

NOTES:

1. WETLAND RESOURCE AREAS WERE DELINEATED BY ROBERT PROKOP, WETLAND CONSULTING SERVICES, IN MAY, 2017 AND LOCATED BY AN INSTRUMENT SURVEY CONDUCTED BY ANDOVER CONSULTANTS, INC.
2. NO NEW WETLAND FILLING IS REQUIRED TO CONSTRUCT THE PROPOSED WORK, HOWEVER, SEE NOTE 3 BELOW.
3. REFER TO THE "WETLAND RESTORATION PLANS" PREPARED BY ANDOVER CONSULTANTS. THE CONSTRUCTION OF ALL RESTORATION AND MITIGATION AREAS SHALL BE MONITORED BY A WETLAND SCIENTIST. THE RESTORATION PLANS SHALL BE APPROVED BY THE ANDOVER CONSERVATION COMMISSION PRIOR TO CONSTRUCTION.
4. EXISTING NON DISTURB MARKERS THAT ARE WITHIN 25 FEET OF THE DELINEATED WETLAND SHALL BE REMOVED (16 TOTAL), 10 ON LOT 1, 6 ON LOT 2.
5. SEPTIC SYSTEM CONSTRUCTION TO COMPLY WITH TITLE 5 AND THE ANDOVER BOARD OF HEALTH RULES AND REGULATIONS.
6. ELECTRIC, CABLE AND TELEPHONE UTILITIES SHALL BE INSTALLED OVERHEAD.
7. TRANSPLANT EXISTING WHITE PINE SEEDLINGS, WHERE FEASIBLE, INTO PROPOSED 25 FOOT AND 50 FOOT BUFFER ENHANCEMENT AREAS.
8. DISTURBED UPLAND AREAS BEYOND THE BUFFER RESTORATION AREAS TO BE PLANTED WITH PERENNIAL GRASS AND MULCHED.

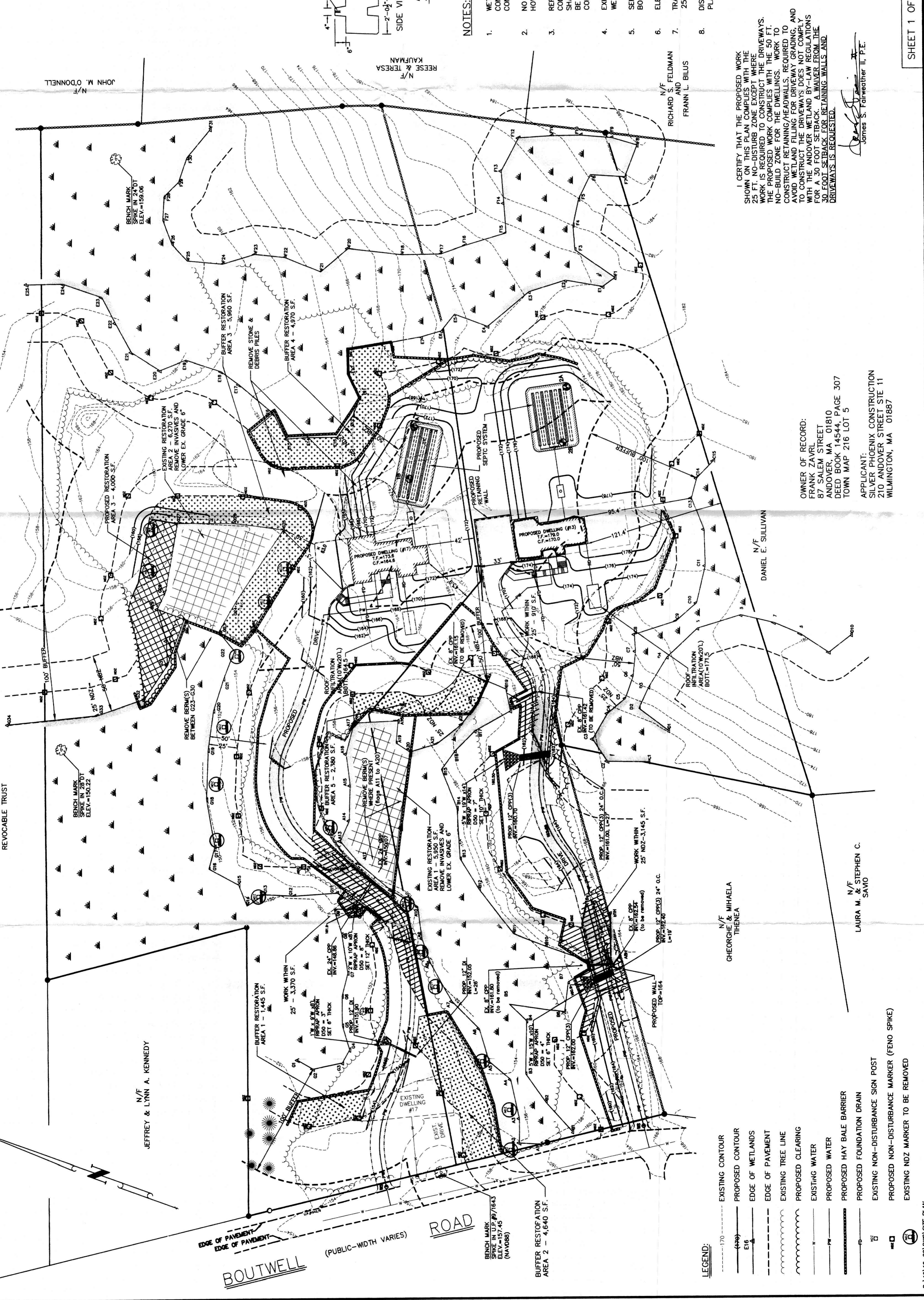
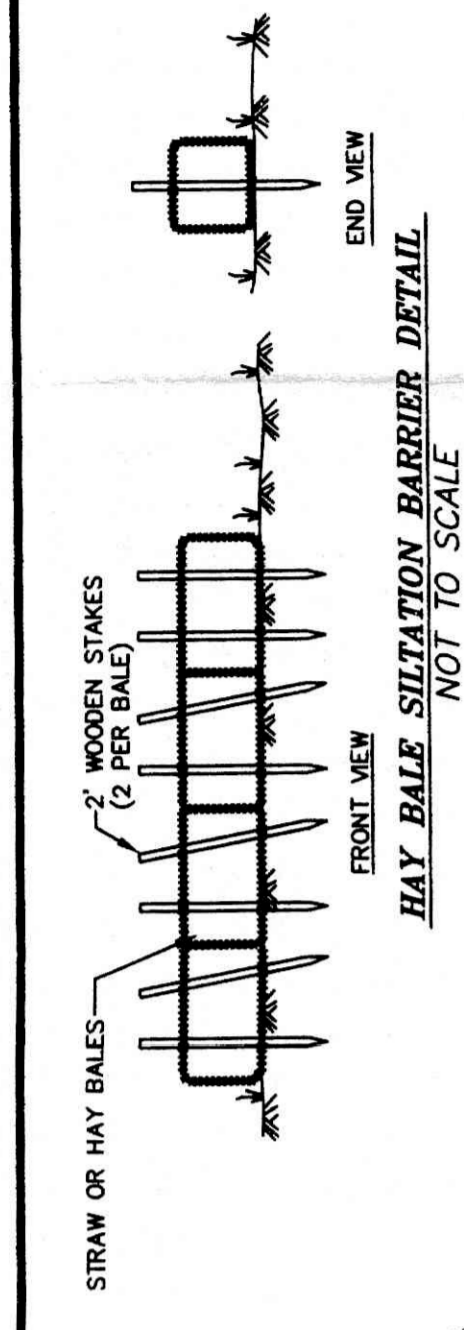
PROPOSED OVERALL SITE DEVELOPMENT
13 & 17 BOUTWELL ROAD

SCALE: 1"=40'
 DATE: AUGUST 17, 2017
 REV: MAY 16, 2018
 REV: NOV. 21, 2019

OWNER: FRANK ZAVRL
 LOCATION: 13 & 17 BOUTWELL ROAD
 ANDOVER, MASS.

TOWN MAP NO. 216 PART OF TOWN LOT NO. 5

andover consultants inc.
 1 East River Place
 Methuen, Mass. 01844
 11-27-19
 Reg. Prof. Engineer



LEGEND:

- 170 --- EXISTING CONTOUR
- (470) --- PROPOSED CONTOUR
- E16 --- EDGE OF WETLANDS
- EDGE OF PAVEMENT
- EXISTING TREE LINE
- PROPOSED CLEARING
- EXISTING WATER
- PROPOSED HAY BALE BARRIER
- PROPOSED FOUNDATION DRAIN
- EXISTING NON-DISTURBANCE SIGN POST
- PROPOSED NON-DISTURBANCE MARKER (FENO SPIKE)
- EXISTING NDZ MARKER TO BE REMOVED

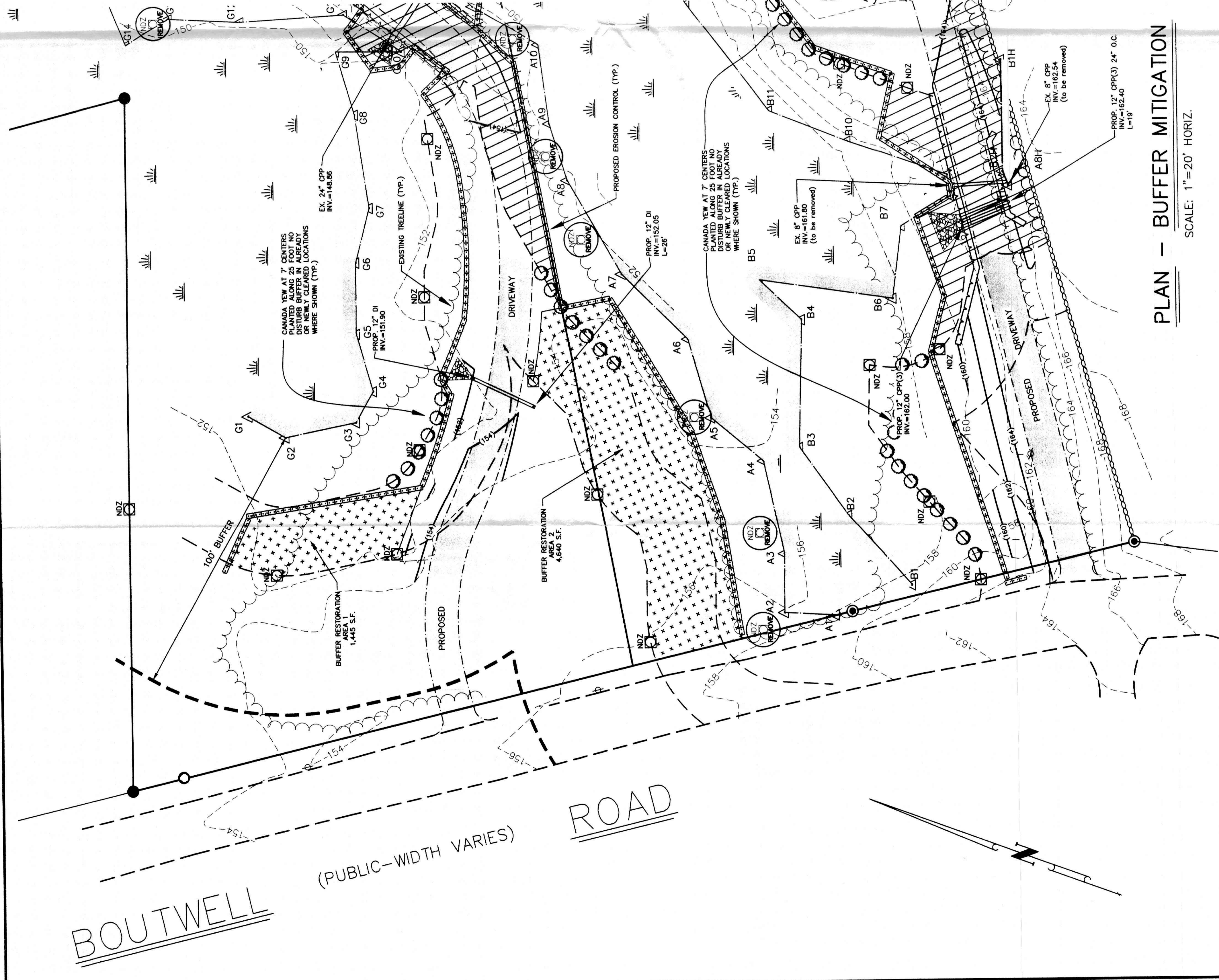
I CERTIFY THAT THE PROPOSED WORK SHOWN ON THIS PLAN COMPLIES WITH THE 25 FT. NO-DISTURB ZONE EXCEPT WHERE THE PROPOSED WORK COMPLETES WITHIN THE NO-DISTURB ZONE FOR THE PURPOSES OF CONSTRUCTING THE FOUNDATIONS, REQUIRED TO CONSTRUCT THE DRIVEWAYS DOES NOT COMPLY WITH THE ANDOVER WETLAND BY-LAW REGULATIONS FOR A 30 FOOT SETBACK. A WAIVER FROM THE 30 FOOT SETBACK FOR RETAINING WALLS AND DRIVEWAYS IS REQUESTED.

OWNER OF RECORD:
 FRANK ZAVRL
 87 SALEM STREET
 ANDOVER, MA 01810
 DEED BOOK 14544, PAGE 307
 TOWN MAP 216 LOT 5

APPLICANT:
 SILVER PHOENIX CONSTRUCTION
 210 ANDOVER STREET STE 11
 WILMINGTON, MA 01887

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8. DISTURBED UPLAND AREAS BEYOND THE BUFFER RESTORATION AREAS TO BE PLANTED WITH PERENNIAL GRASS AND MULCHED.



PLAN - BUFFER MITIGATION
SCALE: 1"=20' HORIZ.

NOTES:

- BUFFER ZONE RESTORATION**
1. TWENTY-FIVE FOOT BUFFER PLANTINGS SHALL BE NATIVE, NON-INVASIVE SPECIES. PLANTING SHALL BE MONITORED BY A QUALIFIED WETLAND SCIENTIST OR BOTANIST. PLANTS SHALL BE HEALTHY, PREFERABLY DROUGHT AND DISEASE RESISTANT SPECIES.
 2. TREES SHALL BE PLANTED AT 15 FOOT CENTERS. SHRUBS SHALL BE CLUSTERED AS APPLICABLE PER SPECIES.
 3. THE FOLLOWING PLANTINGS SHALL BE SUPPLIED AND PLANTED:
 - a. 113 CANADA YEW (*Taxus canadensis*) ARE TO BE PLACED ALONG THE 25-FOOT NO DISTURB LIMIT AT 7 FOOT CENTERS. OTHER BUFFER MITIGATION SPECIES SHALL BE RANDOMLY PLANTED WITHIN THE PROPOSED BUFFER ZONE MITIGATION AREAS AT THE SPACINGS PER NOTE 2 MITIGATION AREA:
 - b. PROVIDE THE FOLLOWING PLANTS IN THE 25 FOOT BUFFER MITIGATION AREAS (PLANTINGS SHALL BE PROPORTIONALLY DISTRIBUTED BY MITIGATION AREA):
 - 10 SUGAR MAPLE (*Acer saccharum*) (TREE, 2"-2.5" CALIPER STOCK)
 - 10 WITCH HAZEL (*Hamamelis virginiana*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')
 - 10 COMMON JUNIPER (*Juniperus communis*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')
 - 10 WHITE OAK (*Quercus alba*) (TREE, 2"-2.5" CALIPER STOCK)
 - 10 SHADBLUSH (*Amelanchier arborea*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')
 - 10 AMERICAN HAZELNUT (*Corylus americana*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')
 - 10 EASTERN RED CEDAR (*Juniperus virginiana*) (TREE, 2"-2.5" CALIPER STOCK)
 - 10 RED OSIER DOGWOOD (*Cornus sericea*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')
 - 10 Highbush BLUEBERRY (*Vaccinium corymbosum*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')

4. MITIGATION AREAS SHALL BE CLEARED OF EXISTING STRUCTURES, FILL AND LAWNS. AREA TO BE ROTOTILLED AND SOIL TESTED FOR ORGANIC CONTENT AND PH. SOILS SHALL BE AMENDED WITH COMPOST AND LIME, AS NEEDED, AND THOROUGHLY MIXED TO ESTABLISH A SUITABLE MEDIA FOR PLANTS TO THRIVE.
5. PLANTINGS ABOVE SHALL BE INSTALLED AND REMAINING AREAS SEEDED WITH A PERENNIAL SEED MIX OF WILDFLOWERS AND GRASSES**. STABILIZE PLANTED AREAS WITH NATIVE STRAW MULCH AND FENCE OFF AREA WITH ORANGE CONSTRUCTION FENCING. AREAS SHALL BE WATERED AS NEEDED TO ESTABLISH FULL PLANT GROWTH. PLANTINGS SHALL BE MONITORED BY THE WETLAND SCIENTIST/BOTANIST PERIODICALLY THROUGHOUT THE FIRST GROWING SEASON AND SECOND LEAVING YEAR (SPRING & FALL) FOR THE SECOND GROWING SEASON WITH ANNUAL REPORTS DUE BY OCTOBER 31. WORKED OVER AND DOCUMENTING THE STATUS OF THE PLANTINGS AS FULLY ESTABLISHED. DEFICIENCIES SHALL BE CORRECTED AND RESTORATION AREAS HAVE BEEN SATISFACTORILY COMPLETED OR NOTING ANY DEFICIENCIES FOR THE CONSERVATION COMMISSION'S USE WHEN DELIBERATING THE ISSUANCE OF A CERTIFICATE OF COMPLIANCE.

PLANTING SOILS

- A. PLANTING SOIL: EVALUATE SOIL FOR USE AS TOPSOIL ACCORDING TO ASTM D5288. FROM 5 TO 10 PERCENT ORGANIC MATTER AS DETERMINED BY TOPSOIL COMPOSITION TESTS OF ORGANIC CARBON, 6A, CHEMICAL ANALYSIS METHOD DESCRIBED IN USDA DQA S9R 42. MAXIMUM PARTICLE SIZE, 3/4 INCH, WITH MAXIMUM 3 PERCENT RETAINED ON 1/4 INCH SCREEN. MIX TOPSOIL WITH FOLLOWING SOIL AMENDMENTS AND FERTILIZERS AS RECOMMENDED BY SOILS ANALYSIS.
- B. EXISTING PLANTING SOIL: EXISTING, NATIVE SURFACE TOPSOIL FORMED UNDER NATURAL CONDITIONS RETAINED DURING EXCAVATION PROCESS AND STOCKPILED ON SITE. VERIFY SUITABILITY OF NATIVE PLANT TOPSOIL TO PRODUCE VIABLE PLANTING SOIL. CLEAN SOIL OF ROOTS, PLANTS, SOIL STONES, CLUMPS, AND OTHER EXTRANEUS MATERIALS HARMFUL TO PLANT GROWTH. SUPPLEMENT WITH IMPORTED PLANTING SOIL WHEN QUANTITIES ARE INSUFFICIENT. MIX EXISTING, NATIVE SURFACE TOPSOIL WITH SOIL AMENDMENTS AND FERTILIZERS AS RECOMMENDED BY SOILS ANALYSIS.
- C. IMPORTED PLANTING SOIL: IMPORTED TOPSOIL OR MANUFACTURED TOPSOIL FROM OFF-SITE SOURCES IS ACCEPTABLE IF SUFFICIENT TOPSOIL IS NOT AVAILABLE ON SITE TO THE SPECIFIED DEPTH. OBTAIN IMPORTED TOPSOIL DISPLACED FROM NATURALLY WELL DRAINED CONSTRUCTION SITES AND WHICH IS FREE OF THE PRESENCE OF INVASIVE PLANT SPECIES AND INVASIVE SEEDS.

INORGANIC SOIL AMENDMENTS

- A. LIME: COMMERCIAL GRADE HYDRATED LIMESTONE CONTAINING CALCIUM CARBONATE EQUIVALENT (CCE) SPECIFIED IN ASTM C602 OF MINIMUM 80 PERCENT.
- B. SULFUR: 100 PERCENT ELEMENTAL.
- C. IRON SULFATE: 100 PERCENT ELEMENTAL.
- D. ALUMINUM SULFATE: COMMERCIAL GRADE.

ORGANIC SOIL AMENDMENTS

- A. ORGANIC MATTER: COMMERCIALLY PREPARED COMPOST, FREE OF SUBSTANCES TOXIC TO PLANTINGS AND AS FOLLOWS:
 1. ORGANIC MATTER CONTENT: DECOMPOSED DECIDUOUS LEAVES FROM THE PROJECT SITE, WHEN AVAILABLE, OR SOURCE SEPARATED COMPOSTABLE WASTE CONTAINING NO INVASIVE PLANT SPECIES, INCLUDING SEEDS.
 2. PEAT: NATURAL PRODUCT OF SPHAGNUM MOSS PEAT, PEAT HUMUS DERIVED FROM FRESH WATER SITE, CONFORMING TO ASTM D4427 AND CONTAINING NO INVASIVE SPECIES, INCLUDING SEEDS. SHRED AND GRANULATE PEAT TO PASS 1/2 INCH MESH SCREEN.
 3. MANURE: WELL ROTTED, HORSE OR CATTLE MANURE CONTAINING MAXIMUM 25 PERCENT BY VOLUME OF STRAW, FREE OF SEEDS, STICKS, SOIL, AND OTHER INVASIVE SPECIES.

PLANT FERTILIZERS

- A. SOIL TEST: EVALUATE EXISTING SOIL CONDITIONS AND REQUIREMENTS BEFORE FERTILIZER SELECTION AND APPLICATION TO MINIMIZE USE OF ALL FERTILIZERS AND CHEMICAL PRODUCTS. OBTAIN APPROVAL OF CONSERVATION COMMISSION REPRESENTATIVE FOR ALLOWABLE PRODUCTS. PRODUCT ALTERNATIVES, SCHEDULING AND APPLICATION PROCEDURES, EVALUATE EXISTING SOIL CONDITIONS AND WARRANTY REQUIREMENTS BEFORE APPLICATION. APPLY PRODUCTS DURING FAVORABLE WEATHER AND SITE CONDITIONS ACCORDING TO MANUFACTURER'S INSTRUCTIONS AND WARRANTY REQUIREMENTS. FERTILIZERS TO BE REGISTERED AND APPROVED BY EPA, ACCEPTABLE TO APPLICABLE STATE AND LOCAL AGENCIES AND OF THE TYPE RECOMMENDED BY MANUFACTURER APPLICABLE TO SPECIFIC AREAS AS REQUIRED FOR PROJECT CONDITIONS AND APPLICABLE FEDERAL REGULATIONS.

***SEED MIXES SHALL BE COMPRISED OF NATIVE NEW ENGLAND SPECIES AND SHALL BE SPECIFIC TO THE HYDROLOGIC CONDITIONS OF THE AREA, PLACED IN ACCORDANCE WITH SUPPLIER DIRECTIONS, AND APPROVED BY THE WETLAND SPECIALIST. MIX SHALL BE OBTAINED FROM ONE OF THE FOLLOWING SUPPLIERS OR AN APPROVED EQUAL: SOUTHERN TIER CONSULTING INC., WEST CLARKSVILLE, NY (585-968-3120); ALLEN SEED, EXETER, RI (800-527-3899); OR ERNST CONSERVATION SEEDS, MEADVILLE PA (800- 873-3321).**

Wetland Impacts & Mitigation

Area Identification	BVW RESTORATION AREAS PROVIDED	BVW RESTORATION AREA REQUIRED	25' NDZ MITIGATION AREAS PROVIDED	25' NDZ MITIGATION AREA REQUIRED
BVW RESTORATION AREA 1*	5,950 SF	-	-	-
BVW RESTORATION AREA 2*	6,270 SF	-	-	-
BVW RESTORATION AREA 3	4,000 SF	-	-	-
REQUIRED BVW RESTORATION**	-	14,460 SF	-	-
25' NDZ MITIGATION AREA 1	-	-	1,445 SF	-
25' NDZ MITIGATION AREA 2	-	-	4,640 SF	-
25' NDZ MITIGATION AREA 3	-	-	5,960 SF	-
25' NDZ MITIGATION AREA 4	-	-	4,970 SF	-
25' NDZ MITIGATION AREA 5	-	-	2,380 SF	-
25' NDZ REQUIRED MITIGATION***	-	-	-	14,850 SF
TOTAL	16,220 SF	14,460 SF	19,395 SF	14,850 SF

* AREA PREVIOUSLY RESTORED AS BVW
 ** AREA REQUIRED BY PREVIOUS DOC DEP FILE NO. 089-1009
 ***REQUIRED 21' MITIGATION PER AS REQUIRED BY DEP FILE NO. 089-1009 (7,495 SF WITHIN 25' NDZ IS PROPOSED TO BE IMPACTED (7,500 SF WAS IMPACT PER FLING AS A TEMPLE PROJECT))

WETLAND RESTORATION & MITIGATION PLAN
25 FOOT NO DISTURB BUFFER MITIGATION PLAN
 SCALE: 1"=20'
 OWNER: FRANK ZAVRL
 LOCATION: 17 BOUTWELL ROAD
 ANDOVER, MASS.
 TOWN MAP NO. 216 PART OF TOWN LOT NO. 5

DATE: AUGUST 17, 2017
 REV: MAY 16, 2018
 REV: NOV. 21, 2019

andover consultants inc.
 1 East River Place
 Methuen, Mass. 01844
 Reg. Prof. Engineer
 11.25.19

NOTES:

1. ALL WETLAND RESTORATION WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED WETLAND SPECIALIST. PRIOR TO BEGINNING WORK, THE WETLAND SPECIALIST SHALL FURNISH PROOF OF QUALIFICATIONS TO THE TOWN OF ANDOVER CONSERVATION COMMISSION FOR APPROVAL.
2. THE WETLAND SPECIALIST SHALL REVIEW THE ORDER OF CONDITIONS FOR THE PROJECT AND EVALUATE THE WETLAND RESTORATION AREA CONDITIONS AND PROPOSED MATERIALS PRIOR TO CONSTRUCTION. THE WETLAND SPECIALIST SHALL REVIEW SILTATION CONTROLS AND MONITOR CONSTRUCTION IMPACTS TO BUFFER ZONES AND REGULATED WETLAND RESOURCES. THE WETLAND SPECIALIST SHALL ALSO BE RESPONSIBLE FOR APPROVING THE FOLLOWING:
 - a. FINAL LOCATION OF WETLAND RESTORATION AREA LIMITS
 - b. FINAL LOCATION OF BUFFER ZONES
 - c. LIMITS OF WETLAND AND UPLAND SEEDING PERIOD
 - d. WETLAND PLANT NUMBERS AND LOCATIONS PRIOR TO PLANTING
 - e. MONITORING FOR AND/OR DIRECTING REMOVAL OF INVASIVE SPECIES DURING THE ESTABLISHMENT PERIOD AND UNTIL FINAL ACCEPTANCE
 - f. SUBMITTING WETLAND MONITORING REPORTS TO THE CONSERVATION COMMISSION AS DIRECTED.
3. THE FOLLOWING PLANTINGS SHALL BE SUPPLIED AND PLANTED. PLANTINGS SHALL BE PROPORTIONALLY DISTRIBUTED BY RESTORATION AREA:
 5. RED MAPLE (*Acer rubrum*) (TREE, 2"-2.5" CALIPER STOCK)
 14. SWAMP WHITE OAK (*Quercus bicolor*) (TREE, 2"-2.5" CALIPER STOCK)
 15. SLIPPER ELM (*Ulmus rubra*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')
 5. SILVER MAPLE (*Acer dieckmannii*) (TREE, 2"-2.5" CALIPER STOCK)
 16. SPECKLED ALDER (*Acer saccharinum*) (TREE, 2"-2.5" CALIPER STOCK)
 10. GREEN ASH (*Fraxinus rugosa*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')
 32. HIGHBUSH BLUEBERRY (*Vaccinium corymbosum*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')
 8. PURPLE CHOKERBERRY (*Athyrium filix-femina*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')
 20. BLACK TUPELO (*Nyssa sylvatica*) (TREE, 2"-2.5" CALIPER STOCK)
 21. RED OSIER DOGWOOD (*Cornus sericea*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')
 12. WINTERBERRY (*Ilex verticillata*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')
 10. ARROWWOOD (*Viburnum dentatum*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')
 12. SWEET PEPPERBUSH (*Clethra alnifolia*) (SHRUB, MIN 1 GALLON STOCK, HEIGHT 2'-3')

AFTER PLANTING THE ABOVE, THE ENTIRE RESTORATION AREAS SHALL BE SEEDED WITH A WETLAND SEED MIX.**

WETLAND SOIL

COMPOST SHALL BE PER THE REQUIREMENTS OF SECTION M1.06.0 ORGANIC SOIL ADDITIVES OF THE MASSDOT STANDARD SPECIFICATIONS:

COMPOST SHALL BE A WELL-DECOMPOSED HUMUS MATERIAL DERIVED FROM THE AEROBIC DECOMPOSITION OF BIODEGRADABLE MATTER, FREE OF WABLE WEED SEEDS AND OTHER PLANT PROPAGATES FOREIGN DEBRIS SUCH AS GLASS, PLASTIC, AND RESIDUES TOXIC TO PLANTS. COMPOST SHALL BE SUITABLE FOR USE AS A SOIL AMENDMENT AND SHALL SUPPORT THE GROWTH OF ORNAMENTAL NURSERY STOCK AND TURF ESTABLISHMENT.

COMPOST SHALL HAVE THE FOLLOWING PROPERTIES:

- MAXIMUM PARTICLE SIZE OF 1 INCH
- MOISTURE CONTENT BETWEEN 35-55 %
- PH RANGE BETWEEN 5.5 AND 7.5
- MINIMUM ORGANIC MATTER CONTENT OF 40% (MINIMUM DRY WEIGHT)
- MAXIMUM ELECTRICAL CONDUCTIVITY OF 0.4 S/M
- C:N RATIO RANGE OF 11-25:1

AN EXTENDED LIST OF COMMERCIAL SOURCES OF COMPOST MATERIAL IS AVAILABLE FROM THE DIVISION OF CONSUMER PROGRAMS, BUREAU OF WASTE PRODUCTS, MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION.

WETLAND SOIL FOR WETLAND RESTORATION MAY BE EITHER SOIL EXCAVATED FROM THE IMPACTED WETLAND AREA OR MANUFACTURED HYDRIC SOIL FROM THE IMPACTED WETLAND AREA SHALL NOT BE COMPACTED OR GRUBBED AND ONLY USED IF THE PROPOSED RESTORATION SITE IS IN AN AREA FREE OF INVASIVE SPECIES, OTHERWISE PROVIDE MANUFACTURED HYDRIC SOIL. SOIL SHALL BE STORED IN A DRY AREA. SOIL SHALL BE STORED IN A DRY AREA. SOIL SHALL BE STORED IN A DRY AREA.

ACHIEVE TARGET ORGANIC MATTER CONTENT OF 40% BY VOLUME. OFF-SITE BORROW MAY BE USED FOR MIXING IF APPROVED BY WETLAND SPECIALIST AND SHALL NOT CONTAIN SEEDS, ROOTS, STEMS, OR OTHER Viable PARTS OF INVASIVE PLANTS THAT BE FREE OF ROCKS GREATER THAN 2 INCHES IN DIAMETER.

SITE PREPARATION

ALL TREES, STUMPS, ROOTS AND BRUSH AND OTHER REMOVED VEGETATION SHALL BE REMOVED FROM THE RESTORATION AREA.

EROSION AND SEDIMENT CONTROL

STAKE OUT REPLACEMENT AREA BOUNDARIES IN THE FIELD PRIOR TO EXCAVATION. INSTALL SILTATION BARRIER OF HAY BALES AND SILT FENCE ALONG THE EDGE OF THE PROPOSED REPLACEMENT SITE.

AN AGENT OF THE CONSERVATION COMMISSION IN THE PRESENCE OF THE WETLAND SPECIALIST SHALL INSPECT AND APPROVE EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO EXCAVATION WORK. CONTRACTOR SHALL REMOVE SEDIMENT DEPOSITS AS NECESSARY TO MAINTAIN THE FILTERS IN WORKING CONDITION.

EXCAVATION

FINAL WETLAND REPLACEMENT AREA SHALL BE STAKED FOR APPROVAL PRIOR TO CLEARING AND EXCAVATION. LIMITS OF REPLACEMENT AREA SHALL BE ADJUSTED TO PROTECT ROOT SYSTEMS OF EXISTING TREES; LIMITS SHALL BE A MINIMUM OF 6 FEET FROM TRUNK OF TREES TO THE EXTENT POSSIBLE. HOWEVER, THE TOTAL AREA OF WETLAND RESTORATION REQUIRED BY PERMIT SHALL NOT BE REDUCED.

UNLESS OTHERWISE DIRECTED, THE CONTRACTOR SHALL EXCAVATE REPLACEMENT AREA TO A DEPTH OF 12 INCHES BELOW THE PROPOSED GRADE. A MINIMUM BARRIER OF 6 INCHES OF SUBSOIL SHALL BE PROVIDED ABOVE THE PARENT MATERIAL (C HORIZON). ADJUST EXCAVATION DEPTH AS NEEDED.

BACKFILL AND GRADING

THE WETLAND SPECIALIST SHALL OVERSEE ALL GRADING ACTIVITIES. THE CONTRACTOR SHALL TAKE MEASURES NECESSARY TO ENSURE THAT THE ELEVATIONS OF CONSTRUCTED REPLACEMENT AREA BLEND WITHOUT INTERRUPTION WITH THOSE OF PROTECTED WETLAND AREAS.

SEQUENCE AND EXECUTION OF WORK WILL ENSURE MINIMAL COMPACTION AND THAT NO HEAVY EQUIPMENT TRAVELS OVER PLACED REPLACEMENT SOIL. AFTER PLACEMENT OF SOIL IS COMPLETE, THE SOIL SURFACE SHALL BE RAKED TO A RELATIVELY SMOOTH PLANTING SURFACE, EXCEPT FOR TOPOGRAPHY CHANGES AROUND ANY TREES THAT ARE SELECTED TO REMAIN.

COMPOST MULCH

UPON COMPLETION OF PLANTING AND SEEDING, ALL DISTURBED AREAS UP TO THE LIMIT OF THE REPLACEMENT AREA SHALL BE LIGHTLY MULCHED WITH 1-2 INCHES OF COMPOST.

MONITORING

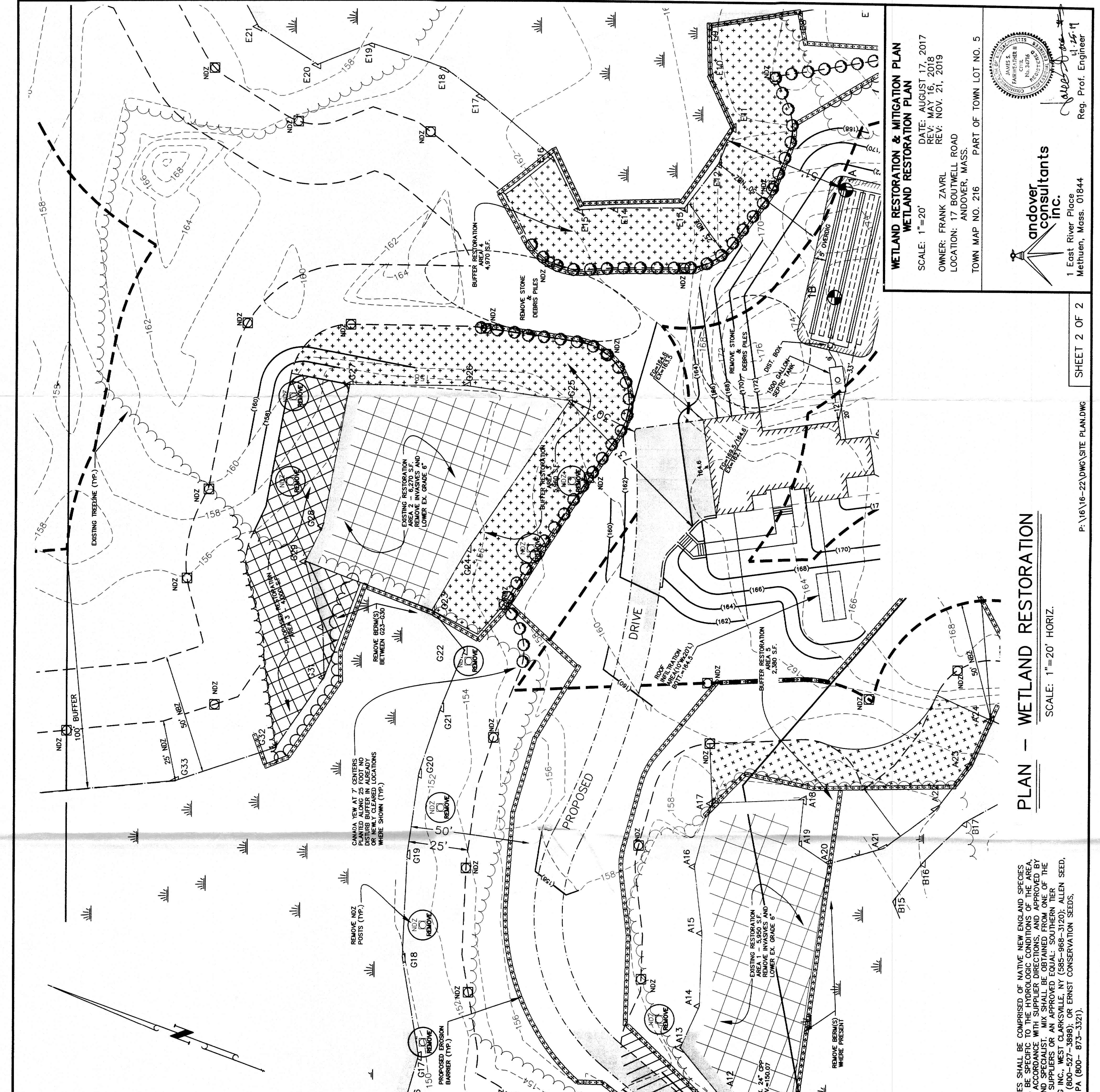
MONITORING WILL BE PERFORMED BY THE WETLAND SPECIALIST IN ORDER TO ENSURE SATISFACTORY PLANT ESTABLISHMENT AND COMPLIANCE WITH THE PERFORMANCE STANDARDS FOR BORDERING VEGETATED AND AS CONDITIONED BY THE ANDOVER CONSERVATION COMMISSION.

AT THE END OF EACH OF THE FIRST TWO GROWING SEASONS, THE WETLAND SPECIALIST SHALL COMPLETE AND SUBMIT A PROGRESS REPORT TO THE CONSERVATION COMMISSION DETAILING THE RELATIVE SUCCESS OR FAILURE OF THE REPLACEMENT EFFORTS.

PLANTS SHALL BE INSPECTED FOR DISEASE AND AREA SHALL BE MONITORED FOR INVASIVE SPECIES. ALL INVASIVE SPECIES SHALL BE REMOVED AS SPECIFIED BY THE WETLAND SPECIALIST.

COMPLETION INSPECTION: RESTORATION AREAS SHALL BE INSPECTED TO DOCUMENT THAT IT HAS BEEN CONSTRUCTED IN COMPLIANCE WITH THE DESIGN WITH REGARD TO SOILS, GRADING, HYDROLOGIC CONNECTION, PLANT SPECIES QUANTITIES, AND QUALITY OF PLANT MATERIAL.

A FINAL WRITTEN REPORT MUST BE SUBMITTED TO THE ANDOVER CONSERVATION COMMISSION CERTIFYING THAT THE COMPLETED RESTORATION HAS BEEN SATISFACTORILY COMPLETED OR NOTING ANY DEFICIENCIES FOR THE CONSERVATION COMMISSION'S USE WHEN DELIBERATING THE ISSUANCE OF A CERTIFICATE OF COMPLIANCE.



WETLAND RESTORATION & MITIGATION PLAN
WETLAND RESTORATION PLAN

SCALE: 1"=20'
 DATE: AUGUST 17, 2017
 REV: MAY 16, 2018
 REV: NOV. 21, 2019

OWNER: FRANK ZAVRIL
 LOCATION: 17 BOUTWELL ROAD
 ANDOVER, MASS.

TOWN MAP NO. 216 PART OF TOWN LOT NO. 5

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