPIDAZE'	HAPIDAZE SWEETGUM	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
LT	LIRIODENDRON TULIPIFERA 'EMERALD CITY'	EMERALD TULIP TREE	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
NS	NYSSA SYLVATICA	BLACK TUPELO	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
QA	QUERCUS ALBA	WHITE OAK	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
QB	QUERCUS BICOLOR	SWAMP OAK	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
QR	QUERCUS RUBRA	RED OAK	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
UM	ULMUS AMERICANA 'NEW HARMONY'	NEW HARMONY ELM	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 6' MIN.
EVERGREEN TREES				
AW	ABIES CONCOLOR	WHITE FIR	8' - 10' HT.	B&B, BRANCHED TO GROUND
JV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	7' - 8' HT.	B&B, BRANCHED TO GROUND
PA	PICEA ABIES	NORWAY SPRUCE	9' - 10- HT.	B&B, BRANCHED TO GROUND
PG	PICEA GLAUCA	WHITE SPRUCE	8' - 10" HT.	B&B, BRANCHED TO GROUND
PS	PINUS STROBUS	EASTERN WHITE PINE	8' - 10" HT.	B&B, BRANCHED TO GROUND
FLOWERING TREES				
AC	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE APPLE SERVICEBERRY	6' - 8' HT.	B&B, MULTI-STEM
CF	CORNUS FLORIDA	FLOWERING DOGWOOD	6' - 8' HT.	B&B, HEAVY
HJ	HAMAMELIS X INTERMEDIA 'JELENA'	JELENA WITCHHAZEL	6' - 7' HT.	B&B, HEAVY
MDW	MAGNOLIA 'DONALD WYMAN'	DONALD WYMAN CRABAPPLE	2 - 2 1/2" CAL.	B&B, NO BRANCHES BELOW 4'
ML	MAGNOLIA X LOEBNERI 'LEONARD MESSEL'	LEONARD MESSEL MAGNOLIA	6' - 8' HT.	B&B, HEAVY
PSC	PRUNUS SARGENTI 'COLUMNARIS'	COLUMNAR SARGENT CHERRY	2 - 2 1/2" CAL.	B&B, HEAVY
PYO	PRUNUS YEDOENSIS	YOSHINO CHERRY	2 - 2 1/2" CAL.	B&B, HEAVY
DECIDUOUS SHRUBS				
CAE	CLETHRA ALNIFOLIA	SUMMERSWEET	18"-24"" HT.	
CS	CORNUS SERICEA	RED TWIG DOGWOOD	36"-48" HT.	
MP	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	24"- 30" HT.	
RK	ROSA KNOCK OUT BLUSHING PINK	BLUSHING PINK KNOCK OUT ROSE	18"- 24" HT.	30" O.C., TRIA. SP.
SAW	SPIREA JAPONICA 'ANTHONY WATERER'	ANTHONY WATERER SPIREA	24"- 30" HT.	42" O.C., TRIA. SP.
VT	VIBURNUM TRILOBUM	CRANBERRY VIBURNUM	24" HT./SPR.	
EVERGREEN SHRUBS				
IG	ILEX GLABRA	INKBERRY	30" HT./SPR.	
IGS	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY - COMPACT	30" HT./SPR.	
JC	JUNIPERUS CHINENSIS SARGENTII	SARGENTII JUNIPER	18" HT./SPR.	42" O.C., TRIA. SP.
JHB	JUNIPERUS HORIZONTALIS	JUNIPER	18" - 24" HT.	42" O.C., TRIA. SP.
KL	KALMIA LATIFOLIA 'ELF'	ELF MOUNTAIN LAUREL	18"- 24" HT.	36" O.C., TRIA. SP.
RM	RHODODENDRON CATAWBIENSE 'LODER'S WHITE'	LODER'S WHITE RHODODENDRON	24"-30" HT.	48" O.C., TRIA. SP.
GRASSES / PERENNIALS				
AQ	HEMEROCALLIS	DAYLILLIES	#1 CONT	18" O.C., TRIA. SP.
CSS	CAREX STRICTA	TUSSOCK SEDGE	# 3 CONT	18" O.C., TRIA. SP.
EP	ECHINACEA PURPUREA	PURPLE CONEFLOWER	#1 CONT	18" O.C., TRIA. SP.
MS	MISCANTHUS SINENSIS 'LITTLE KITTEN'	LITTLE KITTEN MAIDEN GRASS	#2 CONT	18" O.C., TRIA. SP.
NF	NEPETA X FAASSENII 'BLUE WHISPER'	BLUE WHISPER CATMINT	#2 CONT	18" O.C., TRIA. SP.
PA	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN DWARF FOUNTAIN GRASS	#2 CONT	24" O.C., TRIA. SP.
RF	RUDBECKIA FULGIDA 'GOLDSTRUM'	BLACK EYED SUSAN	#1 CONT	18" O.C., TRIA. SP.
SN	SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	# 3 CONT	24" O.C., TRIA. SP.

F:\ACTIVE FILES\SDC – SARKIS\1501 TOPSFIELD\DWGS\L-1.DWG

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW
AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE DATE

MASSACHUSETTS WILLIAM BROWN No. 1015 REGISTERED LANDSCAPE ARCHITECT
3.16.2017

REGISTERED LANDSCAPE ARCHITECT FOR BROWN SARDINA, INC.

REV	DATE	DESCRIPTION
3	3-16-17	REVISIONS PER TOWN REQUEST
2	2-27-17	REVISIONS PER TOWN COMMENTS
1	2-7-17	REVISED PER PEER REVIEW AND TOWN COMMENTS

APPLICANT\OWNER:

SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:

RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	AS SHOWN	DWG. NAME:	L-1.dwg
DESIGNED BY:	BDB	CHECKED BY:	WB

PREPARED BY:

Brown | Sardina
Brown Sardina, Inc.
Landscape Architecture, Planning, Urban Design
24 Roland Street Boston, MA 02129
Tel: 617.482.4703
www.brownsardina.com

THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY

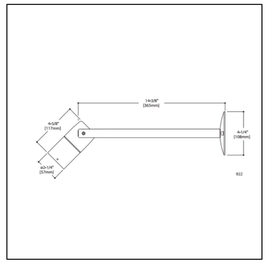
DRAWING TITLE:

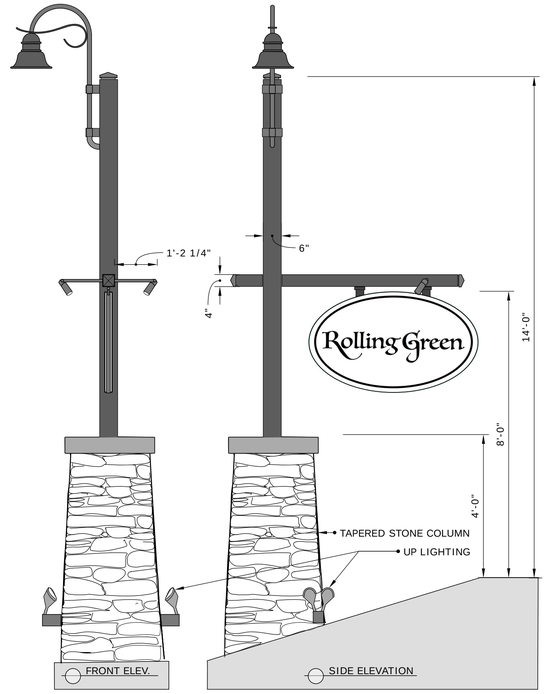
PLANT LIST AND SEEDING PLAN

Copyright©2016 Allen & Major Associates, Inc.
All Rights Reserved

SHEET No.

L-2





S	SARKIS DEVELOPMENT	ROLLING GREEN CONDOMINIMUMS	TOWN of TOPSFIELD MA.	PROPOSED STREET SIGN 2/22/17

HOUSE DESIGN

lewis · lighting design

www.lewislighting.com | 180 Lincoln street 3rd floor, boston, ma | 857.816.3663

Rolling Green
Lighting Fixture Schedule
Not for Bidding or Construction

Date: 3/15/2017
LLD Project #: 1702
By: nd/wl

Type	Description	Fixture Catalog #	Light Source	Notes
G01	Exterior surface wall mounted LED decorative lantern, integral electronic driver, wall mounting bracket.	• ELA: BEL-30-CR34-H4-40LED-_-DSFG-MN-HSS	• INTEGRAL LED, 40W	1, 5, @ Rte 1 Intersection
G02	Exterior pole mounted LED area light, 14 7/8" wide, 23", 15' pole, Type 3 distribution, corrosion resistant cast aluminum alloy , powder coat finish, and IP65 rated.	• ELA: BEL-30-CA-H2-40LED-_-DSFG-MN-CR-17A-P3011B-16'	• INTEGRAL LED, 40W	1, 5, @ Road
G03	Exterior ground stake mounted spotlight, 2-1/2" diameter aperture, silicone O-ring, thermoplastic PVC , black polyester powder coat finish, 12" adjustable stake, integral electronic transformer, ul 1838 rating.	• Vision 3: FL1A-BLT-RND-C4-K1-117-L2-0-0-M01S-BL-S3-12-voltage-0	• INTEGRAL LED, 10W	1, @ Gazeebo
G04	Exterior wall surface mounted led sign light, 33 1/16" straight arm, center rear swivel, single head, painted black finish, linear spread lens, 21 degree narrow downlight, [x] delivered lm, 2700K CCT, 80+ CRI, remote electronic transformer.	• Lumiere: 922-10LED2741-12-BK-LSL T60	• INTEGRAL LED, 10W	1, @ Entry Sign
G06	Exterior ground stake mounted low-voltage path light, 3" diameter base, 5 1/2" diameter top, 23" height, machined aluminum body, polyester powder coating, T4 halogen lamp, 950 lamp lm, integral dimmable transformer, wet location.	• B-K Lighting: CS-LV-65-*FINISH* -H-18-*MOUNTING* -L75E-*VOLTAGE*	• Q50T-4/CL-12V, 50W	1, @ Pathway

Notes:
1. Provide a complete and operable system including all necessary mounting hardware, power feeds, wiring connections, ballasts, drivers, and control interfaces.
2. Provide overall lighted lengths as shown on architectural drawings.
3. Provide overall lighted lengths as shown on architectural drawings using 4' and 8' fixture bodies.
4. Mounted in an architectural detail. See drawings for mounting configuration and hardware requirements.
5. Provide remote astronomical timeclock - see construction documents for location details.

170315 LLD FS - Rolling Green.xlsx

1 of 1

lewis · lighting design | fixture type: G01 G02 - Option A

functional, beautiful, sustainable visual environments

ELA Environmental Lighting for Architecture, Inc.

Project Name:	Type:
Notes:	Order Matrix Number:

BELL

Available in two sizes, the *Bell* draws from the Mission Revival architectural movement while offering state of the art lighting technology for maximum performance. Suitable for pole, cross arm, pendant, or wall mounting conditions, the *Bell* is the perfect high-end solution to street and roadway lighting, parking lots, site and walkway lighting, shopping malls, warehouses, "Big Box" style retail stores, and much more.

Constructed of high grade aluminum and finished with a powder-coated finish with a sealed, tempered glass lens, the *Bell* is built for the toughest of conditions. The *Bell* can also meet the high performance standards of today's lighting requirements. The *Bell* is available with an array of high-performance segmented reflectors to achieve maximum performance for all light distributions and is designed with a natural full cut-off to meet all **Dark Skies** requirements. Available in up to a maximum 400 watt Metal Halide or 310 watt High Pressure Sodium, the *Bell* can also accommodate today's **Low-Energy** requirements with up to 135 watt LED or 300 watt Induction sources while still maintaining excellent light output.

The *Bell* offers a classic traditional mission look while performing at a level that is second to none.

Stamp Applied on 02/07/2017

lewis · lighting design | fixture type: G01 G02 - Option A

functional, beautiful, sustainable visual environments

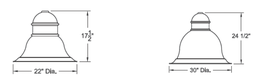
ELA Environmental Lighting for Architecture, Inc.

Ordering Matrix
Bell - BEL

1 Fixture	2 Size	3 Mounting	4 Optics	5 Ballast	6 Voltage	7 Lens	8 Color	9 Option
BEL	22	CP	H5	150MH	120	FG	CY	--

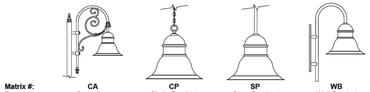
1. Fixture: BEL

2. Size



Matrix #:	22	30
Description:		
Notes:		
EPA:	Max Wattage 150W 1.3	Max Wattage 400W 2.6
Weight:	22 lbs.	30 lbs.

3. Mounting



Notes
1. Please consult factory for Poles, Wall Brackets, and other mounting options.

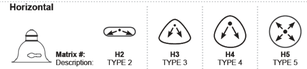
Matrix #:	CA	CP	SP	WB
Description:	Cross Arm	Chain Pendant	Stem Pendant	Wall Bracket

4. Optics

Vertical

Matrix #:		V3	V5
Description:		TYPE 3	TYPE 5

Horizontal



Matrix #:		H2	H3	H4	H5
Description:		TYPE 2	TYPE 3	TYPE 4	TYPE 5

5. Ballast

Description	Pulse Start Metal Halide (Watts / Type)	Metal Halide (Watts / Type)	High Pressure Sodium (Watts / Type)	Compact Fluorescent (Watts / Type)	Induction Bulb Type (Watts / Type)	Induction Tubular Type (Watts / Type)	Induction Circular Type (Watts / Type)
Matrix #:	50PSMH	50MH	50HPS	18CFL	35iB	40iT	40iC
	70PSMH	70MH	70HPS	26CFL	55iB	70iT	70iC
	100PSMH	T6 70MH	100HPS	32CFL	85iB	80iT	80iC
	150PSMH	100MH	150HPS	42CFL	100iB	100iT	100iC
	175PSMH	T6 150MH	200HPS *	57CFL	100iB	120iT *	120iC
	200PSMH *		250HPS *	60CFL	120iB	150iT *	150iC
	250PSMH *				165iB		200iC
	320PSMH *	Incandescent (Watts / Type) INC	LED (Watts / Type) 40LED 75LED 135LED *		200iB		250iC
	350PSMH *				250iB		
	400PSMH *						

Notes
1. Electronic ballast available for 50, 70, 100, and150 watt MH lamps.
2. Other wattages and ballasts available. Consult factory.

* Fits Bell size 30.

Stamp Applied on 02/07/2017

lewis · lighting design | fixture type: G01 G02 - Option A

functional, beautiful, sustainable visual environments

ELA Environmental Lighting for Architecture, Inc.

Ordering Matrix
Bell - BEL

6. Voltage

* Only these voltages are available with LED.

Matrix #:	120 *	208	240	277 *	347	480
Description:	120V	208V	240V	277V	347V	480V

7. Lens

Matrix #:	DSCG	DSFG
Description:	Clear Glass (Dark Skies)	Frosted Glass (Dark Skies)

Notes
1. Glass is tempered flat glass.

8. Color

Powder Coat Finish

Matrix #	Description	Matrix #	Description
AG	Augustine Green	MG	Malaga Green
GY	Architectural Grey	MN	Midnight
CC	Charcoal	PW	Pewter
CY	Clay	SS	Sand Storm
DB	Dark Bronze	SB	Statuary Bronze
HR	Harbor Blue	VL	Village Green
HP	Hammered Pewter	W	White

Hand-Applied Finish

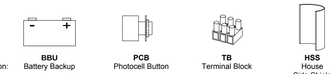
Matrix #	Description
CH	Cracked Hide
LV	Light Verde
OR	Old Iron
R	Rust
V	Verde

Notes
Consult factory for custom colors.

9. Options

Notes
1) BBU option is available for fluorescent lamp only.
2) Test button location shall have visibility for testing on site. Consult factory for placement location.

Photocell Options
Photocell is available in 120 thru 480 volts. Photocell receptacle only fits some cross arms. Consult factory. Specify when ordering.



Matrix #:	BBU	PCB	TB	HSS
Description:	Battery Backup	Photocell Button	Terminal Block	House Side Shield

Fixture Ordering Example:

BEL/22/CP/H5/150MH/120/DSFG/CY

1 Fixture	2 Size	3 Mounting	4 Optics	5 Ballast	6 Voltage	7 Lens	8 Color	9 Option
BEL	22	CP	H5	150MH	120	DSFG	CY	-
Bell Fixture	22	Chain Pendant	Horizontal Type 5	150 Watt Metal Halide	120 Volts	Dark Skies Frosted Glass	Clay	-

Fixture Ordering Form:

1 Fixture	2 Size	3 Mounting	4 Optics	5 Lamp	6 Voltage	7 Lens	8 Color	9 Option	9 Option	9 Option
1. BEL	/	/	/	/	/	/	/	/	/	/

Stamp Applied on 02/07/2017

F:\ACTIVE FILES\SDC – SARKIS\1501 TOPSFIELD\DWGS\L-1.DWG

TOWN OF TOPSFIELD, MA
SITE PLAN REVIEW
AND SPECIAL PERMIT

SITE PLAN AND SPECIAL PERMIT APPROVAL

SIGNATURE *DATE*

MASSACHUSETTS WILLIAM BROWN No. 1070 REGISTERED LANDSCAPE ARCHITECT
3.16.2017

REGISTERED LANDSCAPE ARCHITECT FOR BROWN SARDINA, INC.

REV	DATE	DESCRIPTION
3	3-16-17	REVISIONS PER TOWN REQUEST
2	2-27-17	REVISIONS PER TOWN COMMENTS
1	2-7-17	REVISED PER PEER REVIEW AND TOWN COMMENTS

APPLICANT\OWNER:
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MA 01810

PROJECT:
RESIDENTIAL DEVELOPMENT
470 BOSTON STREET (ROUTE 1)
TOPSFIELD, MA

PROJECT NO.	2165-01A	DATE:	10-13-2016
SCALE:	NTS	DWG. NAME:	L-1.dwg
DESIGNED BY:	BDB	CHECKED BY:	WB

PREPARED BY:

Brown | Sardina
Brown Sardina, Inc.
Landscape Architecture, Planning, Urban Design
24 Roland Street Boston, MA 02129
Tel: 617.482.4703
www.brownsardina.com

THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

NOT FOR CONSTRUCTION - FOR PERMITTING ONLY

DRAWING TITLE:
LIGHTING CUT SHEETS

SHEET No.
L-3

Copyright©2016 Allen & Major Associates, Inc.
All Rights Reserved

lewis · lighting design | fixture type: G01 G02 - Option A

functional, beautiful, sustainable visual environments

Specifications and Elevated Scale

Environmental Lighting for Architecture, Inc.

Bell - BEL

Specifications

Fixture Housing: One-piece sand-casting housing with a spun aluminum shade. The housing shall be free of any foreign materials or cosmetic fillers. For wall and arm mounts, consult factory for installation.

Optics: Units shall be hydroformed or segmented sharp cut-off optics. Specular Alzak optical segments are rigidly mounted, which attaches to the housing as a one-piece module. Reflectors are field rotatable in 90° increments. All sockets are factory prewired; an optional quick-disconnect plug for the ballast module is available when specified. The vertical optical segments are positioned so that reflected light does not pass through the lamp arc tube to achieve maximum lamp output.

Electrical Module: All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired.
Reference pages 2 and 3 for lamp characteristics, ballast types and voltage technical data.

Lens: The lens options shall be tempered flat glass, factory installed with gaskets.

Finish/Color: Finish is super TGIC thermoset polyester powder coat paint. ELA offers RAL color matches along with our standard color selection. Custom and hand applied colors are available upon special request.

Certification: Fixtures shall be listed for outdoor, wet location. UL1598. IP rating 65.

CAUTION: Fixtures must be grounded in accordance with national, state, and/or local codes. Failure to do so may result in serious personal injury.

ELA RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE.

Elevated Scale

Suggested Poles and Arms for the Bell Fixture

Fixture :	BEL/22/WB	BEL/22/CA	BEL/30/CA	BEL/22/CA	BEL/22/CA	BEL/30/CA	BEL/22/CA	BEL/22/WB
Arm :	CR-34	CR-2A	CR-170B	CR-17A	CR-21A	CR-29A	CR-19A	BR-17
Pole:		P3037B-14'	P3043H-12'	P3011B-10'	P3027D-10'	P3017E-10'	P3066D-10'	
Options :		BANNER ARM (2X)				FLAG HOLDER BANNER ARM		

Stamp Applied on 02/07/2017

Note *Modifications to the fixture and additional pole heights are available.*

17891 Arenth Ave., City of Industry, CA 91748 • (800) 423-6561 • Fax: (626) 965-9494 • www.ela-light.ing.com • info@ela-lighting.com

bell-spec • Page 4

lewis · lighting design | fixture type: G03

functional, beautiful, sustainable visual environments

Job: Approval: Type:

VISION·3 LIGHTING

Rear Mount MR16 Flood **MODEL FL1**
12V, 50W Max., MR16 Halogen
12-24V, 10W or 12V, 12.5W LED

Specifications:

Body: Machined 6061-T6 aluminum, C36000 brass, or 304 stainless steel body with 18-8 stainless steel hardware.

Knuckle: Machined 6061-T6 aluminum, C36000 brass, or 304 stainless steel mounting knuckle with a 1/2" NPS threaded male fitting allow a full range of mounting positions. Double taper design (U.S. Patent #6,966,679) allows fixture to hold position during aiming and ensures a solid lock when tightened. Integral high temperature silicone O-ring prevents leaking between housing and knuckle. LED models have a molded silicone wire seal to prevent water entry at knuckle. Available Rotate and Lock option (U.S. Patent #7,108,405 & #7,458,552) allows for full 360° horizontal aiming and locking.

Cap: Machined cap locks in place with one 18-8 stainless steel set screw, and is sealed to the body with a high temperature silicone O-ring. Round C2 & C4 caps have drain holes for water drainage from top of lens. Square caps feature removable and field interchangeable cutoffs with 'flow-through' design for 360° drainage with no light leak. 'Flush Lens' cap styles incorporate a stepped lens to reduce the collection of water and debris on the lens.

Finish: TGIC thermo set polyester powder coat paint available in 14 standard colors. On aluminum model, finish is applied over a corrosion resistant, hexavalent chromium free, RoHS compliant coating. Aluminum model available in one additional metal finish: Clear Anodized. Brass model available in three additional metal finishes: Natural, Polished, and Aged. Stainless steel model available in three additional metal finishes: Natural, Polished, and Brushed.

Socket: GY6.35 porcelain socket with 600V, 250°C, PTFE coated 18 ga leads.

Lens: Tempered, clear lens, secured to cap with a high temperature, UV curing, silicone adhesive.

Lamps:
- 12 Volt bi-pin MR16 halogen up to 50 Watts (maximum allowable wattage depends on model and application. See **Certification** heading).
- 12-24 Volt AC/DC, 10W LED with High/Low switch for 35W & 20W halogen equivalent outputs. Requires up to 13W at startup, which must be allowed for during system design.
- 12 Volt AC/DC, 12.5W LED with push button selection of 4 outputs (50W, 35W, 20W & 12W halogen equivalent). Requires up to 15W at startup, which must be allowed for during system design.

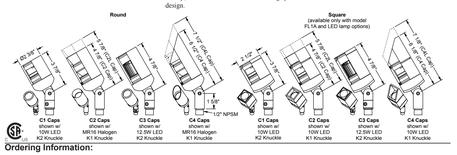
LED modules are field replaceable and feature replaceable lenses, an L70 of 60,000 hrs., dynamic transformer recognition, phase dimming (see Transformer and Dimmer Compatibility List), and patented LEDSense® thermal management.

Certification: CSA tested & certified to US and Canadian safety standards for the following applications:

Wet location landscape use (UL1838):
FL1A - 50W Max. MR16 Halogen lamp.
FL1B - 35W Max. MR16 Halogen lamp.
FL1S - 20W Max. MR16 Halogen lamp.
Wet location wall mount use (UL1598):
FL1A - 50W Max. MR16 Halogen lamp.
FL1B - 20W Max. MR16 Halogen lamp.
FL1S - 20W Max. MR16 Halogen lamp.
Wet location ceiling mount use (UL1598):
FL1A - 20W Max. MR16 Halogen lamp.
FL1B - 20W Max. MR16 Halogen lamp.
FL1S - 20W Max. MR16 Halogen lamp.

10W LED & 12.5 LED can be used in all models and applications.

All ratings subject to change without notice. See web site or contact V3 for most current info.



Ordering Information:

Model: FL1A - Aluminum; FL1B - Brass [1]; FL1S - Stainless [1]

Shape: BND - Round; SQ - Square [1]

Finish: BLT - Textured Black; BL - Black; BNT - Textured Bronze; BN - Bronze; BAT - Textured Barn; WI - White; GRT - Textured Green; SI - Silver; GMT - Textured Granite; GY - Grey; SAT - Textured Sand; BIE - Beige; PAT - Textured Patina; EAT - Textured Earth; CLA - Clear Anodized (FL1A only); NAT - Natural (FL1B & FL1S only); POL - Polished (FL1B & FL1S only); AGE - Aged (FL1B only); BRU - Brushed (FL1S only)

Cap Style: Standard Lens: C1 - Flush; C2 - Regress Lens; C2L - Regress Lens, Long; C3 - Regress Lamp; C4 - 45° Angled; C4L - 45° Angled, Long; Flush Lens: C1F - Flush; C2F - Regress Lens; C2LF - Regress Lens, Long; C3F - Regress Lamp; C4F - 45° Angled; C4LF - 45° Angled, Long

Knuckle: K1 - Standard [2]; K2 - Rotate & Lock [2]

Lamp [3]: MR16 Halogen [4]: 0 - None; 01 - ESX, 20W, 12°; 02 - BAB, 20W, 40°; 03 - FRB, 35W, 12°; 04 - FRA, 35W, 22°; 05 - FMW, 35W, 40°; 09 - EXT, 50W, 12°; 10 - EXF, 50W, 26°; 11 - EXN, 50W, 40°; 12 - FNV, 50W, 60°; LED: 115 - 10W, 3000K, 12° [5]; 117 - 10W, 3000K, 21° [5]; 119 - 10W, 3000K, 41° [5]; 123 - 10W, 3000K, 15° [5]; 125 - 12.5W, 3000K, 34° [5]; 127 - 12.5W, 3000K, 60° [5]

Lens Acry [3]: 0 - None; L1 - Spread; L2 - Linear; L3 - Softening

Filter [1]: B - None; F1 - Red; F2 - Blue; F3 - Light Blue; F4 - Green; F5 - Amber; F6 - Pink; F7 - Mercury Vapor

Louver [1]: 0 - None; MR - Honeycomb

Notes:
1. SQ shape available with model FL1A and LED lamps only.
2. Allowable wattage depends on model and application. See **Certification** heading above.
3. K1 knuckle is protected under U.S. Patent #6,966,679. K2 knuckle is further protected under U.S. Patent #7,108,405 & #7,458,552.
4. Only power LED with magnetic or V3 approved electronic transformers (contact V3 for transformer compatibility info).
5. Other color temperatures available as a special order.
6. Only two lens accessories can be used with 10W LED.
7. 12.5W LED can only be used with C2L, C2LF, C3, C3F, C4L & C4LF cap styles.
8. Specifications, certifications, and ordering information are subject to change. Please check website for latest specification sheets.

Example: **FL1B - AGE - RND - C3 - K2 - 02 - 0 - F2 - H1**

©2002 - 2015 **Vision3 Lighting**® P.O. Box 607, Fowler, CA 93625 (559) 834-5749 (559) 834-4779 fax www.vision3lighting.com

revision 7/10/15

lewis · lighting design | fixture type: G03

functional, beautiful, sustainable visual environments

Job: Approval: Type:

VISION·3 LIGHTING

In Grade Stake Mount **MODEL MO1**
12/120/230/277 Volt, 75 Watt Max., Ø2 1/2" Stake Mount

Specifications:

Housing: Stake and Junction housings made from corrosion resistant, thermoplastic PVC. Junction housings made from integral 1/2" slip fittings allowing for conduit connection, leak proof cable entry, and feed through wiring. (Conduit and cable not included).

Cap: Cap machined from 6061-T6 aluminum, C36000 brass, or 304 stainless steel. Cap contains a 1/2" NPS threaded mounting hole, and is locked to housing with three 18-8 stainless steel set screws.

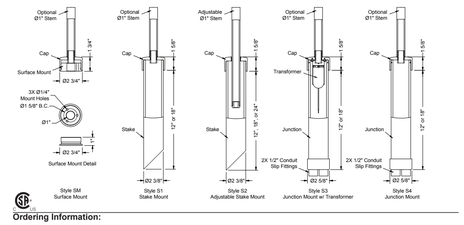
Stem: Stems are machined from 6061-T6 aluminum, C36000 brass, or 304 stainless steel; and are threaded 1/2" NPS on both ends. Stem option available in lengths of 3", 6", 12", 18", 24", 30", 36", 42", and 48".

Seals: O-ring groove on cap allows for use of an O-ring to prevent leaking between cap and fixture knuckle. (Note: All Vision3 fixtures come with a high temperature, black Viton O-ring on the knuckle for this purpose). On styles S3 and S4, a silicone O-ring between the cap and housing ensures a watertight junction housing.

Finish: TGIC thermo set polyester powder coat paint available in 14 standard colors. On aluminum model, finish is applied over a corrosion resistant, hexavalent chromium free, RoHS compliant coating. Aluminum model available in one additional metal finish: Clear Anodized. Brass model available in three additional metal finishes: Natural, Polished, and Aged. Stainless steel model available in three additional metal finishes: Natural, Polished, and Brushed.

Electrical: Style S3 transformer option includes a 75VA, 11.6V output, electronic transformer in 120V, 230V, or 277V input. Transformer mounted to cap with a 304 stainless steel bracket and 18-8 stainless steel hardware.

Certification: CSA tested & certified to US and Canadian safety standards for wet location landscape use per UL 1838 (all except 230V model).



Ordering Information:

Model: MO1A - Aluminum; MO1B - Brass; MO1S - Stainless

Finish: BL - Black; BLT - Textured Black; BN - Bronze; BNT - Textured Bronze; BAT - Textured Barn; WI - White; GRT - Textured Green; SI - Silver; GT - Grey; BE - Beige; GMT - Textured Granite; SAT - Textured Sand; PAT - Textured Patina; EAT - Textured Earth; CLA - Clear Anodized (MO1A only); NAT - Natural (MO1B & MO1S only); POL - Polished (MO1B & MO1S only); AGE - Aged (MO1B only); BRU - Brushed (MO1S only).

Style: S0 - No Mount (Cap Only); SM - Surface Mount; S1-12 - 12" Stake (Available with up to 36" stem only); S1-18 - 18" Stake (Available with up to 36" stem only); S2-12 - 12" Adjustable Stake (Available with 12" stem only); S2-18 - 18" Adjustable Stake (Available with 18" stem only); S2-24 - 24" Adjustable Stake (Available with 24" to 48" stem); S3-12 - 12" Junction with Transformer (Available with up to 36" stem only)[1]; S3-18 - 18" Junction with Transformer (Available with up to 36" stem only)[1]; S4-12 - 12" Junction (Available with up to 36" stem only); S4-18 - 18" Junction (Available with up to 36" stem only).

Transformer Input Voltage: 0 - No Transformer (Styles S1, S2, and S4 only); 120 - 120 Volt Input (Style S3 only); 230 - 277 Volt Input (Style S3 only); 277 - 277 Volt Input (Style S3 only)[1]

Stem: 0 - No Stem; 3 - 3" Stem; 6 - 6" Stem; 12 - 12" Stem; 18 - 18" Stem; 24 - 24" Stem; 30 - 30" Stem; 36 - 36" Stem; 42 - 42" Stem; 48 - 48" Stem

Notes:
1. Style S3 with 230V and 277V input options may not be completely compatible with Vision3 lighting fixtures with integral LED module. Contact V3 for transformer compatibility info if these options are being used with a V3 LED fixture.
2. Specifications, certifications, and ordering information are subject to change. Please check website for latest specification sheets.

Example: **MO1S - POL - S1-18 - 0 - 6**

©2002 - 2013 **Vision3 Lighting**® P.O. Box 607, Fowler, CA 93625 (559) 834-5749 (559) 834-4779 fax www.vision3lighting.com

revision 9/16/13

lewis · lighting design | fixture type: G04

functional, beautiful, sustainable visual environments

LUMIÈRE®

DESCRIPTION

Cambria 922 is a small dimmable LED or MR16 low voltage sign lighting luminaire. It attaches to a wall mounted straight arm and delivers full vertical adjustment for easy aiming. Optional 24", 30" or 36" straight arms are available in lieu of the standard 14-3/8" arm. Various lenses, louvers and color or dichroic filters can be combined - up to three at once - to create multiple lighting effects. Lumiere's exclusive Siphon Protection System (S.P.S.) prevents water from siphoning into the fixture through its own lead wires.

Catalog #		Type	
Project			
Comments		Date	
Prepared by			

SPECIFICATION FEATURES

A ... Material
Housing, hood, straight arm and wall mounting plate are precision-machined from corrosion-resistant billet stock 6061-T6 aluminum, C360 brass, C932 bronze, C110 copper or 303/304 stainless steel.

B ... Finish
Fixtures constructed from 6061-T6 aluminum are double protected by a chemical film undercoating and polyester powdercoat paint finish, surpassing the rigorous demands of the outdoor environment. A variety of standard colors are available.

D ... Hood
Hood is removable for easy relamping and accepts up to three internal accessories at once (lenses, louvers, filters) to achieve multiple lighting effects. Weep holes prevent water and mineral stains from collecting on the lens, even in the straight-up position.

E ... Gasket
Housing and hood are sealed with a high temperature silicone o-ring gasket to prevent water intrusion.

F ... Lens
Tempered glass lens, factory sealed with high temperature adhesive to prevent water intrusion and breakage due to thermal shock.

G ... Adjustable Mounting Arm
Standard 14-3/8" straight arm with adjustable side swivel provides 360° of vertical adjustment for easy aiming. Center rear swivel also available and has 33-1/87 straight arm as standard, providing 195° of vertical adjustment. Optional 24", 30" or 36" straight arms are available in lieu of standard length arms (specify option -SA24, -SA30 or -SA36). Stainless steel aim-locking mechanisms are standard. 4-1/4" diameter wall mounting plate attaches directly to standard J-box with provided screws. Lumiere's exclusive Siphon Protection System (S.P.S.) prevents water from siphoning into the fixture through its own lead wires.

H ... Hardware
Stainless steel hardware is standard to provide maximum corrosion-resistance.

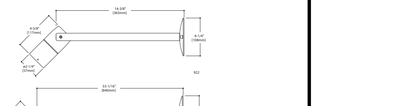
I ... Socket
Ceramic socket with 250° C Teflon® coated lead wires and GU5.3 bi-pin base.

J ... Electrical
Remote 12V transformer required (not included). Transformers used in conjunction with LED's must be magnetic only, not electronic. Available from Lumiere as an accessory - see the Accessories & Technical Data section of the catalog for details.

K ... Lamp
Halogen lamp not included. Available from Lumiere as an accessory - see reverse side for details and catalog logic. LED modules are included and are available in three color temperatures (warm, neutral and cool) and three distributions (spot, narrow and flood). Both color temperature and distribution must be specified when ordering - see reverse side for details and catalog logic. Due to the onboard thermal feedback control circuitry, LED modules are non-dimmable.

L ... Labels & Approvals
UL and cUL listed, standard wet label. IP65 rated. Manufactured to ISO 9001-2000 Quality Systems Standard. IBEW union made.

M ... Warranty
Lumiere warrants its fixtures against defects in materials & workmanship for three (3) years. Auxiliary equipment such as transformers, ballasts and lamps carry the original manufacturer's warranty.



CAMBRIA

922

10W LED
6W LED
50W (max.) MR16
LED
Halogen
Low Voltage

Sign Light

COOPER Lighting
www.cooperlighting.com

Specifications and Dimensions subject to change without notice.
Contact your representative for additional options and finishes.

ADL032509
04/10/2013 12:53:59 PM

lewis · lighting design | fixture type: G04

functional, beautiful, sustainable visual environments

CAMBRIA 922

LAMP INFORMATION

Lamp	Watts	Beam Spread	CBCP	*K	Life (hrs.)	Base	Volts
6LED2712	6	12°	3358	2700	50000	GU5.3 bi-pin	12
6LED2721	6	21°	937	2700	50000	GU5.3 bi-pin	12
6LED2741	6	41°	472	2700	50000	GU5.3 bi-pin	12
6LED3012	6	12°	3694	3000	50000	GU5.3 bi-pin	12
6LED3021	6	21°	1019	3000	50000	GU5.3 bi-pin	12
6LED3041	6	41°	646	3000	50000	GU5.3 bi-pin	12
6LED4012	6	12°	4280	4000	50000	GU5.3 bi-pin	12
6LED4021	6	21°	1179	4000	50000	GU5.3 bi-pin	12
6LED4041	6	41°	754	4000	50000	GU5.3 bi-pin	12
6LED5712	6	12°	4496	5700	50000	GU5.3 bi-pin	12
6LED5721	6	21°	1275	5700	50000	GU5.3 bi-pin	12
6LED5741	6	41°	792	5700	50000	GU5.3 bi-pin	12
10LED2712	10	12°	5037	2700	50000	GU5.3 bi-pin	12
10LED2721	10	21°	1406	2700	50000	GU5.3 bi-pin	12
10LED2741	10	41°	708	2700	50000	GU5.3 bi-pin	12
10LED3012	10	12°	5513	3000	50000	GU5.3 bi-pin	12
10LED3021	10	21°	1521	3000	50000	GU5.3 bi-pin	12
10LED3041	10	41°	964	3000	50000	GU5.3 bi-pin	12
10LED4012	10	12°	6389	4000	50000	GU5.3 bi-pin	12
10LED4021	10	21°	1759	4000	50000	GU5.3 bi-pin	12
10LED4041	10	41°	1125	4000	50000	GU5.3 bi-pin	12
10LED5712	10	12°	6711	5700	50000	GU5.3 bi-pin	12
10LED5721	10	21°	1903	5700	50000	GU5.3 bi-pin	12
10LED5741	10	41°	1182	5700	50000	GU5.3 bi-pin	12
50MR16/NSP	50	12°	11,000	3050	4000	GU5.3 bi-pin	12
50MR16/NSL	50	25°	3200	3050	4000	GU5.3 bi-pin	12
50MR16/FL	50	40°	2000	3050	4000	GU5.3 bi-pin	12
50MR16/WFL	50	60°	1200	3050	4000	GU5.3 bi-pin	12

COOPER Lighting
www.cooperlighting.com

Specifications and Dimensions subject to change without notice.
Lumiere • Customer First Center • 1121 Highway 74 South • Peachtree City, GA 30269 • TEL 770.486.4800 • FAX 770.486.4801

ADL032509
04/10/2013 12:53:59 PM

lewis · lighting design | fixture type: G04

functional, beautiful, sustainable visual environments

PHOTOMETRIC DATA

Cambria 922 Lamp=50MR16/NSP (EXT) CBCP=11,000

Distance to Illuminated Plane	Initial Nadir Footcandles	Beam Diameter
15'0"	45	4'0"
10'0"	102	3'0"
8'0"	159	2'0"
6'0"	283	1'6"
4'0"	638	1'0"
2'0"	2550	0'6"

Lamp Wattage Multiplier 20W x 0.32

Cambria 922 Lamp=50MR16/FL (EXN) CBCP=2000

Distance to Illuminated Plane	Initial Nadir Footcandles	Beam Diameter
15'0"	7	12'0"
10'0"	17	8'0"
8'0"	27	6'6"
6'0"	48	5'0"
4'0"	106	3'0"
2'0"	431	1'6"

Lamp Wattage Multiplier 20W x 0.35 35W x 0.57

Cambria 922 Lamp=50MR16/NFL (EXZ) CBCP=3200

Distance to Illuminated Plane	Initial Nadir Footcandles	Beam Diameter
15'0"	13	10'0"
10'0"	29	6'6"
8'0"	45	5'0"
6'0"	81	4'0"
4'0"	181	2'6"
2'0"	725	1'0"

Cambria 922 Lamp=50MR16/WFL (FNV) CBCP=1200

Distance to Illuminated Plane	Initial Nadir Footcandles	Beam Diameter
15'0"	5	17'0"
10'0"	11	11'6"
8'0"	17	9'0"
6'0"	30	7'0"
4'0"	67	4'6"
2'0"	269	2'0"

NOTES AND FORMULAS

- Beam diameter is to 50% of maximum footcandles, rounded to the nearest half-foot.
- Footcandle values are initial. Apply appropriate light loss factors where necessary.
- Bare lamp data shown. Consult lamp manufacturers to obtain detailed specifications for their lamps.

Sample Number: 922-10LED2712-120-12-BK-F70

Series: 922 - LED or MR16 Cambria Sign Light, Standard 14-3/8" Straight Arm, Side Stem, Single Head; 922-CRL - LED or MR16 Cambria Sign Light, Standard 33-1/16" Straight Arm, Center Rear Swivel, Single Head

Source: 50MR16 - 50W Max Halogen MR16, GU5.3 Base; 6LED2712 - 6W 2700K, 12° Spot, GU5.3 Base; 6LED2721 - 6W 2700K, 21° Narrow, GU5.3 Base; 6LED2741 - 6W 2700K, 41° Wide, GU5.3 Base; 6LED3012 - 6W 3000K, 12° Spot, GU5.3 Base; 6LED3021 - 6W 3000K, 21° Narrow, GU5.3 Base; 6LED3041 - 6W 3000K, 41° Wide, GU5.3 Base; 6LED4012 - 6W 4000K, 12° Spot, GU5.3 Base; 6LED4021 - 6W 4000K, 21° Narrow, GU5.3 Base; 6LED4041 - 6W 4000K, 41° Wide, GU5.3 Base; 6LED5712 - 6W 5700K, 12° Spot, GU5.3 Base; 6LED5721 - 6W 5700K, 21° Narrow, GU5.3 Base; 6LED5741 - 6W 5700K, 41° Wide, GU5.3 Base; 10LED2712 - 10W 2700K, 12° Spot, GU5.3 Base; 10LED2721 - 10W 2700K, 21° Narrow, GU5.3 Base; 10LED2741 - 10W 2700K, 41° Wide, GU5.3 Base; 10LED3012 - 10W 3000K, 12° Spot, GU5.3 Base; 10LED3021 - 10W 3000K, 21° Narrow, GU5.3 Base; 10LED3041 - 10W 3000K, 41° Wide, GU5.3 Base; 10LED4012 - 10W 4000K, 12° Spot, GU5.3 Base; 10LED4021 - 10W 4000K, 21° Narrow, GU5.3 Base; 10LED4041 - 10W 4000K, 41° Wide, GU5.3 Base; 10LED5712 - 10W 5700K, 12° Spot, GU5.3 Base; 10LED5721 - 10W 5700K, 21° Narrow, GU5.3 Base; 10LED5741 - 10W 5700K, 41° Wide, GU5.3 Base

Voltage: 12 = 12 Volt Remote Transformer Required

Finish: Primer: BK - Black; BZ - Bronze; CS - City Silver; VE - Verde; WT - White

Accessories: Filters: 01 - w/Peach Dichroic Filter, 2.00" Dia; 012 - w/Amber Dichroic Filter, 2.00" Dia; 013 - w/Green Dichroic Filter, 2.00" Dia; 014 - w/Medium Blue Dichroic Filter, 2.00" Dia; 015 - w/Yellow Dichroic Filter, 2.00" Dia; 016 - w/Red Dichroic Filter, 2.00" Dia; 017 - w/Dark Blue Dichroic Filter, 2.00" Dia; 018 - w/Light Blue Dichroic Filter, 2.00" Dia; 019 - w/Neutral Density Dichroic Filter, 2.00" Dia; 020 - w/Magenta Dichroic Filter, 2.00" Dia; 021 - w/Red Color Filter, 2.00" Dia; 023 - w/Blue Color Filter, 2.00" Dia; 024 - w/Green Color Filter, 2.00" Dia; 025 - w/Yellow Color Filter, 2.00" Dia; 026 - Mercury Vapor Color Filter, 2.00" Dia

Optical Lenses: L1L - Linear Spread Lens (elongate standard beam spread), 2.00" Dia; L2L - Overall Spread Lens (increase beam spread), 2.00" Dia; L2F - Diffused Lens (provide even illumination), 2.00" Dia

Optical Louvers: LVR - Hex Cell Louver (reduce glare), 2.00" Dia

Lamps for series: ECA - 20W MR16 GU5.3 Bi-Pin/ Very Narrow Spot; BAB - 20W MR16 GU5.3 Bi-Pin Flood; FRA - 35W MR16 GU5.3 Bi-Pin Spot; EXT - 50W MR16 GU5.3 Bi-Pin Narrow Spot; EXN - 50W MR16 GU5.3 Bi-Pin Flood; EXA - 20W MR16 GU5.3 Bi-Pin Narrow Spot; FRB - 35W MR16 GU5.3 Bi-Pin Narrow Spot; FMW - 35W MR16 GU5.3 Bi-Pin Flood; EXF - 50W MR16 GU5.3 Bi-Pin Narrow Flood; FNV - 50W MR16 GU5.3 Bi-Pin Very Wide Flood

Notes:
1. Lamp not included in MR16 version.
2. See ACCESSORIES & TECHNICAL DATA section of the Lumiere catalog for Mounting Accessories.
3. Consult your Cooper Lighting representative for additional options and finishes.

COOPER Lighting
www.cooperlighting.com

Specifications and Dimensions subject to change without notice.
Lumiere • Customer First Center • 1121 Highway 74 South • Peachtree City, GA 30269 • TEL 770.486.4800 • FAX 770.486.4801

ADL032509
04/10/2013 12:53:59 PM

lewis · lighting design | fixture type: G06

functional, beautiful, sustainable visual experiences

T4 Halogen

CAMINO STAR™

PROJECT:	
TYPE:	
CATALOG NUMBER:	
SOURCE:	
NOTES:	

CATALOG NUMBER LOGIC

Example: - CS - LV - 20 - BZW - C - 6 - PP12-SF - L75E-120

Material: **Blank** — Aluminum; **B** — Brass (*type D Only*)

Series: **CS** — Camino Star™ Pathlight

Source: **LV** — Low Voltage T4 Halogen

Lamp: **0** — By Others; **20** — (20W) G2GT-4CL-12V; **64** — (35W) G2GT-4CL-12V; **65** — (50W) G2GT-4CL-12V

Finish

Aluminum & Brass Finishes		
Powder Coat Color	Satin	Wrinkle
Bronze	BZP	BZW
Black	BLP	BLW
White (Gloss)	WHP	WHW
Aluminum	SAP	—
Verde	—	VER

Brass Finishes	
Machined	MAC
Polished	POL
Mitique™	MIT

Premium Finish			
ABP	Antique Brass Powder	CMG	Cascade Mountain Granite
AMG	Aleutian Mountain Granite	CRI	Cracked Ice
ACW	Antique White	CRM	Cream
BCM	Black Chrome	HUG	Hunter Green
BGE	Beige	MDS	Mojave Desert Sandstone
BPP	Brown Patina Powder	NBP	Natural Brass Powder
CAP	Clear Anodized Powder	OCP	Old Copper
RMG	Rocky Mountain Granite		
SDS	Sonoran Desert Sandstone		
SMG	Sierra Mountain Granite		
TXF	Textured Forest		
WCP	Weathered Copper		
WIR	Weathered Iron		

Also available in RAL Finishes. See submitted SUB-1238-00

Style: C, D*, E, G, G1, G2, H, K (*Also available in Brass*)

Base (Specify in inches): **6** - 6" with Anchor Base (Standard); **12** - 12" with Anchor Base; **18** - 18" with Anchor Base; **24** - 24" with Anchor Base

Mounting Options: **PP12** - 12" Power Pipe™ Stake Mounting; **PP18** - 18" Power Pipe™ Stake Mounting; **SF** - Stability Flange (*for use with Power Pipe™*)

Transformer Options: **L75E-120** - Integral 75VA Electronic 120V Transformer; **L75E-230** - Integral 75VA Electronic 230V Transformer; **L75E-277** - Integral 75VA Electronic 277V Transformer

LAMP DATA

BK No.	Lamp Watts	Description
20	20	T-4/CL-12V
64	35	T-4/CL-12V
65	50	T-4/CL-12V

B-K LIGHTING | 40429 Brickyard Drive • Madera, CA 93636 • USA 559.438.5900 • FAX 559.438.5900 www.bklighting.com • info@bklighting.com | RELEASED 01-26-16 | DRAWING NUMBER SUB-2238-00

THIS DOC.,MINF,CONTAIN,S PROPRIETARY INFORMATION OF B-K LIGHTING, INC.,AND ITS RECIPIT OR POSSESSION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS, OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT SPECIFIC WRITTEN AUTHORIZATION OF B-K LIGHTING, INC. IS STRICTLY FORBIDDEN.

Stamp Applied on 03/15/2017

lewis · lighting design | fixture type: G06

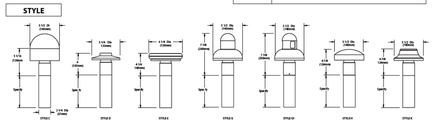
functional, beautiful, sustainable visual experiences

T4 Halogen

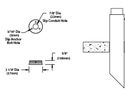
CAMINO STAR™

PROJECT:	
TYPE:	

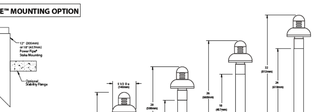
STYLE



ANCHOR BASE



POWER PIPE™ MOUNTING OPTION


1/2" (305mm) Power Pipe™ Stake Mounting
Power Pipe™ Stake Mounting
Ø1 5/8" (41mm)
Ø1" (25mm)
Ø1 1/4 Dia +/-Holes

NOTES:

1. THE SOLE PURPOSE OF THIS PLAN IS TO DEPICT THE SCHEMATIC SUBSURFACE SEWAGE DISPOSAL SYSTEM DESIGN FOR THE PROPOSED MULTIFAMILY RESIDENTIAL DEVELOPMENT FOR SUBMISSION TO THE TOPSFIELD PLANNING BOARD AND CONSERVATION COMMISSION. THIS PLAN IS NOT TO BE USED FOR CONSTRUCTION.
2. THE SUBSURFACE SEWAGE DISPOSAL SYSTEM DEPICTED HEREON IS SUBJECT TO REVIEW AND APPROVAL BY PRESBY ENVIROSEPTIC AND THE TOPSFIELD BOARD OF HEALTH. SUBSURFACE SEWAGE DISPOSAL SYSTEM DESIGN PLANS WILL BE SUBMITTED TO THE TOPSFIELD BOARD OF HEALTH TO ACCOMPANY A DISPOSAL SYSTEM CONSTRUCTION PERMIT.
3. THE EXISTING CONDTIONS, AND ALL PROPOSED IMPROVEMENTS, EXCEPT THE SUSBSURFACE SEWAGE DISPOSAL SYSTEMS AND COMPONENTS, ARE BASED ON PLANS PREPARED BY ALLEN & MAJOR ASSOCIATES, INC.

SUBSURFACE SEWAGE DISPOSAL SYSTEM #1 TO SERVE DWELLINGS 11–18 SEE SHEET SDS–1.1

SUBSURFACE SEWAGE DISPOSAL SYSTEM #3 TO SERVE DWELLINGS 19–30 SEE SHEET SDS–3.1

SUBSURFACE SEWAGE DISPOSAL SYSTEM #2 TO SERVE DWELLINGS 1–10 SEE SHEET SDS–2.1

BOSTON STREET
(PUBLIC – 66' WIDE – ROUTE 1)
(1922 MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS)

LEGEND

TYPICAL	TYP.
LENGTH	L
SLOPE	S
INVERT	INV
ELEVATION	ELEV
SCHEDULE	SCH
FINISHED FIRST FLOOR	FFF
TEST PIT	TP
SEWER MANHOLE	SMH
SEWER LINE	S
PROPOSED CONTOUR	71
MINIMUM	MIN
MAXIMUM	MAX
POLYVINYL CHLORIDE PIPE	PVC

GRAPHIC SCALE

0 20 40 80 160

SCALE 1"=40'

ISSUED FOR PERMITTING: OCTOBER 13,2016
NOT TO BE USED FOR CONSTRUCTION

EAGLEBROOK

EAGLEBROOK ENGINEERING & SURVEY, LLC

491 MAPLE STREET, SUITE 304
DANVERS, MASS. 01923
TEL: (978) 777-0494

470 BOSTON STREET
LOCATED IN
TOPSFIELD, MASSACHUSETTS
PREPARED FOR
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MASSACHUSETTS

STAMP:

COMMONWEALTH OF MASSACHUSETTS
KENNETH C. KNOWLES
CIVIL
No. 46979
3/15/17

DATE:
OCTOBER 13, 2016

REVISIONS:

NO.:	DESCRIPTION:	DATE:
4	REVISIONS SDS 2 & 3	3/13/17
3	REVISIONS PER TOWN COMMENTS	2/27/17
2	MOVED SDS 1 LEACH FIELD	2/1/17
1	MOVED SDS 1 LEACH FIELD	1/12/17

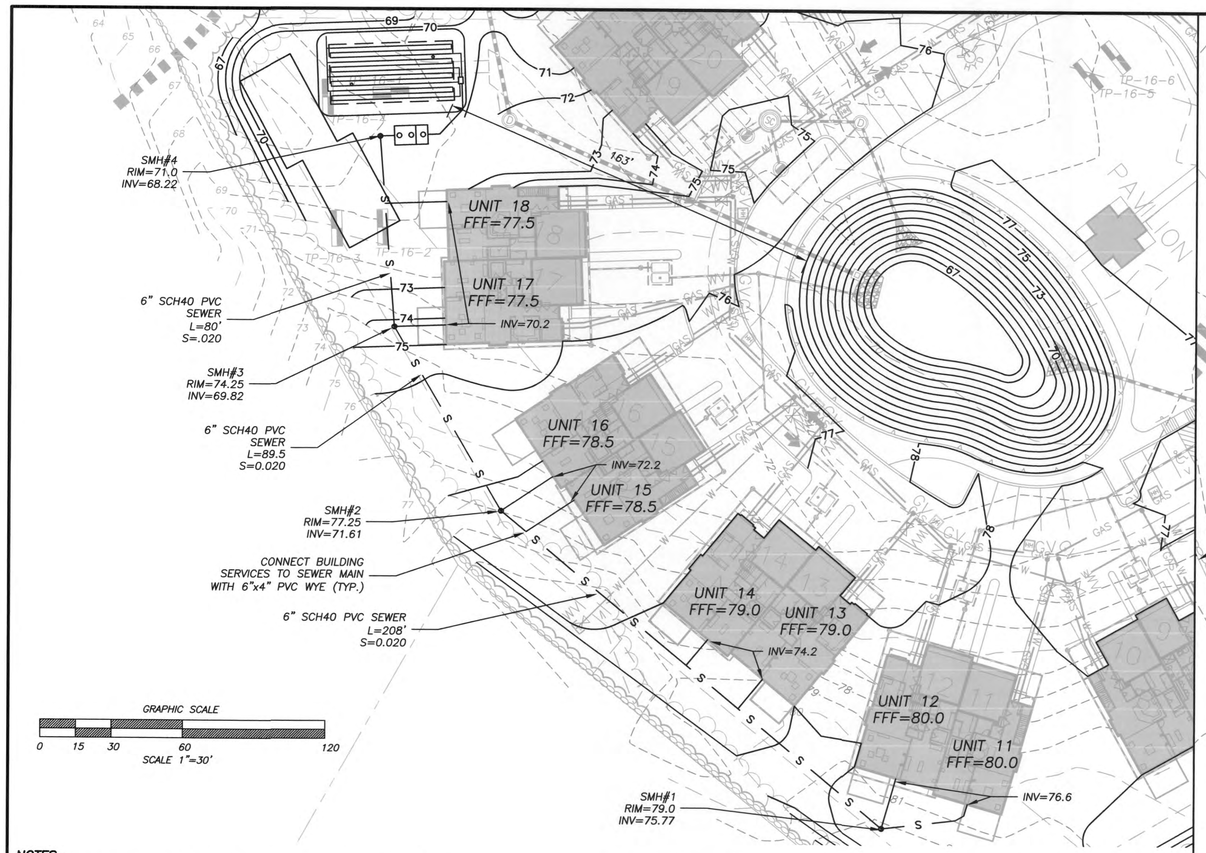
DRAWN BY: BSM
CHECKED BY: KCK
SCALE: AS NOTED

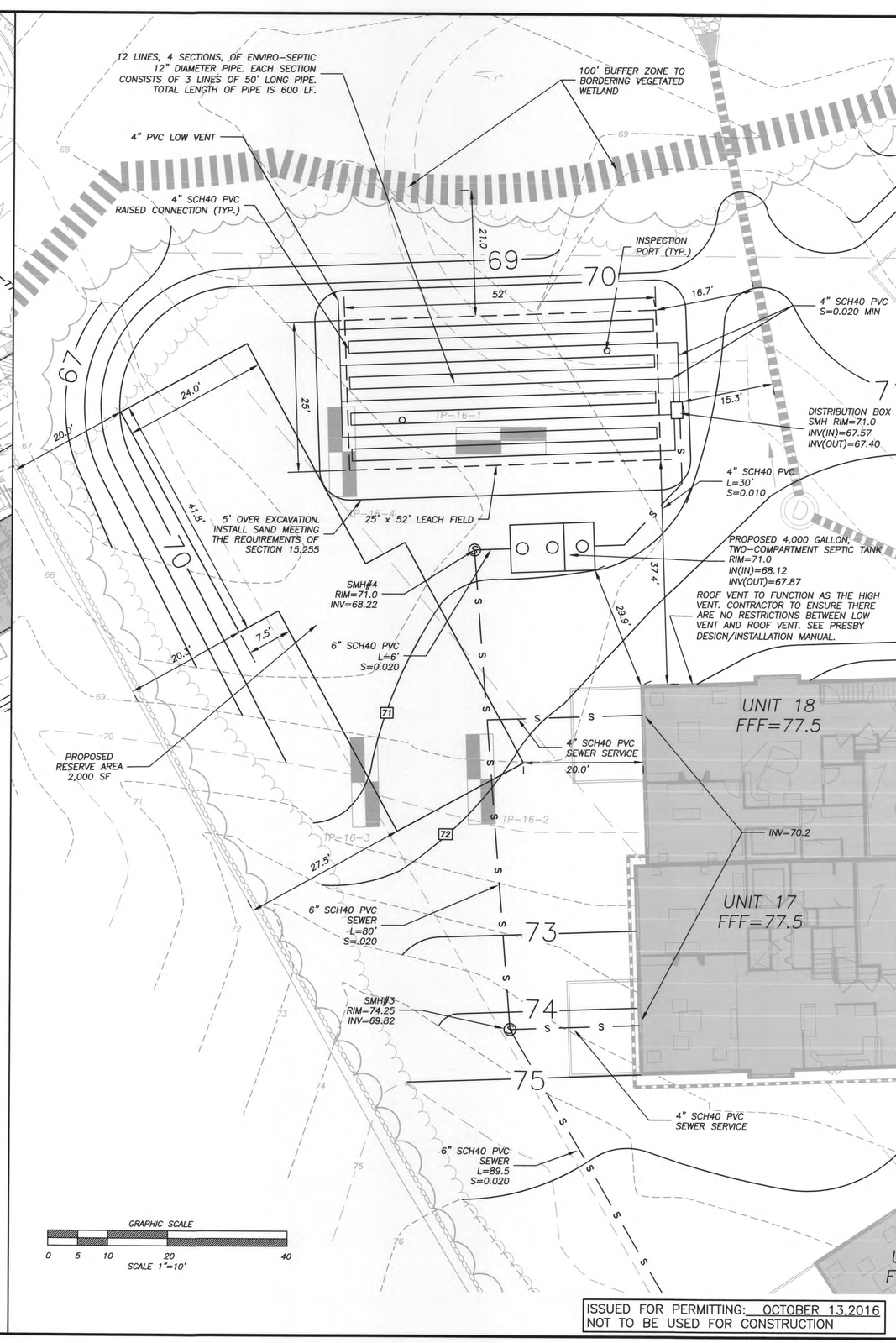
PROJECT NO. 15-023

TITLE:

SDS PLAN

SDS-1





ISSUED FOR PERMITTING: OCTOBER 13,2016
NOT TO BE USED FOR CONSTRUCTION

NOTES:

1. THE SOLE PURPOSE OF THIS PLAN IS TO DEPICT THE SUBSURFACE SEWAGE DISPOSAL SYSTEM DESIGN FOR THE PROPOSED MULTIFAMILY RESIDENTIAL DEVELOPMENT FOR SUBMISSION TO THE TOPSFIELD BOARD OF HEALTH.
2. SEE SITE PLANS PREPARED BY ALLEN & MAJOR ASSOCIATES FOR ALL PROPOSED SITE IMPROVEMENTS, UTILITIES, GRADING, AND DRAINAGE DEPICTED HEREON.
3. ALL WORK PROPOSED WITHIN 100 FEET OF A PROTECTABLE RESOURCE AREA IN ACCORDANCE WITH THE MASSACHUSETTS WETLAND PROTECTION ACT SHALL REQUIRE FILING AN APPLICATION WITH THE LOCAL CONSERVATION COMMISSION.
4. ALL WORK, MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STATE ENVIRONMENTAL CODE, TITLE 5 OR THE LOCAL BOARD OF HEALTH REGULATIONS, WHICHEVER IS MORE STRINGENT.
5. ALL REVISIONS TO THE PLAN OR ANY FIELD CHANGES SHALL BE APPROVED BY THE BOARD OF HEALTH AND THE DESIGN ENGINEER.
6. THE BOARD OF HEALTH AND THE DESIGN ENGINEER SHALL BE NOTIFIED FOR INSPECTIONS PRIOR TO THE CONTRACTOR COVERING ALL COMPONENTS OR MATERIALS THAT REQUIRE INSPECTION. THE FOLLOWING MINIMUM INSPECTIONS ARE REQUIRED: BOTTOM OF BED EXCAVATION, INSPECTION OF SAND FILL, INSPECTION OF SYSTEM PRIOR TO BACKFILL.
7. THE ISSUANCE OF A DISPOSAL WORKS PERMIT OR A CERTIFICATE OF COMPLIANCE SHALL NOT GUARANTEE THAT THE SYSTEM WILL FUNCTION AS DESIGNED.
8. THE LOCATION OF UTILITIES ARE ONLY APPROXIMATE AND THIS PLAN DOES NOT DEPICT ALL THE EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT DIG-SAFE (888-344-7233) PRIOR TO ANY CONSTRUCTION ACTIVITY.
9. THE COMPONENTS OF THE ON-SITE SEWAGE DISPOSAL SYSTEM SHALL BE MAINTAINED IN ACCORDANCE WITH THE STATE ENVIRONMENTAL CODE, TITLE 5.
10. THE USE OF A GARBAGE GRINDER IS NOT RECOMMENDED. THE SYSTEM HAS NOT BEEN DESIGNED TO HANDLE A GARBAGE GRINDER.
11. USE 22.5° AND 45° FITTINGS FOR ALL BENDS ON THE SEWER PIPING. NINETY (90°) DEGREE BENDS ARE NOT ALLOWED.
12. THERE ARE NO KNOWN POTABLE DRINKING WATER WELLS WITHIN 100 FEET OF THE PROPOSED SEPTIC SYSTEM.
13. PROVIDE A MINIMUM OF FIVE (5) FEET OF OVER EXCAVATION TO REMOVE ALL TOPSOIL, SUBSOIL AND OTHER UNSUITABLE MATERIALS TO THE TOP OF THE NATURALLY OCCURRING C HORIZON AND REPLACE WITH SAND MEETING THE REQUIREMENTS OF THE STATE ENVIRONMENTAL CODE, TITLE 5 SECTION 15.255.
14. THE PERCOLATION TEST AND THE DEEP EXCAVATION HOLES WERE WITNESSED BY THE TOPSFIELD BOARD OF HEALTH AGENT, MR. JOHN COULON, ON JULY 6, 2016.
15. THE CONTRACTOR MUST HAVE A PRE-CONSTRUCTION MEETING WITH THE DESIGN ENGINEER TO REVIEW THE REQUIREMENTS OF THE PRESBY SYSTEM PRIOR TO COMMENCEMENT OF WORK.
16. THE EXISTING CONDITIONS AND PROPOSED SITE IMPROVEMENTS ARE BASED ON PLANS PREPARED BY ALLEN & MAJOR ASSOCIATES, INC., PROVIDED TO EAGLEBROOK ENGINEERING & SURVEY, LLC.
17. THE INSTALLER/CONTRACTOR MUST BE CERTIFIED BY PRESBY ENVIRONMENTAL, INC.
18. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MASSACHUSETTS PRESBY ENVIRO-SEPTIC DESIGN AND INSTALLATION MANUAL, STATE AND LOCAL REGULATIONS. PLEASE CONTACT PRESBY ENVIRONMENTAL (1-800-473-5298) FOR PRODUCT INFORMATION.
19. THIS PLAN IS DESIGNED IN CONFORMANCE WITH THE 310 CMR 15.00 (TITLE 5) AND THE TOPSFIELD BOARD OF HEALTH SUPPLEMENTAL REGULATIONS TO 310 CMR 15.00.
20. THE FOLLOWING SITE PREPARATION GUIDELINES SHALL BE FOLLOWED: ADD THE SYSTEM SAND AND/OR SURROUNDING SAND ON THE SAME DAY THAT THE LEACH AREA IS EXCAVATED; DO NOT ALLOW WATER TO RUN INTO OR OVER THE SYSTEM DURING CONSTRUCTION; DO NOT WORK WET OR FROZEN SOILS; DO NOT SMEAR OR COMPACT SOILS WHILE PREPARING THE SITE.
21. MINIMIZE MACHINE MOVEMENT TO AVOID SOIL COMPACTION AND DESTRUCTION OF THE SOIL STRUCTURE UNDER AND AROUND THE SYSTEM. BE CAREFUL NOT TO COMPACT THE SOIL ON THE DOWN SLOPE SIDE OF THE SYSTEM.
22. USE A LASER LEVEL OR TRANSIT TO INSTALL LINES LEVEL. VARIATIONS BEYOND ½" MAY AFFECT SYSTEM PERFORMANCE. VARIATIONS BEYOND 1" ARE NOT ACCEPTABLE.
23. SPREAD SYSTEM SAND BETWEEN THE LINES; CAREFULLY WALK BETWEEN THE LINES TO INSURE SYSTEM SAND FILLS ALL VOID SPACES BENEATH THE ENVIRO-SEPTIC PIPE. FINISH SPREADING THE SYSTEM SAND TO THE TOP OF THE LINES.
24. SPREAD A MINIMUM OF 6" OF SYSTEM SAND OVER THE PIPE. SPREAD THE REMAINING SURROUNDING SAND AND A MINIMUM OF 4" OF TOPSOIL. FINAL GRADING SHOULD SHED WATER AWAY FROM THE SYSTEM. NOTE, A TRACKED VEHICLE MAY BE USED TO SPREAD THE SYSTEM SAND AND TOPSOIL AS LONG AS IT MAINTAINS AT LEAST 12" OF COVER OVER THE PIPE.

MATERIAL SPECIFICATIONS

1. THE BUILDING SEWER SHALL BE CONSTRUCTED OF CORROSION RESISTANT MATERIAL AND EQUIPPED WITH WATER TIGHT JOINTS; DUCTILE IRON, SCH 40 PVC OR THE EQUIVALENT AND THE MINIMUM SLOPE IS 0.020.
2. ALL PIPING FROM THE SEPTIC TANK TO THE LEACH DISTRIBUTION BOX SHALL BE SCH. 40 PVC AND HAVE A MINIMUM SLOPE OF 0.010.
3. THE LEACH FIELD PIPING SYSTEM SHALL BE ENVIRO-SEPTIC PIPE AS PRODUCED BY PRESBY ENVIRONMENTAL.
4. SEPTIC TANK CONSTRUCTION SHALL MEET THE REQUIREMENTS OF 15.226 OF THE STATE ENVIRONMENTAL CODE, TITLE 5. THE TANK SHALL BE PLACED ON A BASE THAT WILL NOT SETTLE AND 6 INCHES OF 3/4" STONE SHALL BE PLACED UNDER THE TANK.
5. ALL AGGREGATE PLACED SHALL MEET THE REQUIREMENTS OF SECTION 15.247 OF THE STATE ENVIRONMENTAL CODE, TITLE 5.
6. THE FOLLOWING ARE SYSTEM SAND REQUIREMENTS FOR THE ENVIRO-SEPTIC WASTEWATER TREATMENT SYSTEM:
   - 6.1. ALL CONFIGURATIONS OF THE ENVIRO-SEPTIC REQUIRE A MINIMUM OF 6" OF SYSTEM SAND SURROUNDING THE CIRCUMFERENCE OF THE PIPE.
   - 6.2. PERCENTAGE RESTRICTIONS:
     - 6.2.1. 35% OR LESS OF THE TOTAL SAND MAY BE GRAVEL
     - 6.2.2. 40%-90% OF THE TOTAL SAND IS TO BE COARSE AND VERY COARSE SAND.
   - 6.3. GRAVEL QUALITY RESTRICTIONS:
     - 6.3.1. NO GRAVEL IS TO EXCEED ¾" IN DIAMATER
     - 6.3.2. NO GRAVEL IS SMALLER THAN 2MM/0.0787" IN DIAMETER (IT MUST NOT PASS THROUGH A #10 SIEVE).
   - 6.4. COARSE SAND QUALITY RESTRICTIONS:
     - 6.4.1. NO COARSE SAND IS SMALLER THAN 0.5MM/0.0196 IN DIAMETER (IT MUST NOT PASS THROUGH A #35 SIEVE).
   - 6.5. FINES QUALITY RESTRICTIONS:
     - 6.5.1. NO MORE THAN 3% OF THE TOTAL SAND MAY PASS THROUGH A #200 SIEVE.
   - 6.6. ASTM STANDARD C-33 IS AN ALTERNATIVE ACCEPTABLE MATERIAL FOR USE AS SYSTEM SAND.

EAGLEBROOK

EAGLEBROOK ENGINEERING & SURVEY, LLC

491 MAPLE STREET, SUITE 304
DANVERS, MASS. 01923
TEL: (978) 777-0494

470 BOSTON STREET
LOCATED IN
TOPSFIELD, MASSACHUSETTS
PREPARED FOR
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MASSACHUSETTS

STAMP:

COMMONWEALTH OF MASSACHUSETTS
KENNETH C. KNOWLES
CIVIL
No. 45579
REGISTERED PROFESSIONAL ENGINEER
03.15.17

DATE:
OCTOBER 13, 2016

REVISIONS:

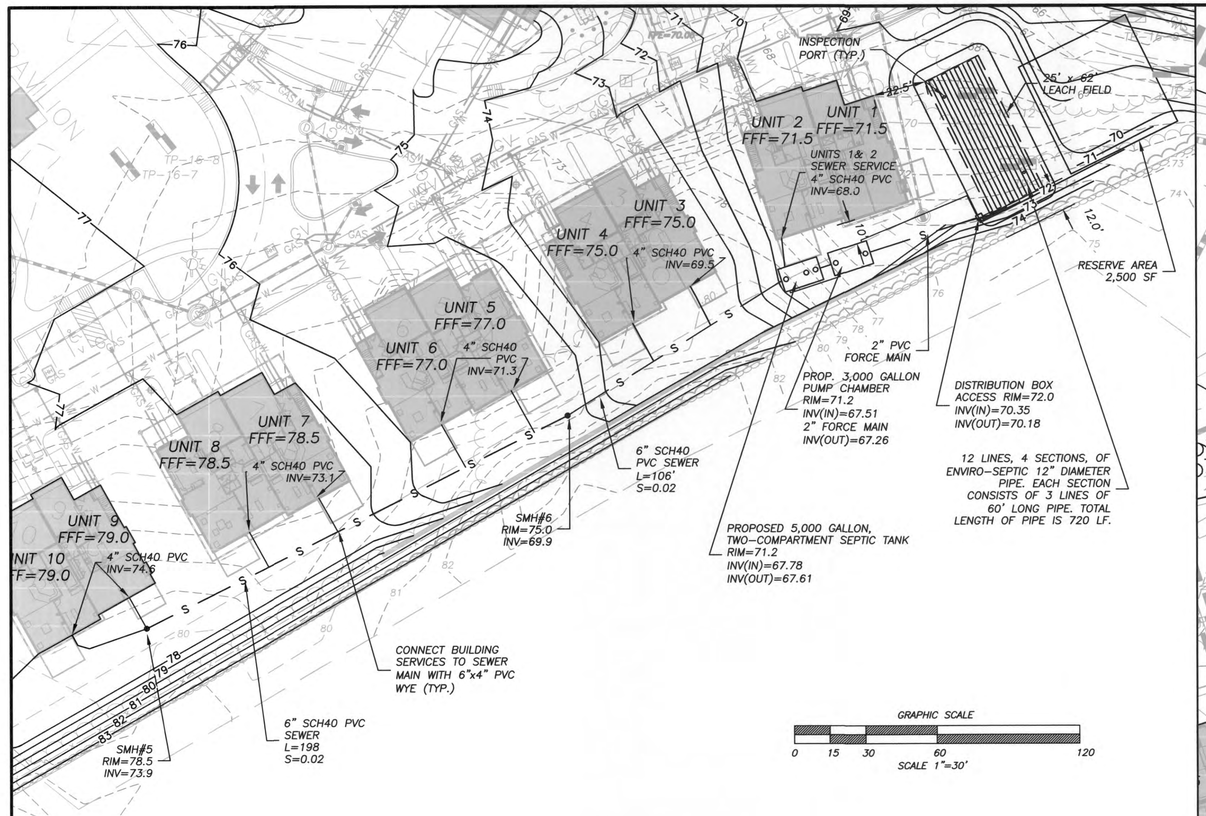
NO.:	DESCRIPTION:	DATE:
4	REVISIONS TO SDS FOR SITE GRADING NEEDS	3/13/17
3	REVISIONS PER TOWN COMMENTS	2/27/17
2	MOVED SDS 1 LEACH FIELD	2/1/17
1	MOVED SDS 1 LEACH FIELD	1/12/17

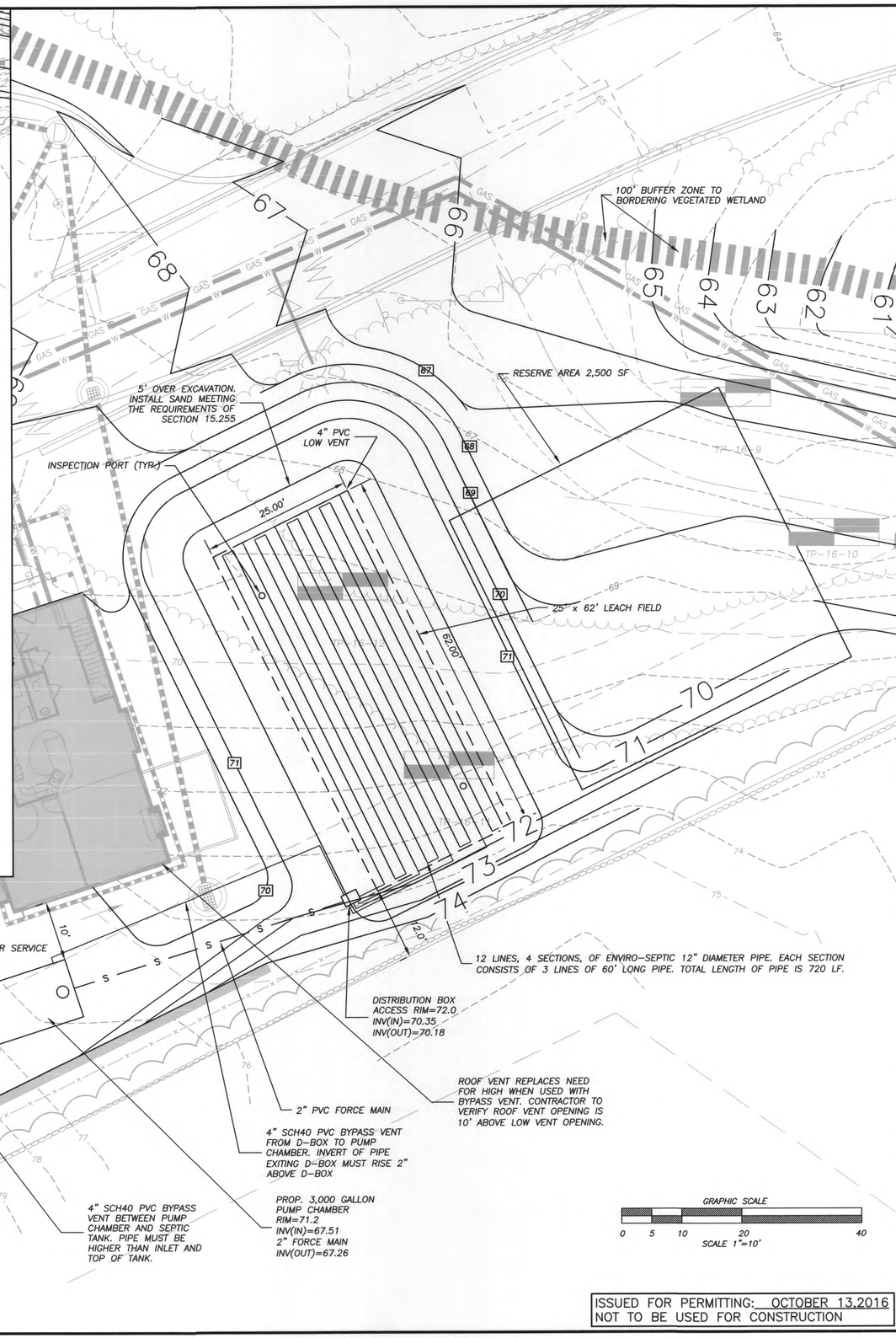
DRAWN BY: BSM
CHECKED BY: KCK
SCALE: AS NOTED

PROJECT NO. 15-023

TITLE:
SDS PLAN
SDS 1.1

S:\Eaglebrook Projects\15-023 Sarkis Topsfield\DWG\CAD\ARC SDS 10-14-16 rev 2-14-17.dwg





NOTES:

1. THE SOLE PURPOSE OF THIS PLAN IS TO DEPICT THE SUBSURFACE SEWAGE DISPOSAL SYSTEM DESIGN FOR THE PROPOSED MULTIFAMILY RESIDENTIAL DEVELOPMENT FOR SUBMISSION TO THE TOPSFIELD BOARD OF HEALTH.
2. SEE SITE PLANS PREPARED BY ALLEN & MAJOR ASSOCIATES FOR ALL PROPOSED SITE IMPROVEMENTS, UTILITIES, GRADING, AND DRAINAGE DEPICTED HEREON.
3. ALL WORK PROPOSED WITHIN 100 FEET OF A PROTECTABLE RESOURCE AREA IN ACCORDANCE WITH THE MASSACHUSETTS WETLAND PROTECTION ACT SHALL REQUIRE FILING AN APPLICATION WITH THE LOCAL CONSERVATION COMMISSION.
4. ALL WORK, MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STATE ENVIRONMENTAL CODE, TITLE 5 OR THE LOCAL BOARD OF HEALTH REGULATIONS, WHICHEVER IS MORE STRINGENT.
5. ALL REVISIONS TO THE PLAN OR ANY FIELD CHANGES SHALL BE APPROVED BY THE BOARD OF HEALTH AND THE DESIGN ENGINEER.
6. THE BOARD OF HEALTH AND THE DESIGN ENGINEER SHALL BE NOTIFIED FOR INSPECTIONS PRIOR TO THE CONTRACTOR COVERING ALL COMPONENTS OR MATERIALS THAT REQUIRE INSPECTION. THE FOLLOWING MINIMUM INSPECTIONS ARE REQUIRED: BOTTOM OF BED EXCAVATION, INSPECTION OF SAND FILL, INSPECTION OF SYSTEM PRIOR TO BACKFILL.
7. THE ISSUANCE OF A DISPOSAL WORKS PERMIT OR A CERTIFICATE OF COMPLIANCE SHALL NOT GUARANTEE THAT THE SYSTEM WILL FUNCTION AS DESIGNED.
8. THE LOCATION OF UTILITIES ARE ONLY APPROXIMATE AND THIS PLAN DOES NOT DEPICT ALL THE EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT DIG-SAFE (888-344-7233) PRIOR TO ANY CONSTRUCTION ACTIVITY.
9. THE COMPONENTS OF THE ON-SITE SEWAGE DISPOSAL SYSTEM SHALL BE MAINTAINED IN ACCORDANCE WITH THE STATE ENVIRONMENTAL CODE, TITLE 5.
10. THE USE OF A GARBAGE GRINDER IS NOT RECOMMENDED. THE SYSTEM HAS NOT BEEN DESIGNED TO HANDLE A GARBAGE GRINDER.
11. USE 22.5° AND 45° FITTINGS FOR ALL BENDS ON THE SEWER PIPING. NINETY (90°) DEGREE BENDS ARE NOT ALLOWED.
12. THERE ARE NO KNOWN POTABLE DRINKING WATER WELLS WITHIN 100 FEET OF THE PROPOSED SEPTIC SYSTEM.
13. PROVIDE A MINIMUM OF FIVE (5) FEET OF OVER EXCAVATION TO REMOVE ALL TOPSOIL, SUBSOIL AND OTHER UNSUITABLE MATERIALS TO THE TOP OF THE NATURALLY OCCURRING C HORIZON AND REPLACE WITH SAND MEETING THE REQUIREMENTS OF THE STATE ENVIRONMENTAL CODE, TITLE 5 SECTION 15.255.
14. THE PERCOLATION TEST AND THE DEEP EXCAVATION HOLES WERE WITNESSED BY THE TOPSFIELD BOARD OF HEALTH AGENT, MR. JOHN COULON, ON JULY 6, 2016.
15. THE CONTRACTOR MUST HAVE A PRE-CONSTRUCTION MEETING WITH THE DESIGN ENGINEER TO REVIEW THE REQUIREMENTS OF THE PRESBY SYSTEM PRIOR TO COMMENCEMENT OF WORK.
16. THE EXISTING CONDITIONS AND PROPOSED SITE IMPROVEMENTS ARE BASED ON PLANS PREPARED BY ALLEN & MAJOR ASSOCIATES, INC., PROVIDED TO EAGLEBROOK ENGINEERING & SURVEY, LLC.
17. THE INSTALLER/CONTRACTOR MUST BE CERTIFIED BY PRESBY ENVIRONMENTAL, INC.
18. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MASSACHUSETTS PRESBY ENVIRO-SEPTIC DESIGN AND INSTALLATION MANUAL, STATE AND LOCAL REGULATIONS. PLEASE CONTACT PRESBY ENVIRONMENTAL (1-800-473-5298) FOR PRODUCT INFORMATION.
19. THIS PLAN IS DESIGNED IN CONFORMANCE WITH THE 310 CMR 15.00 (TITLE 5) AND THE TOPSFIELD BOARD OF HEALTH SUPPLEMENTAL REGULATIONS TO 310 CMR 15.00.
20. THE FOLLOWING SITE PREPARATION GUIDELINES SHALL BE FOLLOWED: ADD THE SYSTEM SAND AND/OR SURROUNDING SAND ON THE SAME DAY THAT THE LEACH AREA IS EXCAVATED; DO NOT ALLOW WATER TO RUN INTO OR OVER THE SYSTEM DURING CONSTRUCTION; DO NOT WORK WET OR FROZEN SOILS; DO NOT SMEAR OR COMPACT SOILS WHILE PREPARING THE SITE.
21. MINIMIZE MACHINE MOVEMENT TO AVOID SOIL COMPACTION AND DESTRUCTION OF THE SOIL STRUCTURE UNDER AND AROUND THE SYSTEM. BE CAREFUL NOT TO COMPACT THE SOIL ON THE DOWN SLOPE SIDE OF THE SYSTEM.
22. USE A LASER LEVEL OR TRANSIT TO INSTALL LINES LEVEL. VARIATIONS BEYOND ½" MAY AFFECT SYSTEM PERFORMANCE. VARIATIONS BEYOND 1" ARE NOT ACCEPTABLE.
23. SPREAD SYSTEM SAND BETWEEN THE LINES; CAREFULLY WALK BETWEEN THE LINES TO INSURE SYSTEM SAND FILLS ALL VOID SPACES BENEATH THE ENVIRO-SEPTIC PIPE. FINISH SPREADING THE SYSTEM SAND TO THE TOP OF THE LINES.
24. SPREAD A MINIMUM OF 6" OF SYSTEM SAND OVER THE PIPE. SPREAD THE REMAINING SURROUNDING SAND AND A MINIMUM OF 4" OF TOPSOIL. FINAL GRADING SHOULD SHED WATER AWAY FROM THE SYSTEM. NOTE, A TRACKED VEHICLE MAY BE USED TO SPREAD THE SYSTEM SAND AND TOPSOIL AS LONG AS IT MAINTAINS AT LEAST 12" OF COVER OVER THE PIPE.

MATERIAL SPECIFICATIONS

1. THE BUILDING SEWER SHALL BE CONSTRUCTED OF CORROSION RESISTANT MATERIAL AND EQUIPPED WITH WATER TIGHT JOINTS; DUCTILE IRON, SCH 40 PVC OR THE EQUIVALENT AND THE MINIMUM SLOPE IS 0.020.
2. ALL PIPING FROM THE SEPTIC TANK TO THE LEACH DISTRIBUTION BOX SHALL BE SCH. 40 PVC AND HAVE A MINIMUM SLOPE OF 0.010.
3. THE LEACH FIELD PIPING SYSTEM SHALL BE ENVIRO-SEPTIC PIPE AS PRODUCED BY PRESBY ENVIRONMENTAL.
4. SEPTIC TANK CONSTRUCTION SHALL MEET THE REQUIREMENTS OF 15.226 OF THE STATE ENVIRONMENTAL CODE, TITLE 5. THE TANK SHALL BE PLACED ON A BASE THAT WILL NOT SETTLE AND 6 INCHES OF 3/4" STONE SHALL BE PLACED UNDER THE TANK.
5. ALL AGGREGATE PLACED SHALL MEET THE REQUIREMENTS OF SECTION 15.247 OF THE STATE ENVIRONMENTAL CODE, TITLE 5.
6. THE FOLLOWING ARE SYSTEM SAND REQUIREMENTS FOR THE ENVIRO-SEPTIC WASTEWATER TREATMENT SYSTEM:
   - 6.1. ALL CONFIGURATIONS OF THE ENVIRO-SEPTIC REQUIRE A MINIMUM OF 6" OF SYSTEM SAND SURROUNDING THE CIRCUMFERENCE OF THE PIPE.
   - 6.2. PERCENTAGE RESTRICTIONS:
     - 6.2.1. 35% OR LESS OF THE TOTAL SAND MAY BE GRAVEL.
     - 6.2.2. 40%-90% OF THE TOTAL SAND IS TO BE COARSE AND VERY COARSE SAND.
   - 6.3. GRAVEL QUALITY RESTRICTIONS:
     - 6.3.1. NO GRAVEL IS TO EXCEED ¾" IN DIAMATER
     - 6.3.2. NO GRAVEL IS SMALLER THAN 2MM/0.0787" IN DIAMETER (IT MUST NOT PASS THROUGH A #10 SIEVE).
   - 6.4. COARSE SAND QUALITY RESTRICTIONS:
     - 6.4.1. NO COARSE SAND IS SMALLER THAN 0.5MM/0.0196 IN DIAMETER (IT MUST NOT PASS THROUGH A #35 SIEVE).
   - 6.5. FINES QUALITY RESTRICTIONS:
     - 6.5.1. NO MORE THAN 3% OF THE TOTAL SAND MAY PASS THROUGH A #200 SIEVE.
   - 6.6. ASTM STANDARD C-33 IS AN ALTERNATIVE ACCEPTABLE MATERIAL FOR USE AS SYSTEM SAND.

ISSUED FOR PERMITTING: OCTOBER 13,2016
NOT TO BE USED FOR CONSTRUCTION

EAGLEBROOK

EAGLEBROOK ENGINEERING & SURVEY, LLC

491 MAPLE STREET, SUITE 304
DANVERS, MASS. 01923
TEL: (978) 777-0494

470 BOSTON STREET
LOCATED IN
TOPSFIELD, MASSACHUSETTS
PREPARED FOR
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MASSACHUSETTS

STAMP:

COMMONWEALTH OF MASSACHUSETTS
KENNETH C. KNOWLES
CIVIL
No. 45679
REGISTERED PROFESSIONAL ENGINEER
03.15.17

DATE:
OCTOBER 13, 2016

REVISIONS:

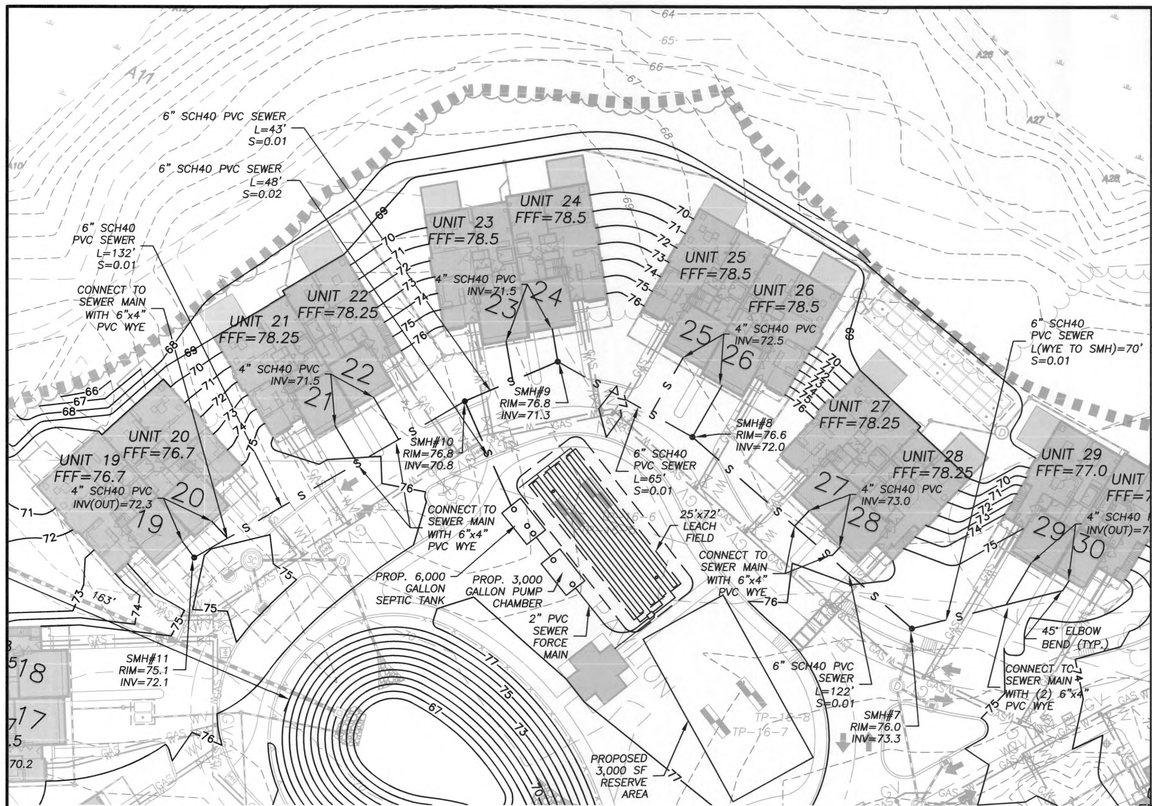
NO.:	DESCRIPTION:	DATE:
2	GRADING, MOVED RESERVE AREA AND SDS VENTING	3/13/17
1	REVISIONS PER TOWN COMMENTS	2/27/17

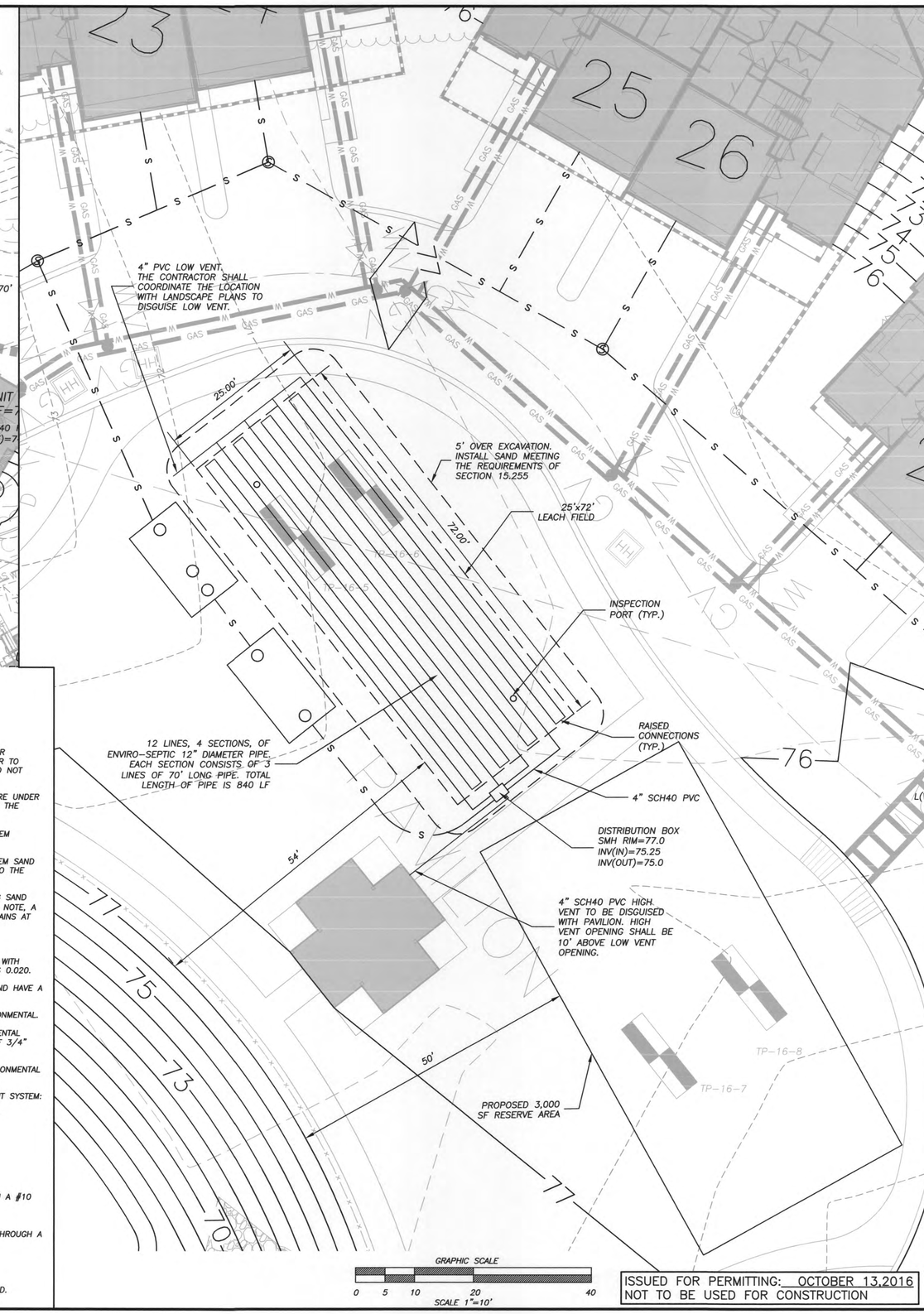
DRAWN BY: BSM
CHECKED BY: KCK
SCALE: AS NOTED

PROJECT NO. 15-023

TITLE:
SDS PLAN

SDS 2.1





ISSUED FOR PERMITTING: OCTOBER 13,2016
NOT TO BE USED FOR CONSTRUCTION

NOTES:

1. THE SOLE PURPOSE OF THIS PLAN IS TO DEPICT THE SUBSURFACE SEWAGE DISPOSAL SYSTEM DESIGN FOR THE PROPOSED MULTIFAMILY RESIDENTIAL DEVELOPMENT FOR SUBMISSION TO THE TOPSFIELD BOARD OF HEALTH.
2. SEE SITE PLANS PREPARED BY ALLEN & MAJOR ASSOCIATES FOR ALL PROPOSED SITE IMPROVEMENTS, UTILITIES, GRADING, AND DRAINAGE DEPICTED HEREON.
3. ALL WORK PROPOSED WITHIN 100 FEET OF A PROTECTABLE RESOURCE AREA IN ACCORDANCE WITH THE MASSACHUSETTS WETLAND PROTECTION ACT SHALL REQUIRE FILING AN APPLICATION WITH THE LOCAL CONSERVATION COMMISSION.
4. ALL WORK, MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STATE ENVIRONMENTAL CODE, TITLE 5 OR THE LOCAL BOARD OF HEALTH REGULATIONS, WHICHEVER IS MORE STRINGENT.
5. ALL REVISIONS TO THE PLAN OR ANY FIELD CHANGES SHALL BE APPROVED BY THE BOARD OF HEALTH AND THE DESIGN ENGINEER.
6. THE BOARD OF HEALTH AND THE DESIGN ENGINEER SHALL BE NOTIFIED FOR INSPECTIONS PRIOR TO THE CONTRACTOR COVERING ALL COMPONENTS OR MATERIALS THAT REQUIRE INSPECTION. THE FOLLOWING MINIMUM INSPECTIONS ARE REQUIRED: BOTTOM OF BED EXCAVATION, INSPECTION OF SAND FILL, INSPECTION OF SYSTEM PRIOR TO BACKFILL.
7. THE ISSUANCE OF A DISPOSAL WORKS PERMIT OR A CERTIFICATE OF COMPLIANCE SHALL NOT GUARANTEE THAT THE SYSTEM WILL FUNCTION AS DESIGNED.
8. THE LOCATION OF UTILITIES ARE ONLY APPROXIMATE AND THIS PLAN DOES NOT DEPICT ALL THE EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT DIG-SAFE (888-344-7233) PRIOR TO ANY CONSTRUCTION ACTIVITY.
9. THE COMPONENTS OF THE ON-SITE SEWAGE DISPOSAL SYSTEM SHALL BE MAINTAINED IN ACCORDANCE WITH THE STATE ENVIRONMENTAL CODE, TITLE 5.
10. THE USE OF A GARBAGE GRINDER IS NOT RECOMMENDED. THE SYSTEM HAS NOT BEEN DESIGNED TO HANDLE A GARBAGE GRINDER.
11. USE 22.5° AND 45° FITTINGS FOR ALL BENDS ON THE SEWER PIPING. NINETY (90°) DEGREE BENDS ARE NOT ALLOWED.
12. THERE ARE NO KNOWN POTABLE DRINKING WATER WELLS WITHIN 100 FEET OF THE PROPOSED SEPTIC SYSTEM.
13. PROVIDE A MINIMUM OF FIVE (5) FEET OF OVER EXCAVATION TO REMOVE ALL TOPSOIL, SUBSOIL AND OTHER UNSUITABLE MATERIALS TO THE TOP OF THE NATURALLY OCCURRING C HORIZON AND REPLACE WITH SAND MEETING THE REQUIREMENTS OF THE STATE ENVIRONMENTAL CODE, TITLE 5 SECTION 15.255.
14. THE PERCOLATION TEST AND THE DEEP EXCAVATION HOLES WERE WITNESSED BY THE TOPSFIELD BOARD OF HEALTH AGENT, MR. JOHN COULON, ON JULY 6, 2016.
15. THE CONTRACTOR MUST HAVE A PRE-CONSTRUCTION MEETING WITH THE DESIGN ENGINEER TO REVIEW THE REQUIREMENTS OF THE PRESBY SYSTEM PRIOR TO COMMENCEMENT OF WORK.
16. THE EXISTING CONDITIONS AND PROPOSED SITE IMPROVEMENTS ARE BASED ON PLANS PREPARED BY ALLEN & MAJOR ASSOCIATES, INC., PROVIDED TO EAGLEBROOK ENGINEERING & SURVEY, LLC.
17. THE INSTALLER/CONTRACTOR MUST BE CERTIFIED BY PRESBY ENVIRONMENTAL, INC.
18. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MASSACHUSETTS PRESBY ENVIRO-SEPTIC DESIGN AND INSTALLATION MANUAL, STATE AND LOCAL REGULATIONS. PLEASE CONTACT PRESBY ENVIRONMENTAL (1-800-473-5298) FOR PRODUCT INFORMATION.
19. THIS PLAN IS DESIGNED IN CONFORMANCE WITH THE 310 CMR 15.00 (TITLE 5) AND THE TOPSFIELD BOARD OF HEALTH SUPPLEMENTAL REGULATIONS TO 310 CMR 15.00.
20. THE FOLLOWING SITE PREPARATION GUIDELINES SHALL BE FOLLOWED: ADD THE SYSTEM SAND AND/OR SURROUNDING SAND ON THE SAME DAY THAT THE LEACH AREA IS EXCAVATED; DO NOT ALLOW WATER TO RUN INTO OR OVER THE SYSTEM DURING CONSTRUCTION; DO NOT WORK WET OR FROZEN SOILS; DO NOT SMEAR OR COMPACT SOILS WHILE PREPARING THE SITE.
21. MINIMIZE MACHINE MOVEMENT TO AVOID SOIL COMPACTION AND DESTRUCTION OF THE SOIL STRUCTURE UNDER AND AROUND THE SYSTEM. BE CAREFUL NOT TO COMPACT THE SOIL ON THE DOWN SLOPE SIDE OF THE SYSTEM.
22. USE A LASER LEVEL OR TRANSIT TO INSTALL LINES LEVEL. VARIATIONS BEYOND ¼" MAY AFFECT SYSTEM PERFORMANCE. VARIATIONS BEYOND 1" ARE NOT ACCEPTABLE.
23. SPREAD SYSTEM SAND BETWEEN THE LINES; CAREFULLY WALK BETWEEN THE LINES TO INSURE SYSTEM SAND FILLS ALL VOID SPACES BENEATH THE ENVIRO-SEPTIC PIPE. FINISH SPREADING THE SYSTEM SAND TO THE TOP OF THE LINES.
24. SPREAD A MINIMUM OF 6" OF SYSTEM SAND OVER THE PIPE. SPREAD THE REMAINING SURROUNDING SAND AND A MINIMUM OF 4" OF TOPSOIL. FINAL GRADING SHOULD SHED WATER AWAY FROM THE SYSTEM. NOTE, A TRACKED VEHICLE MAY BE USED TO SPREAD THE SYSTEM SAND AND TOPSOIL AS LONG AS IT MAINTAINS AT LEAST 12" OF COVER OVER THE PIPE.

MATERIAL SPECIFICATIONS

1. THE BUILDING SEWER SHALL BE CONSTRUCTED OF CORROSION RESISTANT MATERIAL AND EQUIPPED WITH WATER TIGHT JOINTS; DUCTILE IRON, SCH 40 PVC OR THE EQUIVALENT AND THE MINIMUM SLOPE IS 0.020.
2. ALL PIPING FROM THE SEPTIC TANK TO THE LEACH DISTRIBUTION BOX SHALL BE SCH. 40 PVC AND HAVE A MINIMUM SLOPE OF 0.010.
3. THE LEACH FIELD PIPING SYSTEM SHALL BE ENVIRO-SEPTIC PIPE AS PRODUCED BY PRESBY ENVIRONMENTAL.
4. SEPTIC TANK CONSTRUCTION SHALL MEET THE REQUIREMENTS OF 15.226 OF THE STATE ENVIRONMENTAL CODE, TITLE 5. THE TANK SHALL BE PLACED ON A BASE THAT WILL NOT SETTLE AND 6 INCHES OF 3/4" STONE SHALL BE PLACED UNDER THE TANK.
5. ALL AGGREGATE PLACED SHALL MEET THE REQUIREMENTS OF SECTION 15.247 OF THE STATE ENVIRONMENTAL CODE, TITLE 5.
6. THE FOLLOWING ARE SYSTEM SAND REQUIREMENTS FOR THE ENVIRO-SEPTIC WASTEWATER TREATMENT SYSTEM:

   6.1. ALL CONFIGURATIONS OF THE ENVIRO-SEPTIC REQUIRE A MINIMUM OF 6" OF SYSTEM SAND SURROUNDING THE CIRCUMFERENCE OF THE PIPE.

   6.2. PERCENTAGE RESTRICTIONS:
   6.2.1. 35% OR LESS OF THE TOTAL SAND MAY BE GRAVEL
   6.2.2. 40%-90% OF THE TOTAL SAND IS TO BE COARSE AND VERY COARSE SAND.

   6.3. GRAVEL QUALITY RESTRICTIONS:
   6.3.1. NO GRAVEL IS TO EXCEED ¾" IN DIAMATER
   6.3.2. NO GRAVEL IS SMALLER THAN 2MM/0.0787" IN DIAMETER (IT MUST NOT PASS THROUGH A #10 SIEVE).

   6.4. COARSE SAND QUALITY RESTRICTIONS:
   6.4.1. NO COARSE SAND IS SMALLER THAN 0.5MM/0.0196 IN DIAMETER (IT MUST NOT PASS THROUGH A #35 SIEVE).

   6.5. FINES QUALITY RESTRICTIONS:
   6.5.1. NO MORE THAN 3% OF THE TOTAL SAND MAY PASS THROUGH A #200 SIEVE.

   6.6. ASTM STANDARD C-33 IS AN ALTERNATIVE ACCEPTABLE MATERIAL FOR USE AS SYSTEM SAND.

EAGLEBROOK

EAGLEBROOK ENGINEERING & SURVEY, LLC

491 MAPLE STREET, SUITE 304
DANVERS, MASS. 01923
TEL: (978) 777-0494

470 BOSTON STREET
LOCATED IN
TOPSFIELD, MASSACHUSETTS
PREPARED FOR
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MASSACHUSETTS

STAMP:

COMMONWEALTH OF MASSACHUSETTS
KENNETH C. KNOWLES
CIVIL
No. 45579
REGISTERED PROFESSIONAL ENGINEER
05/13/17

DATE:
OCTOBER 13, 2016

REVISIONS:

NO:	DESCRIPTION:	DATE:
2	MOVED: SEWER SERVICE FOR UNITS 19-22, SEPTIC TANK, PUMP CHAMBER, RESERVE AREA	3/13/17
1	REVISIONS PER TOWN COMMENTS	2/27/17

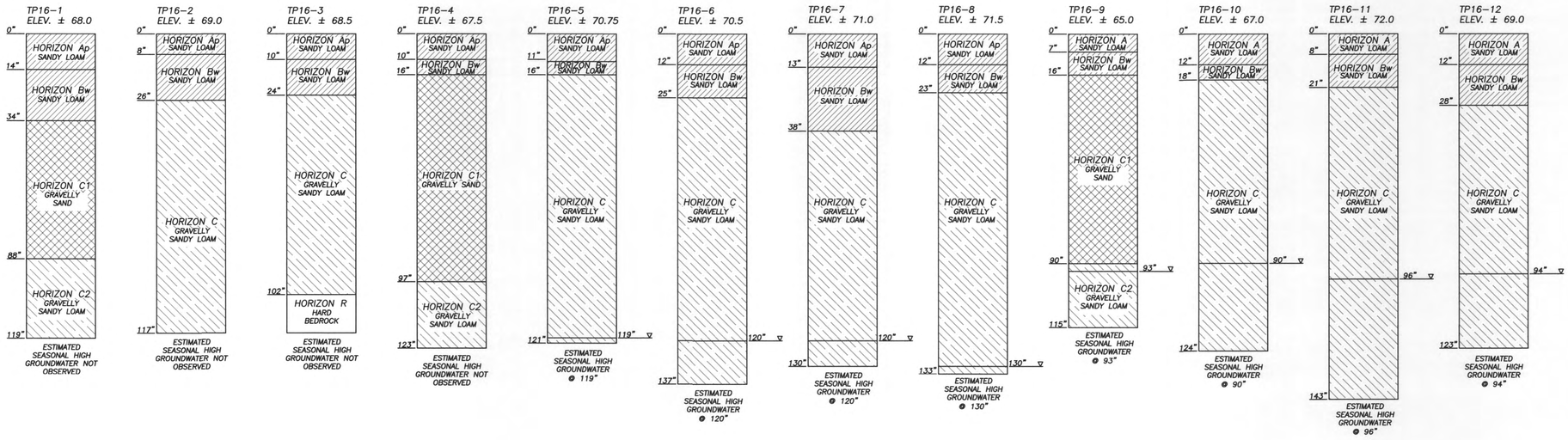
DRAWN BY: BSM
CHECKED BY: KCK
SCALE: AS NOTED

PROJECT NO. 15-023

TITLE:

SDS PLAN

SDS 3.1



PERCOLATION TEST #1
LOCATION: TP16-2
DEPTH OF PERC: 66"
PERC RATE: 1.66 MPI

PERCOLATION TEST #2
LOCATION: TP16-4
DEPTH OF PERC: 42"
PERC RATE: 1.00 MPI

PERCOLATION TEST #4
LOCATION: TP16-5
DEPTH OF PERC: 54"
PERC RATE: 1.00 MPI

PERCOLATION TEST #3
LOCATION: TP16-8
DEPTH OF PERC: 63"
PERC RATE: 4.66 MPI

PERCOLATION TEST #6
LOCATION: TP16-10
DEPTH OF PERC: 54"
PERC RATE: 7.33 MPI

PERCOLATION TEST #5
LOCATION: TP16-12
DEPTH OF PERC: 54"
PERC RATE: 2.33 MPI

TEST PIT NOTES:

1. SOIL SUITABILITY ASSESSMENT WAS PERFORMED BY ALEXANDER F. PARKER ON JULY 6, 2016. THE ASSESSMENT WAS WITNESSED BY THE TOPSFIELD DIRECTOR OF PUBLIC HEALTH, MR. JOHN COULON.

ISSUED FOR PERMITTING: OCTOBER 13,2016
NOT TO BE USED FOR CONSTRUCTION

EAGLEBROOK

EAGLEBROOK ENGINEERING & SURVEY, LLC

491 MAPLE STREET, SUITE 304
DANVERS, MASS. 01923
TEL: (978) 777-0494

470 BOSTON STREET
LOCATED IN
TOPSFIELD, MASSACHUSETTS
PREPARED FOR
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MASSACHUSETTS

STAMP:

COMMONWEALTH OF MASSACHUSETTS
KENNETH C. KNOWLES
CIVIL
No. 45979
REGISTERED PROFESSIONAL ENGINEER
03/15/17

DATE:
OCTOBER 13, 2016

REVISIONS:

NO.:	DESCRIPTION:	DATE:
1	REVISIONS PER TOWN COMMENTS	2/27/17

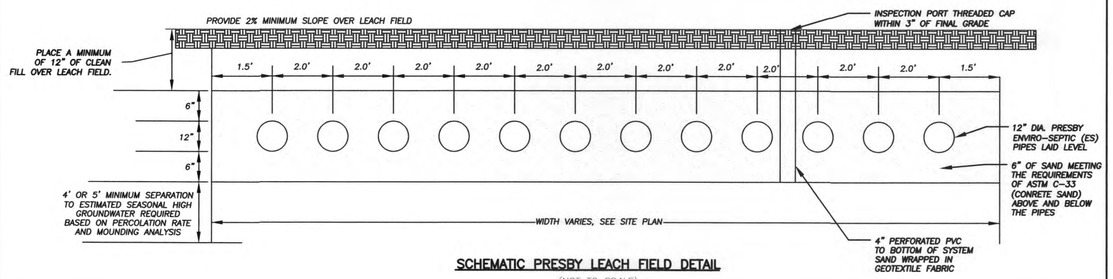
DRAWN BY: BSM
CHECKED BY: KCK
SCALE: AS NOTED

PROJECT NO. 15-023

TITLE:

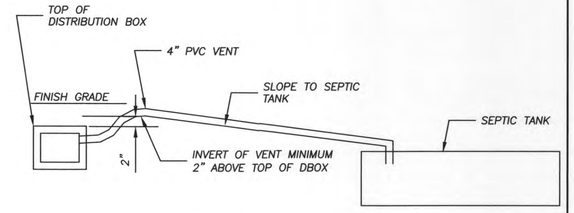
SDS PLAN

SDS-4



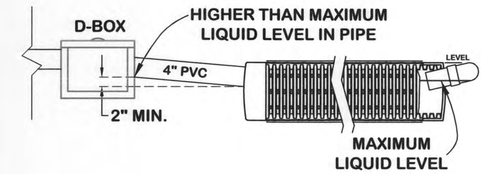
SCHEMATIC PRESBY LEACH FIELD DETAIL

(NOT TO SCALE)



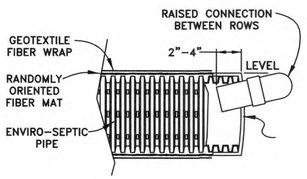
BYPASS VENT DETAIL

(NOT TO SCALE)

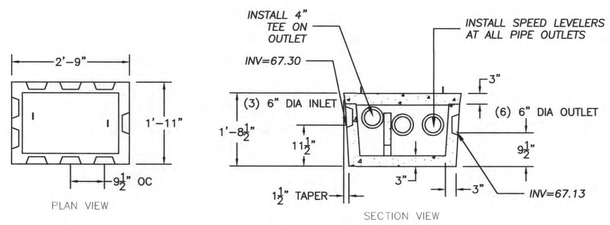


2" DBOX DROP DETAIL

NOT TO SCALE

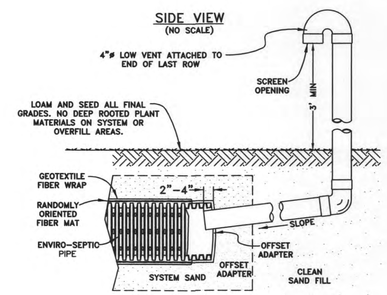


RAISED CONNECTION LEVEL BED

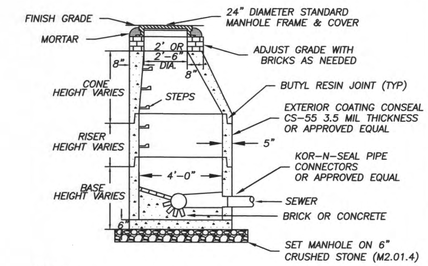


6 OUTLET BAFFLE BOX

NOT TO SCALE



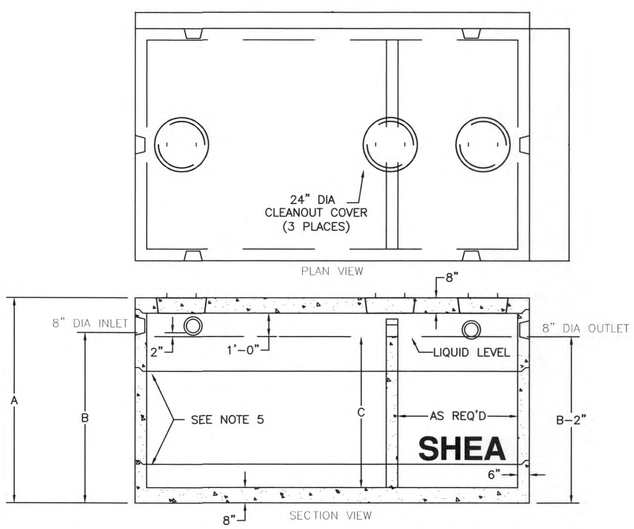
TYPICAL LOW VENT CONNECTION FOR SERIAL DISTRIBUTION



NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS
2. REINFORCED STEEL CONFORMS TO LATEST ASTM A185 SPEC. 0.12 SQ. IN/LINEAL FEET AND 0.12 SQ IN. (BOTH WAYS) BASE BOTTOM.
3. H-20 DESIGN LOADING PER AASHTO HS-20-44; ASTM C478 SPEC FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS.
4. BUTYL RESIN SECTION JOINT CONFORMS TO LATEST ASTM C443 SPEC.
5. STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEP CONFORMS TO LATEST ASTM C478 SPEC.

SEWER MANHOLE DETAIL

(NOT TO SCALE)



GALLONS	A (HEIGHT)	B (INLET)	C (LIQUID)	WEIGHT (LBS)	ITEM NO.
5,500	92"	74"	64"	62,230	TK-5500C2C

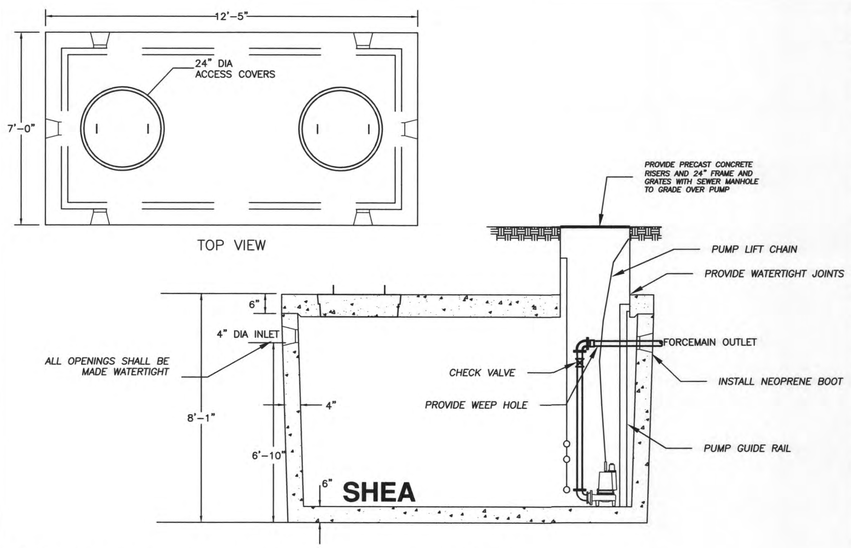
NOTES:

1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN CONFORMS WITH 310 CMR 15.00, DEP TITLE 5 REGS, FOR SEPTIC TANKS.
3. ALL REINFORCEMENT PER ASTM C1227-93.
4. DESIGNED FOR H-20 LOADING, COVER 1-5FT.
5. TONGUE AND GROOVE JOINT SEALED WITH BUTYL RESIN. INLET HEIGHT MAY INCREASE SLIGHTLY DUE TO THE BUTYL RESIN USED.
6. TEES AND BAFFLES SOLD SEPARATELY.

COMMERCIAL 2-COMPART TANK
5,500 GALLON

SEPTIC TANK DETAIL

(NOT TO SCALE)



NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS
2. ALL REINFORCEMENT PER ASTM C1227-93
3. JOINT SEALED WITH BUTYL RESIN
4. SET PUMP CHAMBER ON 6" OF CRUSHED STONE FOR A STABLE BASE.
5. EMERGENCY STORAGE PROVIDED ABOVE ALARAM "ON" IS EQUAL TO 24 HOUR DESIGN FLOW.
6. DOSING VOLUME FROM THE PUMP "ON" TO THE PUMP "OFF" IS APPROXIMATELY 4 CYCLES PER DAY.
7. THE PUMP MUST BE EQUIPPED WITH A HIGH LEVEL ALARM LOCATED IN THE DWELLING WHICH IS POWERED BY A CIRCUIT SEPARATE FROM THE CIRCUIT TO THE PUMPS.

SCHEMATIC PUMP CHAMBER DETAIL

(NOT TO SCALE)

PRELIMINARY DESIGN CALCULATIONS:

SYSTEM #1

BUILDING/FACILITY: EIGHT (8) ELDERY DWELLING UNITS
NUMBER OF BEDROOOMS: TWO (2) BEDROOMS PER UNIT, 16 TOTAL
DESIGN FLOW RATE: 150 GPD PER TWO BEDROOM ELDERLY UNIT
PERCOLATION RATE: 1.00 MPI (PERC-2 AT TP-4)
TOTAL DESIGN FLOW: 1,200 GPD
LEACHING AREA REQUIREMENTS (GPD/SF): 0.60 GPD PER SF
(1,200 GPD)/(0.6 GPD/SF)=2,000 SF PER TITLE 5 REQUIREMENT
(2,000 SF) x (40% REDUCTION FOR PRESBY SYSTEM) = 1,200 SF
MINIMUM SAND BED AREA:
(8 UNITS)x(150 GPD)/(1 GPD/SF FOR PRESBY SYSTEM) = 1,200 SF
LEACHING PROVIDED IN THE DESIGN:
PRESBY SYSTEM USE 12 ROWS, 50' LONG PIPES, WITH 2' SPACING
3 ROWS OF PIPES ARE CONNECTED AT END TO MAKE 4 TREATMENT SECTIONS
LEACH FIELD 25' x 52' = 1,300 SF (BOTTOM AREA ONLY)
REQUIRED PIPE LENGTH IS 546 L.F.; DESIGN 600 LF

SYSTEM #2

BUILDING/FACILITY: TEN (10) ELDERY DWELLING UNITS
NUMBER OF BEDROOOMS: TWO (2) BEDROOMS PER UNIT, 20 TOTAL
DESIGN FLOW RATE: 150 GPD PER TWO BEDROOM ELDERLY UNIT
PERCOLATION RATE: 2.33 MPI (PERC-5 AT TP-12)
TOTAL DESIGN FLOW: 1,500 GPD
LEACHING AREA REQUIREMENTS (GPD/SF):
(1,500 GPD)/(0.6 GPD/SF)=2,500 SF PER TITLE 5 REQUIREMENT
(2,500 SF) x (40% REDUCTION FOR PRESBY SYSTEM) = 1,500 SF
MINIMUM SAND BED AREA:
(10 UNITS)x(150 GPD)/(1 GPD/SF FOR PRESBY SYSTEM) = 1,500 SF
LEACHING PROVIDED IN THE DESIGN:
PRESBY SYSTEM USE 12 ROWS, 60' LONG PIPES, WITH 2' SPACING
3 ROWS OF PIPES ARE CONNECTED AT END TO MAKE 4 TREATMENT SECTIONS
LEACH FIELD 25' x 62' = 1,550 SF (BOTTOM AREA ONLY)
REQUIRED PIPE LENGTH IS 682 L.F.; DESIGN 720 LF

SYSTEM #3

BUILDING/FACILITY: TWELVE (12) ELDERY DWELLING UNITS
NUMBER OF BEDROOOMS: TWO (2) BEDROOMS PER UNIT, 24 TOTAL
DESIGN FLOW RATE: 150 GPD PER TWO BEDROOM ELDERLY UNIT
PERCOLATION RATE: 1.00 MPI (PERC-4 AT TP-5)
TOTAL DESIGN FLOW: 1,800 GPD
LEACHING AREA REQUIREMENTS (GPD/SF):
(1,800 GPD)/(0.6 GPD/SF)=3,000 SF PER TITLE 5 REQUIREMENT
(3,000 SF) x (40% REDUCTION FOR PRESBY SYSTEM) = 1,800 SF
MINIMUM SAND BED AREA:
(12 UNITS)x(150 GPD)/(1 GPD/SF FOR PRESBY SYSTEM) = 1,800 SF
LEACHING PROVIDED IN THE DESIGN:
PRESBY SYSTEM USE 12 ROWS, 70' LONG PIPES, WITH 2' SPACING
3 ROWS OF PIPES ARE CONNECTED AT END TO MAKE 4 TREATMENT SECTIONS
LEACH FIELD 25' x 72' = 1,800 SF (BOTTOM AREA ONLY)
REQUIRED PIPE LENGTH IS 818 L.F.; DESIGN 840 LF

EAGLEBROOK

EAGLEBROOK ENGINEERING & SURVEY, LLC

491 MAPLE STREET, SUITE 304
DANVERS, MASS. 01923
TEL: (978) 777-0494

470 BOSTON STREET
LOCATED IN
TOPSFIELD, MASSACHUSETTS
PREPARED FOR
SARKIS DEVELOPMENT COMPANY
2 ELM SQUARE
ANDOVER, MASSACHUSETTS

STAMP:

COMMONWEALTH OF MASSACHUSETTS
KENNETH C. KNOWLES
CIVIL
No. 45679
REGISTERED PROFESSIONAL ENGINEER
03/15/17

DATE:
OCTOBER 13, 2016

REVISIONS:

NO.:	DESCRIPTION:	DATE:
2	SDS 1&2 DESIGN CALCS (PERC RATE) PER SDS LOCATIONS & TEST PITS	3/13/17
1	REVISIONS PER TOWN COMMENTS	2/27/17

DRAWN BY: BSM
CHECKED BY: KCK
SCALE: AS NOTED

PROJECT NO. 15-023

TITLE:
SDS DETAIL
SDS-5