WELLESLEY PARK RESIDENCES

148 WESTON RD, WELLESLEY, MA 02482

November 21, 2018

ZBA SUBMISSION #2

ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS W/ DISABILITIES ACT
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
AV.	AUDIO VISUAL
BLDG.	BUILDING
BLKG.	BLOCKING
B.O.	BOTTOM OF
CAB.	CABINET
C.H.	CEILING HEIGHT
CLR.	CLEAR
CL	CENTERLINE
COL.	COLUMN
CONT.	CONTINUOUS
CMU	CONCRETE MASONRY UNIT
C.J.	CONTROL JOINT
DTL.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DN	DOWN
DWG.	DRAWING
(E)	EXISTING
EL.	ELEVATION
ELEC.	ELECTRICAL
EQ	EQUAL
FD.	FLOOR DRAIN
F.O.	FACE OF
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.S.	FACE OF STUD
GFIC	GROUND FAULT INTERCEPTOR CIRCUIT
GSM.	GALVANIZED SHEET METAL
GWB	GYPSUM WALL BOARD
H OR HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
H.B.	HOSE BIB
HM	HOLLOW METAL
MAX.	MAXIMUM
M.O.	MASONRY OPENING
MECH.	MECHANICAL
MEP	MECHANICAL ELECTRICAL PLUMBING
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MTL.	METAL
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
N.T.S.	NOT TO SCALE
O/	OVER
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OPNG.	OPENING
OPP.	OPPOSITE
P.G.	PAINT GRADE
PLYWD.	PLYWOOD
PTD.	PAINTED
R.D.	ROOF DRAIN
REQ'D.	REQUIRED
R.O.	ROUGH OPENING
SCHED.	SCHEDULE
S.G.	STAIN GRADE
SIM.	SIMILAR
S.L.D.	SEE LANDSCAPE DRAWINGS
SQ.	SQUARE
SPEC.	SPECIFICATION
S.S.D.	SEE STRUCTURAL DRAWINGS
SSTL.	STAINLESS STEEL
STL.	STEEL
STOR.	STORAGE
STRUCT.	STRUCTURAL
SYM.	SYMMETRICAL
T.	TEMPERED
T&G	TONGUE AND GROOVE
THK.	THK.
T.O.	TOP OF
T.S.	TUBULAR STEEL
TYP.	TYPICAL
U.O.N	UNLESS OTHERWISE NOTED
V.I.F.	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WD.	WOOD
WPM.	WATERPROOFING MEMBRANE

SYMBOLS

1 / A201	REFERENCE NUMBER BUILDING SECTION DRAWING SHEET
1 / A201	REFERENCE NUMBER DETAIL DRAWING SHEET
1 / A201	REFERENCE NUMBER DRAWING DRAWING SHEET
1 / A401	REFERENCE NUMBER INTERIOR ELEVATION DRAWING SHEET
1 / A401	REFERENCE NUMBER EXTERIOR ELEVATION DRAWING SHEET
N	NORTH ARROW
A	WINDOW TAG
100	DOOR TAG
W101	WALL TYPE TAG
1	APPLIANCE TAG
1	REVISION TAG
℄	CENTER LINE

PROJECT SCOPE

THIS PROJECT IS THE NEW CONSTRUCTION OF A MULTI-FAMILY BUILDING CONSISTING OF 55 DWELLING UNITS (6 MARKET RATE AND 49 AFFORDABLE) ON WESTON ROAD OFF OF CENTRAL STREET. THE STRUCTURE WILL BE 5-STORY OF RESIDENTIAL OVER 1-STORY GARAGE. THERE WILL BE 33 PARKING SPACES WITH 7 VISITOR SPACES ON THE EXTERIOR.

UNIT BREAKDOWN	COUNT	AVERAGE SIZE
STUDIO	16	460 SF
1 BEDROOM	21	740 SF
2 BEDROOM	9	1,120 SF
3 BEDROOM	9	1,350 SF
TOTAL COUNT	55	918 SF

LAND USAGE TABLES, SECTION XVIII AND XIX OF WELLESLEY ZONING BYLAWS

CRITERIA	GENERAL RESIDENCE DISTRICT (GR) REQUIRED	PROPOSED
MIN. LOT AREA	15,000 S.F.	35,967 S.F.
MIN. FRONTAGE	60 FEET	72.45 FEET
MAX. BUILDING HEIGHT	45 FEET	58 FEET 7 IN
MAX RATIO OF BUILDING TO LOT AREA	18%	32%
MIN. FRONT YARD DEPTH (SETBACK)	30 FEET	25.96 FEET
MIN. SIDE YARD WIDTH	20 FEET	10 FEET 5 IN
MIN. REAR YARD DEPTH	15 FEET	10 FEET 2 IN
MIN. OPEN SPACE	40%	68%

SHEET

A000 COVER SHEET

CIVIL:

EX-1 EXISTING CONDITIONS PLAN
C-1 SITE DEVELOPMENT PLAN
C-2 GRADING & DRAINAGE PLAN
C-3 UTILITIES PLAN
C-4 CONSTRUCTION DETAILS
C-5 CONSTRUCTION DETAILS
RECHARGER DETAIL SHEET
RECHARGER DETAIL SHEET

LANDSCAPE:

L1 LANDSCAPE SITE PLAN
L2 ENTRY SEQUENCE
L3 LOBBY ENTRY COURT
L4 GARAGE ENTRY
L5 PATIO GARDEN GRILL AREA
L6 SPACE FOR PLAY
L7 CONNECTIONS TO CROSSTOWN TRAIL

ARCHITECTURAL:

A001 EXISTING SITEPLAN AND STREET VIEWS
A002 SITE CONTEXT
A100 PARKING LEVEL AND 1ST FLOOR PLANS
A101 2ND AND 5TH FLOOR PLANS
A102 ROOF PLAN AND EAST ELEVATION
A200 BUILDING ELEVATIONS
A300 PERSPECTIVE
A301 PERSPECTIVE
A401 SHADOW STUDY
A402 SHADOW STUDY
A403 SHADOW STUDY
A501 TYPICAL UNIT LAYOUTS

VICINITY MAPS

ARCHITECT
EMBARC STUDIO
ARCHITECTURE+DESIGN
60 K STREET, THIRD FLOOR
BOSTON, MA 02127
617.766.8330
www.embarcstudio.com

OWNER
DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL
MCKENZIE ENGINEERING GROUP
150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE
VERDANT LANDSCAPE ARCHITECTURE
318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES
148 WESTON RD, WELLESLEY, MA 02482
ZBA SUBMISSION #2
November 21, 2018

REVISIONS

#	NAME	DATE

DRAWING INFORMATION

ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
DRAWN BY:	Author
SCALE:	As indicated

DRAWING TITLE

COVER

DRAWING NUMBER

A000

copyright: EMBARC Studio, llc.

C:\Users\ayang\Documents\Revit\17057_148 Weston Road_408 Resubmit_ayang@embarcstudio.com.rvt 11/21/2018 4:16:30 PM Author

LOCUS MAP
Not to Scale

SURVEY NOTES:

1. PLAN REFERENCES:
   1.1 BOOK 639, PAGE 12
   1.2 BOOK 3832, PAGE 515
2. THE SURVEY WAS MADE ON THE GROUND OF JANUARY OF 2018 BY MCKENZIE ENGINEERING GROUP, INC.
3. ELEVATIONS SHOWN ARE REFERENCED TO THE TOWN OF WELLESLEY VERTICAL DATUM BASE.
4. WETLAND RESOURCE AREAS WERE NOT ENCOUNTERED DURING THE FIELD SURVEY.
5. MINIMUM SETBACK REQUIREMENTS:
   SINGLE RESIDENCE 15 DISTRICT
   FRONT YARD 30'
   SIDE YARD 20'
   REAR YARD 15'
6. THE PROPERTY SHOWN HEREON IS LOCATED IN ZONE X OF THE FLOOD INSURANCE RATE MAP COMMUNITY PANEL No. 25021C0016E, WHICH BEARS AN EFFECTIVE DATE OF JULY 17, 2012.
7. THE PROPERTY SHOWN HEREON IS LOCATED IN A DEP ZONE 2 AND TOWN OF WELLESLEY WATER SUPPLY PROTECTION DISTRICT ZONE.
8. UTILITY INFORMATION FROM ABOVE GROUND OBSERVED EVIDENCE IN CONJUNCTION WITH DIG SAFE MARKINGS AND RECORD PLANS. THE LAND SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE LAND SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION AND CONSTRUCTION AS THE LAND SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. BEFORE CONSTRUCTION CALL DIG SAFE SYSTEMS, INC. AT 1-888-344-7233.

ABBREVIATIONS

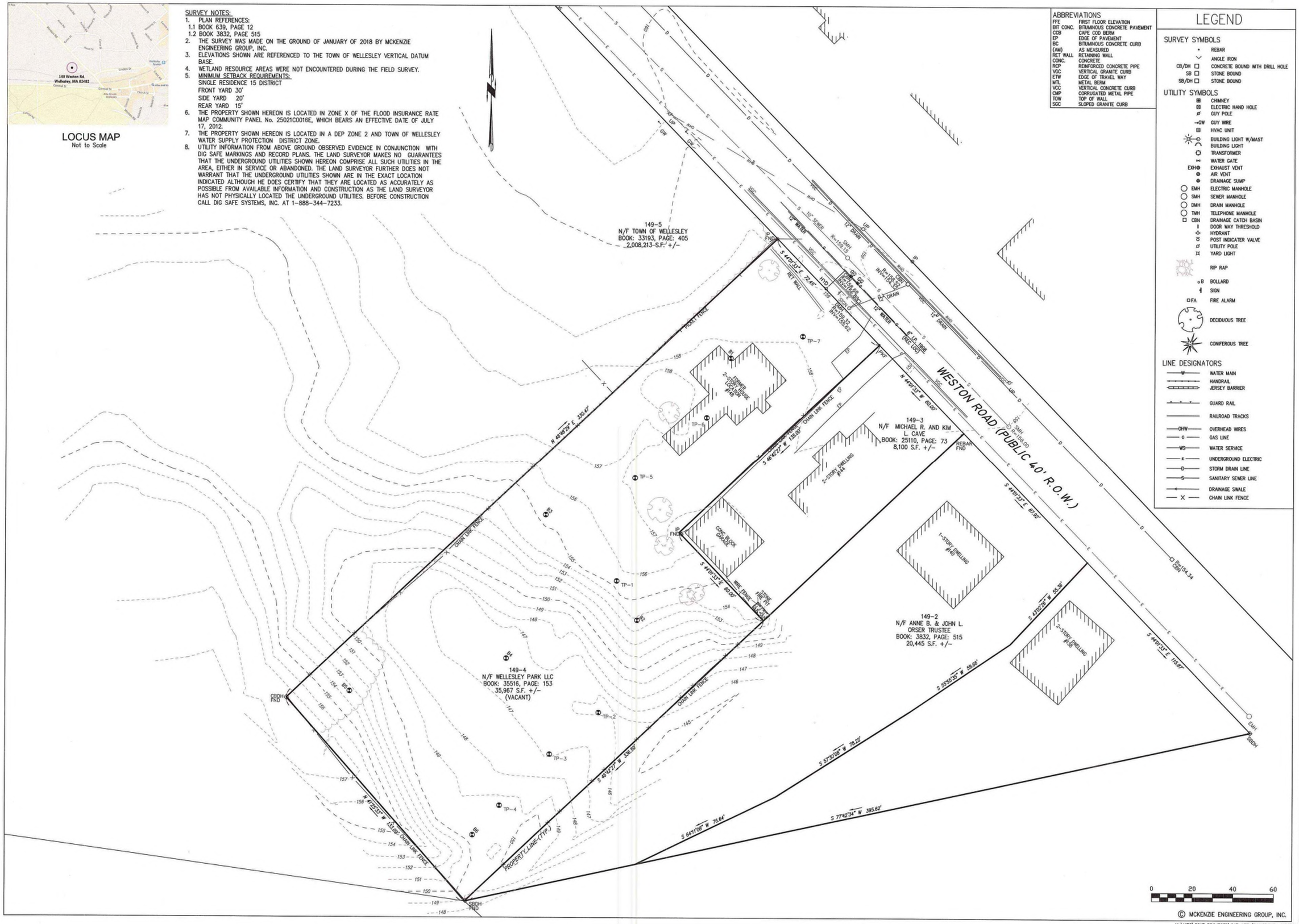
FFE	FIRST FLOOR ELEVATION
BIT. CONC.	BITUMINOUS CONCRETE PAVEMENT
CCB	CAPE COD BERM
EP	EDGE OF PAVEMENT
BC	BITUMINOUS CONCRETE CURB
(AM)	AS MEASURED
RET WALL	RETAINING WALL
CONC.	CONCRETE
RCP	REINFORCED CONCRETE PIPE
VGC	VERTICAL GRANITE CURB
ETW	EDGE OF TRAVEL WAY
MTL	METAL BERM
VCC	VERTICAL CONCRETE CURB
CMP	CORRUGATED METAL PIPE
TOW	TOP OF WALL
SGC	SLOPED GRANITE CURB

LEGEND

SURVEY SYMBOLS
- REBAR
- ANGLE IRON
- CB/DH — CONCRETE BOUND WITH DRILL HOLE
- SB — STONE BOUND
- SB/DH — STONE BOUND

UTILITY SYMBOLS
- CHIMNEY
- ELECTRIC HAND HOLE
- GUY POLE
- GW — GUY WIRE
- HVAC UNIT
- BUILDING LIGHT W/MAST
- BUILDING LIGHT
- TRANSFORMER
- WATER GATE
- EXH — EXHAUST VENT
- AIR VENT
- DRAINAGE SUMP
- EMH — ELECTRIC MANHOLE
- SMH — SEWER MANHOLE
- DMH — DRAIN MANHOLE
- TMH — TELEPHONE MANHOLE
- CBN — DRAINAGE CATCH BASIN
- DOOR WAY THRESHOLD
- HYDRANT
- POST INDICATER VALVE
- UTILITY POLE
- YARD LIGHT
- RIP RAP
- B — BOLLARD
- SIGN
- FA — FIRE ALARM
- DECIDUOUS TREE
- CONIFEROUS TREE

LINE DESIGNATORS
- W — WATER MAIN
- HANDRAIL
- JERSEY BARRIER
- GUARD RAIL
- RAILROAD TRACKS
- OHW — OVERHEAD WIRES
- G — GAS LINE
- WS — WATER SERVICE
- E — UNDERGROUND ELECTRIC
- D — STORM DRAIN LINE
- S — SANITARY SEWER LINE
- DRAINAGE SWALE
- X — CHAIN LINK FENCE



© MCKENZIE ENGINEERING GROUP, INC.

M:\MEG\2017 PROJECTS\217-177 (OAKGROVE- WESTON ROAD WELLESLY)\DWGS\SUBMISSIONS\PROJECT CHANGE\217-177 MAIN (PC).DWG

REV	DATE	DESCRIPTION	BY	APP
1	10/2/18	NO CHANGES	SBS	BOM
2	10/24/18	BLDG. PEAK ELEVATIONS	SBS	BOM

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
781.792.3900
www.mckeng.com

PROPOSED COMPREHENSIVE PERMIT DEVELOPMENT

(PARCEL ID 149-4)
148 WESTON ROAD
WELLESLEY, MASSACHUSETTS

PROFESSIONAL LAND SURVEYOR:
COMMONWEALTH OF MASSACHUSETTS
RICHARD J. HOLD
No. 35031
REGISTERED PROFESSIONAL LAND SURVEYOR
PLS# 35031 21JUN18

APPLICANT:
WELLESLEY PARK, LLC
49 COOLIDGE STREET
BROOKLINE, MASSACHUSETTS 02446

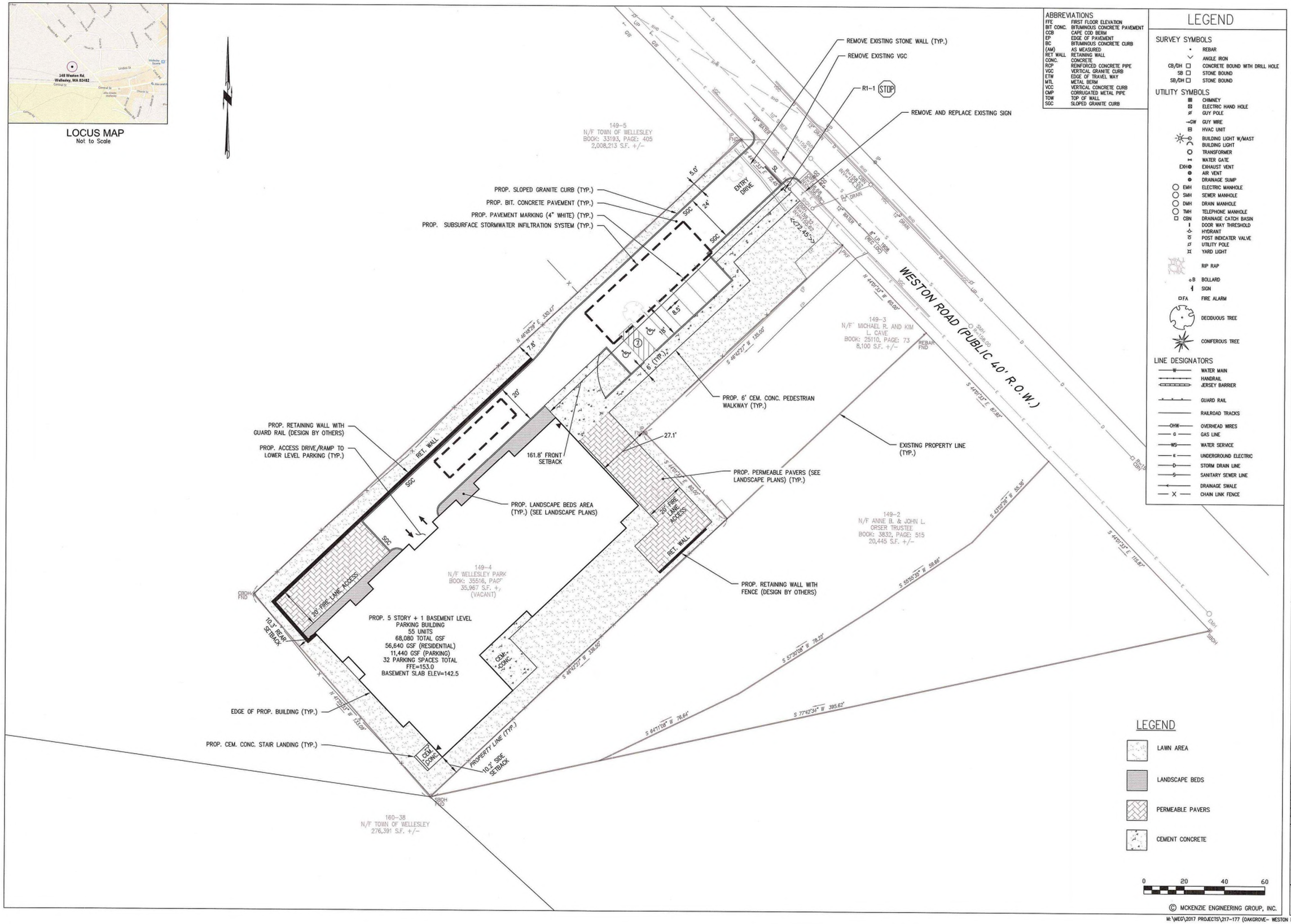
NOT FOR CONSTRUCTION

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	RLS
APPROVED BY:	RJH
DATE:	NOVEMBER 21, 2018
SCALE:	1"=20'
PROJECT NO.:	217-177

DWG. TITLE:
EXISTING CONDITIONS PLAN

DWG. NO:
EX-1

LOCUS MAP
Not to Scale



© MCKENZIE ENGINEERING GROUP, INC.

ABBREVIATIONS

FFE	FIRST FLOOR ELEVATION
BIT CONC.	BITUMINOUS CONCRETE PAVEMENT
CCB	CAPE COD BERM
EP	EDGE OF PAVEMENT
BC	BITUMINOUS CONCRETE CURB
(AM)	AS MEASURED
RET WALL	RETAINING WALL
CONC.	CONCRETE
RCP	REINFORCED CONCRETE PIPE
VGC	VERTICAL GRANITE CURB
ETW	EDGE OF TRAVEL WAY
MTL	METAL BERM
VCC	VERTICAL CONCRETE CURB
CMP	CORRUGATED METAL PIPE
TOW	TOP OF WALL
SGC	SLOPED GRANITE CURB

LEGEND

SURVEY SYMBOLS

- REBAR
- ANGLE IRON
- CB/DH — CONCRETE BOUND WITH DRILL HOLE
- SB — STONE BOUND
- SB/DH — STONE BOUND

UTILITY SYMBOLS

- CHIMNEY
- ELECTRIC HAND HOLE
- GUY POLE
- GW — GUY WIRE
- HVAC UNIT
- BUILDING LIGHT W/MAST
- BUILDING LIGHT
- TRANSFORMER
- WATER GATE
- EXH — EXHAUST VENT
- AIR VENT
- DRAINAGE SUMP
- EMH — ELECTRIC MANHOLE
- SMH — SEWER MANHOLE
- DMH — DRAIN MANHOLE
- TMH — TELEPHONE MANHOLE
- CSN — DRAINAGE CATCH BASIN
- DOOR WAY THRESHOLD
- HYDRANT
- POST INDICATER VALVE
- UTILITY POLE
- YARD LIGHT
- RIP RAP
- B — BOLLARD
- SIGN
- FA — FIRE ALARM
- DECIDUOUS TREE
- CONIFEROUS TREE

LINE DESIGNATORS

- W — WATER MAIN
- HANDRAIL
- JERSEY BARRIER
- GUARD RAIL
- RAILROAD TRACKS
- OHW — OVERHEAD WIRES
- G — GAS LINE
- WS — WATER SERVICE
- E — UNDERGROUND ELECTRIC
- D — STORM DRAIN LINE
- S — SANITARY SEWER LINE
- DRAINAGE SWALE
- X — CHAIN LINK FENCE

REV	DATE	DESCRIPTION	BY	APP

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
781.792.3900
www.mckeng.com

PROPOSED COMPREHENSIVE PERMIT DEVELOPMENT

(PARCEL ID 149-4)
148 WESTON ROAD
WELLESLEY, MASSACHUSETTS

PROFESSIONAL ENGINEER:

COMMONWEALTH OF MASSACHUSETTS
BRADLEY C. McKENZIE
CIVIL
No. 36917
REGISTERED PROFESSIONAL ENGINEER

APPLICANT:
WELLESLEY PARK, LLC
49 COOLIDGE STREET
BROOKLINE, MASSACHUSETTS 02446

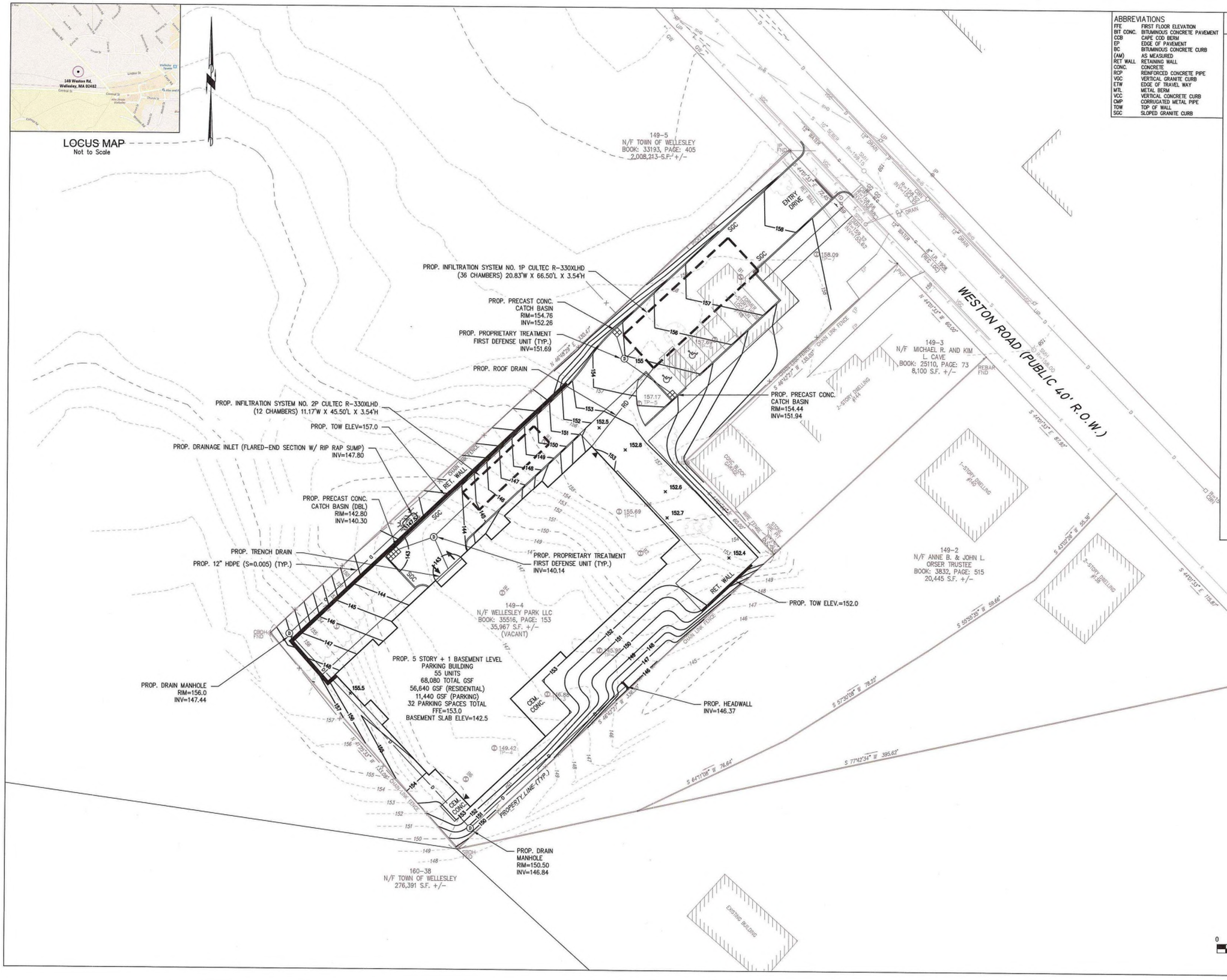
NOT FOR CONSTRUCTION

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	NOVEMBER 21, 2018
SCALE:	1"=20'
PROJECT NO.:	217-177

DWG. TITLE:
SITE DEVELOPMENT PLAN

DWG. NO: C-1

M:\MEG\2017 PROJECTS\217-177 (OAKGROVE- WESTON ROAD WELLESLY)\DWGS\SUBMISSIONS\PROJECT CHANGE\217-177 MAIN (PC).DWG



ABBREVIATIONS

FFE	FIRST FLOOR ELEVATION
BIT CONC.	BITUMINOUS CONCRETE PAVEMENT
CCB	CAPE COD BERM
EP	EDGE OF PAVEMENT
BC	BITUMINOUS CONCRETE CURB
(AM)	AS MEASURED
RET WALL	RETAINING WALL
CONC.	CONCRETE
RCP	REINFORCED CONCRETE PIPE
VCC	VERTICAL GRANITE CURB
ETW	EDGE OF TRAVEL WAY
MTL	METAL BERM
VCC	VERTICAL CONCRETE CURB
CMP	CORRUGATED METAL PIPE
TOW	TOP OF WALL
SGC	SLOPED GRANITE CURB

LEGEND

SURVEY SYMBOLS

- REBAR
- ANGLE IRON
- CB/DH — CONCRETE BOUND WITH DRILL HOLE
- SB — STONE BOUND
- SB/DH — STONE BOUND

UTILITY SYMBOLS

- CHIMNEY
- ELECTRIC HAND HOLE
- GUY POLE
- GW — GUY WIRE
- HVAC UNIT
- BUILDING LIGHT W/MAST
- BUILDING LIGHT
- TRANSFORMER
- WATER GATE
- EXH — EXHAUST VENT
- AIR VENT
- DRAINAGE SUMP
- EMH — ELECTRIC MANHOLE
- SMH — SEWER MANHOLE
- DMH — DRAIN MANHOLE
- TMH — TELEPHONE MANHOLE
- CBN — DRAINAGE CATCH BASIN
- DOOR WAY THRESHOLD
- HYDRANT
- POST INDICATER VALVE
- UTILITY POLE
- YARD LIGHT
- RIP RAP
- B — BOLLARD
- SIGN
- FA — FIRE ALARM
- DECIDUOUS TREE
- CONIFEROUS TREE

LINE DESIGNATORS

- W — WATER MAIN
- HANDRAIL
- JERSEY BARRIER
- GUARD RAIL
- RAILROAD TRACKS
- OHW — OVERHEAD WIRES
- G — GAS LINE
- WS — WATER SERVICE
- E — UNDERGROUND ELECTRIC
- D — STORM DRAIN LINE
- S — SANITARY SEWER LINE
- DRAINAGE SWALE
- X — CHAIN LINK FENCE

REV	DATE	DESCRIPTION	BY	APP

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
781.792.3900
www.mckeng.com

PROPOSED COMPREHENSIVE PERMIT DEVELOPMENT

(PARCEL ID 149-4)
148 WESTON ROAD
WELLESLEY, MASSACHUSETTS

PROFESSIONAL ENGINEER:
COMMONWEALTH OF MASSACHUSETTS
BRADLEY C. McKENZIE
CIVIL
No. 36917
REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

APPLICANT:
WELLESLEY PARK, LLC
49 COOLIDGE STREET
BROOKLINE, MASSACHUSETTS 02446

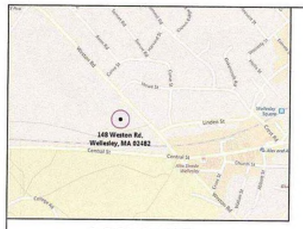
DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	NOVEMBER 21, 2018
SCALE:	1"=20'
PROJECT NO.:	217-177

DWG. TITLE:
GRADING & DRAINAGE PLAN

DWG. NO:
C-2

© MCKENZIE ENGINEERING GROUP, INC.

M:\MEG\2017 PROJECTS\217-177 (OAKGROVE- WESTON ROAD WELLESLY)\DWGS\SUBMISSIONS\PROJECT CHANGE\217-177 MAIN (PC).DWG

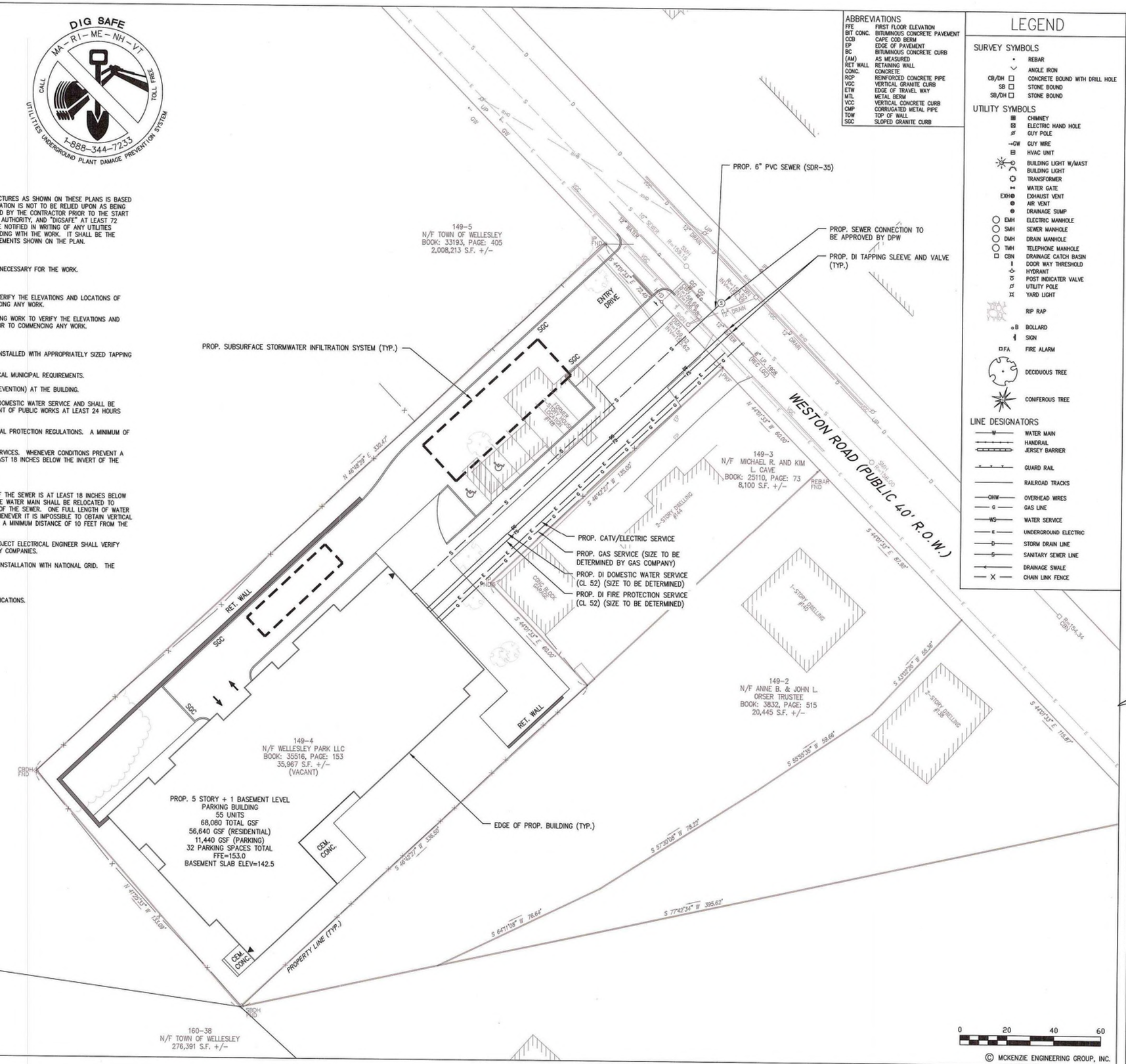


LOCUS MAP
Not to Scale

DIG SAFE
MA – RI – ME – NH – VT
CALL TOLL FREE
1-888-344-7233
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

GENERAL UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
2. ALL EXISTING UTILITIES WITHIN THE SITE ARE TO REMOVED UNLESS OTHERWISE STATED TO REMAIN.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCHMARKS NECESSARY FOR THE WORK.
4. THE CONTRACTOR SHALL COORDINATE ALL STREET WORK WITH THE WELLESLEY DPW.
5. THE CONTRACTOR SHALL EXCAVATE THE TEST PITS PRIOR TO INSTALLING THE DOMESTIC WATER AND FIRE SERVICES TO VERIFY THE ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES. THE CONTRACTOR SHALL PROVIDE THE OWNER AND ENGINEER WITH THE RESULTS PRIOR TO COMMENCING ANY WORK.
6. THE CONTRACTOR SHALL EXCAVATE THE UTILITY TRENCHES IN THE LOCATIONS SHOWN ON THE PLAN PRIOR TO COMMENCING WORK TO VERIFY THE ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES. THE CONTRACTOR SHALL PROVIDE THE OWNER AND ENGINEER WITH THE RESULTS PRIOR TO COMMENCING ANY WORK.
7. ALL WATER AND FIRE SERVICES SHALL BE INSTALLED WITH 5' OF COVER EXCEPT AS NOTED OR DETAILED OTHERWISE.
8. THE DOMESTIC WATER SERVICE AND FIRE SERVICE SHALL BE CEMENT LINED DUCTILE IRON PIPE (C.L.D.I.) AND SHALL BE INSTALLED WITH APPROPRIATELY SIZED TAPPING SLEEVE, GATE VALVE AND BOX.
9. ALL WATER AND FIRE SERVICE APPURTENANCES, MATERIALS, METHODS OF INSTALLATION SHALL MEET OR EXCEED ALL LOCAL MUNICIPAL REQUIREMENTS.
10. THE FIRE SERVICE AND DOMESTIC WATER SERVICE SHALL BE ADEQUATELY PROTECTED AGAINST BACKFLOW (BACKFLOW PREVENTION) AT THE BUILDING.
11. AFTER PRESSURE TESTING AND CHLORINATION IS COMPLETED, SAMPLES SHALL BE TAKEN FROM THE FIRE SERVICE AND DOMESTIC WATER SERVICE AND SHALL BE TESTED AT 200 PSI FOR A MINIMUM OF 2 HOURS. THE CONTRACTOR IS REQUIRED TO NOTIFY THE WELLESLEY DEPARTMENT OF PUBLIC WORKS AT LEAST 24 HOURS PRIOR TO THE TESTING.
12. THE FIRE SERVICE AND DOMESTIC WATER SERVICE SHALL BE TESTED IN ACCORDANCE WITH DEPARTMENT OF ENVIRONMENTAL PROTECTION REGULATIONS. A MINIMUM OF 2 SEPARATE WATER SAMPLES SHALL BE TESTED AT A STATE CERTIFIED LABORATORY.
13. A MINIMUM OF 10 FEET CLEAR HORIZONTALLY SHALL BE MAINTAINED BETWEEN SANITARY SEWER SERVICES AND WATER SERVICES. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET TO A WATER SERVICE THE ELEVATION OF THE CROWN OF THE SEWER SHALL BE AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER SERVICE.
14. ALL GRAVITY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) SDR-35 UNLESS OTHERWISE NOTED.
15. WHERE SANITARY SEWERS CROSS WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN. IF THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT, THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL-JOINT PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. WHENEVER IT IS IMPOSSIBLE TO OBTAIN VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE ENCASED IN CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
16. THE LOCATIONS OF PROPOSED ELECTRIC, TELEPHONE AND COMMUNICATION (E.T.C.) SERVICES ARE APPROXIMATE. THE PROJECT ELECTRICAL ENGINEER SHALL VERIFY THESE LOCATIONS PRIOR TO THE START OF CONSTRUCTION. COORDINATE ALL E.T.C. WORK WITH THE APPROPRIATE UTILITY COMPANIES.
17. THE PROPOSED GAS SERVICE LOCATION IS APPROXIMATE ONLY. THE CONTRACTOR SHALL COORDINATE THE GAS SERVICE INSTALLATION WITH NATIONAL GRID. THE CONTRACTOR SHALL GIVE NATIONAL GRID ADVANCE NOTICE OF WHEN THE GAS LINE CAN BE INSTALLED.
18. ALL TRENCH WORK TO BE BACKFILLED WITH FLOWABLE FILL. STREET PATCH TO MATCH EXISTING PAVEMENT THICKNESS.
19. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN ACCORDANCE WITH WELLESLEY DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS.



ABBREVIATIONS

FFE	FIRST FLOOR ELEVATION
BIT. CONC.	BITUMINOUS CONCRETE PAVEMENT
CCB	CAPE COD BERM
EP	EDGE OF PAVEMENT
BC	BITUMINOUS CONCRETE CURB
(AM)	AS MEASURED
RET. WALL	RETAINING WALL
CONC.	CONCRETE
RCP	REINFORCED CONCRETE PIPE
VGC	VERTICAL GRANITE CURB
ETW	EDGE OF TRAVEL WAY
MTL	METAL BERM
VCC	VERTICAL CONCRETE CURB
CMP	CORRUGATED METAL PIPE
TOW	TOP OF WALL
SGC	SLOPED GRANITE CURB

LEGEND

SURVEY SYMBOLS

- REBAR
- ANGLE IRON
- CB/DH — CONCRETE BOUND WITH DRILL HOLE
- SB — STONE BOUND
- SB/DH — STONE BOUND

UTILITY SYMBOLS

- CHIMNEY
- ELECTRIC HAND HOLE
- GUY POLE
- GW — GUY WIRE
- HVAC UNIT
- BUILDING LIGHT W/MAST
- BUILDING LIGHT
- TRANSFORMER
- WATER GATE
- EXH — EXHAUST VENT
- AIR VENT
- DRAINAGE SUMP
- EMH — ELECTRIC MANHOLE
- SMH — SEWER MANHOLE
- DMH — DRAIN MANHOLE
- TMH — TELEPHONE MANHOLE
- CBN — DRAINAGE CATCH BASIN
- DOOR WAY THRESHOLD
- HYDRANT
- POST INDICATER VALVE
- UTILITY POLE
- YARD LIGHT
- RIP RAP
- B — BOLLARD
- SIGN
- FA — FIRE ALARM
- DECIDUOUS TREE
- CONIFEROUS TREE

LINE DESIGNATORS

- W — WATER MAIN
- HANDRAIL
- JERSEY BARRIER
- GUARD RAIL
- RAILROAD TRACKS
- OHW — OVERHEAD WIRES
- G — GAS LINE
- WS — WATER SERVICE
- E — UNDERGROUND ELECTRIC
- D — STORM DRAIN LINE
- S — SANITARY SEWER LINE
- DRAINAGE SWALE
- X — CHAIN LINK FENCE

REV	DATE	DESCRIPTION	BY	APP

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
781.792.3900
www.mckeng.com

PROPOSED COMPREHENSIVE PERMIT DEVELOPMENT

(PARCEL 149-4)
148 WESTON ROAD
WELLESLEY, MASSACHUSETTS

PROFESSIONAL ENGINEER:
COMMONWEALTH OF MASSACHUSETTS
BRADLEY C. McKENZIE
CIVIL
No. 36917
REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

APPLICANT:
WELLESLEY PARK, LLC
49 COOLIDGE STREET
BROOKLINE, MASSACHUSETTS 02446

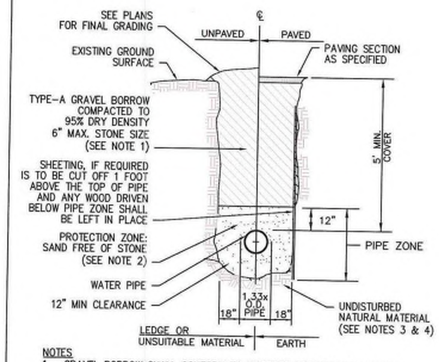
DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	NOVEMBER 21, 2018
SCALE:	1"=20'
PROJECT NO.:	217-177

DWG. TITLE:
UTILITIES PLAN

DWG. NO:
C-3

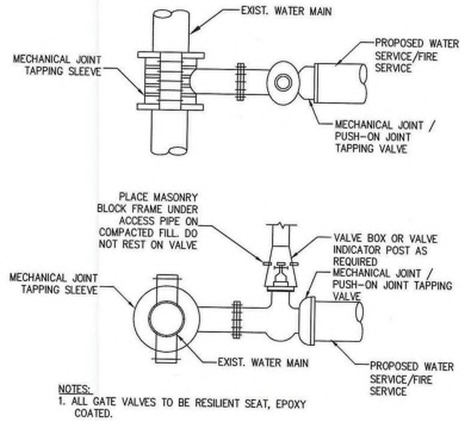
© MCKENZIE ENGINEERING GROUP, INC.

M:\MEG\2017 PROJECTS\217-177 (OAKGROVE- WESTON ROAD WELLESLY)\DWGS\SUBMISSIONS\PROJECT CHANGE\217-177 MAIN (PC).DWG



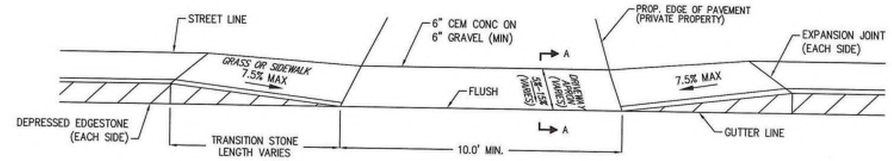
NOTES
1. GRAVEL BORROW SHALL CONFORM TO MASSDOT SPECIFICATION M1.03.0.
2. SAND BEDDING SHALL CONFORM TO MASSDOT SPECIFICATIONS.
3. SUBGRADE SHALL CONSIST OF NATIVE SOIL OR IMPORTED SOIL CONFORMING TO THE MASSDOT SPECIFICATION FOR ORDINARY BORROW AND SHALL BE FREE OF ANY UNSUITABLE SOILS OR MATERIAL.
4. UNSUITABLE SOIL OR MATERIAL SHALL INCLUDE BUT NOT BE LIMITED TO PEAT, MUCK, BROKEN PAVEMENT, STUMPS, LOGS, CONSTRUCTION DEBRIS OR ANY OTHER DELETERIOUS MATERIAL.

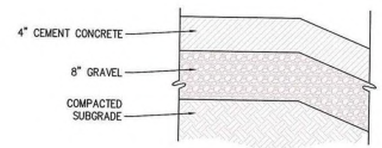
TYPICAL WATER TRENCH DETAIL
N.T.S.



NOTES:
1. ALL GATE VALVES TO BE RESILIENT SEAT, EPOXY COATED.

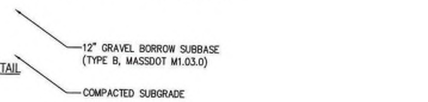
TYPICAL TAPPING SLEEVE AND VALVE BOX
N.T.S.



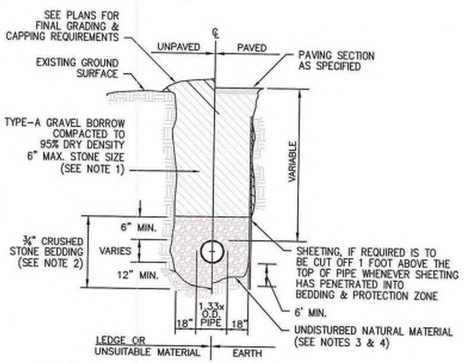


SECTION A-A

NOTES
1. ALL WORK SHALL COMPLY WITH TOWN OF WELLESLEY SPECIFICATION FOR PORTLAND CEMENT CONCRETE SIDEWALKS. LATEST REVISION.
2. SUBGRADE SHALL CONSIST OF NATIVE SOIL OR IMPORTED SOIL CONFORMING TO MASSDOT SPECIFICATION FOR ORDINARY BORROW AND SHALL BE FREE OF ANY UNSUITABLE MATERIALS.

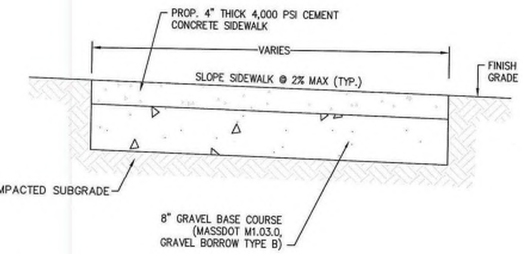


DRIVEWAY APRON DETAIL
N.T.S.



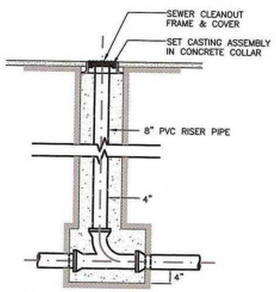
NOTES
1. GRAVEL BORROW SHALL CONFORM TO MASSDOT SPECIFICATION M1.03.0.
2. CRUSHED STONE BEDDING SHALL CONFORM TO MASSDOT SPECIFICATION M2.01.1.
3. SUBGRADE SHALL CONSIST OF NATIVE SOIL OR IMPORTED SOIL CONFORMING TO THE MASSDOT SPECIFICATION FOR ORDINARY BORROW AND SHALL BE FREE OF ANY UNSUITABLE SOILS OR MATERIAL.
4. UNSUITABLE SOIL OR MATERIAL SHALL INCLUDE BUT NOT BE LIMITED TO PEAT, MUCK, BROKEN PAVEMENT, STUMPS, LOGS, CONSTRUCTION DEBRIS OR ANY OTHER DELETERIOUS MATERIAL.

GRAVITY SEWER TRENCH DETAIL
N.T.S.



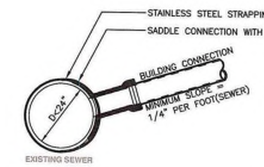
NOTES
1. ALL WORK SHALL COMPLY WITH TOWN OF WELLESLEY SPECIFICATION FOR PORTLAND CEMENT CONCRETE SIDEWALKS. LATEST REVISION.
2. SUBGRADE SHALL CONSIST OF NATIVE SOIL OR IMPORTED SOIL CONFORMING TO MASSDOT SPECIFICATION FOR ORDINARY BORROW AND SHALL BE FREE OF ANY UNSUITABLE MATERIALS.

CEMENT CONCRETE SIDEWALK DETAIL
N.T.S.



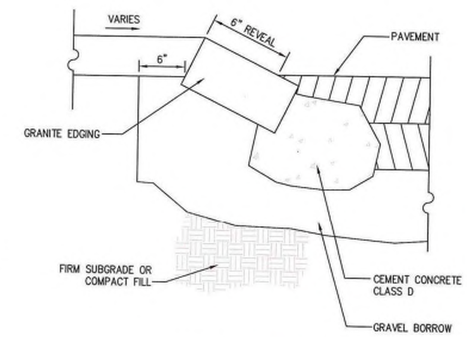
NOTES:
1. CLEANOUT TOP SHALL BE ENCLOSED IN CASTING AND/OR FABRICATED COVER ASSEMBLY.

IN LINE SEWER CLEANOUT DETAIL
N.T.S.

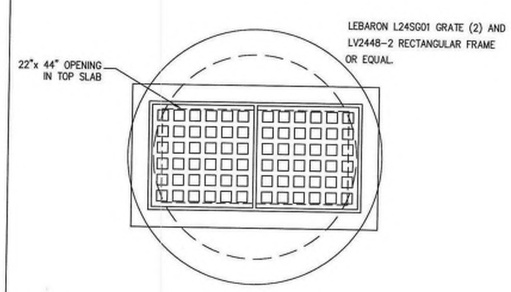


NOTES:
1. FULL PVC OR IRON SADDLE MAY BE USED TO CONNECT TO EXISTING PVC, CLAY, CONCRETE, OR IRON PIPE.
2. SADDLES MUST HAVE RUBBER GASKETS AND SHALL BE TIGHTENED WITH STRAPS. SADDLES WILL NOT BE CEMENTED ONTO THE PIPE.
3. FULL WYE CONNECTION FITTINGS MAY BE USED
4. PIPE SHALL BE CUT TO CONFORM TO THE OPENING IN THE SADDLE.
5. CONNECTIONS DIRECTLY INTO THE EXISTING PIPE WITHOUT A SADDLE OR A FULL WYE FITTING ARE NOT ALLOWED.

SADDLE CONNECTION TO EXISTING SEWER
N.T.S.

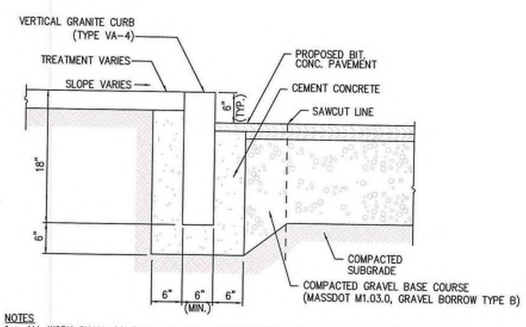


SLOPED GRANITE CURB DETAIL
N.T.S.



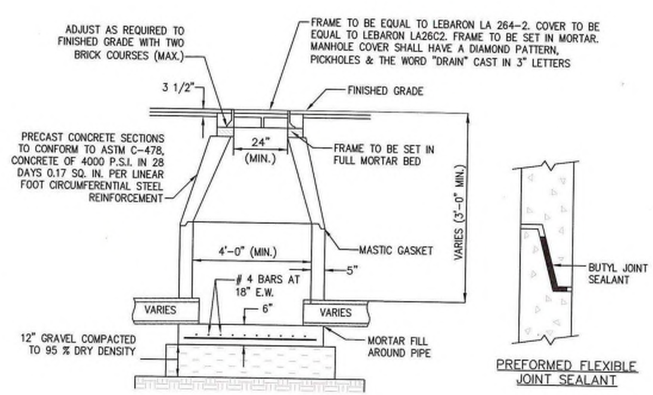
PLAN

DOUBLE GRATE CATCH BASIN DETAIL
N.T.S.



NOTES
1. ALL WORK SHALL COMPLY WITH TOWN OF WELLESLEY SPECIFICATION FOR PORTLAND CEMENT CONCRETE SIDEWALKS. LATEST REVISION.
2. SUBGRADE SHALL CONSIST OF NATIVE SOIL OR IMPORTED SOIL CONFORMING TO MASSDOT SPECIFICATION FOR ORDINARY BORROW AND SHALL BE FREE OF ANY UNSUITABLE MATERIALS.

VERTICAL GRANITE CURB (VGC) DETAIL
N.T.S.



PREFORMED FLEXIBLE JOINT SEALANT

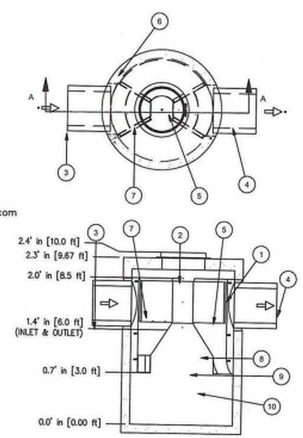
TYPICAL PRECAST DRAIN MANHOLE
N.T.S.

Hydro International
Stormwater Solutions
94 Hutchins Drive
Portland, Maine 04102
Tel: (207) 756-6200
Fax: (207) 756-6212
stormwaterinquiry@hydro-int.com

MANHOLE WALL AND SLAB THICKNESS ARE NOT TO SCALE.

CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.

CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASING UNIT TO FABRICATION.



SECTION A-A

Parts List			
ITEM	QTY.	DESCRIPTION	SIZE (in)
1	1	I.D. CONCRETE MANHOLE	
2	1	INLET CHUTE (W/ FLOATABLES TRAP)	
3	1	OUTLET CHUTE	
4	1	INLET PIPE (BY OTHERS)	
5	1	OUTLET PIPE (BY OTHERS)	
6	1	HIGH FLOW BYPASS	
7	1	FRAME AND COVER (OR GRATE)	

FIRST DEFENSE UNIT
N.T.S.

© MCKENZIE ENGINEERING GROUP, INC.

M:\MEG\2017 PROJECTS\217-177 (OAKGROVE- WESTON ROAD WELLESLY)\DWGS\SUBMISSIONS\PROJECT CHANGE\217-177 DETAILS (PC).DWG

REV	DATE	DESCRIPTION	BY	APP

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
781.792.3900
www.mckeng.com

PROPOSED COMPREHENSIVE PERMIT DEVELOPMENT

(PARCEL ID 149-4)
148 WESTON ROAD
WELLESLEY, MASSACHUSETTS

PROFESSIONAL ENGINEER:
COMMONWEALTH OF MASSACHUSETTS
BRADLEY C. McKENZIE
CIVIL
No. 30317
REGISTERED PROFESSIONAL ENGINEER

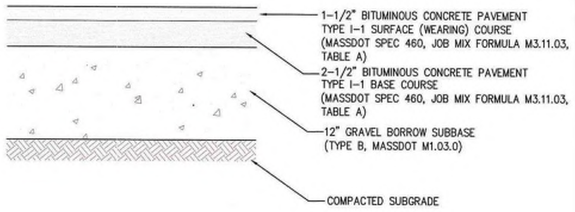
NOT FOR CONSTRUCTION

APPLICANT:
WELLESLEY PARK, LLC
49 COOLIDGE STREET
BROOKLINE, MASSACHUSETTS 02446

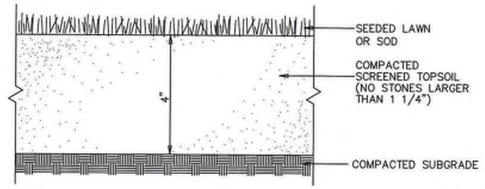
DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	NOVEMBER 21, 2018
SCALE:	1"=20'
PROJECT NO.:	217-177

DWG. TITLE:
CONSTRUCTION DETAILS

DWG. NO:
C-4

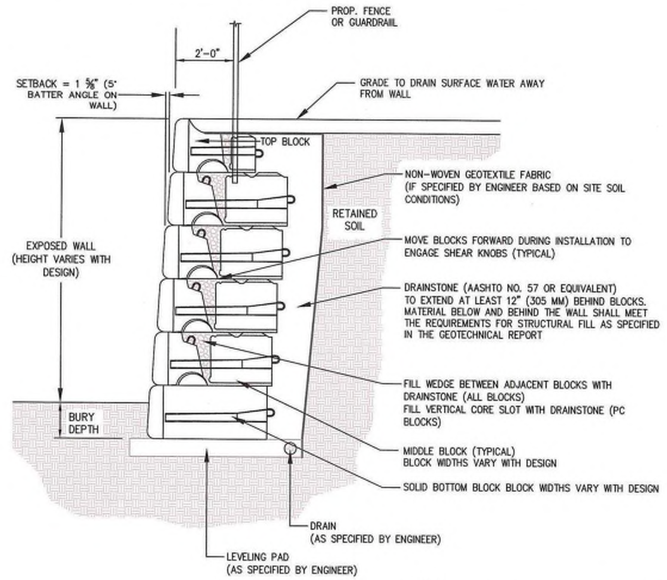


PARKING AREA PAVEMENT DETAIL
N.T.S.



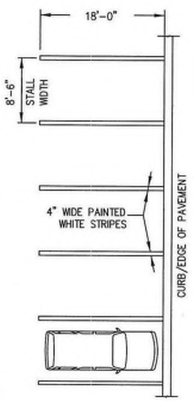
NOTE:
LOAM & SEED MATERIAL SHALL CONFORM TO MASSDOT MATERIAL SPECIFICATIONS M1.05.0, M1.07.0, M1.08.1, AND CONSTRUCTION METHODS 751.80 TO 751.83

SEEDED OR SODDED LAWN DETAIL
N.T.S.



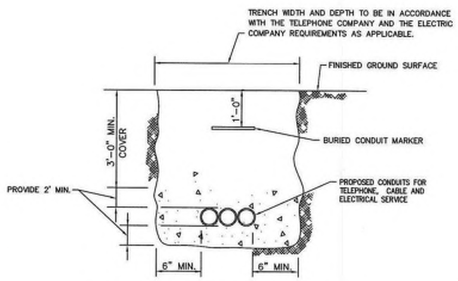
NOTE:
DESIGN OF PRECAST CONCRETE MODULAR BLOCK RETAINING WALL SHALL BE BY A PROFESSIONAL CIVIL STRUCTURAL ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS

MODULAR BLOCK GRAVITY RETAINING WALL DETAIL
N.T.S.

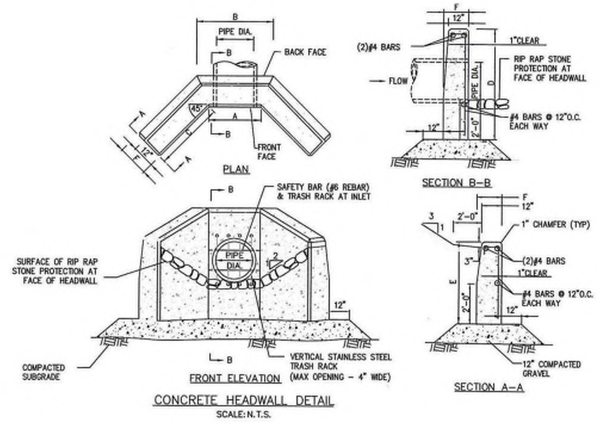


STANDARD SPACE

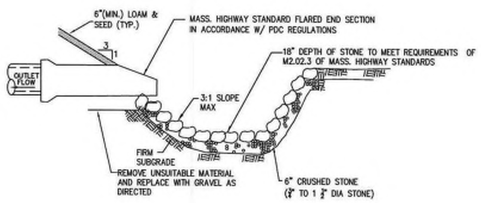
TYPICAL STRIPING DETAILS
N.T.S.



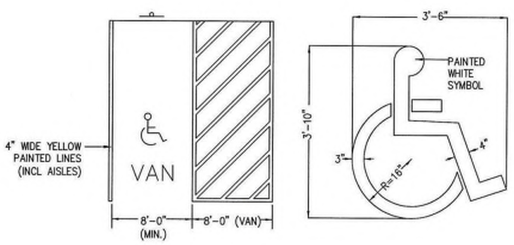
TYPICAL ELECTRIC/TELEPHONE/CABLE CONDUIT (US-UTILITY SERVICE)
SCALE: N.T.S.



CONCRETE HEADWALL DETAIL
SCALE: N.T.S.

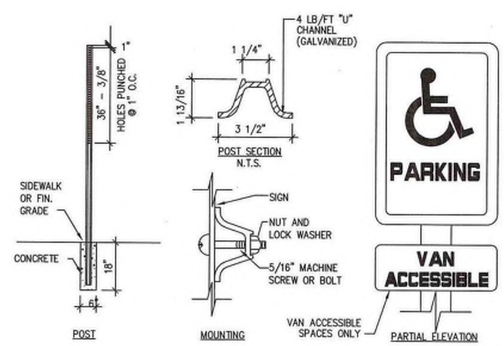


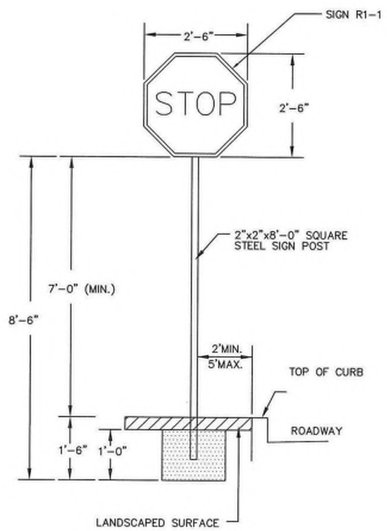
TYPICAL SEDIMENT TRAP DETAIL
SCALE: N.T.S.



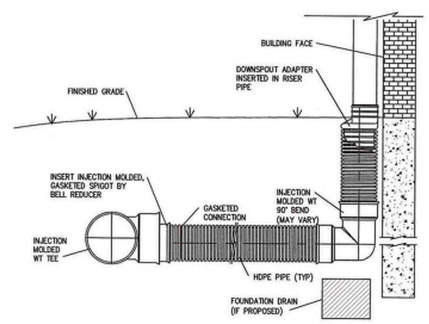
HANDICAP PARKING STALL DETAIL
N.T.S.

PAINTED HANDICAP SYMBOL DETAIL
N.T.S.





SIGN DETAIL
SCALE: N.T.S.



NOTE:
- INJECTION MOLDED FITTING ARE AVAILABLE IN TEES, WYES, REDUCERS, 45° BENDS AND BELL/BELL COUPLERS.
- WATERTIGHT (WT) JOINTS SHOWN. SOIL-TIGHT (ST) FITTINGS ARE ALSO AVAILABLE.

ROOF LEADER CONNECTION DETAIL
SCALE: N.T.S.

REV	DATE	DESCRIPTION	BY	APP

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
781.792.3900
www.mckeng.com

PROPOSED COMPREHENSIVE PERMIT DEVELOPMENT

(PARCEL ID 149-4)
148 WESTON ROAD
WELLESLEY, MASSACHUSETTS

PROFESSIONAL ENGINEER:
COMMONWEALTH OF MASSACHUSETTS
BRADLEY C. MCKENZIE
CIVIL
No. 36917
REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

APPLICANT:
WELLESLEY PARK, LLC
49 COOLIDGE STREET
BROOKLINE, MASSACHUSETTS 02446

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	NOVEMBER 21, 2018
SCALE:	1"=20'
PROJECT NO.:	217-177

DWG. TITLE:
CONSTRUCTION DETAILS

DWG. NO:
C-5

© MCKENZIE ENGINEERING GROUP, INC.

M:\MEG\2017 PROJECTS\217-177 (OAKGROVE- WESTON ROAD WELLESLY)\DWGS\SUBMISSIONS\PROJECT CHANGE\217-177 DETAILS (PC).DWG

CULTEC RECHARGER® 330XLHD PRODUCT SPECIFICATIONS

GENERAL

CULTEC RECHARGER 330XLHD CHAMBERS ARE DESIGNED FOR UNDERGROUND STORMWATER MANAGEMENT, THE CHAMBERS MAY BE USED FOR RETENTION, RECHARGING, DETENTION OR CONTROLLING THE FLOW OF ON-SITE STORMWATER RUNOFF.

CHAMBER PARAMETERS

1. THE CHAMBERS SHALL BE MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT, USA. (203-775-4416 OR 1-800-428-5832)
2. THE CHAMBER SHALL BE VACUUM THERMOFORMED OF HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE) WITH A BLACK INTERIOR AND BLUE EXTERIOR.
3. THE CHAMBER SHALL BE ARCHED IN SHAPE.
4. THE CHAMBER SHALL BE OPEN-BOTTOMED.
5. THE CHAMBER SHALL BE JOINED USING AN INTERLOCKING OVERLAPPING RIB METHOD. CONNECTIONS MUST BE FULLY SHOULDERED OVERLAPPING RIBS, HAVING NO SEPARATE COUPLINGS OR SEPARATE END WALLS
6. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC RECHARGER 330XLHD SHALL BE 30.5 INCHES (775 mm) TALL, 52 INCHES (1321 mm) WIDE AND 8.5 FEET (2.59 m) LONG. THE INSTALLED LENGTH OF A JOINED RECHARGER 330XLHD SHALL BE 7 FEET (2.13 m).
7. MAXIMUM INLET OPENING ON THE CHAMBER ENDWALL IS 24 INCHES (600 mm).
8. THE CHAMBER SHALL HAVE TWO SIDE PORTALS TO ACCEPT CULTEC HVLV® FC-24 FEED CONNECTORS TO CREATE AN INTERNAL MANIFOLD. THE NOMINAL DIMENSIONS OF EACH SIDE PORTAL SHALL BE 10.5 INCHES (267 mm) HIGH BY 11.5 INCHES (292 mm) WIDE. MAXIMUM ALLOWABLE OUTER DIAMETER (O.D.) PIPE SIZE IN THE SIDE PORTAL IS 11.75 INCHES (298 mm).
9. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 24.2 INCHES (614 mm) LONG.
10. THE NOMINAL STORAGE VOLUME OF THE RECHARGER 330XLHD CHAMBER SHALL BE 7.459 FT^3 / FT (0.693 m^3 / m) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF A JOINED RECHARGER 330XLHD SHALL BE 52.213 FT^3 / UNIT (1.478 m^3 / UNIT) - WITHOUT STONE.
11. THE NOMINAL STORAGE VOLUME OF THE HVLV FC-24 FEED CONNECTOR SHALL BE 0.913 FT^3 / FT (0.085 m^3 / m) - WITHOUT STONE.
12. THE RECHARGER 330XLHD CHAMBER SHALL HAVE FIFTY-SIX DISCHARGE HOLES BORED INTO THE SIDEWALLS OF THE UNIT'S CORE TO PROMOTE LATERAL CONVEYANCE OF WATER.
13. THE RECHARGER 330XLHD CHAMBER SHALL HAVE 16 CORRUGATIONS.
14. THE ENDWALL OF THE CHAMBER, WHEN PRESENT, SHALL BE AN INTEGRAL PART OF THE CONTINUOUSLY FORMED UNIT. SEPARATE END PLATES CANNOT BE USED WITH THIS UNIT.
15. THE RECHARGER 330XLRHD STAND ALONE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO FULLY FORMED INTEGRAL ENDWALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS.
16. THE RECHARGER 330XLSHD STARTER UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 14 INCHES (356 mm) HIGH X 34.5 INCHES (876 mm) WIDE.
17. THE RECHARGER 330XLIHD INTERMEDIATE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY OPEN ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 14 INCHES (356 mm) HIGH X 34.5 INCHES (876 mm) WIDE.
18. THE RECHARGER 330XLEHD END UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE FULLY OPEN END WALL AND HAVING NO SEPARATE END PLATES OR END WALLS.
19. THE HVLV FC-24 FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT SHALL FIT INTO THE SIDE PORTALS OF THE RECHARGER 330XLHD AND ACT AS CROSS FEED CONNECTIONS.
20. CHAMBERS MUST HAVE HORIZONTAL STIFFENING FLEX REDUCTION STEPS BETWEEN THE RIBS.
21. HEAVY DUTY UNITS ARE DESIGNATED BY A COLORED STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.
22. THE CHAMBER SHALL HAVE A 6 INCH (152 mm) DIAMETER RAISED INTEGRAL CAP AT THE TOP OF THE ARCH IN THE CENTER OF EACH UNIT TO BE USED AS AN OPTIONAL INSPECTION PORT OR CLEAN-OUT.
23. THE UNITS MAY BE TRIMMED TO CUSTOM LENGTHS BY CUTTING BACK TO ANY CORRUGATION.
24. THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2015 CERTIFIED FACILITY.
25. MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12 FEET (3.66 m)
26. THE CHAMBER SHALL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.

CULTEC HVLV FC-24 FEED CONNECTOR PRODUCT SPECIFICATIONS

GENERAL

CULTEC HVLV FC-24 FEED CONNECTORS ARE DESIGNED TO CREATE AN INTERNAL MANIFOLD FOR CULTEC RECHARGER MODEL 330XLHD STORMWATER CHAMBERS.

CHAMBER PARAMETERS

1. THE CHAMBERS SHALL BE MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
2. THE CHAMBER SHALL BE VACUUM THERMOFORMED OF HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE) WITH A BLACK INTERIOR AND BLUE EXTERIOR.
3. THE CHAMBER SHALL BE ARCHED IN SHAPE.
4. THE CHAMBER SHALL BE OPEN-BOTTOMED.
5. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 24.2 INCHES (614 mm) LONG.
6. THE NOMINAL STORAGE VOLUME OF THE HVLV FC-24 FEED CONNECTOR SHALL BE 0.913 FT^3 / FT (0.085 m^3 / m) - WITHOUT STONE.
7. THE HVLV FC-24 FEED CONNECTOR CHAMBER SHALL HAVE 2 CORRUGATIONS.
8. THE HVLV FC-24 FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT SHALL FIT INTO THE SIDE PORTALS OF THE CULTEC RECHARGER STORMWATER CHAMBER AND ACT AS CROSS FEED CONNECTIONS CREATING AN INTERNAL MANIFOLD.
9. THE CHAMBER SHALL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.
10. THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2015 CERTIFIED FACILITY.

CULTEC NO. 410™ NON-WOVEN GEOTEXTILE

CULTEC NO. 410™ NON-WOVEN GEOTEXTILE MAY BE USED WITH CULTEC CONTACTOR® AND RECHARGER® STORMWATER INSTALLATIONS TO PROVIDE A BARRIER THAT PREVENTS SOIL INTRUSION INTO THE STONE.

GEOTEXTILE PARAMETERS

1. THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
2. THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.
3. THE GEOTEXTILE SHALL HAVE A TYPICAL WEIGHT OF 4.5 OZ/SY (142 G/M).
4. THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH VALUE OF 120 LBS (533 N) PER ASTM D4632 TESTING METHOD.
5. THE GEOTEXTILE SHALL HAVE AN ELONGATION @ BREAK VALUE OF 50% PER ASTM D4632 TESTING METHOD.
6. THE GEOTEXTILE SHALL HAVE A MULLEN BURST VALUE OF 225 PSI (1551 KPA) PER ASTM D3786 TESTING METHOD.
7. THE GEOTEXTILE SHALL HAVE A PUNCTURE STRENGTH VALUE OF 65 LBS (289 N) PER ASTM D4833 TESTING METHOD.
8. THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE VALUE OF 340 LBS (1513 N) PER ASTM D6241 TESTING METHOD.
9. THE GEOTEXTILE SHALL HAVE A TRAPEZOID TEAR VALUE OF 50 LBS (222 N) PER ASTM D4533 TESTING METHOD.
10. THE GEOTEXTILE SHALL HAVE A AOS VALUE OF 70 U.S. SIEVE (0.212 MM) PER ASTM D4751 TESTING METHOD.
11. THE GEOTEXTILE SHALL HAVE A PERMITTIVITY VALUE OF 1.7 SEC-1 PER ASTM D4491 TESTING METHOD.
12. THE GEOTEXTILE SHALL HAVE A WATER FLOW RATE VALUE OF 135 GAL/MIN/SF (5500 L/MIN/SM) PER ASTM D4491 TESTING METHOD.
13. THE GEOTEXTILE SHALL HAVE A UV STABILITY @ 500 HOURS VALUE OF 70% PER ASTM D4355 TESTING METHOD.

CULTEC NO. 4800™ WOVEN GEOTEXTILE

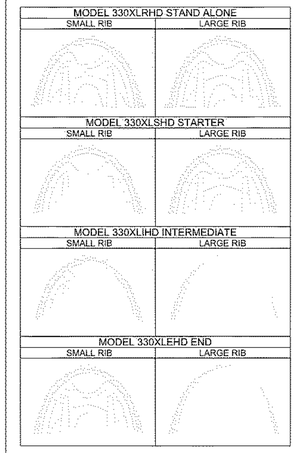
CULTEC NO. 4800 WOVEN GEOTEXTILE IS DESIGNED AS A UNDERLAYMENT TO PREVENT SCOURING CAUSED BY WATER MOVEMENT WITHIN THE CULTEC CHAMBERS AND FEED CONNECTORS UTILIZING THE CULTEC MANIFOLD FEATURE. IT MAY ALSO BE USED AS A COMPONENT OF THE CULTEC SEPARATOR ROW TO ACT AS A BARRIER TO PREVENT SOIL/CONTAMINANT INTRUSION INTO THE STONE WHILE ALLOWING FOR MAINTENANCE.

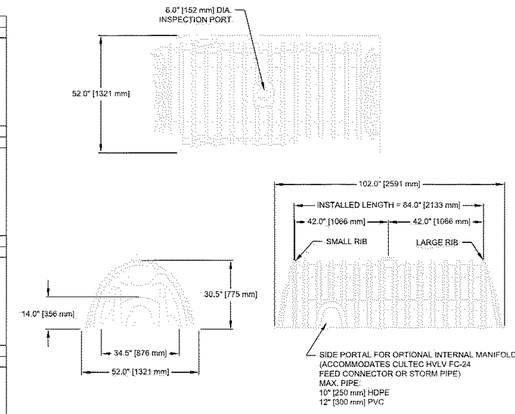
GEOTEXTILE PARAMETERS

1. THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
2. THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.
3. THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH OF 550 X 550 LBS (2,448 X 2,448 N) PER ASTM D4632 TESTING METHOD.
4. THE GEOTEXTILE SHALL HAVE A ELONGATION @ BREAK RESISTANCE OF 20 X 20% PER ASTM D4632 TESTING METHOD.
5. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE OF 5,070 X 5,070 LBS/FT (74 X 74 KN/M) PER ASTM D4595 TESTING METHOD.
6. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE @ 2% STRAIN OF 960 X 1,096 LBS/FT (14 X 16 KN/M) PER ASTM D4595 TESTING METHOD.
7. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE @ 5% STRAIN OF 2,740 X 2,740 LBS/FT (40 X 40 KN/M) PER ASTM D4595 TESTING METHOD.
8. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE @ 10% STRAIN OF 4,800 X 4,800 LBS/FT (70 X 70 KN/M) PER ASTM D4595 TESTING METHOD.
9. THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE RESISTANCE OF 1,700 LBS (7,560 N) PER ASTM D6241 TESTING METHOD.
10. THE GEOTEXTILE SHALL HAVE A TRAPEZOIDAL TEAR RESISTANCE OF 180 X 180 LBS (801 X 801 N) PER ASTM D4533 TESTING METHOD.
11. THE GEOTEXTILE SHALL HAVE AN APPARENT OPENING SIZE OF 40 US STD. SIEVE (0.425 MM) PER ASTM D4751 TESTING METHOD.
12. THE GEOTEXTILE SHALL HAVE A PERMITTIVITY RATING OF 0.15 SEC-1 PER ASTM D4491 TESTING METHOD.
13. THE GEOTEXTILE SHALL HAVE A WATER FLOW RATING OF 11.5 GPM/FT2 (470 LPM/M2) PER ASTM D4491 TESTING METHOD.
14. THE GEOTEXTILE SHALL HAVE A UV RESISTANCE OF 80% @ 500 HRS. PER ASTM D4355 TESTING METHOD.

GENERAL NOTES

330XLHD 1.0

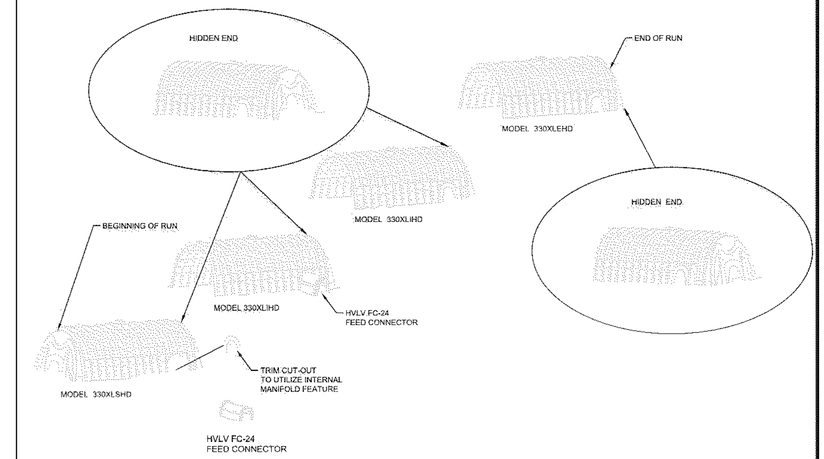




CULTEC RECHARGER 330XLHD CHAMBER STORAGE = 7.459 CF/FT [0.693 m^3/m]
INSTALLED LENGTH ADJUSTMENT = 1.5' [0.46 m]
SIDE PORTAL ACCEPTS CULTEC HVLV FC-24 FEED CONNECTOR

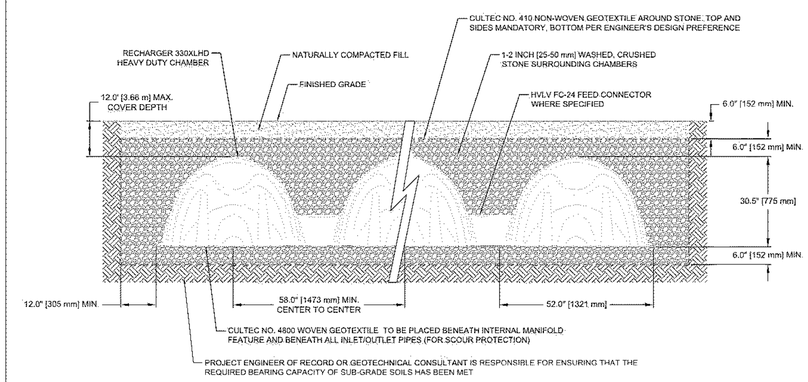
CULTEC RECHARGER 330XLHD HEAVY DUTY THREE VIEW

330XLHD 2.0



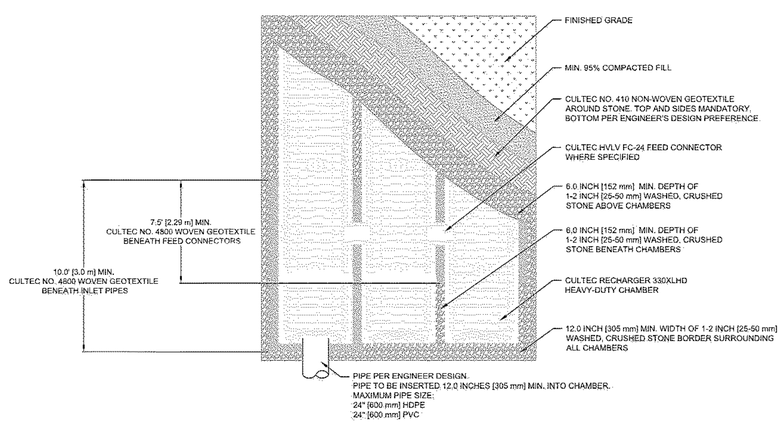
CULTEC RECHARGER 330XLHD HEAVY DUTY END DETAIL INFORMATION

330XLHD 3.0



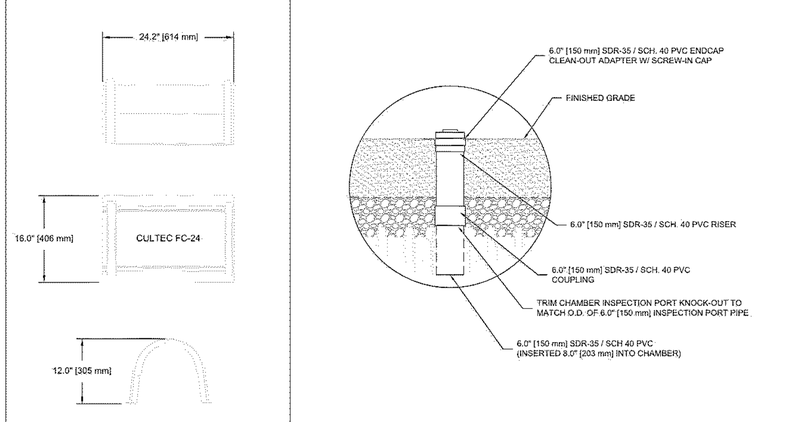
CULTEC RECHARGER 330XLHD HEAVY DUTY TYPICAL INTERLOCK

330XLHD 5.0



CULTEC RECHARGER 330XLHD HEAVY DUTY PLAN VIEW

330XLHD 6.0

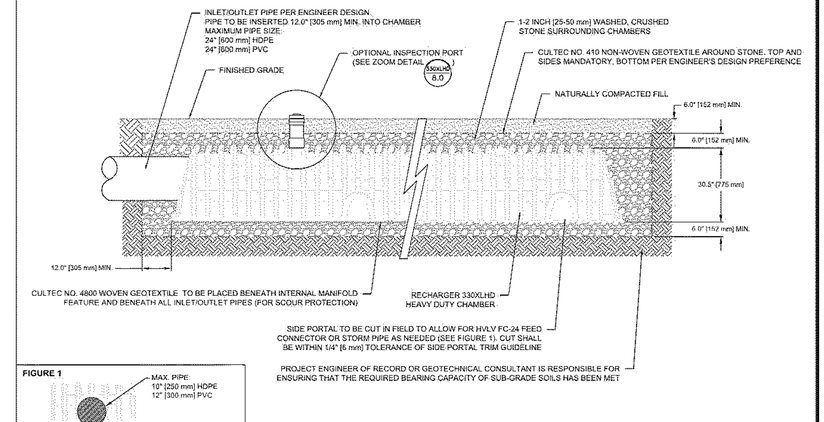


CULTEC HVLV FC-24 FEED CONNECTOR THREE VIEW

330XLHD 7.0

OPTIONAL INSPECTION PORT- ZOOM DETAIL

330XLHD 8.0



CULTEC INTERNAL MANIFOLD- OPTIONAL INSPECTION PORT DETAIL

330XLHD 9.0

CULTEC, Inc.
Subsurface Stormwater Management Systems
P.O. Box 280
878 Federal Road
Brookfield, CT 06804
www.cultec.com
PH: (203) 775-4416
PH: (800) 4-CULTEC
FX: (203) 775-1462
tech@cultec.com

THIS DRAWING WAS PREPARED TO SUPPORT THE PROJECT ENGINEER OF RECORD FOR THE PROPOSED SYSTEM. IT IS THE ULTIMATE RESPONSIBILITY OF THE PROJECT ENGINEER OF RECORD TO ENSURE THAT THE CULTEC SYSTEM'S DESIGN IS IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. IT IS THE PROJECT ENGINEER OF RECORD'S RESPONSIBILITY TO ENSURE THAT THE CULTEC PRODUCTS ARE DESIGNED IN ACCORDANCE WITH CULTEC'S MINIMUM REQUIREMENTS. CULTEC DOES NOT APPROVE PLANS, SIZING, OR SYSTEM DESIGNS.

RECHARGER 330XLHD
DETAIL SHEET
NON-TRAFFIC APPLICATION

CULTEC STORMWATER CHAMBER

PROJECT NO:		DATE:	2018
DESIGNED BY:	CULTEC, INC	CHECKED BY:	TECH
SCALE:	N.T.S.	SHEET NO:	1 OF 1

CULTEC RECHARGER® 330XLHD PRODUCT SPECIFICATIONS

GENERAL

CULTEC RECHARGER 330XLHD CHAMBERS ARE DESIGNED FOR UNDERGROUND STORMWATER MANAGEMENT, THE CHAMBERS MAY BE USED FOR RETENTION, RECHARGING, DETENTION OR CONTROLLING THE FLOW OF ON-SITE STORMWATER RUNOFF.

CHAMBER PARAMETERS

1. THE CHAMBERS SHALL BE MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT, USA. (203-775-4416 OR 1-800-428-5832)
2. THE CHAMBER SHALL BE VACUUM THERMOFORMED OF HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE) WITH A BLACK INTERIOR AND BLUE EXTERIOR.
3. THE CHAMBER SHALL BE ARCHED IN SHAPE.
4. THE CHAMBER SHALL BE OPEN-BOTTOMED.
5. THE CHAMBER SHALL BE JOINED USING AN INTERLOCKING OVERLAPPING RIB METHOD. CONNECTIONS MUST BE FULLY SHOULDERED OVERLAPPING RIBS, HAVING NO SEPARATE COUPLINGS OR SEPARATE END WALLS
6. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC RECHARGER 330XLHD SHALL BE 30.5 INCHES (775 mm) TALL, 52 INCHES (1321 mm) WIDE AND 8.5 FEET (2.59 m) LONG. THE INSTALLED LENGTH OF A JOINED RECHARGER 330XLHD SHALL BE 7 FEET (2.13 m).
7. MAXIMUM INLET OPENING ON THE CHAMBER ENDWALL IS 24 INCHES (600 mm) HDPE.
8. THE CHAMBER SHALL HAVE TWO SIDE PORTALS TO ACCEPT CULTEC HVLV® FC-24 FEED CONNECTORS TO CREATE AN INTERNAL MANIFOLD. THE NOMINAL DIMENSIONS OF EACH SIDE PORTAL SHALL BE 10.5 INCHES (267 mm) HIGH BY 11.5 INCHES (292 mm) WIDE. MAXIMUM ALLOWABLE OUTER DIAMETER (O.D.) PIPE SIZE IN THE SIDE PORTAL IS 11.75 INCHES (298 mm).
9. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 24.2 INCHES (614 mm) LONG.
10. THE NOMINAL STORAGE VOLUME OF THE RECHARGER 330XLHD CHAMBER SHALL BE 7.459 FT³ / FT (0.693 m³ / m) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF A JOINED RECHARGER 330XLHD SHALL BE 52.213 FT³ / UNIT (1.478 m³ / UNIT) - WITHOUT STONE.
11. THE NOMINAL STORAGE VOLUME OF THE HVLV FC-24 FEED CONNECTOR SHALL BE 0.913 FT³ / FT (0.085 m³ / m) - WITHOUT STONE.
12. THE RECHARGER 330XLHD CHAMBER SHALL HAVE FIFTY-SIX DISCHARGE HOLES BORED INTO THE SIDEWALLS OF THE UNIT'S CORE TO PROMOTE LATERAL CONVEYANCE OF WATER.
13. THE RECHARGER 330XLHD CHAMBER SHALL HAVE 16 CORRUGATIONS.
14. THE ENDWALL OF THE CHAMBER, WHEN PRESENT, SHALL BE AN INTEGRAL PART OF THE CONTINUOUSLY FORMED UNIT. SEPARATE END PLATES CANNOT BE USED WITH THIS UNIT.
15. THE RECHARGER 330XLRHD STAND ALONE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO FULLY FORMED INTEGRAL ENDWALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS.
16. THE RECHARGER 330XLSHD STARTER UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 14 INCHES (356 mm) HIGH X 34.5 INCHES (876 mm) WIDE.
17. THE RECHARGER 330XLIHD INTERMEDIATE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY OPEN ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 14 INCHES (356 mm) HIGH X 34.5 INCHES (876 mm) WIDE.
18. THE RECHARGER 330XLEHD END UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE FULLY OPEN END WALL AND HAVING NO SEPARATE END PLATES OR END WALLS.
19. THE HVLV FC-24 FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT SHALL FIT INTO THE SIDE PORTALS OF THE RECHARGER 330XLHD AND ACT AS CROSS FEED CONNECTIONS.
20. CHAMBERS MUST HAVE HORIZONTAL STIFFENING FLEX REDUCTION STEPS BETWEEN THE RIBS.
21. HEAVY DUTY UNITS ARE DESIGNATED BY A COLORED STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.
22. THE CHAMBER SHALL HAVE A 6 INCH (152 mm) DIAMETER RAISED INTEGRAL CAP AT THE TOP OF THE ARCH IN THE CENTER OF EACH UNIT TO BE USED AS AN OPTIONAL INSPECTION PORT OR CLEAN-OUT.
23. THE UNITS MAY BE TRIMMED TO CUSTOM LENGTHS BY CUTTING BACK TO ANY CORRUGATION.
24. THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2015 CERTIFIED FACILITY.
25. MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12 FEET (3.66 m)
26. THE CHAMBER SHALL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.

CULTEC HVLV FC-24 FEED CONNECTOR PRODUCT SPECIFICATIONS

GENERAL

CULTEC HVLV FC-24 FEED CONNECTORS ARE DESIGNED TO CREATE AN INTERNAL MANIFOLD FOR CULTEC RECHARGER MODEL 330XLHD STORMWATER CHAMBERS.

CHAMBER PARAMETERS

1. THE CHAMBERS SHALL BE MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
2. THE CHAMBER SHALL BE VACUUM THERMOFORMED OF HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE) WITH A BLACK INTERIOR AND BLUE EXTERIOR.
3. THE CHAMBER SHALL BE ARCHED IN SHAPE.
4. THE CHAMBER SHALL BE OPEN-BOTTOMED.
5. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 24.2 INCHES (614 mm) LONG.
6. THE NOMINAL STORAGE VOLUME OF THE HVLV FC-24 FEED CONNECTOR SHALL BE 0.913 FT³ / FT (0.085 m³ / m) - WITHOUT STONE.
7. THE HVLV FC-24 FEED CONNECTOR CHAMBER SHALL HAVE 2 CORRUGATIONS.
8. THE HVLV FC-24 FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT SHALL FIT INTO THE SIDE PORTALS OF THE CULTEC RECHARGER STORMWATER CHAMBER AND ACT AS CROSS FEED CONNECTIONS CREATING AN INTERNAL MANIFOLD.
9. THE CHAMBER SHALL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.
10. THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2015 CERTIFIED FACILITY.

CULTEC NO. 410™ NON-WOVEN GEOTEXTILE

CULTEC NO. 410™ NON-WOVEN GEOTEXTILE MAY BE USED WITH CULTEC CONTACTOR® AND RECHARGER® STORMWATER INSTALLATIONS TO PROVIDE A BARRIER THAT PREVENTS SOIL INTRUSION INTO THE STONE.

GEOTEXTILE PARAMETERS

1. THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
2. THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.
3. THE GEOTEXTILE SHALL HAVE A TYPICAL WEIGHT OF 4.5 OZ/SY (142 G/M).
4. THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH VALUE OF 120 LBS (533 N) PER ASTM D4632 TESTING METHOD.
5. THE GEOTEXTILE SHALL HAVE AN ELONGATION @ BREAK VALUE OF 50% PER ASTM D4632 TESTING METHOD.
6. THE GEOTEXTILE SHALL HAVE A MULLEN BURST VALUE OF 225 PSI (1551 KPA) PER ASTM D3786 TESTING METHOD.
7. THE GEOTEXTILE SHALL HAVE A PUNCTURE STRENGTH VALUE OF 65 LBS (289 N) PER ASTM D4833 TESTING METHOD.
8. THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE VALUE OF 340 LBS (1513 N) PER ASTM D6241 TESTING METHOD.
9. THE GEOTEXTILE SHALL HAVE A TRAPEZOID TEAR VALUE OF 50 LBS (222 N) PER ASTM D4533 TESTING METHOD.
10. THE GEOTEXTILE SHALL HAVE A AOS VALUE OF 70 U.S. SIEVE (0.212 MM) PER ASTM D4751 TESTING METHOD.
11. THE GEOTEXTILE SHALL HAVE A PERMITTIVITY VALUE OF 1.7 SEC-1 PER ASTM D4491 TESTING METHOD.
12. THE GEOTEXTILE SHALL HAVE A WATER FLOW RATE VALUE OF 135 GAL/MIN/SF (5500 L/MIN/SM) PER ASTM D4491 TESTING METHOD.
13. THE GEOTEXTILE SHALL HAVE A UV STABILITY @ 500 HOURS VALUE OF 70% PER ASTM D4355 TESTING METHOD.

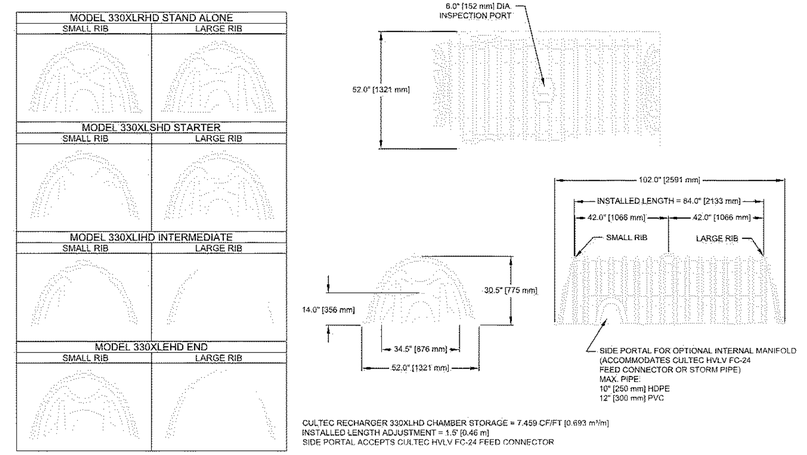
CULTEC NO. 4800™ WOVEN GEOTEXTILE

CULTEC NO. 4800 WOVEN GEOTEXTILE IS DESIGNED AS A UNDERLAYMENT TO PREVENT SCOURING CAUSED BY WATER MOVEMENT WITHIN THE CULTEC CHAMBERS AND FEED CONNECTORS UTILIZING THE CULTEC MANIFOLD FEATURE. IT MAY ALSO BE USED AS A COMPONENT OF THE CULTEC SEPARATOR ROW TO ACT AS A BARRIER TO PREVENT SOIL/CONTAMINANT INTRUSION INTO THE STONE WHILE ALLOWING FOR MAINTENANCE.

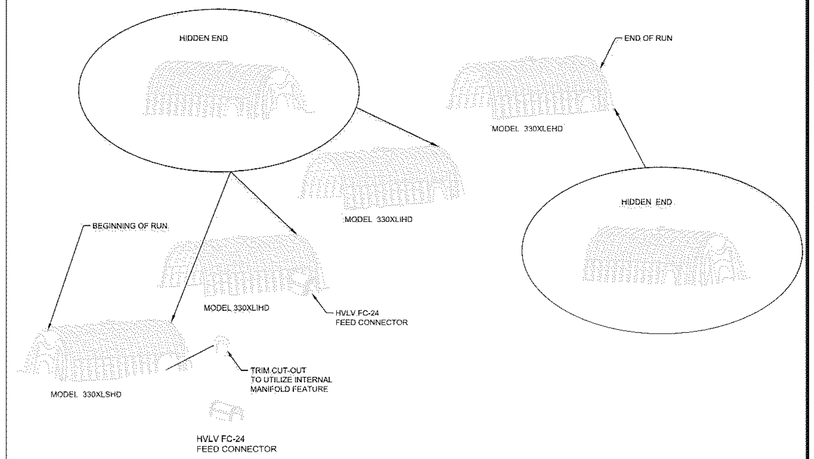
GEOTEXTILE PARAMETERS

1. THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
2. THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.
3. THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH OF 550 X 550 LBS (2,448 X 2,448 N) PER ASTM D4632 TESTING METHOD.
4. THE GEOTEXTILE SHALL HAVE A ELONGATION @ BREAK RESISTANCE OF 20 X 20% PER ASTM D4632 TESTING METHOD.
5. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE OF 5,070 X 5,070 LBS/FT (74 X 74 KN/M) PER ASTM D4595 TESTING METHOD.
6. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE @ 2% STRAIN OF 960 X 1,096 LBS/FT (14 X 16 KN/M) PER ASTM D4595 TESTING METHOD.
7. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE @ 5% STRAIN OF 2,740 X 2,740 LBS/FT (40 X 40 KN/M) PER ASTM D4595 TESTING METHOD.
8. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE @ 10% STRAIN OF 4,800 X 4,800 LBS/FT (70 X 70 KN/M) PER ASTM D4595 TESTING METHOD.
9. THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE RESISTANCE OF 1,700 LBS (7,560 N) PER ASTM D6241 TESTING METHOD.
10. THE GEOTEXTILE SHALL HAVE A TRAPEZOIDAL TEAR RESISTANCE OF 180 X 180 LBS (801 X 801 N) PER ASTM D4533 TESTING METHOD.
11. THE GEOTEXTILE SHALL HAVE AN APPARENT OPENING SIZE OF 40 US STD. SIEVE (0.425 MM) PER ASTM D4751 TESTING METHOD.
12. THE GEOTEXTILE SHALL HAVE A PERMITTIVITY RATING OF 0.15 SEC-1 PER ASTM D4491 TESTING METHOD.
13. THE GEOTEXTILE SHALL HAVE A WATER FLOW RATING OF 11.5 GPM/FT2 (470 LPM/M2) PER ASTM D4491 TESTING METHOD.
14. THE GEOTEXTILE SHALL HAVE A UV RESISTANCE OF 80% @ 500 HRS. PER ASTM D4355 TESTING METHOD.

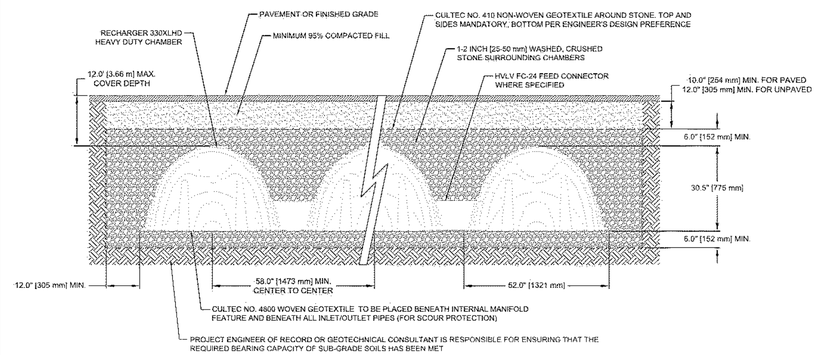
330XLHD 1.0 — **GENERAL NOTES**



330XLHD 2.0 — **CULTEC RECHARGER 330XLHD HEAVY DUTY THREE VIEW**

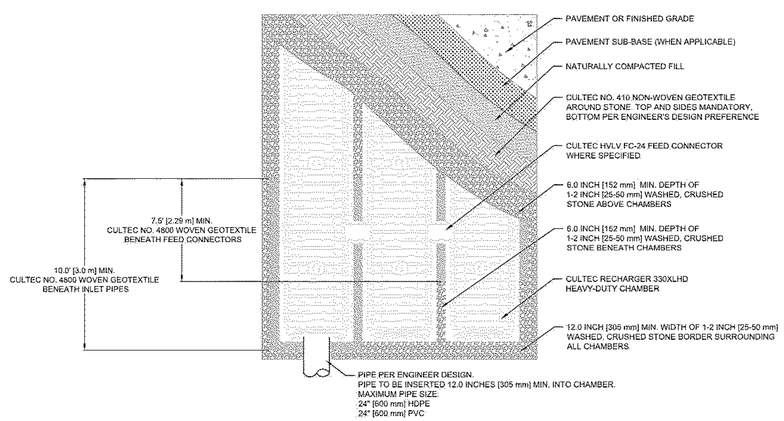


330XLHD 3.0 — **CULTEC RECHARGER 330XLHD HEAVY DUTY END DETAIL INFORMATION**

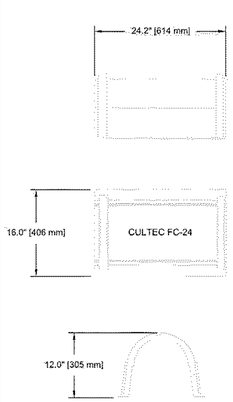


330XLHD 4.0 — **CULTEC RECHARGER 330XLHD HEAVY DUTY CROSS SECTION**

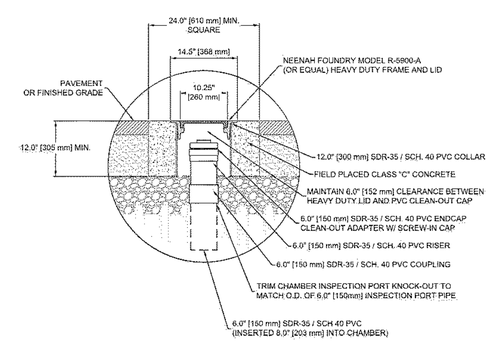
330XLHD 5.0 — **CULTEC RECHARGER 330XLHD HEAVY DUTY TYPICAL INTERLOCK**



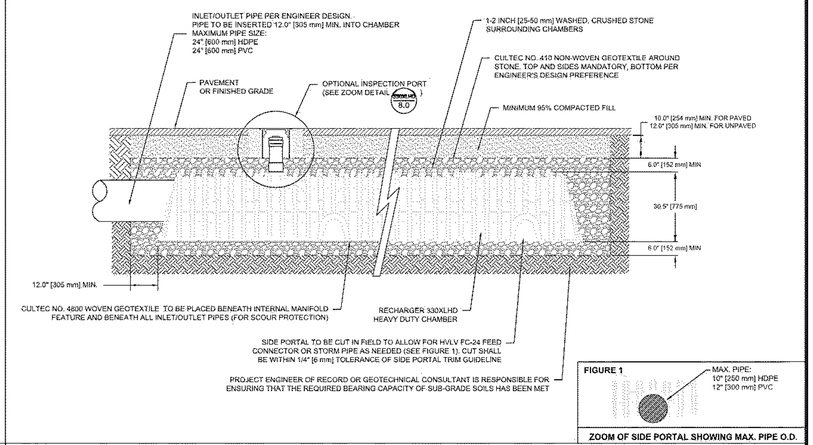
330XLHD 6.0 — **CULTEC RECHARGER 330XLHD HEAVY DUTY PLAN VIEW**



330XLHD 7.0 — **CULTEC HVLV FC-24 FEED CONNECTOR THREE VIEW**



330XLHD 8.0 — **OPTIONAL INSPECTION PORT- ZOOM DETAIL**



330XLHD 9.0 — **CULTEC INTERNAL MANIFOLD- OPTIONAL INSPECTION PORT DETAIL**

CULTEC, Inc.
Subsurface Stormwater Management Systems
P.O. Box 280
878 Federal Road
Brookfield, CT 06804
www.cultec.com
PH: (203) 775-4416
PH: (800) 4-CULTEC
FX: (203) 775-1462
tech@cultec.com

THIS DRAWING WAS PREPARED TO SUPPORT THE PROJECT ENGINEER OF RECORD FOR THE PROPOSED SYSTEM. IT IS THE ULTIMATE RESPONSIBILITY OF THE PROJECT ENGINEER OF RECORD TO ENSURE THAT THE CULTEC SYSTEM'S DESIGN IS IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. IT IS THE PROJECT ENGINEER OF RECORD'S RESPONSIBILITY TO ENSURE THAT THE CULTEC PRODUCTS ARE DESIGNED IN ACCORDANCE WITH CULTEC'S MINIMUM REQUIREMENTS. CULTEC DOES NOT APPROVE PLANS, SIZING, OR SYSTEM DESIGNS.

RECHARGER 330XLHD
DETAIL SHEET
TRAFFIC APPLICATION

CULTEC STORMWATER CHAMBER

PROJECT NO:		DATE:	2018
DESIGNED BY:	CULTEC, INC	CHECKED BY:	TECH
SCALE:	N.T.S.	SHEET NO:	1 OF 1

NTS

EMBARC

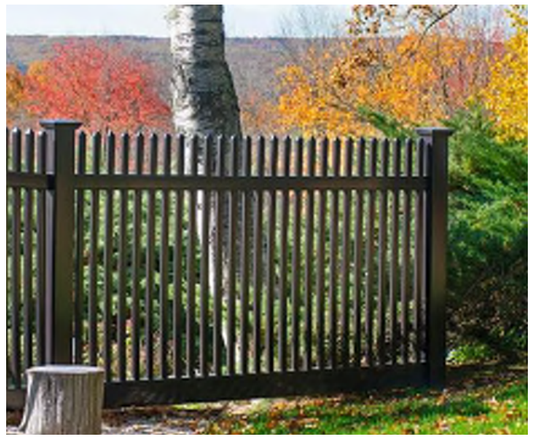
VERDANT
LANDSCAPE ARCHITECTURE

LANDSCAPE SITE PLAN
148 WESTON ROAD
WELLESLEY, MA 02482

NOVEMBER 21, 2018

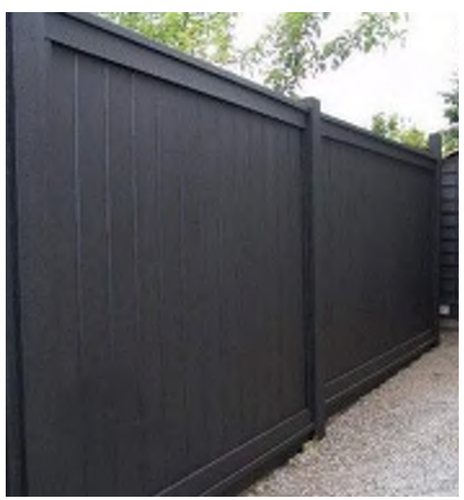
L1

Country Garden Vignettes at key areas



4′ Height Picket Fence at Weston Road

Evergreen Buffer Plantings and
6′ ht. Privacy Fence at Abutters



EMBARC

VERDANT
LANDSCAPE ARCHITECTURE

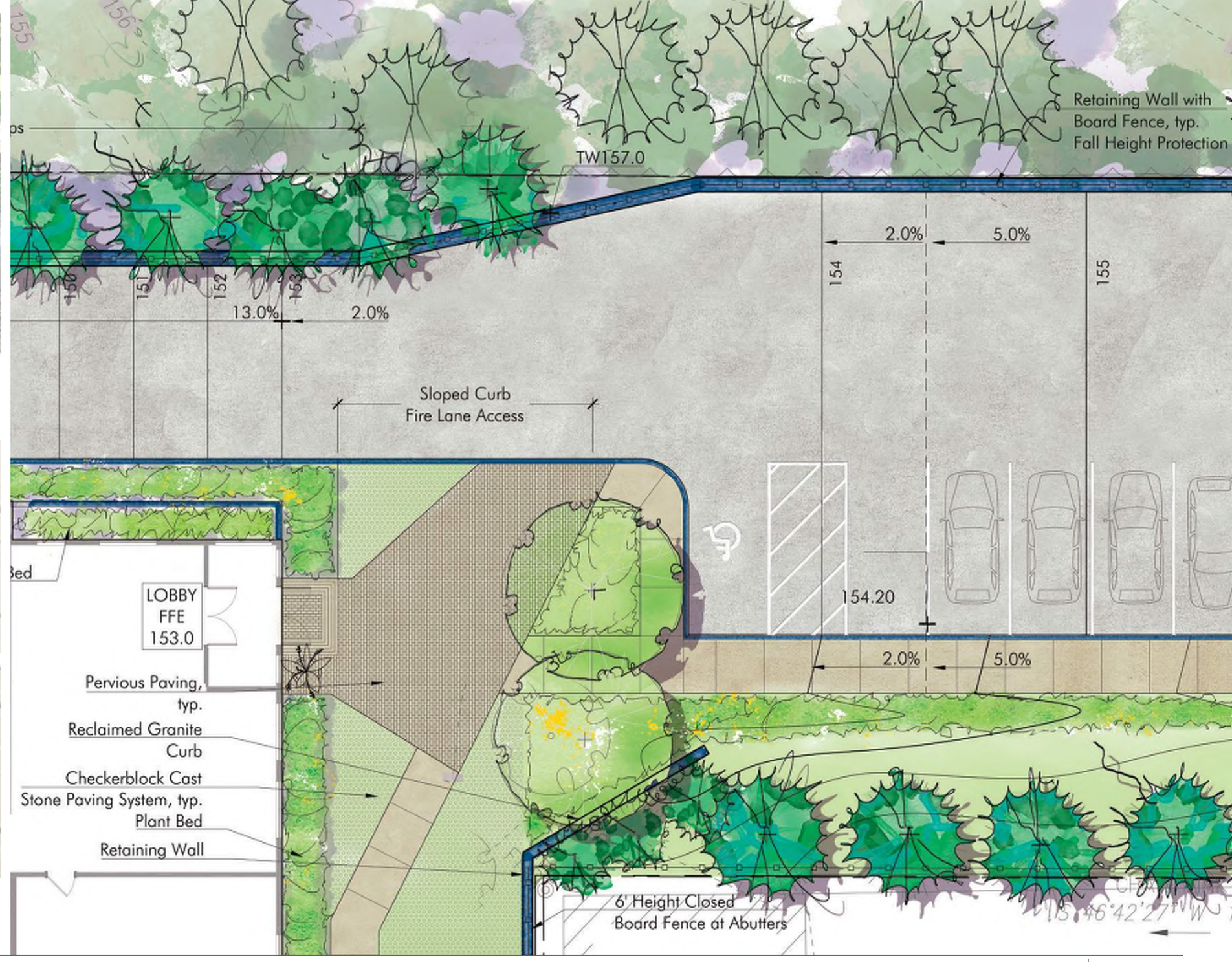
ENTRY SEQUENCE
148 WESTON ROAD
WELLESLEY, MA 02482

NOVEMBER 21, 2018

L2

Reclaimed Granite Curb

Blended Brick Paving at Lobby and Courtyard



EMBARC

VERDANT
LANDSCAPE ARCHITECTURE

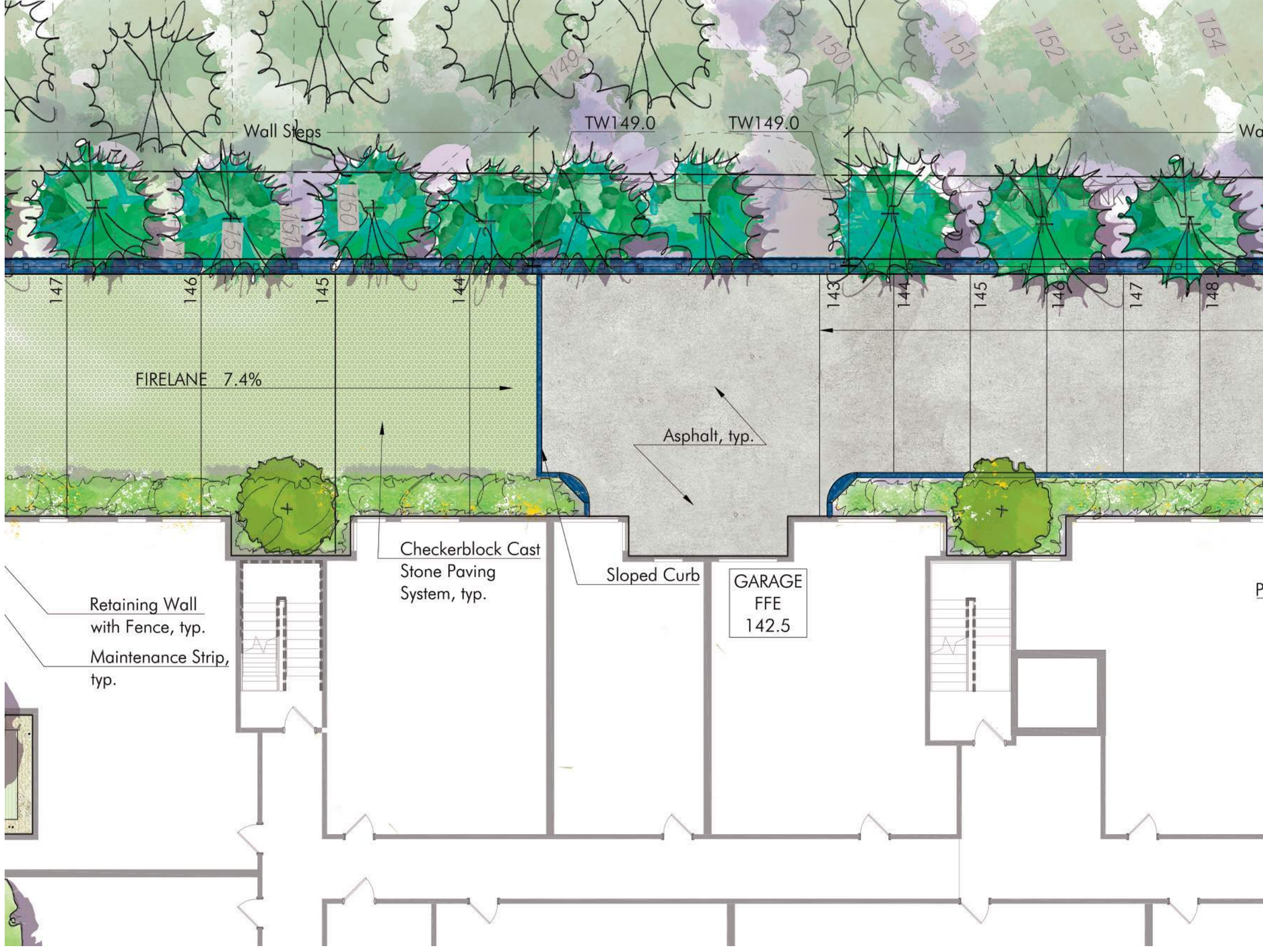
LOBBY ENTRY COURT
148 WESTON ROAD
WELLESLEY, MA 02482

NOVEMBER 21, 2018

L3

Firelane Checkerblock (Concrete + Grass)

Retaining Wall with Fence



EMBARC

VERDANT LANDSCAPE ARCHITECTURE

GARAGE ENTRY
148 WESTON ROAD
WELLESLEY, MA 02482

NOVEMBER 21, 2018

L4

Reclaimed Granite Curb

Dynamic Plantings at Patio

Contemporary Pergola

EMBARC

VERDANT
LANDSCAPE ARCHITECTURE

PATIO GARDEN GRILL AREA
148 WESTON ROAD
WELLESLEY, MA 02482

NOVEMBER 21, 2018

L5

EMBARC

VERDANT
LANDSCAPE ARCHITECTURE

SPACE FOR PLAY
148 WESTON ROAD
WELLESLEY, MA 02482

NOVEMBER 21, 2018

L6

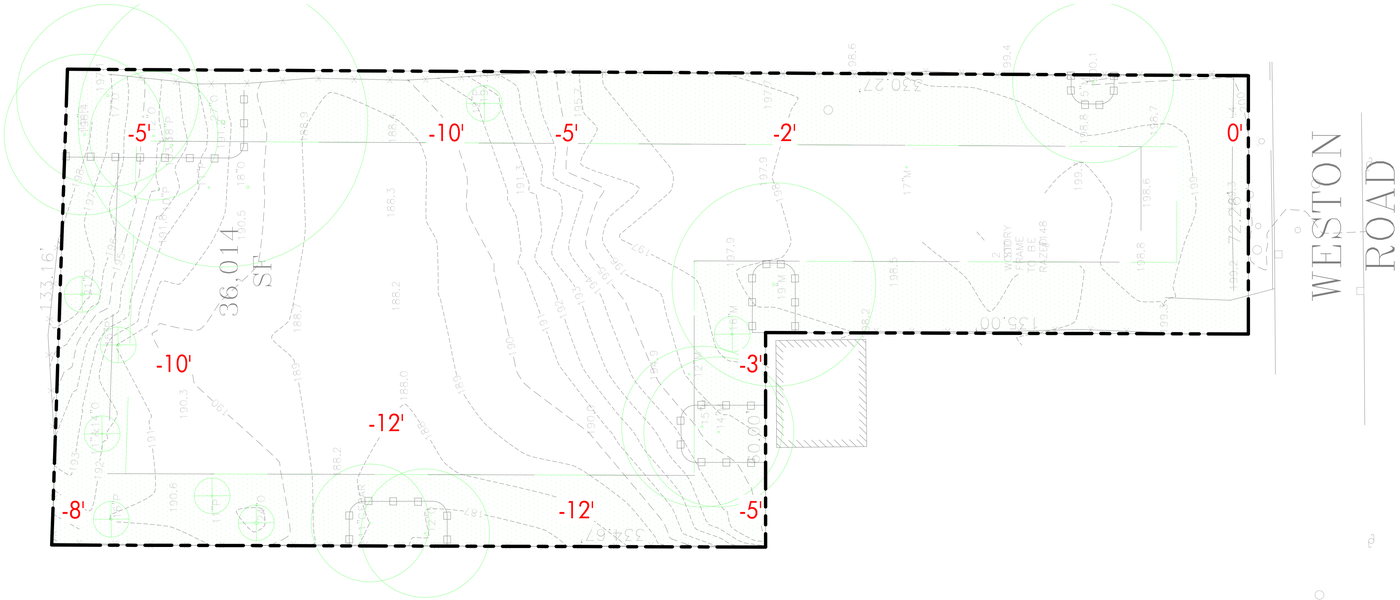
EMBARC

VERDANT
LANDSCAPE ARCHITECTURE

CONNECTIONS TO CROSSTOWN TRAIL
148 WESTON ROAD
WELLESLEY, MA 02482

NOVEMBER 21, 2018

L7



EXISTING SITE PLAN

1" = 20'-0"

ARCHITECT
EMBARC STUDIO
ARCHITECTURE+DESIGN
60 K STREET, 3RD FLOOR
BOSTON, MA 02127
O: 617.766.8330 F: 617.766.8331
www.embarcstudio.com

OWNER
DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL
MCKENZIE ENGINEERING GROUP
150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE
VERDANT LANDSCAPE ARCHITECTURE
318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES

148 WESTON RD, WELLESLEY, MA 02482

ZBA SUBMISSION #2

November 21, 2018

REVISIONS

DRAWING INFORMATION

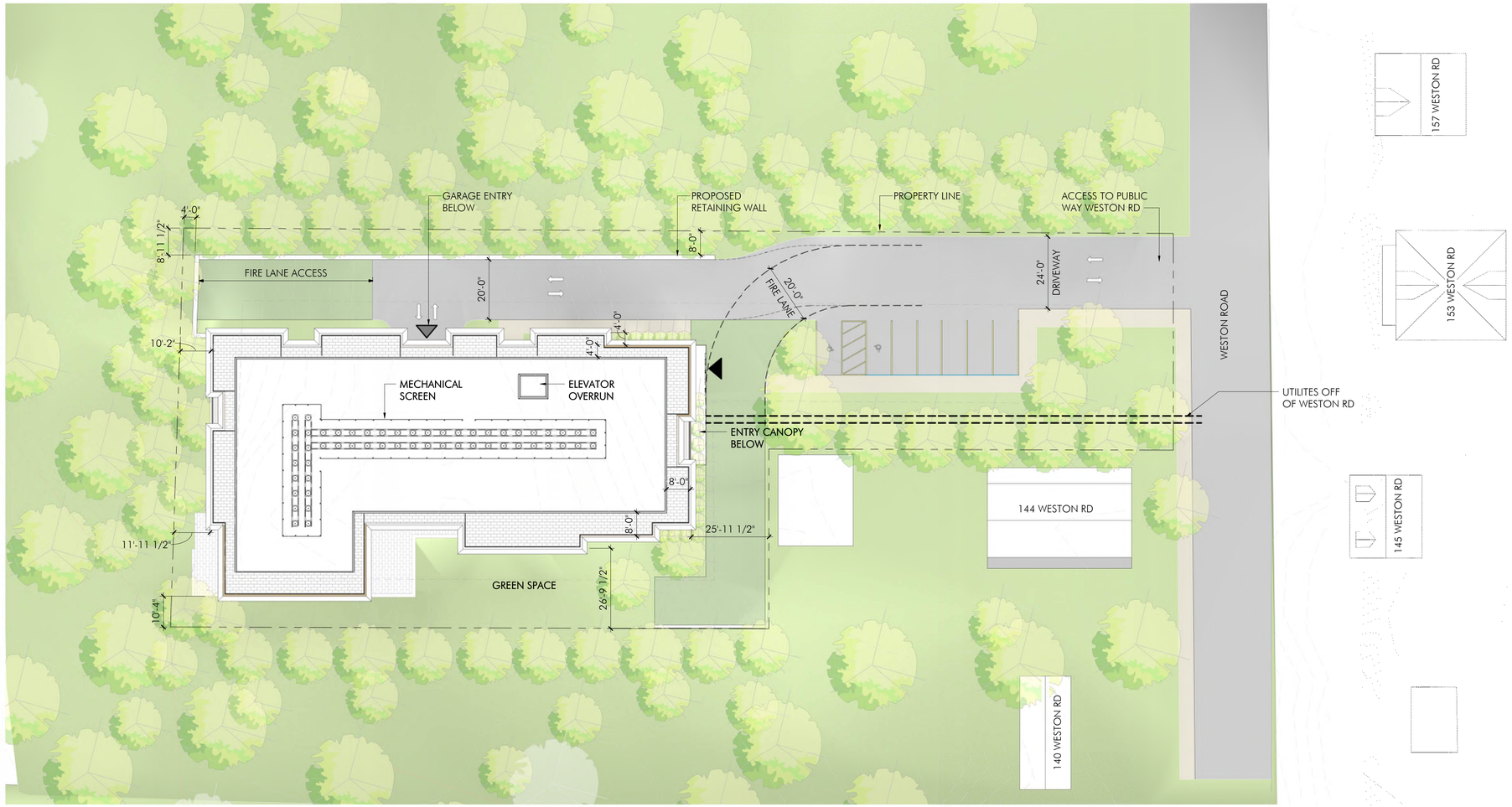
ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
SCALE:	As indicated

DRAWING TITLE
EXISTING SITEPLAN AND STREET VIEWS

DRAWING NUMBER
A001

copyright: EMBARC STUDIO, LLC

C:\Users\qyang\Documents\Revit\17057_148 Weston Road_40B Resubmit_qyang@embarcstudio.com.rvt
11/21/2018 4:16:31 PM Author



SITE CONTEXT
1" = 20'-0"

SCALE 1/20" = 1' - 0"
0 20' 40' 80'

ARCHITECT
EMBARC STUDIO
ARCHITECTURE+DESIGN
60 K STREET, 3RD FLOOR
BOSTON, MA 02127
O: 617.766.8330 F: 617.766.8331
www.embarcstudio.com

OWNER
DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL
MCKENZIE ENGINEERING GROUP
150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE
VERDANT LANDSCAPE ARCHITECTURE
318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES

148 WESTON RD, WELLESLEY, MA 02482

ZBA SUBMISSION #2

November 21, 2018

REVISIONS

DRAWING INFORMATION

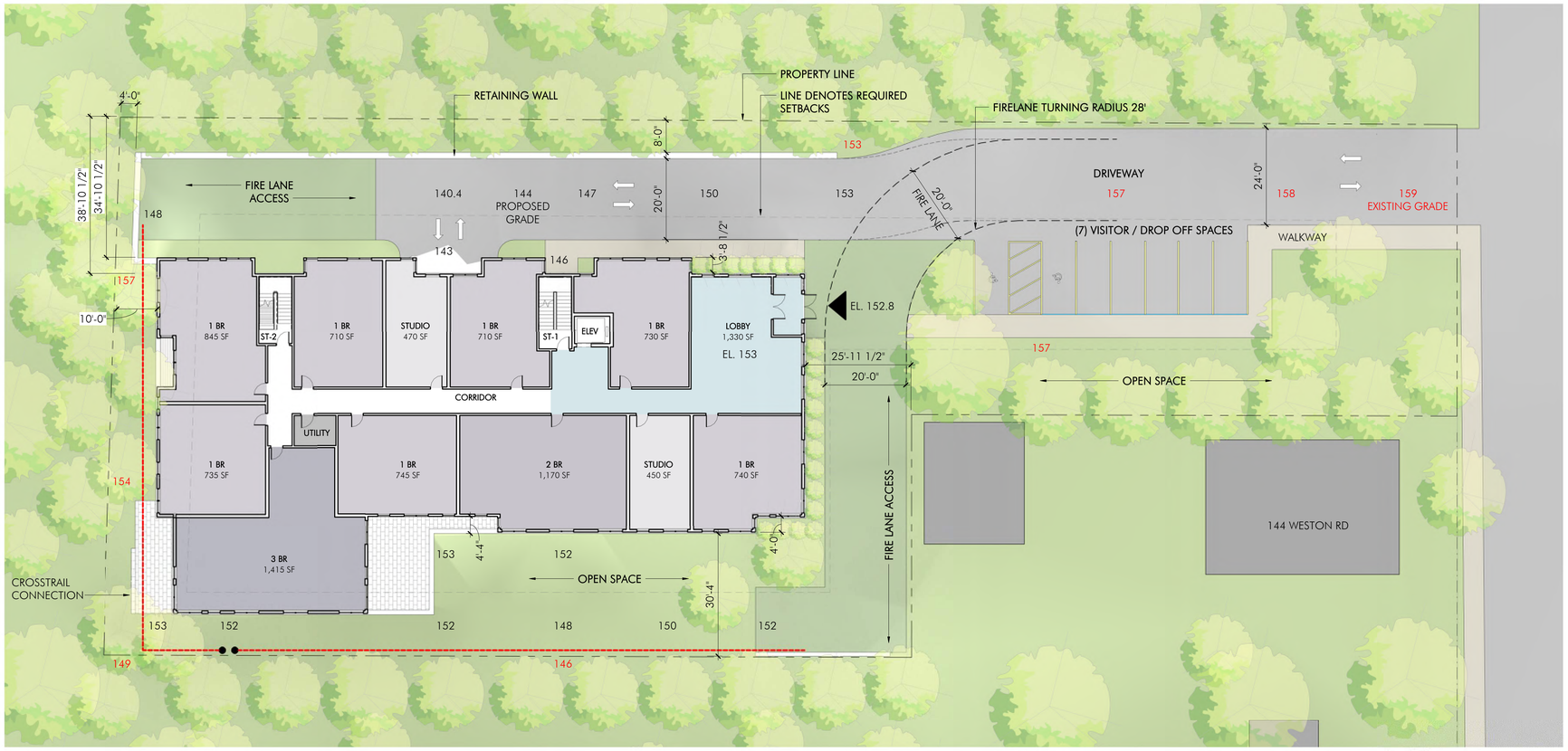
ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
SCALE:	1" = 20'-0"

DRAWING TITLE
SITE CONTEXT

DRAWING NUMBER
A002

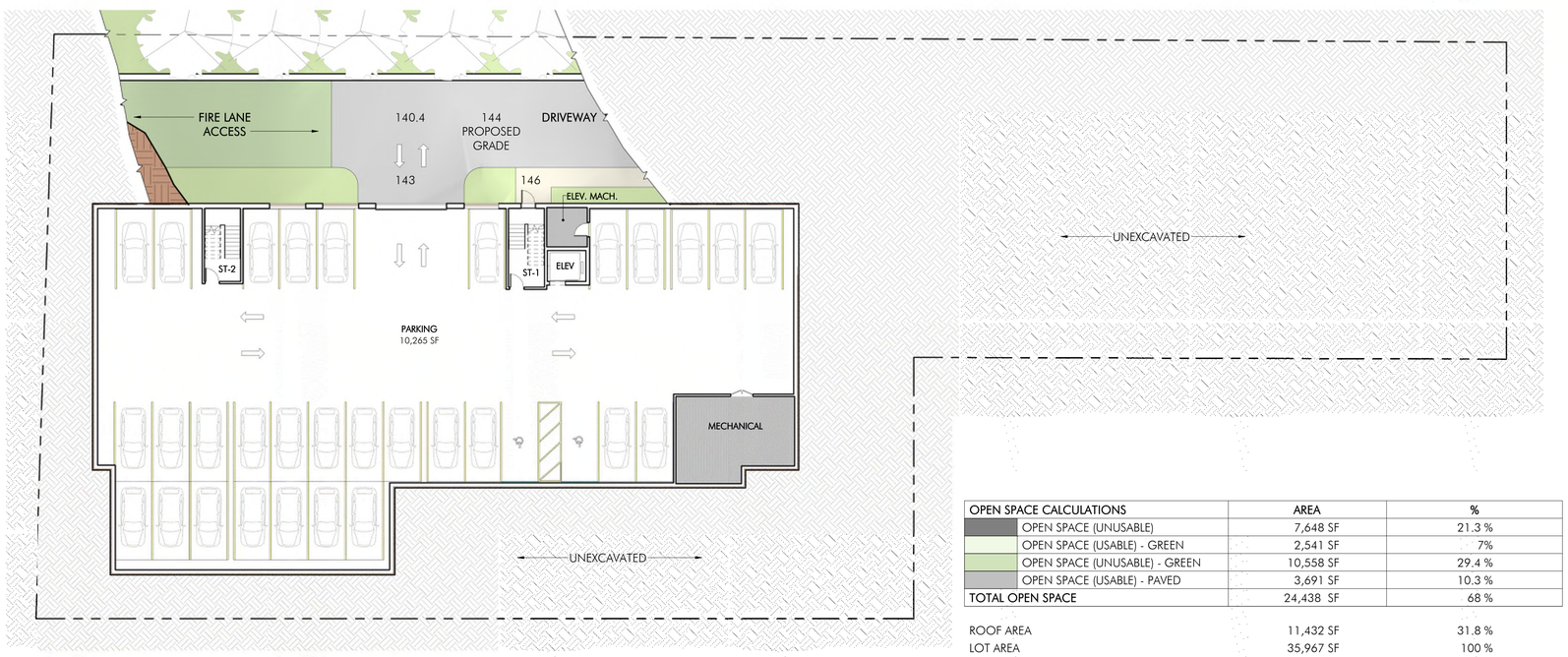
copyright: EMBARC STUDIO, LLC

C:\Users\rpong\Documents\Revit\17057_148 Weston Road_408 Resubmit_rpong@embarcstudio.com.rvt
11/21/2018 4:16:35 PM Author



1ST FLOOR PLAN

1/16" = 1'-0"



PARKING PLAN

1/16" = 1'-0"

OPEN SPACE CALCULATIONS	AREA	%
OPEN SPACE (UNUSABLE)	7,648 SF	21.3 %
OPEN SPACE (USABLE) - GREEN	2,541 SF	7%
OPEN SPACE (UNUSABLE) - GREEN	10,558 SF	29.4 %
OPEN SPACE (USABLE) - PAVED	3,691 SF	10.3 %
TOTAL OPEN SPACE	24,438 SF	68 %

ROOF AREA	11,432 SF	31.8 %
LOT AREA	35,967 SF	100 %

SCALE 1/16" = 1' - 0"

0 8' 16' 32'

ARCHITECT
EMBARC STUDIO
ARCHITECTURE+DESIGN
60 K STREET, 3RD FLOOR
BOSTON, MA 02127
O: 617.766.8330 F: 617.766.8331
www.embarcstudio.com

OWNER
DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL
MCKENZIE ENGINEERING GROUP
150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE
VERDANT LANDSCAPE ARCHITECTURE
318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES

148 WESTON RD, WELLESLEY, MA 02482

ZBA SUBMISSION #2

November 21, 2018

REVISIONS

DRAWING INFORMATION

ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
SCALE:	As indicated

DRAWING TITLE

PARKING LEVEL AND 1ST FLOOR PLANS

DRAWING NUMBER

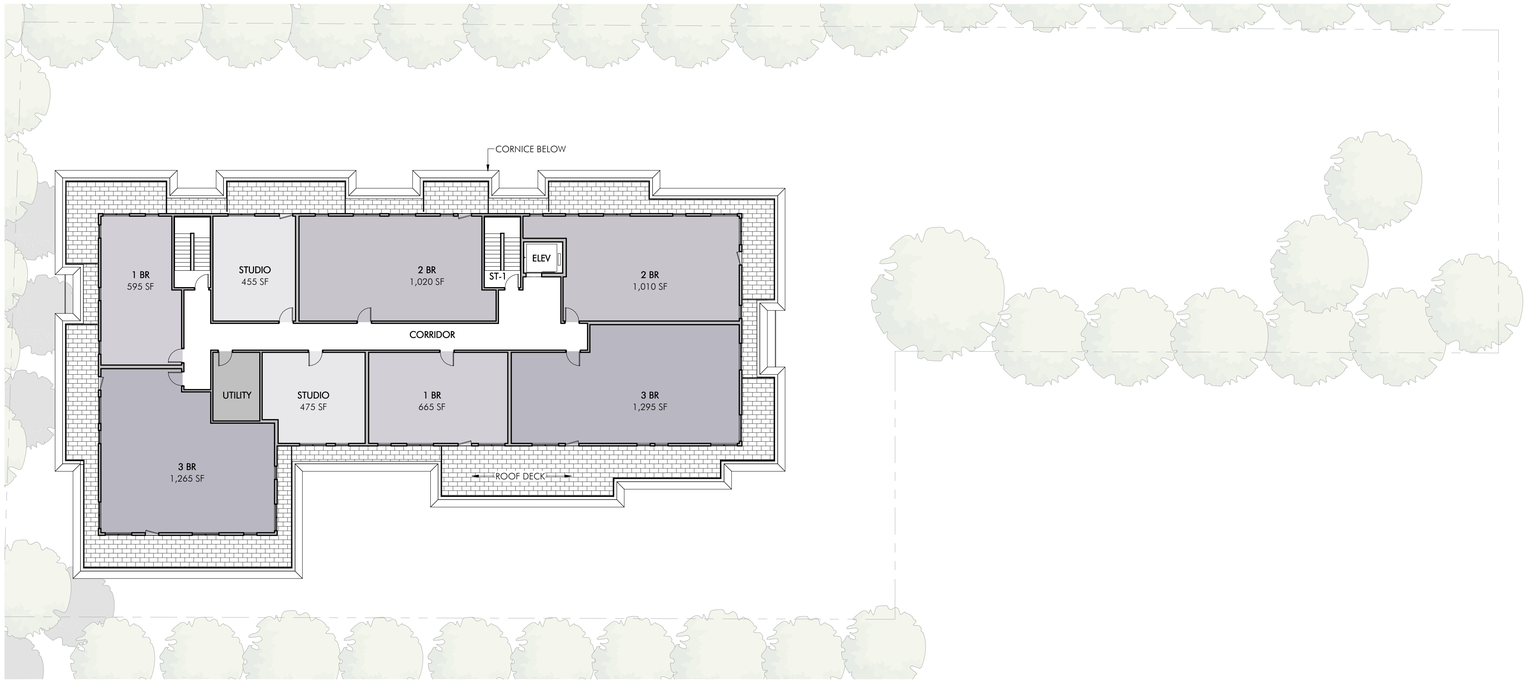
A100

copyright: EMBARC STUDIO, LLC

C:\Users\qyang\Documents\Revit\17057_148 Weston Road_408 Resubmit_qyang@embarcstudio.com.rvt
11/21/2018 4:16:39 PM EMBARC

2ND FLOOR PLAN, TYPICAL FOR 2ND TO 4TH FLOORS

1/16" = 1'-0"



5TH FLOOR PLAN

1/16" = 1'-0"

SCALE 1/16" = 1' - 0"

0 8' 16' 32'

ARCHITECT

EMBARC STUDIO
ARCHITECTURE+DESIGN

60 K STREET, 3RD FLOOR
BOSTON, MA 02127
O: 617.766.8330 F: 617.766.8331
www.embarcstudio.com

OWNER

DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL

MCKENZIE ENGINEERING GROUP

150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE

VERDANT LANDSCAPE ARCHITECTURE

318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES

148 WESTON RD, WELLESLEY, MA 02482

ZBA SUBMISSION #2

November 21, 2018

REVISIONS

DRAWING INFORMATION

ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
SCALE:	1/16" = 1'-0"

DRAWING TITLE

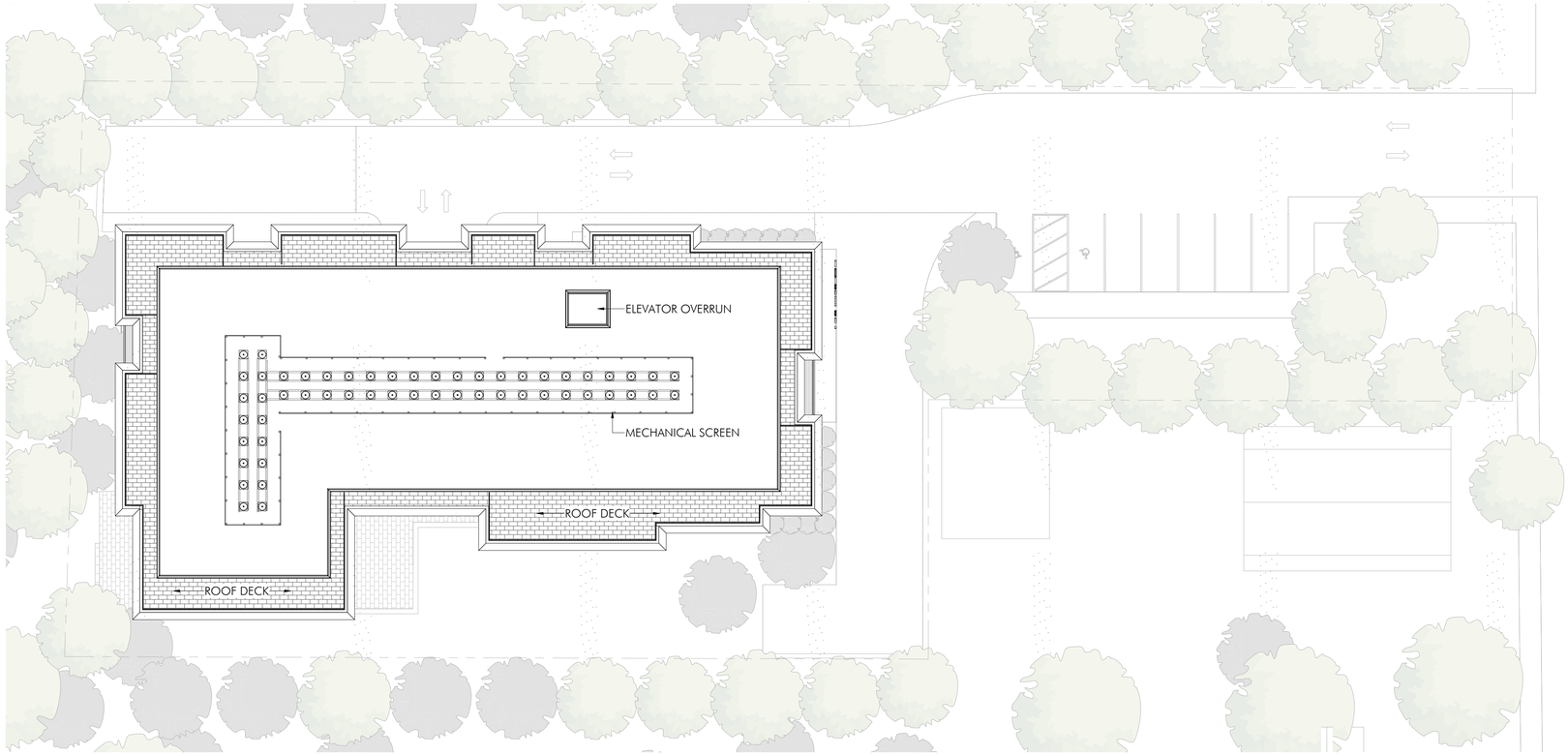
2ND AND 5TH FLOOR PLANS

DRAWING NUMBER

A101

copyright: EMBARC STUDIO, LLC

C:\Users\qyang\Documents\Revit\17057_148 Weston Road_40B Resubmit_qyang@embarcstudio.com.rvt
11/21/2018 4:17:57 PM EMBARC



ROOF PLAN
1/16' = 1'-0"

EAST ELEVATION
1/16' = 1'-0"

SCALE 1/16' = 1' - 0"
0 8' 16' 32'

ARCHITECT
EMBARC STUDIO
ARCHITECTURE+DESIGN
60 K STREET, 3RD FLOOR
BOSTON, MA 02127
O: 617.766.8330 F: 617.766.8331
www.embarcstudio.com

OWNER
DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL
MCKENZIE ENGINEERING GROUP
150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE
VERDANT LANDSCAPE ARCHITECTURE
318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES
148 WESTON RD, WELLESLEY, MA 02482
ZBA SUBMISSION #2
November 21, 2018

REVISIONS

DRAWING INFORMATION

ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
SCALE:	1/16' = 1'-0"

DRAWING TITLE
ROOF PLAN AND EAST ELEVATION

DRAWING NUMBER
A102

copyright: EMBARC STUDIO, LLC

C:\Users\qpeng\Documents\Revit\17057_148 Weston Road_408 Resubmit_qpeng@embarcstudio.com.rvt
11/21/2018 4:18:22 PM EMBARC

NORTH ELEVATION
1/16" = 1'-0"

SOUTH ELEVATION
1/16" = 1'-0"

WEST ELEVATION
1/16" = 1'-0"

SCALE 1/16" = 1' - 0"

0 8' 16' 32'

ARCHITECT
EMBARC STUDIO
ARCHITECTURE+DESIGN
60 K STREET, 3RD FLOOR
BOSTON, MA 02127
O: 617.766.8330 F: 617.766.8331
www.embarcstudio.com

OWNER
DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL
MCKENZIE ENGINEERING GROUP
150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE
VERDANT LANDSCAPE ARCHITECTURE
318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES

148 WESTON RD, WELLESLEY, MA 02482

ZBA SUBMISSION #2

November 21, 2018

REVISIONS

DRAWING INFORMATION

ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
SCALE:	1/16" = 1'-0"

DRAWING TITLE
BUILDING ELEVATIONS

DRAWING NUMBER
A200

copyright: EMBARC STUDIO, LLC

C:\Users\qyang\Documents\Revit\17057_148 Weston Road_408 Resubmit_qyang@embarcstudio.com.rvt
11/21/2018 4:18:49 PM EMBARC

VIEW FROM DRIVEWAY APPROACHING BUILDING

ARCHITECT
EMBARC STUDIO
ARCHITECTURE+DESIGN
60 K STREET, 3RD FLOOR
BOSTON, MA 02127
O: 617.766.8330 F: 617.766.8331
www.embarcstudio.com

OWNER
DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL
MCKENZIE ENGINEERING GROUP
150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE
VERDANT LANDSCAPE ARCHITECTURE
318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES

148 WESTON RD, WELLESLEY, MA 02482

ZBA SUBMISSION #2

November 21, 2018

REVISIONS

DRAWING INFORMATION

ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
SCALE:	

DRAWING TITLE
PERSPECTIVE

DRAWING NUMBER
A300

copyright: EMBARC STUDIO, LLC

C:\Users\rpong\Documents\Revit\17057_148 Weston Road_408 Resubmit_rpong@embarcstudio.com.rvt
11/21/2018 4:19:42 PM Author

VIEW FROM SOUTHEAST CORNER

ARCHITECT
EMBARC STUDIO
ARCHITECTURE+DESIGN
60 K STREET, 3RD FLOOR
BOSTON, MA 02127
O: 617.766.8330 F: 617.766.8331
www.embarcstudio.com

OWNER
DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL
MCKENZIE ENGINEERING GROUP
150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE
VERDANT LANDSCAPE ARCHITECTURE
318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES

148 WESTON RD, WELLESLEY, MA 02482

ZBA SUBMISSION #2

November 21, 2018

REVISIONS

DRAWING INFORMATION

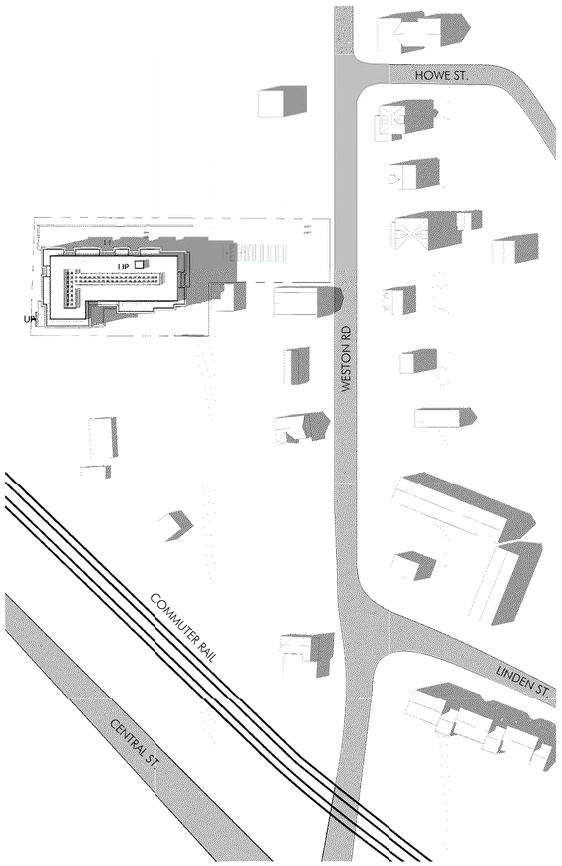
ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
SCALE:	

DRAWING TITLE
PERSPECTIVE

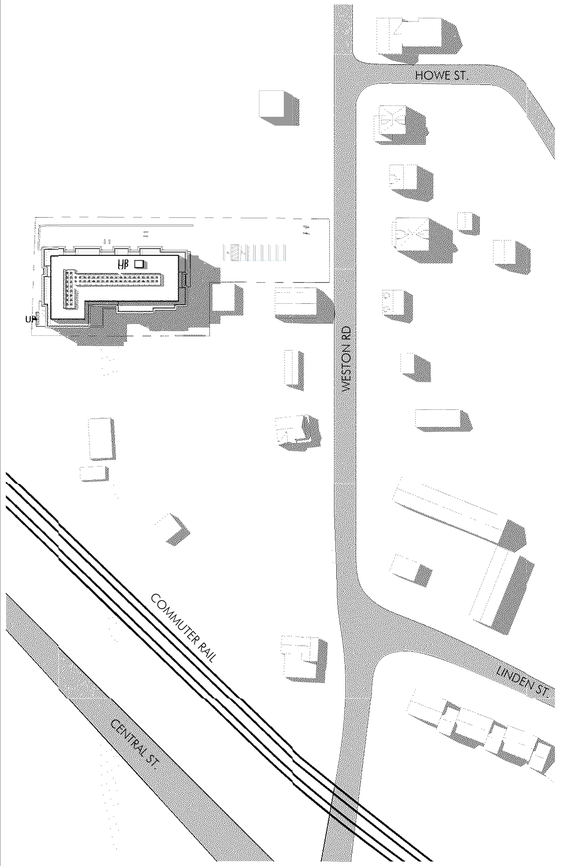
DRAWING NUMBER
A301

copyright: EMBARC STUDIO, LLC

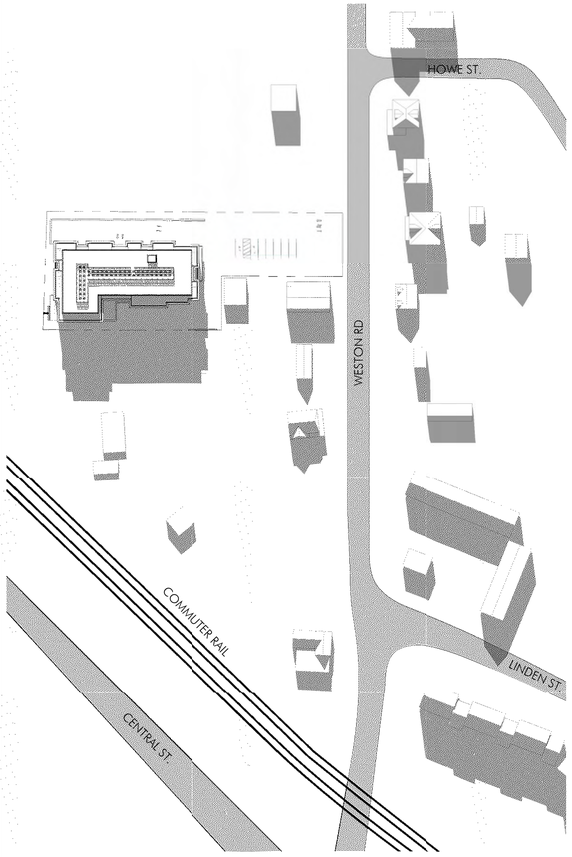
C:\Users\ayang\Documents\Revit\17057_148 Weston Road_v08 Resubmit_ayang@embarcstudio.com.rvt
11/21/2018 4:20:34 PM Author



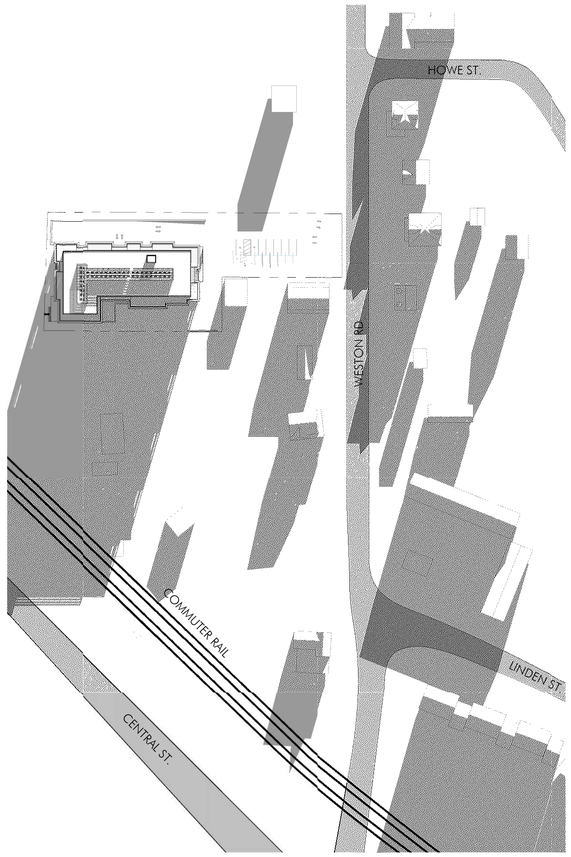
SPRING/FALL EQUINOX 9:00 AM



SPRING/FALL EQUINOX 12:00 PM



SPRING/FALL EQUINOX 3:00 PM



SPRING/FALL EQUINOX 5:00 PM

N

ARCHITECT
EMBARC STUDIO
ARCHITECTURE+DESIGN
60 K STREET, 3RD FLOOR
BOSTON, MA 02127
O: 617.766.8330 F: 617.766.8331
www.embarcstudio.com

OWNER
DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL
MCKENZIE ENGINEERING GROUP
150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE
VERDANT LANDSCAPE ARCHITECTURE
318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES
148 WESTON RD, WELLESLEY, MA 02482
ZBA SUBMISSION #2
November 21, 2018

REVISIONS

DRAWING INFORMATION

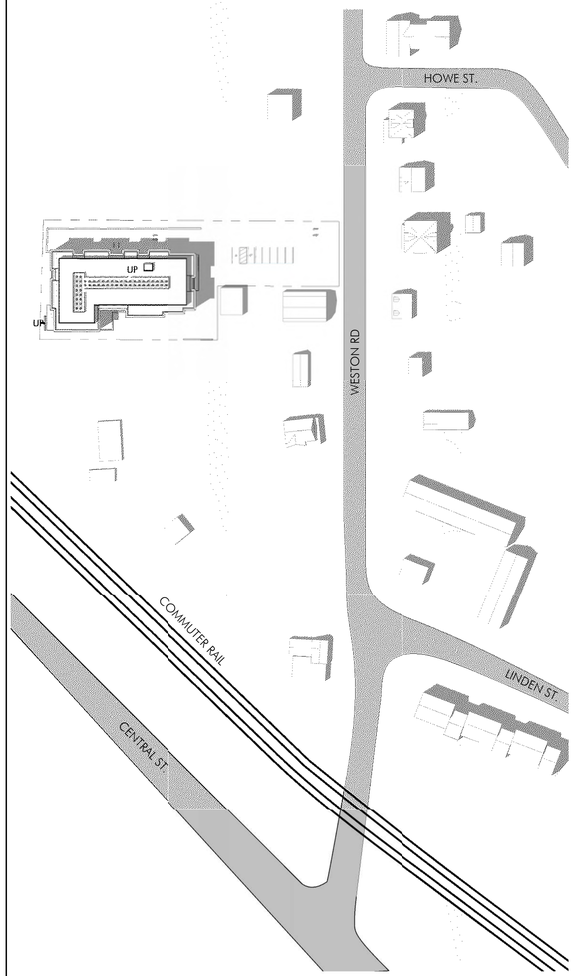
ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
SCALE:	1" = 80'-0"

DRAWING TITLE
SHADOW STUDY

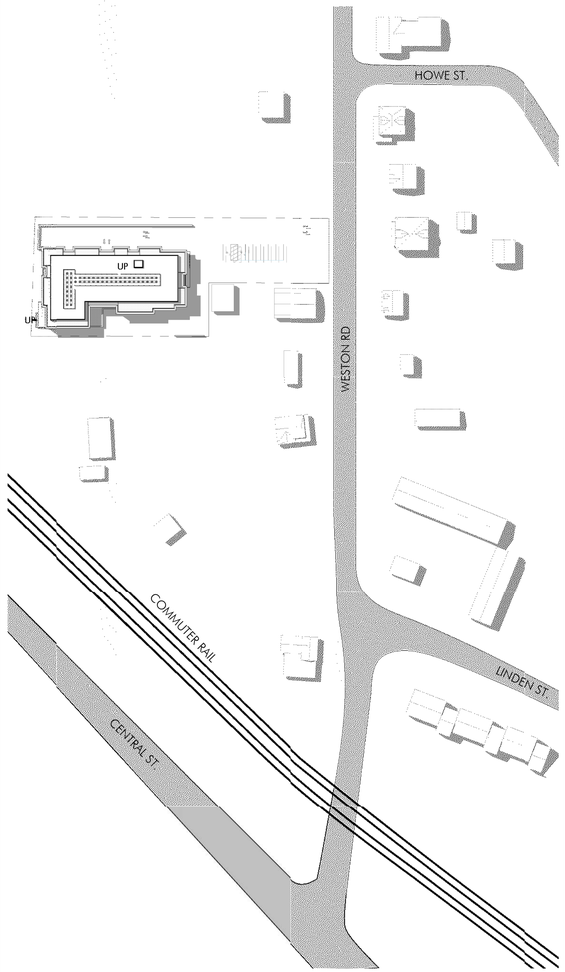
DRAWING NUMBER
A401

copyright: EMBARC STUDIO, LLC

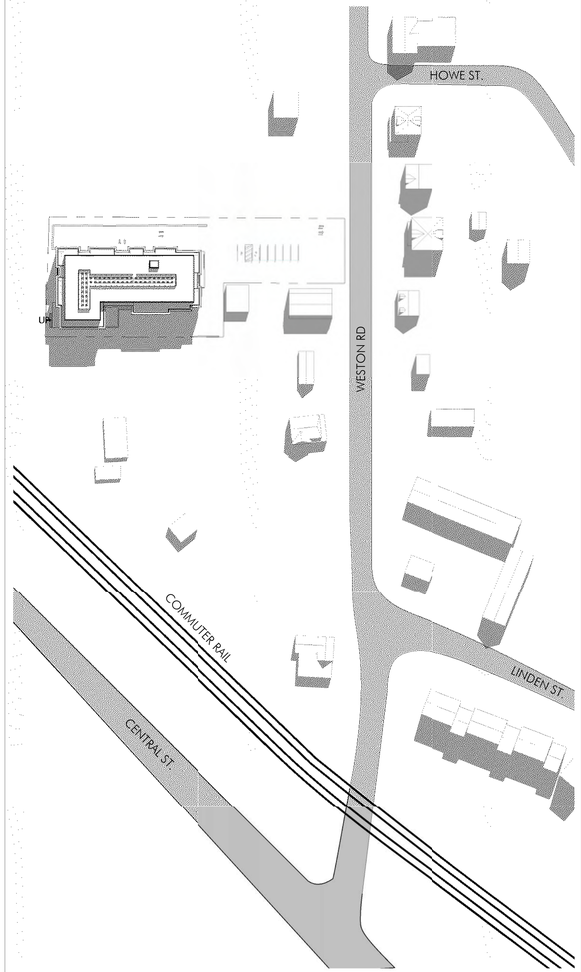
C:\Users\qyang\Documents\Revit\17057_148 Weston Road_40B Resubmit_qyang@embarcstudio.com.rvt
11/21/2018 4:20:41 PM Author



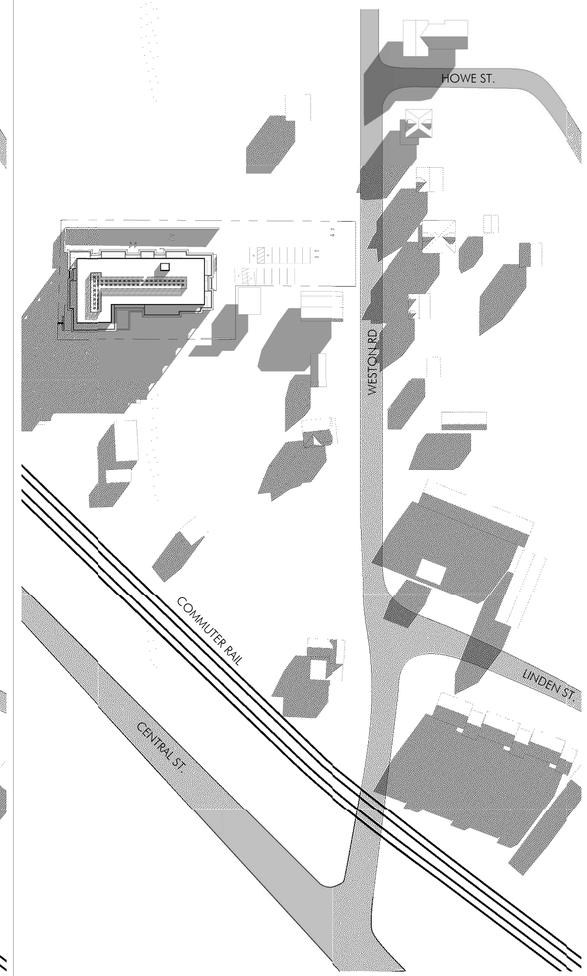
SUMMER SOLSTICE 9:00 AM



SUMMER SOLSTICE 12:00 PM



SUMMER SOLSTICE 3:00 PM



SUMMER SOLSTICE 5:00 PM

ARCHITECT
EMBARC STUDIO
ARCHITECTURE+DESIGN
60 K STREET, 3RD FLOOR
BOSTON, MA 02127
O: 617.766.8330 F: 617.766.8331
www.embarcstudio.com

OWNER
DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL
MCKENZIE ENGINEERING GROUP
150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE
VERDANT LANDSCAPE ARCHITECTURE
318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES

148 WESTON RD, WELLESLEY, MA 02482

ZBA SUBMISSION #2

November 21, 2018

REVISIONS

DRAWING INFORMATION

ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
SCALE:	1" = 80'-0"

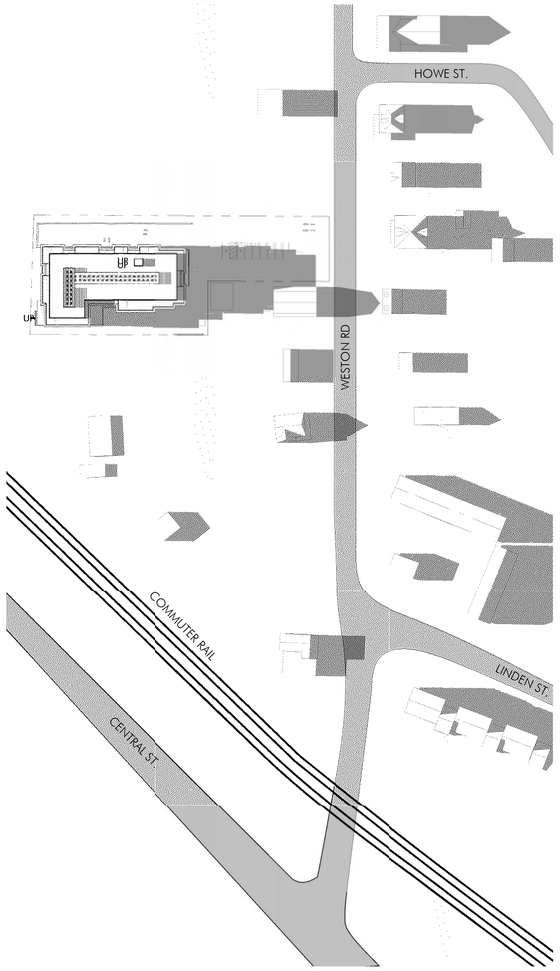
DRAWING TITLE
SHADOW STUDY

DRAWING NUMBER

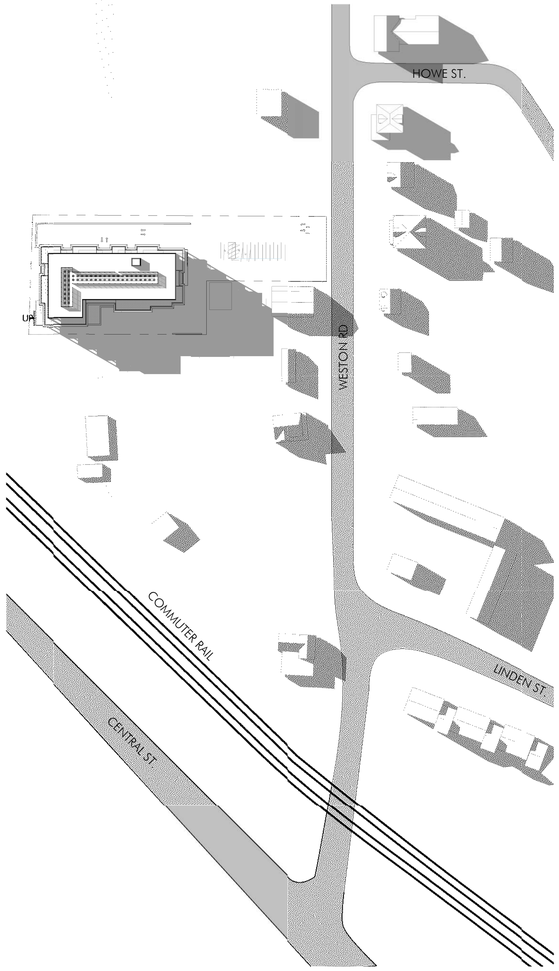
A402

copyright: EMBARC STUDIO, LLC

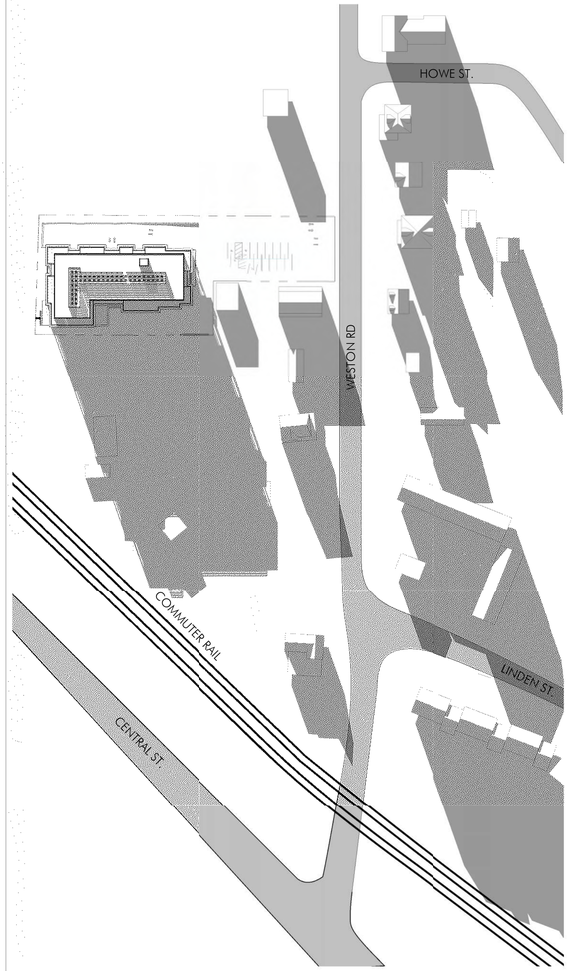
C:\Users\qpang\Documents\Revit\17057_148 Weston Road_40B Resubmit_qpang@embarcstudio.com.rvt
11/21/2018 4:20:47 PM Author



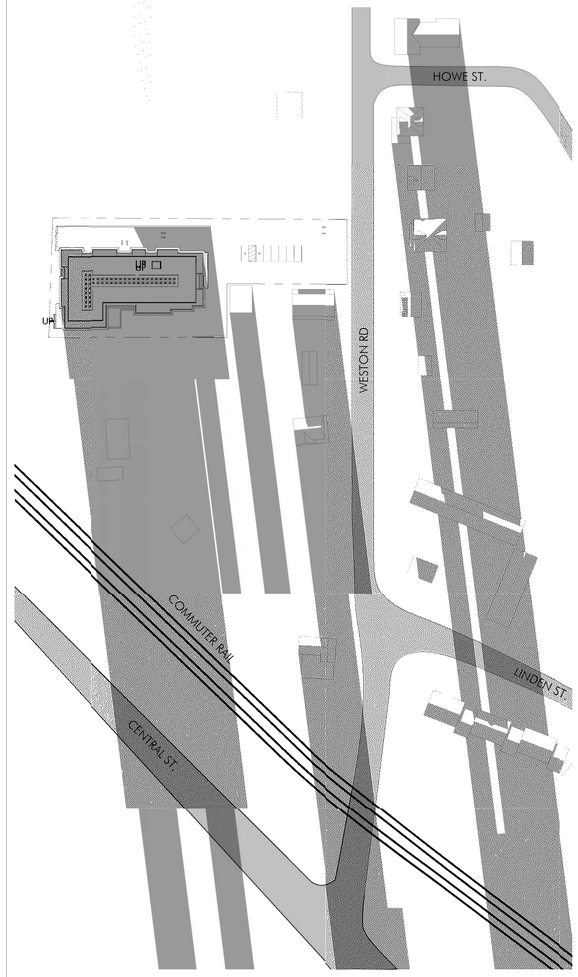
WINTER SOLSTICE 9:00 AM



WINTER SOLSTICE 12:00 PM



WINTER SOLSTICE 3:00 PM



WINTER SOLSTICE 5:00 PM

ARCHITECT
EMBARC STUDIO
ARCHITECTURE+DESIGN
60 K STREET, 3RD FLOOR
BOSTON, MA 02127
O: 617.766.8330 F: 617.766.8331
www.embarcstudio.com

OWNER
DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL
MCKENZIE ENGINEERING GROUP
150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE
VERDANT LANDSCAPE ARCHITECTURE
318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES
148 WESTON RD, WELLESLEY, MA 02482
ZBA SUBMISSION #2
November 21, 2018

REVISIONS

DRAWING INFORMATION

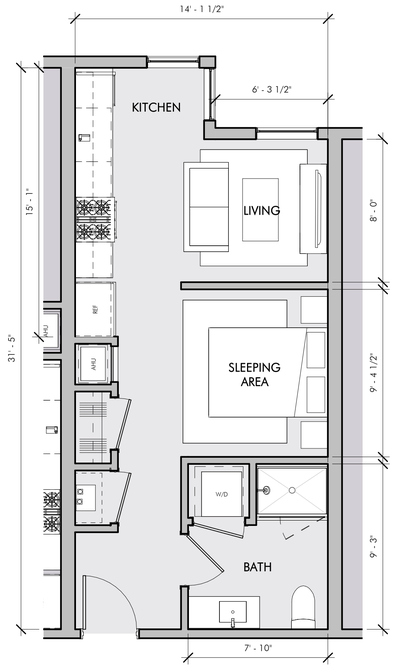
ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
SCALE:	1" = 80'-0"

DRAWING TITLE
SHADOW STUDY

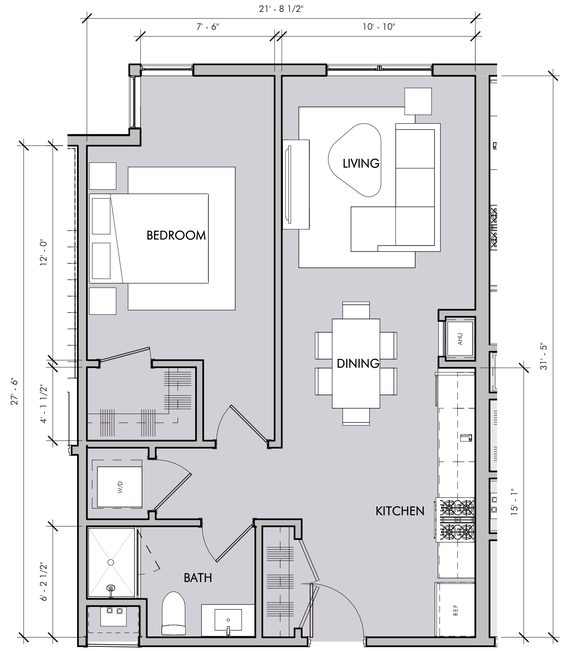
DRAWING NUMBER
A403

copyright: EMBARC STUDIO, LLC

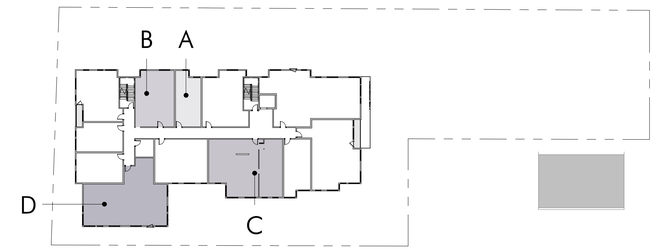
C:\Users\ayang\Documents\Revit\17057_148 Weston Road_40B Resubmit_ayang@embarcstudio.com.rvt
11/21/2018 4:20:54 PM Author



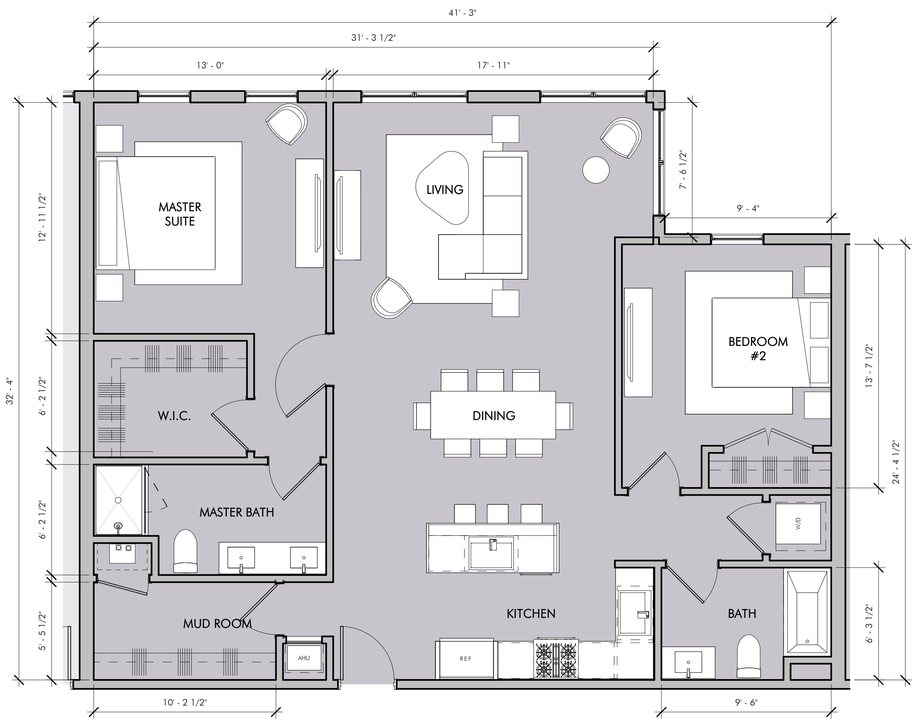
A TYPICAL STUDIO
1/4" = 1'-0"



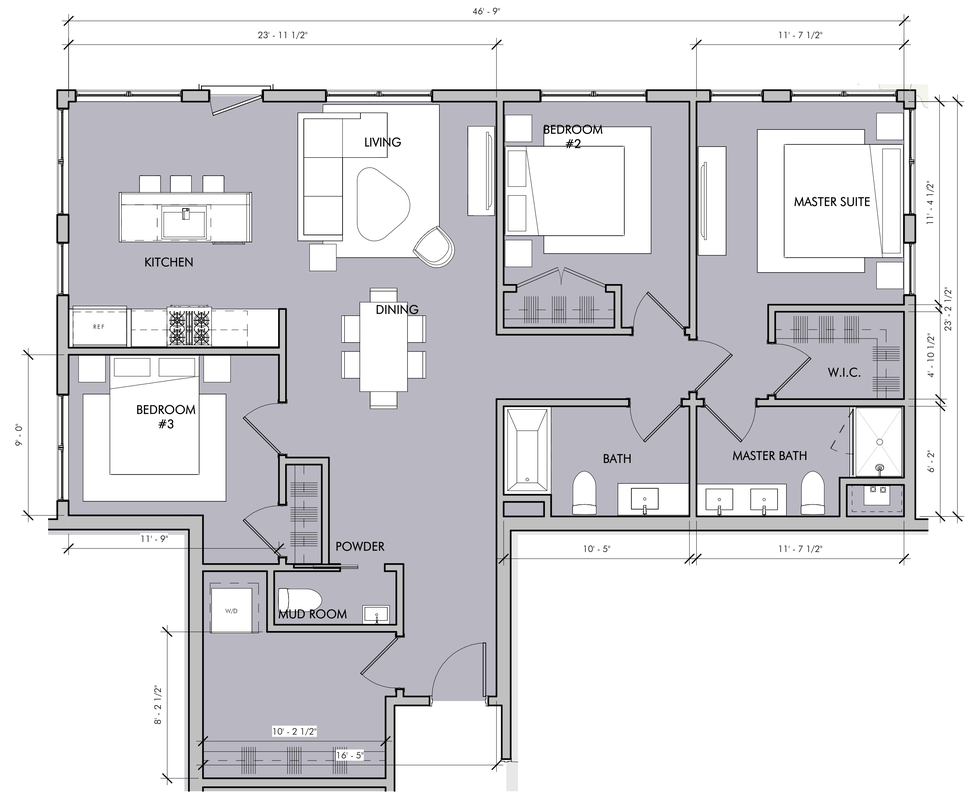
B TYPICAL 1 BEDROOM
1/4" = 1'-0"



5 KEY PLAN, TYPICAL FLOOR
1" = 40'-0"



C TYPICAL 2 BEDROOM
1/4" = 1'-0"



D TYPICAL 3 BEDROOM
1/4" = 1'-0"

ARCHITECT
EMBARC STUDIO
ARCHITECTURE+DESIGN
60 K STREET, 3RD FLOOR
BOSTON, MA 02127
O: 617.766.8330 F: 617.766.8331
www.embarcstudio.com

OWNER
DELANSON REALTY
420 HARVARD STREET
BROOKLINE, MA 02446

CIVIL
MCKENZIE ENGINEERING GROUP
150 LONGWATER DRIVE, SUITE 101
NORWELL, MA 06021

LANDSCAPE
VERDANT LANDSCAPE ARCHITECTURE
318 HARVARD ST, SUITE 25
BROOKLINE , MA 02446

WELLESLEY PARK RESIDENCES

148 WESTON RD, WELLESLEY, MA 02482

ZBA SUBMISSION #2

November 21, 2018

REVISIONS

DRAWING INFORMATION

ISSUE:	ZBA SUBMISSION #2
DATE:	November 21, 2018
PROJECT #	17003
SCALE:	As indicated

DRAWING TITLE
TYPICAL UNIT LAYOUTS

DRAWING NUMBER
A501

copyright: EMBARC STUDIO, LLC

C:\Users\qpang\Documents\Revit\17057_148 Weston Road_408 Resubmit_qpang@embarcstudio.com.rvt
11/21/2018 4:20:58 PM Author