LOCATION / KEY MAP

SCALE:  $I'' = 1,000' \pm$ 

# LAND DEVELOPMENT PLANS

**FOR** 

# PRIMROSE SCHOOL FRANCHISING COMPANY PROPOSED CHILD DAY CARE FACILITY

**APPLICANT** 

PRIMROSE SCHOOL FRANCHISING COMPANY

# **OWNER**

**CONGREGATION B'NAI TORAH INC** SUDBURY, MA 01776



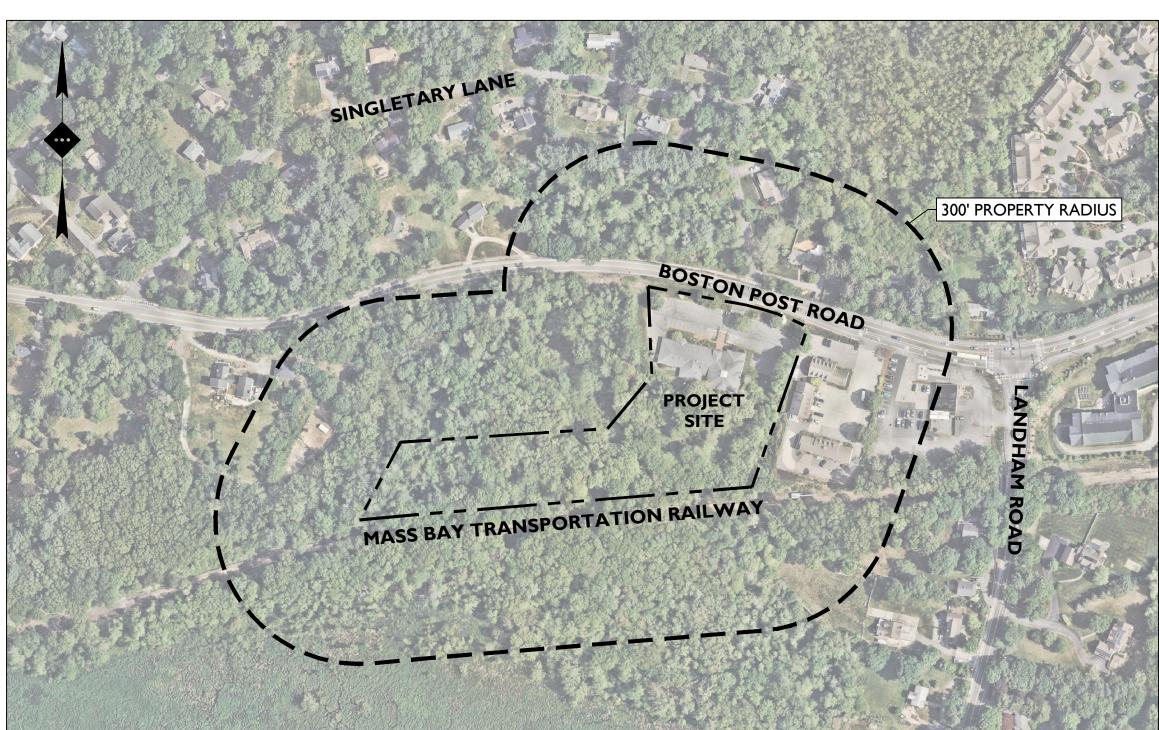
PARCEL ID: K10-0009 & K10-0040 225 BOSTON POST ROAD TOWN OF SUDBURY, MIDDLESEX COUNTY, MASSACHUSETTS

**ZONING LEGEND** 

WATER BODY







SOURCE: NEARMAP RETRIEVED AUGUST 25, 2023

**TOWN OF SUDBURY 300' PROPERTY OWNERS LIST** 

**OWNER'S ADDRESS** 

86 WALNUT ST, NATICK, MA, 01760

86 WALNUT ST, NATICK, MA, 01760

10 PARK PLACE, BOSTON, MA, 02110

132 NEWBURY ST, BOSTON, MA, 02116

271 LANDHAM ROAD, SUDURY, MA, 01776

416 BOSTON POST RD, SUDBURY, MA, 01776

214 BOSTON POST RD, SUDBURY, MA, 01776

222 BOSTON POST RD, SUDBURY, MA, 01776

278 OLD SUDBURY ROAD, SUDBURY, MA, 01776

365 BOSTON POST RD 138, SUDBURY, MA, 01776

365 BOSTON POST RD 138, SUDBURY, MA, 01776

169 PORTSMOUTH ST UNIT 114, CONCORD, NH, 03301

169 PORTSMOUTH ST UNIT 114, CONCORD, NH, 03301

215 BOSTON POST RD. SUDBURY, MA. 01776

L7 SINGLETARY LN. SUDBURY. MA. 01776

25 SINGLETARY LN, SUDBURY, MA, 01776

275 BOSTON POST RD, SUDBURY, MA 01776

244 BOSTON POST RD, SUDBURY, MA 01776

10 PARK PLAZA, BOSTON, MA, 02116

132 NEWBURY ST, BOSTON, MA 02116

5 SINGLETARY LN, SUDBURY, MA 01776

3 GREENHILL RD, SUDBURY, MA, 01776

P.O. BOX 2050, LECANTO, FL, 34460

86 WALNUT ST, NATICK, MA, 01760

1 GLEN PINES WAY, MILLIS, MA, 02054

6 HOWARD FARM RD, SHARON, MA, 02067

1232 WASHINGTON ST, WEST NEWTON, MA, 02465

OWNER

HAN XU

**GEISINGER ELIZABETH** 

GEISINGER ELIZABETH

JACOB & ASSOCIATES INC

BENDORIS K EILEEN TRS

**BROOKSIDE CUSTOM HOMES INC** 

**DELPIZZO PAUL & MARY TRUSTEES** 

**ORR CHARLES W & CAROLINA TRS** 

MICHELS KARL H & HILDEGARD M

ORR CHARLES W & CAROLINA TRS

LARSON DAVID E & HEATHER J TRS

MASS BAY TRANSPORTATION

KIRBY RUSSELL P & CAROL A

**RUE NICHOLAS & CYNTHIA V** 

SAFAR GASTON

OLSEN FAMILY

EMMA LOU LLC

GEISINGER ELIZABETH

TOWN OF SUDBURY

HOWARD FARM LLO

LUCENTE DIANE E

GEORGE PETER

GEORGE PETER

BAZILE CASTERA

SAFAR GASTON

MASS BAY TRANSPORTATION AUTH

PARCEL ID

K09-0063

K09-0066

K09-0067

K10-0004

K10-0005

K10-0041

K10-0007-0-1A

K10-0007-0-1E

K10-0007-0-10

K10-0007-0-2E

K10-0007-0-2C

K10-0109

K10-0110

K10-0111

K10-0114

K09-5000

K09-0065

K10-0003

K10-0108

# **AERIAL MAP**

SCALE:  $I'' = 200' \pm$ 

# **PLAN REFERENCE MATERIALS:**

- I. THIS PLAN SET REFERENCES THE FOLLOWING DOCUMENTS INCLUDING, BUT NOT LIMITED TO: SURVEY PREPARED BY HANCOCK ASSOCIATES
- DATED AUGUST 01. 2023 ARCHITECTURAL PLANS PREPARED BY ADA **ARCHITECTS, DATED DECEMBER 8, 2023** AERIAL MAP OBTAINED FROM NEARMAP
- RETRIEVED, AUGUST 25, 2023 TAX AND ZONING MAP FROM THE TOWN OF SUDBURY MASSACHUSETTS GIS, RETRIEVED **AUGUST 28, 2023**
- LOCATION MAP OBTAINED FROM USGS QUADRANGLE MAP 7.5 SERIES MAYNARD & FRAMINGHAM, MA, DATED 2021
- SEPTIC DESIGN PLAN PREPARED BY GRADY CONSULTING, LLC., DATED SEPTEMBER 26, 2023 SOIL SUITABILITY ASSESSMENT LOGS, PREPARED BY GRADY CONSULTING, LLC., DATED AUGUST
- PLAN OF PROPOSED GRASS SWALE IN SUDBURY, MASSACHUSETTS, PREPARED BY CENTRAL MASS. ENG. & SURVEY, INC., DATED MAY 8, 1998.
- 2. ALL REFERENCE MATERIAL LISTED ABOVE SHALL BE CONSIDERED A PART OF THIS PLAN SET AND ALL INFORMATION CONTAINED WITHIN THESE MATERIALS SHALL BE UTILIZED IN CONJUNCTION WITH THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN A COPY OF EACH REFERENCE AND REVIEW IT THOROUGHLY PRIOR TO THE START OF CONSTRUCTION.

# PLANS PREPARED BY:



Rutherford, NJ · New York, NY · Salem, MA Princeton, NJ · Tampa, FL · Detroit, MI www.stonefieldeng.com

120 Washington Street, Suite 201, Salem, MA 01970 Phone 617.203.2076

K10-0114	
K10-0109 K10-0024	
K10-0108 K10-0111	
K10-0110	
BOSTON POST ROAD K10-0020	
TOAD INTO-0017	
K10-010	
PROJECT / S	
K09-0666 / / / K00-010   E	
K10-0009 K10-040 K10-040 K10-040	
MASS BAY TRAN SPORTATION RAILWAY  K09-0065  K10-0006	
MASS BAY TRAN SPORTATION TO KIO-0005 KIO-0006	
K10-0041	
K10-0004 K10-0003	

# SOURCE: TOWN OF SUDBURY GIS MAPPING, RETRIEVED AUGUST 28, 2023 TAX AND ZONING MAP

SCALE:  $I'' = 200' \pm$ 

PLANNING BOARD SIGNATURE BLOCK									
CHAIR	DATE								
VICE CHAIR	DATE								
MEMBER	DATE								
MEMBER	DATE								
MEMBER	DATE								

SHEET INDEX								
DRAWING TITLE	SHEET#							
COVER SHEET	C-I							
EXISTING CONDITIONS PLAN	C-2							
DEMOLITION PLAN	C-3							
SITE PLAN	C-4							
GRADING, DRAINAGE & UTILITY PLAN	C-5							
LIGHTING PLAN	C-6							
SOIL EROSION & SEDIMENT CONTROL PLAN	C-7							
LANDSCAPING PLAN	C-8 - C-9							
CONSTRUCTION DETAILS	C-10 - C-12							

TOWN OF SUDBURY SIGNATURE BLOCK

DATE

DATE

DATE

BUILDING INSPECTOR

DIRECTOR OF PUBLIC WORKS

TOWN ENGINEER

TOWN PLANNER

					FOR PLANNING BOARD RESUBMISSION	FOR CONSERVATION COMMISSION SUBMISSION	FOR PLANNING BOARD SUBMISSION	DESCRIPTION
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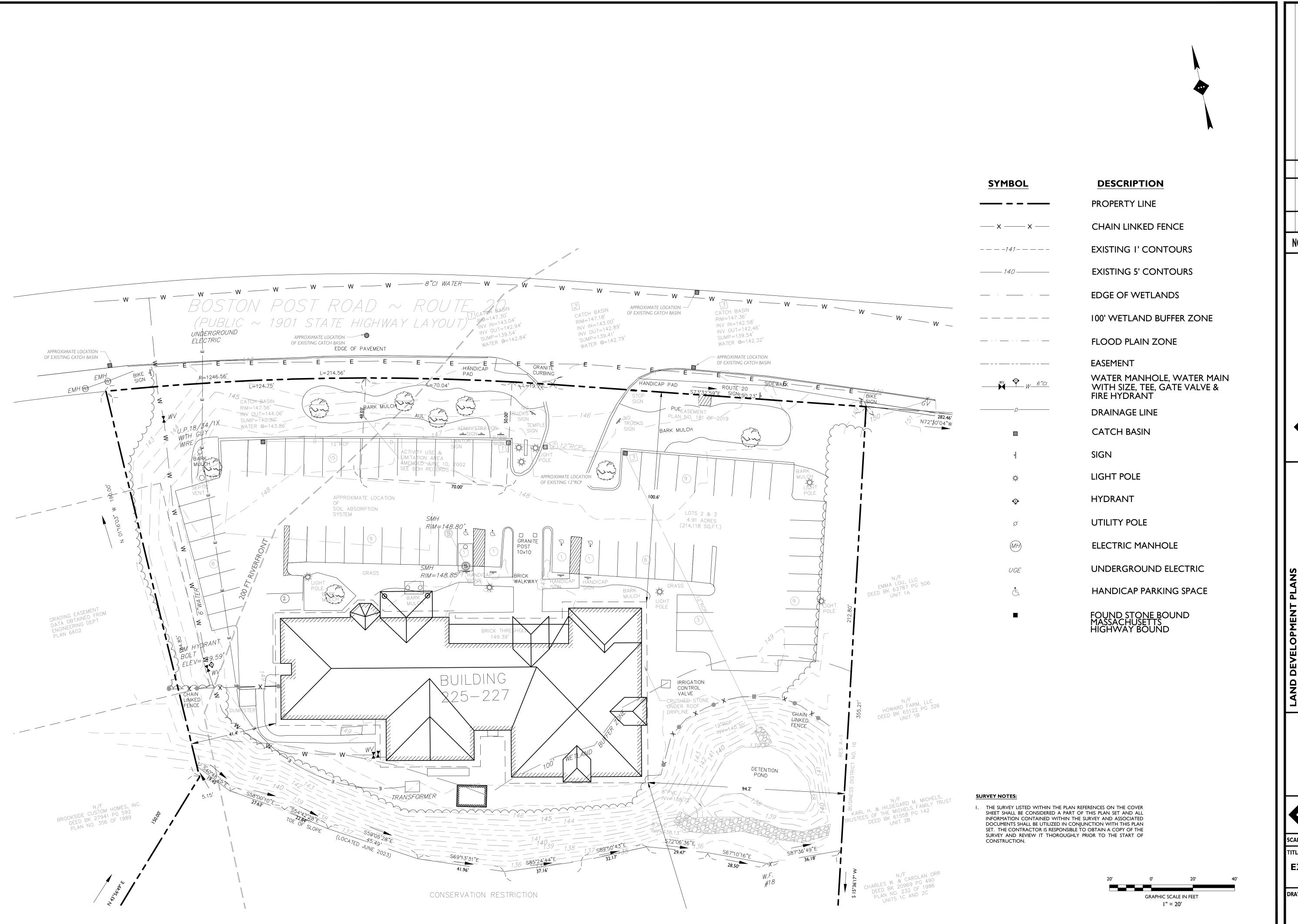
JOSHUA H. KLINE, P.E. 1ĂSSACHUSETTS LICENSE No. 53936 LICENSED PROFESSIONAL ENGINEER



SCALE: AS SHOWN PROJECT ID: BOS-230051

**COVER SHEET** 

DRAWING:



					FOR PLANNING BOARD RESUBMISSION	FOR CONSERVATION COMMISSION SUBMISS	FOR PLANNING BOARD SUBMISSION	DESCRIPTION
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NOT APPROVED FOR CONSTRUCTION



JOSHUA H. KLINE, P.E. MASSACHUSETTS LICENSE No. 53936 LICENSED PROFESSIONAL ENGINEER



I" = 20' PROJECT ID: BOS-230051

**EXISTING CONDITIONS PLAN** 

DRAWING:

**ALL EROSION AND SEDIMENT CONTROL MEASURES** SHALL BE INSTALLED AND INSPECTED IN ACCORDANCE WITH APPROVED PLANS PRIOR TO THE BEGINNING OF ANY DEMOLITION ACTIVITIES OR OTHER ON-SITE WORK

ALL SITE FEATURES WITHIN THE LIMIT OF DISTURBANCE INDICATED ON THIS PLAN ARE TO BE REMOVED / DEMOLISHED UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF SIGNIFICANT DISCREPANCIES ARE DISCERNED BETWEEN THIS PLAN AND FIELD CONDITIONS



# **SYMBOL**

# **DESCRIPTION**

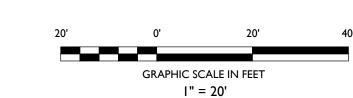
FEATURE TO BE REMOVED / DEMOLISHED

LIMIT OF DISTURBANCE



# **DEMOLITION NOTES**

- I. THE WORK REFLECTED ON THE DEMOLITION PLAN IS TO PROVIDE GENERAL INFORMATION TOWARDS THE EXISTING ITEMS TO BE DEMOLISHED AND/OR REMOVED. THE CONTRACTOR IS RESPONSIBLE TO REVIEW THE ENTIRE PLAN SET AND ASSOCIATED REPORTS/REFERENCE DOCUMENTS INCLUDING ALL DEMOLITION ACTIVITIES AND INCIDENTAL TASKS NECESSARY TO COMPLETE THE
- SITE IMPROVEMENTS. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF DEMOLITION ACTIVITIES.
- EXPLOSIVES SHALL NOT BE USED UNLESS WRITTEN CONSENT FROM BOTH THE OWNER AND ANY APPLICABLE GOVERNING AGENCY IS OBTAINED. BEFORE THE START OF ANY EXPLOSIVE PROGRAM, THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL LOCAL, STATE, AND FEDERAL PERMITS. ADDITIONALLY, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL SEISMIC TESTING AS REQUIRED AND ANY DAMAGES AS THE RESULT OF SAID DEMOLITION PRACTICES.
- 4. ALL DEMOLITION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL CODES. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL UTILITIES ARE DISCONNECTED IN ACCORDANCE WITH THE UTILITY AUTHORITY'S REQUIREMENTS PRIOR TO STARTING THE DEMOLITION OF ANY STRUCTURE. ALL EXCAVATIONS ASSOCIATED WITH DEMOLISHED STRUCTURES OR REMOVED TANKS SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO SUPPORT SITE AND BUILDING IMPROVEMENTS. A GEOTECHNICAL ENGINEER SHOULD BE PRESENT DURING BACKFILLING ACTIVITIES TO OBSERVE AND CERTIFY THAT BACKFILL MATERIAL WAS COMPACTED TO A SUITABLE CONDITION.
- DEMOLISHED DEBRIS SHALL NOT BE BURIED ON SITE. ALL WASTE/DEBRIS GENERATED FROM DEMOLITION ACTIVITIES SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL RECORDS OF THE DISPOSAL TO DEMONSTRATE COMPLIANCE WITH THE ABOVE REGULATIONS.



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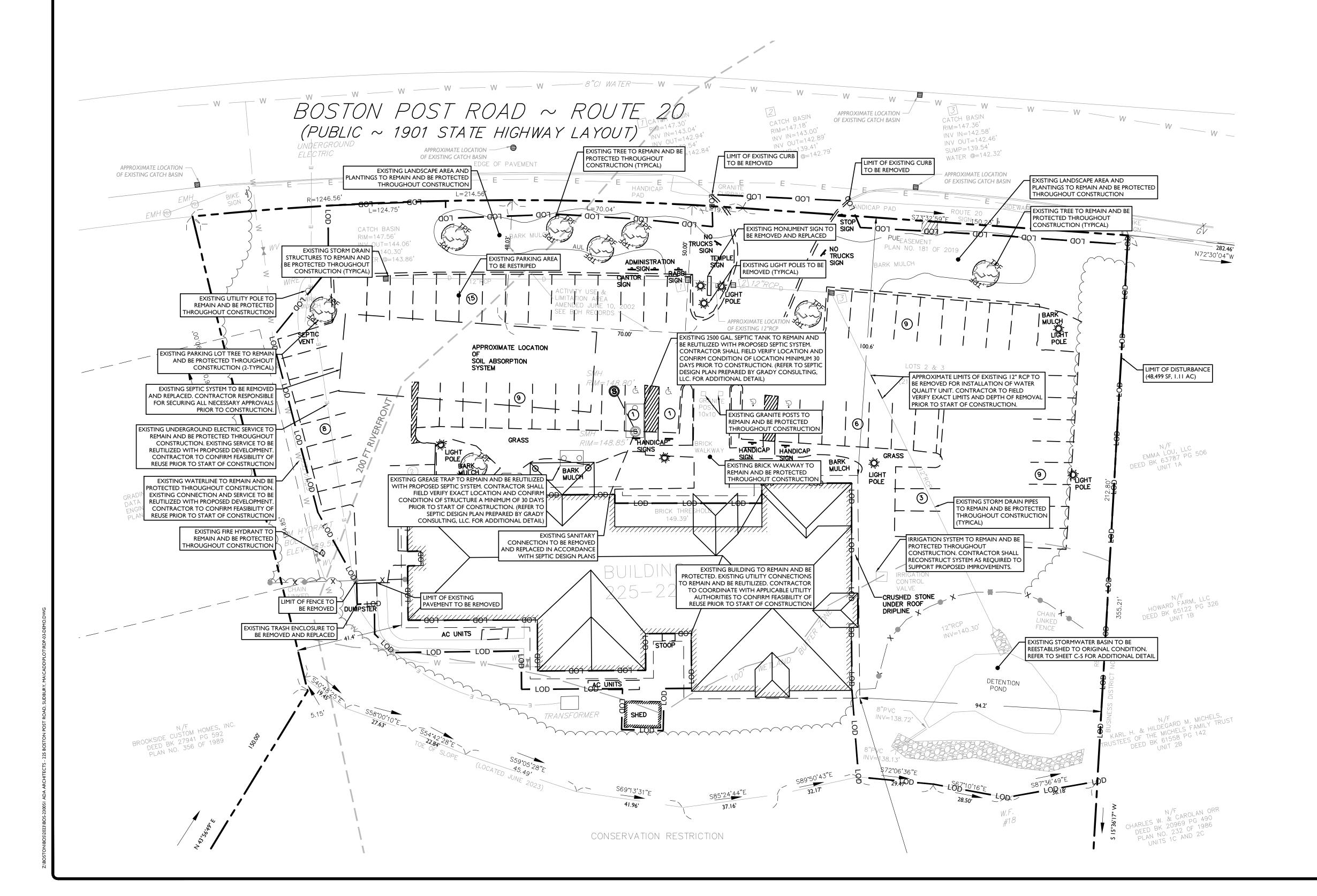


JOSHUA H. KLINE, P.E. MÁSSACHUSETTS LICENSE No. 53936 LICENSED PROFESSIONAL ENGINEER



I" = 20' PROJECT ID: BOS-230051

**DEMOLITION PLAN** 



LAND USE AND ZONING										
K10-0009 & K10-0040										
SINGLE RESIDENTIAL (RES A-I)										
PROPOSED USE										
CHILD CARE FACILITY (*)	PERMITTED USE									
ZONING REQUIREMENT	REQUIRED	EXISTING	PROPOSED							
MINIMUM LOT AREA	40,000 SF	214,118 SF	NO CHANGE							
MINIMUM LOT FRONTAGE	180 FT	364.8 FT	NO CHANGE							
MAXIMUM BUILDING COVERAGE	40% (85,647 SF) (**)	5.03% (10,770 SF) (**)	NO CHANGE							
MAXIMUM BUILDING HEIGHT	2.5 STORIES (35 FT)	I STORY	NO CHANGE							
MINIMUM FRONT YARD SETBACK	40 FT	103.8 FT	NO CHANGE							
MINIMUM SIDE YARD SETBACK	20 FT	44.4 FT	NO CHANGE							
MINIMUM REAR YARD SETBACK	30 FT	195.4 FT	NO CHANGE							
MAXIMUM IMPERVIOUS COVERAGE	N/S	16.5% (35,400 SF)	14.6% (31,161 SF) (***)							

EXEMPT AND INSTITUTIONAL USES INCLUDING PRINCIPAL AND ACCESSORY BUILDINGS

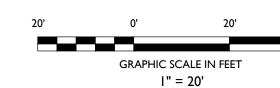
(\*\*\*) EXCLUDES 6,232 SF OF TURF SURFACE

	OFF-STREET PARKING REQUIREMENTS									
CODE SECTION	REQUIRED	PROPOSED								
§ 3120	REQUIRED PARKING:									
	I SPACE FOR EACH STAFF POSITION (22 STAFF) * (I SPACE) = 22 SPACES									
	I FOR SPACE EACH 5 PERSONS OF RATED CAPACITY OF THE LARGEST AUDITORIUM N/A - NO AUDITORIUM PROPOSED									
	I SPACE FOR EACH STUDENT VEHICLE AT MAX CAPACITY (8 STUDENT DROP OFF VEHICLES) * (I SPACE) = 9 SPACES									
	TOTAL: 22 + 9 = 31 SPACES	45 SPACES								
§ 3130	DIMENSIONAL REGULATIONS 90 DEGREE PARKING:									
	WIDTH = 9 FT LENGTH = 18.5 FT WIDTH OF DRIVE AISLE = 24 FT	9 FT 18 FT (W) 23.1 FT (W)								
§ 3142	PARKING SETBACK:									
	SETBACK = 10 FT (DRIVE/WALKWAYS EXCLUDED)	21 FT								

SIGNAGE REQUIREMENTS									
CODE SECTION REQUIRED									
§ 3280	RESIDENTIAL SIGNS:								
	MAXIMUM SIGNS: I SIGN	6 SIGNS (W)							
	MOUNTING OPTIONS: ATTACHED OR FREESTANDING	COMPLIES							
	MAXIMUM SIGN AREA: 10 SF	54 SF (W)							
	MAXIMUM SIGN HEIGHT: 10 FT	8 FT ` ´							
	MAXIMUM SIGN CLEARANCE: 40% OF HEIGHT	N/A							
	MINIMUM SIGN SETBACK: 10 FT	I0 FT							

N/A NOT APPLICABLE

SIGNS, LANDSCAPING AND OTHER FEATURES LOCATED WITHIN SIGHT TRIANGLE AREAS SHALL BE DESIGNED, INSTALLED AND MAINTAINED SO AS NOT TO EXCEED 2.5 FT IN HEIGHT. SNOW ACCUMULATION LOCATED WITHIN SIGHT TRIANGLE AREAS THAT EXCEED 3.5 FT IN HEIGHT OR THAT WOULD OTHERWISE INHIBIT SIGHT LINES SHALL BE PROMPTLY REMOVED.



**SYMBOL** 

**DESCRIPTION** 

						FOR PLANNING BOARD RESUBMISSION	FOR CONSERVATION COMMISSION SUBMISSIC	FOR PLANNING BOARD SUBMISSION	DESCRIPTION	
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						06/04/2024	04/01/2024	12/08/2023	DATE	
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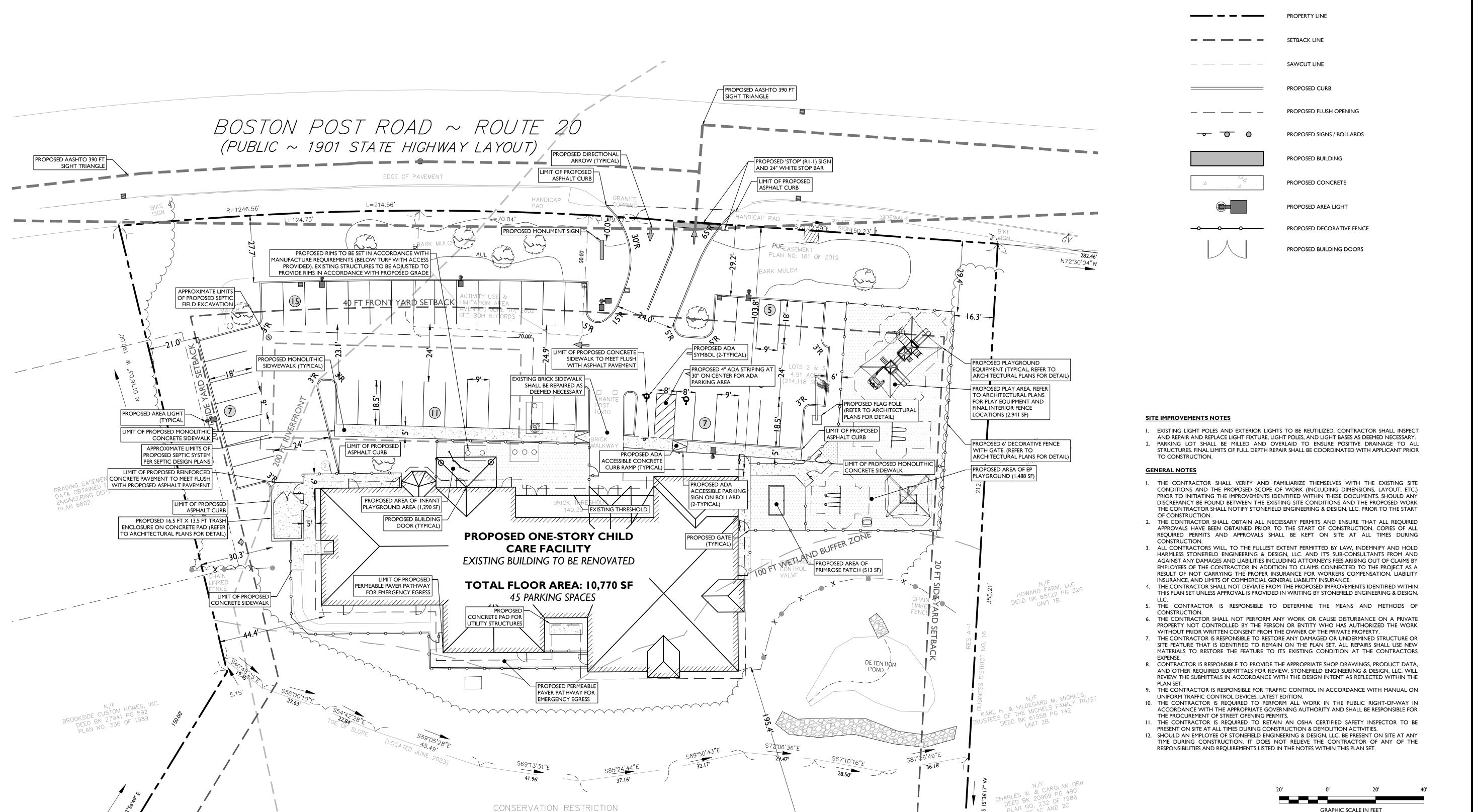
JOSHUA H. KLINE, P.E. 1ASSACHUSETTS LICENSE No. 53936 LICENSED PROFESSIONAL ENGINEER



I" = 20' PROJECT ID: BOS-230051

DRAWING:

**SITE PLAN** 



### DRAINAGE AND UTILITY NOTES

- I. THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF I. THE CONTRACTOR IS REQUIRED TO REVIEW THE REFERENCED GEOTECHNICAL CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC.
- IMMEDIATELY IN WRITING. 2. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN IN OPERATION ALL UTILITIES NOT DESIGNATED TO BE REMOVED.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO ANY EXISTING UTILITY IDENTIFIED TO REMAIN WITHIN THE LIMITS OF THE PROPOSED WORK DURING CONSTRUCTION. 4. A MINIMUM HORIZONTAL SEPARATION OF 10 FEET IS REQUIRED BETWEEN ANY SANITARY SEWER SERVICE AND ANY
- WATER LINES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASEMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN. LLC 5. ALL WATER LINES SHALL BE VERTICALLY SEPARATED ABOVE SANITARY SEWER LINES BY A MINIMUM DISTANCE OF 18
- inches. If this separation cannot be provided, a concrete encasement shall be utilized for the sanitary SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC. 6. THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR WATER AND SANITARY SEWER CONNECTION IMPROVEMENTS. SHOULD A
- CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IN 7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING GAS, ELECTRIC AND TELECOMMUNICATION CONNECTIONS
- WITH THE APPROPRIATE GOVERNING AUTHORITY. 8. CONTRACTOR SHALL START CONSTRUCTION OF ANY GRAVITY SEWER AT THE LOWEST INVERT AND WORK
- **UP-GRADIENT** 9. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD SET OF PLANS REFLECTING THE LOCATION OF EXISTING UTILITIES THAT HAVE BEEN CAPPED, ABANDONED, OR RELOCATED BASED ON THE DEMOLITION/REMOVAL ACTIVITIES REQUIRED IN THIS PLAN SET. THIS DOCUMENT SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF
- 10. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.

### **EXCAVATION, SOIL PREPARATION, AND DEWATERING NOTES**

- DOCUMENTS PRIOR TO CONSTRUCTION, THESE DOCUMENTS SHALL BE CONSIDERED A PART OF THE PLAN SET.
- THE CONTRACTOR IS REQUIRED TO PREPARE SUBGRADE SOILS BENEATH ALL PROPOSED IMPROVEMENTS AND BACKFILL ALL EXCAVATIONS IN ACCORDANCE WITH RECOMMENDATIONS BY THE GEOTECHNICAL ENGINEER OF RECORD

3. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SHORING FOR ALL

EXCAVATIONS AS REQUIRED. CONTRACTOR SHALL HAVE THE SHORING

- DESIGN PREPARED BY A QUALIFIED PROFESSIONAL. SHORING DESIGNS SHALL BE SUBMITTED TO STONEFIELD ENGINEERING & DESIGN, LLC. AND THE OWNER PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL OPEN
- EXCAVATIONS ARE PERFORMED AND PROTECTED IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS.
  - THE CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING DESIGN AND OPERATIONS, AS REQUIRED, TO CONSTRUCT THE PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL OBTAIN ANY REQUIRED PERMITS FOR DEWATERING OPERATIONS AND GROUNDWATER DISPOSAL.

### **EXCAVATION & UTILITY VERIFICATION NOTE:**

PRIOR TO THE START OF CONSTRUCTION (RECOMMENDED 30 DAYS PRIOR) THE CONTRACTOR SHALL PERFORM EXPLORATORY TEST PITS AT LOCATIONS OF UTILITY / DRAINAGE CROSSINGS OR CONNECTIONS WITH EXISTING UTILITY OR STORMWATER INFRASTRUCTURE. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ANY NECESSARY ROAD OPENING PERMITS TO PERFORM SAID EXPLORATORY WORK. SHOULD A CONFLICT BE DISCOVERED WITH THE INFORMATION CONTAINED WITHIN THESE PLANS THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IN WRITING.

### **SANITARY / STORMWATER CONSTRUCTION NOTE:**

THE CONTRACTOR SHALL START CONSTRUCTION OF ALL GRAVITY SANITARY AND STORMWATER INFRASTRUCTURE AT THE DOWNSTREAM CONNECTION POINT (E.G. LOWEST INVERT) AND WORK UP-GRADIENT.

### SEPTIC INSTALLATION NOTE:

ENGINEER IN WRITING AS SOON AS POSSIBLE.

PROPOSED SEPTIC SYSTEM AND ASSOCIATED COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED SEPTIC DESIGN PLAN PREPARED BY GRADY CONSULTING, LLC. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND DEPTH OF EXISTING SANITARY INFRASTRUCTURE THAT IS TO REMAIN AND BE REUTILIZED, AND CONFIRM FEASIBILITY OF REUSE. CONTRACTOR TO INSPECT FOR STRUCTURAL INTEGRITY AND CONFIRM CAPACITY OF THE SYSTEMS REMAINING. SHOULD THE SYSTEMS BE DEEMED INFEASIBLE FOR REUSE, CONTRACTOR SHALL NOTIFY THE SEPTIC DESIGN

### **EXISTING BASIN RECONSTRUCTION:**

EXISTING DETENTION BASIN AND GRASS SWALE SHALL BE REESTABLISHED IN ACCORDANCE WITH "PLAN OF PROPOSED GRASS SWALE" PREPARED BY ROBERT I PARENTE, PE DATED MAY 8, 1998. SIDE SLOPES AND BASIN BOTTOM SHALL BE CLEÁRED AND REESTABLISHED (PERMANENTLY STABILIZED / SEEDED).

### **INVASIVE MANAGEMENT PLAN - JAPANESE KNOTWEED:**

THE FOLLOWING INVASIVE MANAGEMENT PLAN SHALL BE FOLLOWED IF THE APPLICANT WISHES TO CONTROL THE EXISTING JAPANESE KNOTWEED WITHIN THE AREA OF DISTURBANCE:

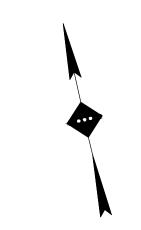
AND HERBICIDE TREATMENTS. HERBICIDE APPLICATION SHALL BE COMPLETED IN ACCORDANCE WITH APPLICABLE REGULATIONS INCLUDING THOSE THAT APPLY TO WETLAND AREAS. HERBICIDE APPLICATIONS SHALL BE DONE BY MA LICENSED HERBICIDE APPLICATOR OR PROPERTY OWNERS WITHIN THEIR LIMITED USE AREA. 2. THE STAND OF KNOTWEED SHALL BE CUT AT THE BASE MOTORIZED TRIMMERS WITH METAL BLADES OR HAND TOOLS. MOWING IS NOT RECOMMENDED AS IT MAY SPREAD

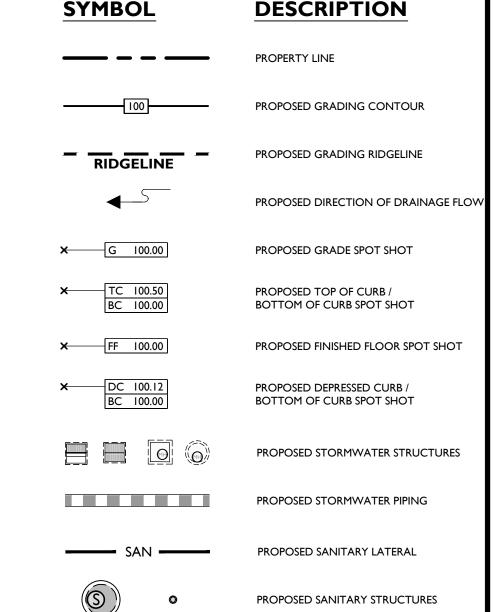
I. JAPANESE KNOTWEED IS TO BE CONTROLLED THROUGH A COMBINATION OF CUTTING

VEGETATIVE PROPAGULES TO NEW LOCATIONS. 3. CUT STEMS SHALL LEFT ON SITE AND PLACED ON A TARP OR PAVEMENT TO DRY OUT. THE BROWN STEMS MAY BE DISPOSED OF WHEN THEY ARE COMPLETELY DRIED OUT. CONTACT WITH SOIL IS NOT PERMITTED. 4.A FOLIAR TREATMENT OF HERBICIDE SHALL BE APPLIED IN EARLY SEPTEMBER, JUST AFTER THE PLANT FLOWERS

5. THE AREA SHALL BE MONITORED THE FOLLOWING SPRING AND THE ABOVE PROCESS REPEATED FOR A TOTAL OF THREE YEARS TO TREAT THE REMAINING JAPANESE KNOTWEED

6. THE AREA SHALL BE MONITORED AND IF KNOTWEED SHOOTS ARE IDENTIFIED, THEY SHALL BE SPOT TREATED WITH HERBICIDE TO MINIMIZE EFFECTS ON SURROUNDING

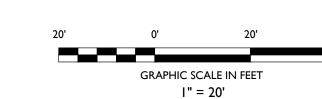


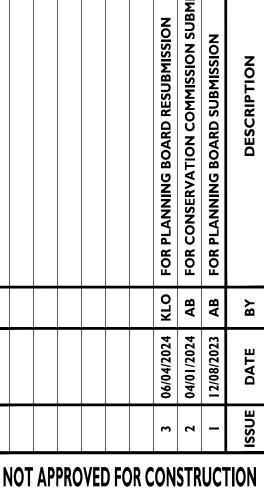


- I. ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE. AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS
- BROUGHT TO THE SITE. 2. THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES, INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES, TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.
- 3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC. FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.
- 4. THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE
- MUNICIPAL, COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS. 5. MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS: CURB GUTTER:
- CONCRETE SURFACES: 1.00% ASPHALT SURFACES:
- 6. A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL
- ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF THIS CONDITION CANNOT BE MET. 7. FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH
- TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM THE GOVERNING STORM SEWER SYSTEM AUTHORITY.

# **ADA NOTES**

- I. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING
- 2. THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES.
- 3. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 4. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS. LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP, AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL. THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 5. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00% IF A LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP. FOR ALTERATIONS, A CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURBS RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH OF A CURB RAMP SHALL BE NO LESS THAN
- 6. ACCESSIBLE RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.
- 7. A SLIP RESISTANT SURFACE SHALL BE CONSTRUCTED ALONG THE ACCESSIBLE PATH AND WITHIN ADA 8. THE CONTRACTOR SHALL ENSURE A MAXIMUM OF 1/4 INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN 1/4 INCHES AND 1/2 INCHES EXISTS, CONTRACTOR
- SHALL ENSURE THAT THE TOP 1/4 INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN I UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE). 9. THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN 1/2 INCH.





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JOSHUA H. KLINE, P.E.

1ASSACHUSETTS LICENSE No. 53936

LICENSED PROFESSIONAL ENGINEER

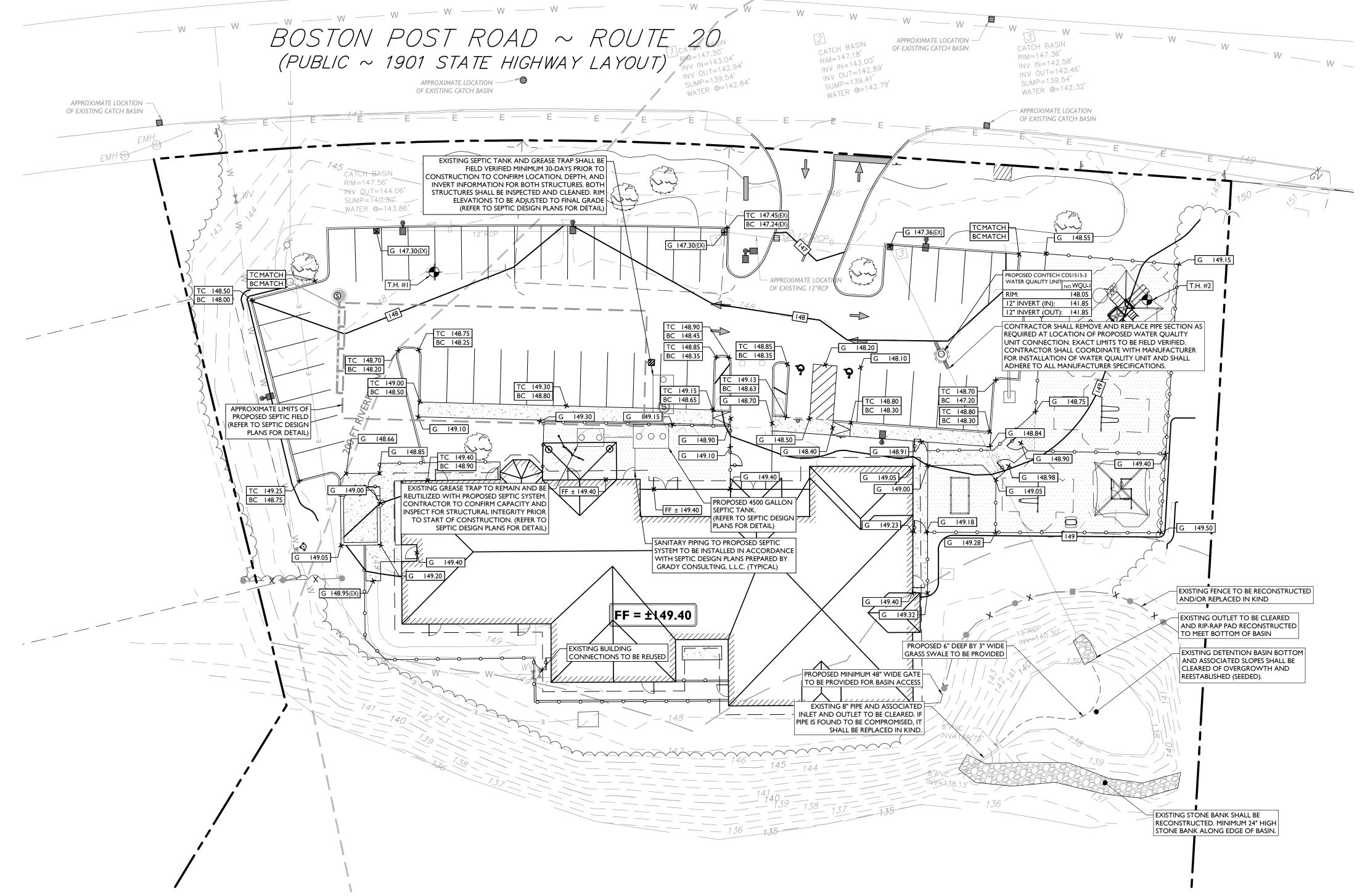


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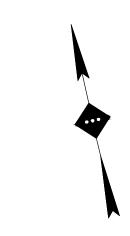
**GRADING, DRAINAGE &** 

**UTILITY PLAN** 

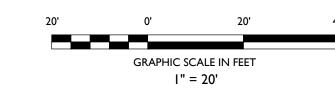
DRAWING:



	PROPOSED LUMINAIRE SCHEDULE											
SYMBOL	LABEL	QUANTITY	SECURITY LIGHTING	DISTRIBUTION	LLF	MANUFACTURER	IES FILE					
	A	5	MIRADA MEDIUM OUTDOOR LED AREA LIGHT - 12L - 30K - 120-277V	TYPE 4	0.9	LSI LIGHTING	MRM-LED-12L-SIL-4-30-70CRI-IH.ies					
0	В	15	SRT1 EDGE-LIT CEILING LIGHT - 30K - 15W - 2000LM - 120-277V	N/A	0.9	BEACON	SRT1-15-3K7-5C-UNV.ies					
	с	7	LSI LIGHTING MIRADA MEDIUM WALL SCONCE (XWM) - 30 LED	TYPE 2	0.9	LSI LIGHTING	XWM-2-LED-03L-30.ies					
	D	I	MIRADA MEDIUM OUTDOOR LED AREA LIGHT - 12L - 30K - 120-277V	TYPE 4	0.9	LSI LIGHTING	MRM-LED-12L-SIL-4-30-70CRI-IH.IES					



**SYMBOL DESCRIPTION** PROPOSED CALCULATION AREA PROPOSED ISOMETRIC LINE PROPOSED LIGHTING FIXTURE (MOUNTING HEIGHT) A (XX') PROPOSED LIGHTING INTENSITY (FOOTCANDLES) PROPOSED AREA LIGHT PROPOSED BUILDING MOUNTED LIGHT



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JOSHUA H. KLINE, P.E. MASSACHUSETTS LICENSE No. 53936 LICENSED PROFESSIONAL ENGINEER

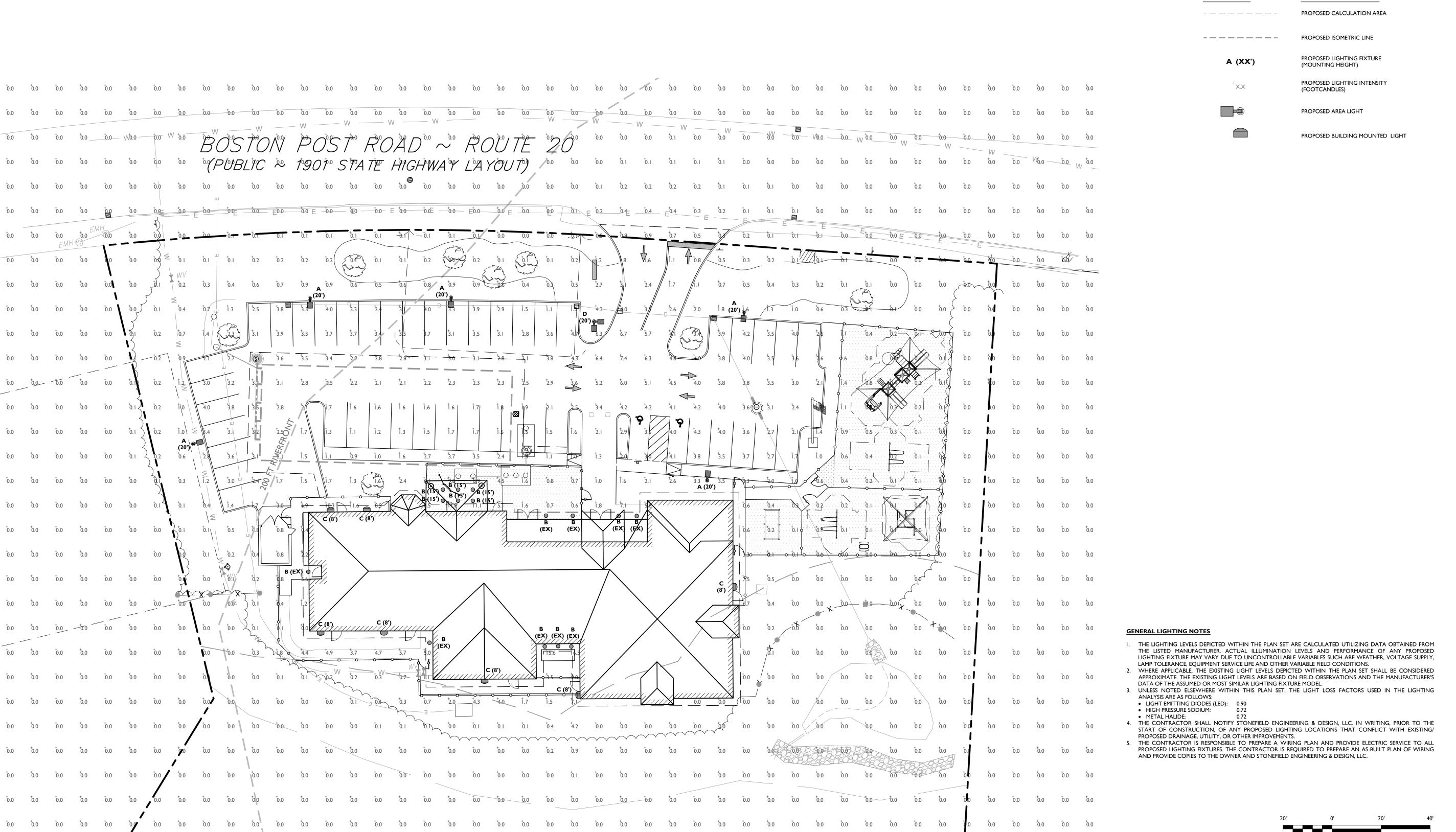


I" = 20' PROJECT ID: BOS-230051

AD

LIGHTING PLAN

DRAWING:



### **STABILIZATION SPECIFICATIONS:**

- I.A. TEMPORARY SEEDING AND MULCHING:
- GROUND LIMESTONE APPLIED UNIFORMLY ACCORDING TO SOIL TEST RECOMMENDATIONS. FERTILIZER - APPLY 11LBS./1,000 SF OF 10-20-10 OR EQUIVALENT WITH 50% WATER
- INSOLUBLE NITROGEN (UNLESS A SOIL TEST INDICATES OTHERWISE) WORKED INTO THE SOIL A MINIMUM OF 4". SEED - PERENNIAL RYEGRASS 100 LBS./ACRE (2.3 LBS./1,000 SF) OR OTHER APPROVED
- SEEDS; PLANT BETWEEN MARCH I AND MAY 15 OR BETWEEN AUGUST 15 AND
- MULCH UNROTTED STRAW OR HAY AT A RATE OF 70 TO 90 LBS./I,000 SF APPLIED TO ACHIEVE 95% SOIL SURFACE COVERAGE. MULCH SHALL BE ANCHORED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER). I.B. PERMANENT SEEDING AND MULCHING:
  - TOPSOIL UNIFORM APPLICATION TO A DEPTH OF 5" (UNSETTLED). GROUND LIMESTONE - APPLIED UNIFORMLY ACCORDING TO SOIL TEST
  - RECOMMENDATIONS. FERTILIZER - APPLY II LBS./I,000 SF OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN (UNLESS A SOIL TEST INDICATES OTHERWISE) WORKED INTO
  - THE SOIL A MINIMUM OF 4". SEED - TURF TYPE TALL FESCUE (BLEND OF 3 CULTIVARS) 350 LBS./ACRE (8 LBS./I,000 SF)
    OR OTHER APPROVED SEEDS; PLANT BETWEEN MARCH I AND OCTOBER I (SUMMER
  - SEEDINGS REQUIRE IRRIGATION) MULCH - UNROTTED STRAW OR HAY AT A RATE OF 70 TO 90 LBS./I,000 SF APPLIED TO ACHIEVE 95% SOIL SURFACE COVERAGE. MULCH SHALL BE ANCHORED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER).

### SEQUENCE OF CONSTRUCTION

- INSTALL CONSTRUCTION ENTRANCE, SILT FENCING, TREE PROTECTION, INLET FILTERS AND OTHER APPLICABLE EROSION CONTROL MEASURES (2 DAYS). DEMOLISH EXISTING PAVEMENT AND GRAVEL (7 DAYS).
- ROUGH GRADING AND TEMPORARY SEEDING (21 DAYS). BUILDING RENOVATION AND SITE IMPROVEMENTS (120 DAYS). LANDSCAPING IMPROVEMENTS AND FINAL SEEDING (7 DAYS).
- REMOVE SOIL EROSION MEASURES (I DAY).

### TOTAL ESTIMATED TIME = 8 MONTHS

NOTE: TIME DURATIONS ARE APPROXIMATE AND ARE INTENDED TO ACT AS A GENERAL GUILE TO THE CONSTRUCTION TIMELINE. ALL DURATIONS ARE SUBJECT TO CHANGE BY CONTRACTOR. CONTRACTOR SHALL SUBMIT CONSTRUCTION SCHEDULE TO TOWNSHIP AND ENGINEER. CONTRACTOR SHALL PHASE CONSTRUCTION ACCORDINGLY IF REQUIRED.

ALL EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO THE BEGINNING OF ANY DEMOLITION ACTIVITIES OR ANY OTHER ON-SITE WORK. CONTRACT TO ENSURE, AT MINIMUM, ALL CONTROLS ARE INSTALLED PER APPROVED PLANS. CONTROL MEASURES SHALL BE INSPECTED FREQUENTLY TO ENSURE CONTINUED FUNCTIONALITY THROUGHOUT THE FULL COURSE OF CONSTRUCTION.

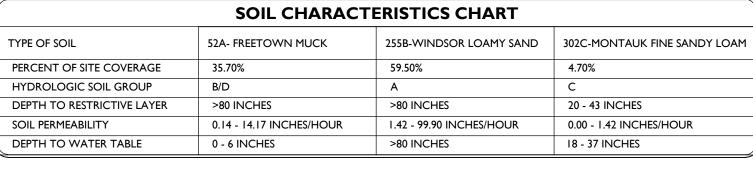
### **DUST CONTROL NOTES**

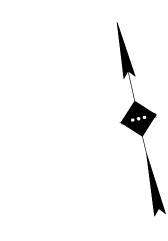
 $\underline{\underline{\mathsf{MULCHES}}}$  - SEE STANDARD OF STABILIZATION WITH MULCHES ONLY, PG. <u>VEGETATIVE</u> <u>COVER</u> - SEE STANDARD FOR: TEMPORARY VEGETATIVE COVER, PG. 7-I, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION PG. 4-1 AND PERMANENT STABILIZATION WITH SOD, PG. 6-1

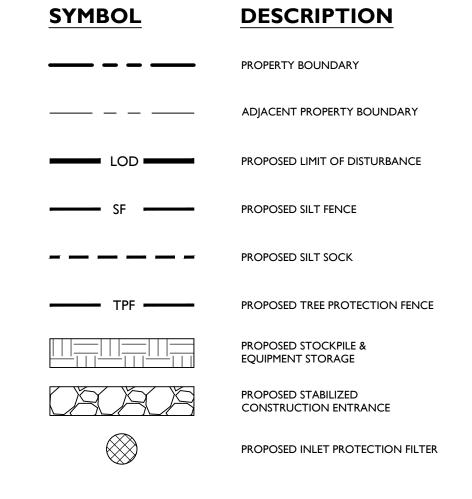
SPRAY-ON ADHESIVES - ON MINERAL SOILS (NOT EFFECTIVE ON MUCK

- SOILS). KEEP TRAFFIC OFF THESE AREAS. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE.
  THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART AND SPRING-TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED
- SPRINKLING SITE IS SPRINKLED UNTIL THE SURFACE IS WET. BARRIERS - SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE
- WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. CALCIUM CHLORIDE - SHALL BE IN THE FORM OF LOOSE, DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. IF USED ON STEEPER SLOPES, THEN USE OTHER PRACTICES TO PREVENT WASHING INTO STREAMS OR ACCUMULATION AROUND PLANTS. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

	SOIL CHARACTERISTICS CHART		
TYPE OF SOIL	52A- FREETOWN MUCK	255B-WINDSOR LOAMY SAND	302C-MONTAUK FINE SANDY LOAM
PERCENT OF SITE COVERAGE	35.70%	59.50%	4.70%
HYDROLOGIC SOIL GROUP	B/D	A	С
DEPTH TO RESTRICTIVE LAYER	>80 INCHES	>80 INCHES	20 - 43 INCHES
SOIL PERMEABILITY	0.14 - 14.17 INCHES/HOUR	1.42 - 99.90 INCHES/HOUR	0.00 - 1.42 INCHES/HOUR
DEPTH TO WATER TABLE	0 - 6 INCHES	>80 INCHES	18 - 37 INCHES





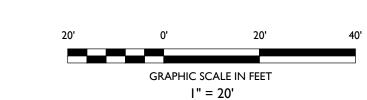




Know what's **below Call** before you dig.

# **SOIL EROSION AND SEDIMENT CONTROL NOTES**

- I. THE CONTRACTOR IS RESPONSIBLE FOR SOIL EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL
- REQUIREMENTS. 2. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL IN
- COMPLIANCE WITH LOCAL, STATE, AND FEDERAL AIR QUALITY
- 3. THE CONTRACTOR IS RESPONSIBLE TO INSPECT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES WEEKLY AND AFTER A PRECIPITATION EVENT GREATER THAN I INCH. THE CONTRACTOR SHALL MAINTAIN AN INSPECTION LOG ON SITE AND DOCUMENT CORRECTIVE ACTION TAKEN THROUGHOUT THE COURSE OF CONSTRUCTION AS REQUIRED.



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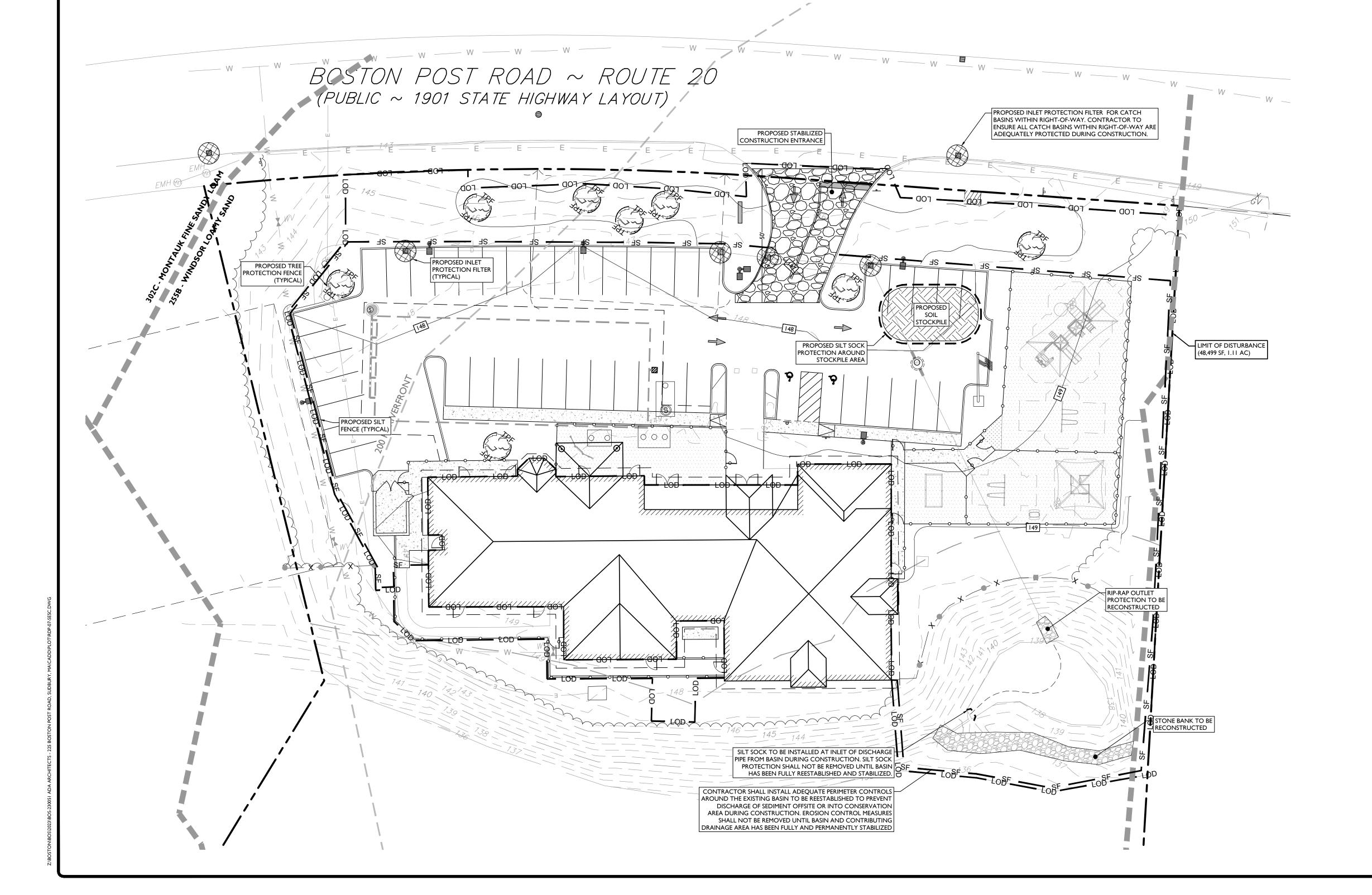
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I" = 20' PROJECT ID: BOS-230051

**SOIL EROSION AND SEDIMENT CONTROL PLAN** 

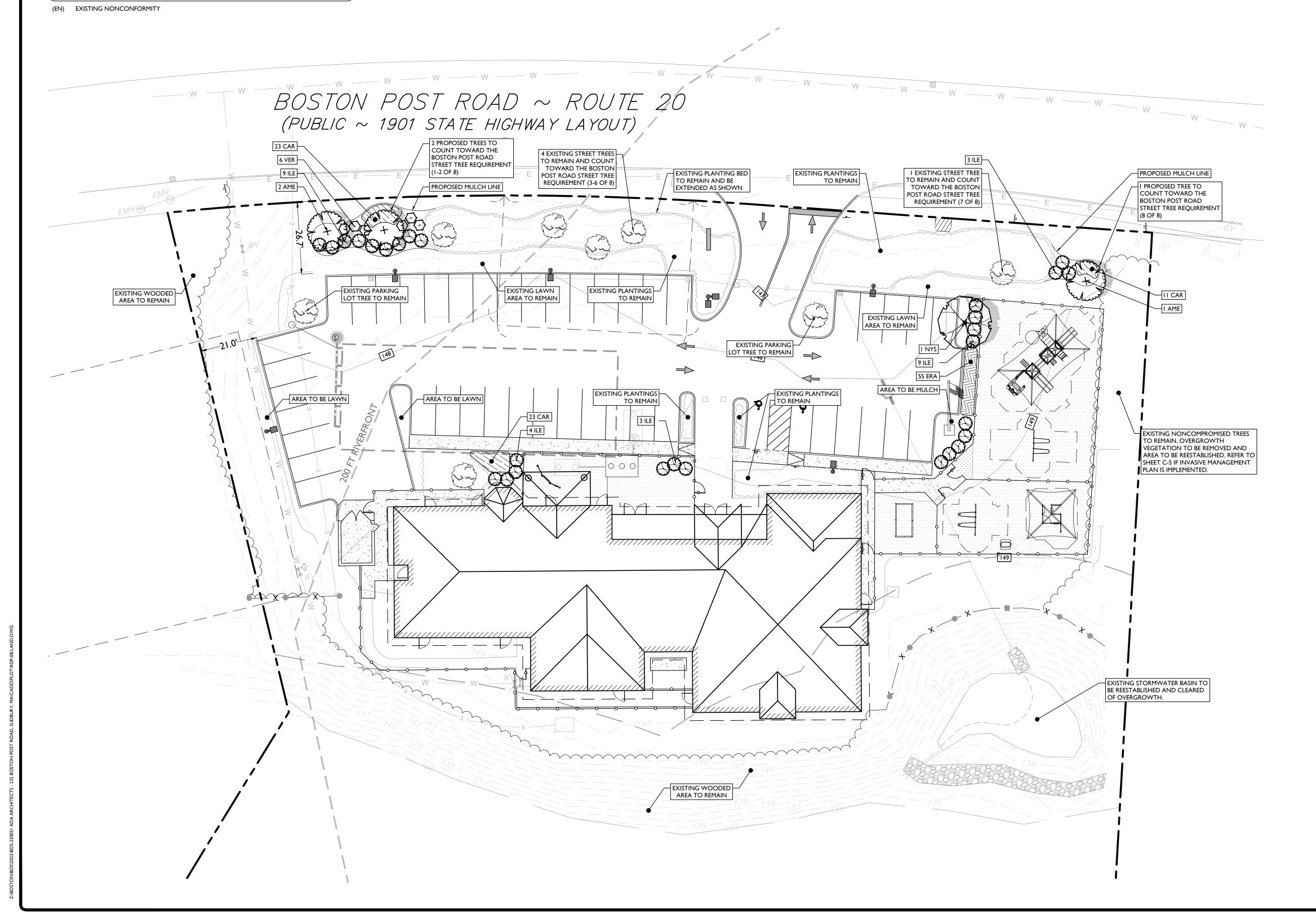
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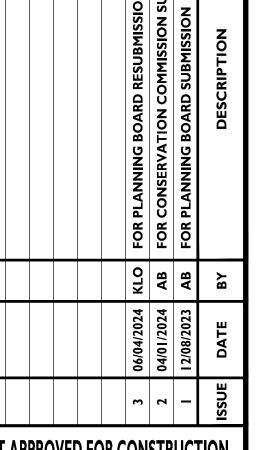
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LANDSCAPING AND BUFFER REQUIREMENTS				
CODE SECTION	REQUIRED	PROPOSED		
	LANDSCAPE REQUIREMENTS			
§ 3532.	MINIMUM 30% OF LOT SHALL BE OPEN SPACE			
	LOT AREA: 214,118 SF			
	(214,118 SF) * (0.30) = 64,235 SF	174,516 SF (81%)		
	PARKING LOT LANDSCAPING			
§ 3541.	150 SF LANDSCAPING FOR EVERY 1,000 OF PARKING			
	PARKING LOT AREA: 15,847 SF			
	(15,847 SF) * (150 SF / 1,000 SF) = 2,377 SF	3,459 SF		
	PLANTED AREAS SHALL CONTAIN TREES AND OTHER PLANTINGS	COMPLIES		
§ 3542.	PARKING AND REFUSE AREAS SHALL BE SCREENED FROM VIEW OF R.O.W. AND ADJACENT PROPERTIES WITH PLANTED AREAS, BERMS, OR FENCES	COMPLIES		
§ 3543.	BUFFER STRIP REQUIRED BETWEEN PARKING LOT AND SIDE/REAR LOT LINES	PROVIDED		
	MINIMUM BUFFER WIDTH: 25 FT	21.0 FT (EN)		
	STREET FRONTAGE LANDSCAPING			
§ 3550.	LANDSCAPE BUFFER WIDTH: 20 FT	26.7 FT		
	BUFFER SHALL BE PLANTED WITH GRASS, SHRUBS, AND TREES	COMPLIES		
	I TREES FOR EVERY 40 LF OF FRONTAGE			
	BOSTON POST ROAD: 322 FT			
	(322 FT) * (I TREE / 40 FT FRONTAGE) = 8 TREES	5 EXISTING TREES 3 TREES PROPOSED		

=			PI	LANT SCHEDULE	<u> </u>		
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
		•		DECIDUOUS TREES			
	NYS	I	NYSSA SYLVATICA	TUPELO	2" - 2.5" CAL	B&B	NATIVE. SALT TOLERANT
				ORNAMENTAL TREES			
+	AME	3	AMELANCHIER CANADENSIS	CANADIAN SERVICEBERRY	2" - 2.5" CAL	B&B	SINGLE STEM; NATIVE, DROUGHT TOLERANT, SALT TOLERANT
				SHRUBS			
+	VER	6	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	30" - 36"	POT	NATIVE, SALT TOLERANT
				EVERGREEN SHRUBS			
$\bigcirc$	ILE	28	ILEX GLABRA	INKBERRY HOLLY	30" - 36"	B&B	NATIVE. DROUGHT TOLERANT. SALT TOLERANT
				PERENNIALS AND GRASSES			
	CAR	57	CAREX PENSYLVANICA	PENNSYLVANIA SEDGE	24" O.C.	I GAL. POT	NATIVE, DROUGHT TOLERANT
	ERA	55	ERAGROSTIS SPECTABILIS	PURPLE LOVEGRASS	18" O.C.	I GAL. POT	NATIVE, DROUGHT TOLERANT, SALT TOLERANT
NOTE: IF ANY D	ISCREPANCI	ES OCCUR	R BETWEEN AMOUNTS SHOWN ON	THE LANDSCAPE PLAN AND WIT	HIN THE PLANT L	IST, THE PLAN SHA	LL DICTATE.





NOT APPROVED FOR CONSTRUCTION



JOSHUA H. KLINE, P.E. MASSACHUSETTS LICENSE No. 53936 LICENSED PROFESSIONAL ENGINEER



I" = 20' PROJECT ID: BOS-230051

LANDSCAPING PLAN

DRAWING:

**C-8** 



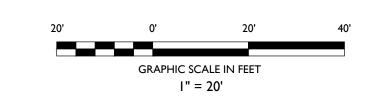
# **IRRIGATION NOTE:**

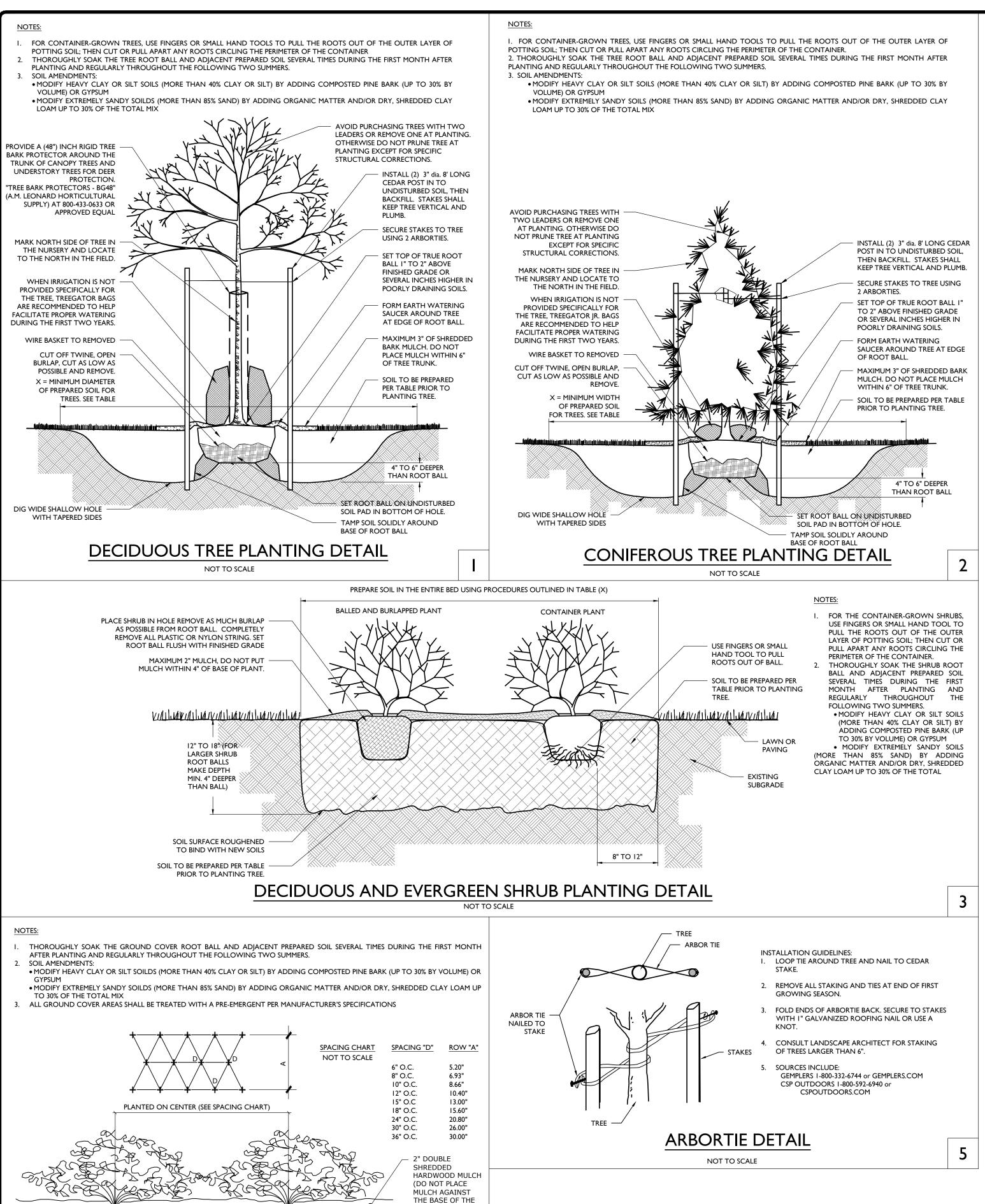
IRRIGATION CONTRACTOR TO PROVIDE A DESIGN FOR AN IRRIGATION SYSTEM SEPARATING PLANTING BEDS FROM LAWN AREA. PRIOR TO CONSTRUCTION, DESIGN IS TO BE SUBMITTED TO THE PROJECT LANDSCAPE DESIGNER FOR REVIEW AND APPROVAL. WHERE POSSIBLE, DRIP IRRIGATION AND OTHER WATER CONSERVATION TECHNIQUES SUCH AS RAIN SENSORS SHALL BE IMPLEMENTED. CONTRACTOR TO VERIFY MAXIMUM ON SITE DYNAMIC WATER PRESSURE AVAILABLE MEASURED IN PSI. PRESSURE REDUCING DEVICES OR BOOSTER PUMPS SHALL BE PROVIDED TO MEET SYSTEM PRESSURE REQUIREMENTS. DESIGN TO SHOW ALL VALVES, PIPING, HEADS, BACKFLOW PREVENTION, METERS, CONTROLLERS, AND SLEEVES WITHIN HARDSCAPE AREAS.

# LANDSCAPING NOTES

- I. THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRASS AND LANDSCAPED AREAS TO MATCH EXISTING CONDITIONS UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 2. THE CONTRACTOR SHALL RESTORE ALL DISTURBED LAWN AREAS WITH A MINIMUM 4 INCH LAYER OF TOPSOIL AND SEED. 3. THE CONTRACTOR SHALL RESTORE MULCH AREAS WITH A MINIMUM
- 3 INCH LAYER OF MULCH.

  4. THE MAXIMUM SLOPE ALLOWABLE IN LANDSCAPE RESTORATION AREAS SHALL BE 3 FEET HORIZONTAL TO 1 FOOT VERTICAL (3:1 SLOPE) UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET. 5. THE CONTRACTOR IS REQUIRED TO LOCATE ALL SPRINKLER HEADS IN AREA OF LANDSCAPING DISTURBANCE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL RELOCATE SPRINKLER HEADS AND LINES IN ACCORDANCE WITH OWNER'S DIRECTION WITHIN AREAS OF DISTURBANCE.
- 6. THE CONTRACTOR SHALL ENSURE THAT ALL DISTURBED LANDSCAPED AREAS ARE GRADED TO MEET FLUSH AT THE ELEVATION OF WALKWAYS AND TOP OF CURB ELEVATIONS EXCEPT UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET. NO ABRUPT CHANGES IN GRADE ARE PERMITTED IN DISTURBED LANDSCAPING





PLANT) GENTLY PULL ROOTS AWAY FROM TOPSOIL MASS WITH

1 PART SOIL AMENDMENT

(BASED ON SOIL TEST)

3 PARTS NATIVE TOPSOIL

FINGERS

GROUND COVER/PERENNIAL/ANNUAL

PLANTING DETAIL

BACKFILL SOIL

### GENERAL LANDSCAPING NOTES:

- SPECIFICATIONS, APPROVED OR FINAL DRAWINGS, AND INSTRUCTIONS PROVIDED BY THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIALS, OR OWNER/OWNER'S REPRESENTATIVE. ALL WORK COMPLETED AND MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH THE INTENTION OF THE SPECIFICATIONS, DRAWINGS, AND INSTRUCTIONS AND EXECUTED WITH THE STANDARD LEVEL OF CARE FOR THE LANDSCAPE INDUSTRY.
- WORK MUST BE CARRIED OUT ONLY DURING WEATHER CONDITIONS FAVORABLE TO LANDSCAPE CONSTRUCTION AND TO THE HEALTH AND WELFARE OF PLANTS. THE SUITABILITY OF SUCH WEATHER CONDITIONS SHALL BE DETERMINED BY THE
- PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL. 3. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR. BEFORE ORDERING OR PURCHASING MATERIALS. TO PROVIDE
- SAMPLES OF THOSE MATERIALS TO THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL FOR APPROVAL, IF SO REQUESTED.
- 4. IF SAMPLES ARE REQUESTED, THE LANDSCAPE CONTRACTOR IS TO SUBMIT CERTIFICATION TAGS FROM TREES, SHRUBS AND SEED VERIFYING TYPE AND PURITY. 5. UNLESS OTHERWISE AUTHORIZED BY THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL, THE
- ANTICIPATED DELIVERY DATE OF ANY PLANT MATERIALS TO THE PROJECT SITE. A LEGIBLE COPY OF THE INVOICE, SHOWING VARIETIES AND SIZES OF MATERIALS INCLUDED FOR EACH SHIPMENT SHALL BE FURNISHED TO THE PROJECT LANDSCAPE DESIGNER, OR GOVERNING MUNICIPAL OFFICIAL 6. THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL RESERVES THE RIGHT TO INSPECT AND REJECT

# PROTECTION OF EXISTING VEGETATION NOTES

PLANTS AT ANY TIME AND AT ANY PLACE.

- BEFORE COMMENCING WORK, ALL EXISTING VEGETATION WHICH COULD BE IMPACTED AS A RESULT OF THE PROPOSED CONSTRUCTION ACTIVITIES MUST BE PROTECTED FROM DAMAGE BY THE INSTALLATION OF TREE PROTECTION FENCING. FENCING SHALL BE LOCATED AT THE DRIP-LINE OR LIMIT OF DISTURBANCE AS DEPICTED WITHIN THE APPROVED OR FINAL PLAN SET, ESTABLISHING THE TREE PROTECTION ZONE. FENCE INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE PROTECTION FENCE DETAIL." NO WORK MAY BEGIN UNTIL THIS REQUIREMENT IS FULFILLED. THE FENCING SHALL BE INSPECTED REGULARLY BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION
- IN ORDER TO AVOID DAMAGE TO ROOTS BARK OR LOWER BRANCHES NO VEHICLE FOLIPMENT DEBRIS OR OTHER MATERIALS SHALL BE DRIVEN, PARKED OR PLACED WITHIN THE TREE PROTECTION ZONE. ALL ON-SITE CONTRACTORS SHALL USE ANY AND ALL PRECAUTIONARY MEASURES WHEN PERFORMING WORK AROUND TREES, WALKS, PAVEMENTS, UTILITIES, AND ANY OTHER FEATURES FITHER EXISTING OR PREVIOUSLY INSTALLED UNDER THIS CONTRACT 3. IN RARE INSTANCES WHERE EXCAVATING, FILL, OR GRADING IS REQUIRED WITHIN THE DRIP-LINE OF TREES TO REMAIN, THE
- WORK SHALL BE PERFORMED AS FOLLOWS: • TRENCHING: WHEN TRENCHING OCCURS AROUND TREES TO REMAIN, THE TREE ROOTS SHALL NOT BE CUT. BUT THE TRENCH SHALL BE TUNNELED UNDER OR AROUND THE ROOTS BY CAREFUL HAND DIGGING AND WITHOUT INJURY TO
- THE ROOTS. NO ROOTS, LIMBS, OR WOODS ARE TO HAVE ANY PAINT OR MATERIAL APPLIED TO ANY SURFACE. RAISING GRADES: WHEN THE GRADE AT AN EXISTING TREE IS BELOW THE NEW FINISHED GRADE. AND FILL NOT EXCEPDING 6 INCHES (6") IS REQUIRED. CLEAN, WASHED GRAVEL FROM ONE TO TWO INCHES (1" - 2") IN SIZE SHALL BE PLACED DIRECTLY AROUND THE TREE TRUNK. THE GRAVEL SHALL EXTEND OUT FROM THE TRUNK ON ALL SIDES A MINIMUM OF 18 INCHES (18") AND FINISH APPROXIMATELY TWO INCHES (2") ABOVE THE FINISH GRADE AT TREE. INSTALL GRAVEL BEFORE ANY EARTH FILL IS PLACED. NEW EARTH FILL SHALL NOT BE LEFT IN CONTACT WITH THE TRUNK OF ANY TREE REQUIRING FILL. WHERE FILL EXCEEDING 6 INCHES (6") IS REQUIRED, A DRY LAID TREE WELL SHALL BE CONSTRUCTED.
- IF APPLICABLE, TREE WELL INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE WELL DETAIL." LOWERING GRADES: EXISTING TREES LOCATED IN AREAS WHERE THE NEW FINISHED GRADE IS TO BE LOWERED, SHALL HAVE RE-GRADING WORK DONE BY HAND TO THE INDICATED ELEVATION, NO GREATER THAN SIX INCHES (6"). ROOTS SHALL BE CUT CLEANLY THREE INCHES (3") BELOW FINISHED GRADE UNDER THE DIRECTION OF A LICENSED ARBORIST WHERE CUT EXCEEDING 6 INCHES (6") IS REQUIRED, A DRY LAID RETAINING WALL SHALL BE CONSTRUCTED. IF APPLICABLE, THE RETAINING WALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE RETAINING WALL DETAIL."

### **SOIL PREPARATION AND MULCH NOTES:**

- I. LANDSCAPE CONTRACTOR SHALL OBTAIN A SOIL TEST OF THE IN-SITU TOPSOIL BY A CERTIFIED SOIL LABORATORY PRIOR TO PLANTING. LANDSCAPE CONTRACTOR SHALL ALLOW FOR A TWO WEEK TURNAROUND TIME FROM SUBMITTAL OF SAMPLE TO NOTIFICATION OF RESULTS.
- . BASED ON SOIL TEST RESULTS, ADJUST THE RATES OF LIME AND FERTILIZER THAT SHALL BE MIXED INTO THE TOP SIX INCHES (6") OF TOPSOIL. THE LIME AND FERTILIZER RATES PROVIDED WITHIN THE "SEED SPECIFICATION" OR "SOD SPECIFICATION" IS APPROXIMATE AND FOR BIDDING PURPOSES ONLY. IF ADDITIONAL AMENDMENTS ARE NECESSARY, ADJUST THE TOPSOIL AS
- MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM.
- MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX. TOPSOIL SHALL BE FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMING CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL
- MATERIAL OBTAINED FROM A WELL-DRAINED ARABLE SITE, FREE FROM ALL CLAY, LUMPS, COARSE SANDS, STONES, PLANTS, ROOTS, STICKS, AND OTHER FOREIGN MATERIAL GREATER THAN ONE INCH (1"). 4. TOPSOIL SHALL HAVE A PH RANGE OF 5.0-7.0 AND SHALL NOT CONTAIN LESS THAN 6% ORGANIC MATTER BY WEIGH 5. OBTAIN TOPSOIL ONLY FROM LOCAL SOURCES OR FROM AREAS HAVING SIMILAR SOIL CHARACTERISTICS TO THAT FOUND AT
- THE PROIECT SITE. 5. CONTRACTOR SHALL PROVIDE A SIX INCH (6") DEEP LAYER OF TOPSOIL IN ALL PLANTING AREAS. TOPSOIL SHALL BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN SOIL CONDITIONS.
- UNLESS OTHERWISE NOTED IN THE CONTRACT, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBED AREA OF THE SITE. LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE SUB-GRADE ELEVATION MEETS THE FINISHED GRADE ELEVATION (LES
- REOUIRED TOPSOIL). IN ACCORDANCE WITH THE APPROVED OR FINAL GRADING PLAN. 9. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THE APPROVED OR FINAL CONSTRUCTION SET UNLESS OTHERWISE DIRECTED BY THE PROIECT LANDSCAPE DESIGNER OR MUNICIPAL OFFICIAL
- IO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SURFACE AND SUBSURFACE PLANT BED DRAINAGE PRIOR TO THE INSTALLATION OF PLANTINGS. IF POOR DRAINAGE CONDITIONS EXIST, CORRECTIVE ACTION SHALL BE TAKEN PRIOR TO INSTALLATION. ALL PLANTING AND LAWN AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW A FREE FLOW OF SURFACE
- II. DOUBLE SHREDDED HARDWOOD MULCH OR APPROVED EQUAL SHALL BE USED AS A THREE INCH (3") TOP DRESSING IN ALL SHRUB PLANTING BEDS AND AROUND ALL TREES PLANTED BY LANDSCAPE CONTRACTOR, GROUND COVER, PERENNIAL, AND ANNUAL PLANTING BEDS SHALL BE MULCHED WITH A TWO INCH (2") TOP DRESSING. SINGLE TREES OR SHRUBS SHALL BE MULCHED TO AVOID CONTACT WITH TRUNK OR PLANT STEM. MULCH SHALL BE OF SUFFICIENT CHARACTER AS NOT TO BE EASILY DISPLACED BY WIND OR WATER RUNOFF
- 13. SOIL SHALL BE LOOSENED WITH A BACKHOE OR OTHER LARGE COARSE-TILING EQUIPMENT UNLESS THE SOIL IS FROZEN OR EXCESSIVELY WET. TILING THAT PRODUCES LARGE, COARSE CHUNKS OF SOIL IS PREFERABLE TO TILING THAT RESULTS IN FINE GRAINS UNIFORM IN TEXTURE. AFTER THE AREA IS LOOSENED IT SHALL NOT BE DRIVEN OVER BY ANY VEHICLE.

2. WHENEVER POSSIBLE, THE SOIL PREPARATION AREA SHALL BE CONNECTED FROM PLANTING TO PLANTING.

14. APPLY PRE-EMERGENT WEED CONTROL TO ALL PLANT BEDS PRIOR TO MULCHING. ENSURE COMPATIBILITY BETWEEN PRODUCT AND PLANT MATERIAL

# 15. ALL PLANTING SOIL SHALL BE AMENDED WITH THE FOLLOWING:

- MYCRO® TREE SAVER A DRY GRANULAR MYCORRHIZAL FUNGI INOCULANT THAT IS MIXED IN THE BACKFILL WHEN PLANTING TREES AND SHRUBS. IT CONTAINS SPORES OF BOTH ECTOMYCORRHIZAL AND VA MYCORRHIZAL FUNGI (VAM), BENEFICIAL RHIZOSPHERE BACTERIA, TERRA-SORB SUPERABSORBENT HYDROGEL TO REDUCE WATER LEACHING, AND SELECTED ORGANIC MICROBIAL NUTRIENTS
- DIRECTIONS FOR USE: USE 3-OZ PER EACH FOOT DIAMETER OF THE ROOT BALL, OR 3-OZ PER INCH CALIPER. MIX INTO THE BACKFILL WHEN TRANSPLANTING TREES AND SHRUBS. MIX PRODUCT IN A RING-SHAPED VOLUME OF SOIL AROUND THE UPPER PORTION OF THE ROOT BALL. EXTENDING FROM THE SOIL SURFACE TO A DEPTH OF ABOUT 8 INCHES. AND EXTENDING OUT FROM THE ROOT BALL ABOUT 8 INCHES INTO THE BACKFILL, APPLY WATER TO SOIL SATURATION MYCOR® TREE SAVER® IS EFFECTIVE FOR ALL TREE AND SHRUB SPECIES EXCEPT RHODODENDRONS, AZALEAS, AND MOUNTAIN LAUREL, WHICH REQUIRE ERICOID MYCORRHIZAE.
- SOIL PH: THE FUNGI IN THIS PRODUCT WERE CHOSEN BASED ON THEIR ABILITY TO SURVIVE AND COLONIZE PLANT ROOTS IN A PH RANGE OF 3 TO 9.
- FUNGICIDES: THE USE OF CERTAIN FUNGICIDES CAN HAVE A DETRIMENTAL EFFECT ON THE INOCULATION PROGRAM. SOIL APPLICATION OF ANY FUNGICIDE IS NOT RECOMMENDED FOR TWO WEEKS AFTER APPLICATION. • OTHER PESTICIDES: HERBICIDES AND INSECTICIDES DO NOT NORMALLY INTERFERE WITH MYCORRHIZAL FUNGAL
- DEVELOPMENT, BUT MAY INHIBIT THE GROWTH OF SOME TREE AND SHRUB SPECIES IF NOT USED PROPERLY.

# • FERTILIZER TABLETS ARE PLACED IN THE UPPER 4 INCHES OF BACKFILL SOIL WHEN PLANTING TREES AND SHRUBS.

• TABLETS ARE FORMULATED FOR LONG-TERM RELEASE BY SLOW BIODEGRADATION, AND LAST UP TO 2 YEARS AFTER PLANTING. TABLETS CONTAIN 12-8-8 NPK FERTILIZER, AS WELL AS A MINIMUM OF SEVEN PERCENT (7%) HUMIC ACID BY WEIGHT, MICROBIAL NUTRIENTS DERIVED FROM SEA KELP, PROTEIN BYPRODUCTS, AND YUCCA SCHIDIGERA, AND A COMPLEMENT OF BENEFICIAL RHIZOSPHERE BACTERIA. THE STANDARD 21 GRAM TABLET IS SPECIFIED HERE. DIRECTIONS FOR USE: FOR PLANTING BALLED & BURLAPPED (B&B) TREES AND SHRUBS, MEASURE THE THICKNESS OF THE TRUNK, AND USE ABOUT I TABLET (21-G) PER HALF-INCH. PLACE THE TABLETS DIRECTLY NEXT TO THE ROOT BALL, EVENLY DISTRIBUTED AROUND ITS PERIMETER, AT A DEPTH OF ABOUT 4 INCHES.

	IRRIGATION DURING ESTABLIS	SHMENT
SIZE AT PLANTING	IRRIGATION FOR VITALITY	IRRIGATION FOR SURVIVAL
< 2" CALIPER	DAILY FOR TWO WEEKS, EVERY OTHER DAY FOR TWO MONTHS, WEEKLY UNTIL ESTABLISHED	TWO TO THREE TIMES WEEKLY FOR TWO TO THREE MONTHS
2"-4 CALIPER	DAILY FOR ONE MONTH, EVERY OTHER DAY FOR THREE MONTHS, WEEKLY UNTIL ESTABLISHED	TWO TO THREE TIMES WEEKLY FOR THREE TO FOUR MONTHS
4 >" CALIPER	DAILY FOR SIX WEEKS, EVERY OTHER DAY FOR FIVE MONTHS, WEEKLY UNTIL ESTABLISHED	TWICE WEEKLY FOR FOUR TO FIVE MONTHS

I. AT EACH IRRIGATION, APPLY TWO TO THREE GALLONS PER INCH TRUNK CALIPER TO THE ROOT BALL SURFACE. APPLY IT IN A MANNER SO ALL WATER SOAKS THE ENTIRE ROOT BALL. DO NOT WATER IF ROOT BALL IS WET/SATURATED ON THE IRRIGATION DAY.

2. WHEN IRRIGATING FOR VITALITY, DELETE DAILY IRRIGATION WHEN PLANTING IN WINTER OR WHEN PLANTING IN COOL CLIMATES. ESTABLISHMENT TAKES THREE TO FOUR MONTHS PER INCH TRUNK CALIPER. NEVER APPLY IRRIGATION IF THE SOIL IS SATURATED.

3. WHEN IRRIGATION FOR SURVIVAL TREES TAKE MUCH LONGER TO ESTABLISH THAN REGULARLY IRRIGATED TREES. IRRIGATION MAY BE REQUIRED IN THE NORMAL HOT, DRY PORTIONS OF THE FOLLOWING YEAR.

### PLANT QUALITY AND HANDLING NOTES

- I. THE LANDSCAPE CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL WORK IN ACCORDANCE WITH THESE I. ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004) OR LATEST REVISION AS PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
  - 2. IN ALL CASES, BOTANICAL NAMES LISTED WITHIN THE APPROVED OR FINAL PLANT LIST SHALL TAKE PRECEDENCE OVER COMMON NAMES 3. ALL PLANTS SHALL BE OF SELECTED SPECIMEN QUALITY, EXCEPTIONALLY HEAVY, TIGHTLY KNIT, SO TRAINED OR FAVORED IN
  - THEIR DEVELOPMENT AND APPEARANCE AS TO BE SUPERIOR IN FORM, NUMBER OF BRANCHES, COMPACTNESS AND SYMMETRY. ALL PLANTS SHALL HAVE A NORMAL HABIT OR SOUND. HEALTHY, VIGOROUS PLANTS WITH WELL DEVELOPED ROOT SYSTEM. PLANTS SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS OR LARVAE
  - 4. PLANTS SHALL NOT BE PRUNED BEFORE DELIVERY. TREES WITH ABRASION OF THE BARK, SUNSCALDS, DISFIGURING KNOTS OR
  - FRESH CUTS OF LIMBS OVER ONE AND ONE-FOURTH INCHES (I-1/4") WHICH HAVE NOT COMPLETELY CALLOUSED SHALL BE
  - 5. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH AND BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE.
- 6. THE ROOT SYSTEM OF EACH PLANT SHALL BE WELL PROVIDED WITH FIBROUS ROOTS. ALL PARTS SHALL BE SOUND, HEALTHY, VIGOROUS WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF LANDSCAPE CONTRACTOR SHALL PROVIDE NOTICE AT LEAST FORTY-EIGHT HOURS (48 HRS.) IN ADVANCE OF THE '. ALL PLANTS DESIGNATED BALL AND BURLAP (B&B) MUST BE MOVED WITH THE ROOT SYSTEM AS SOLID UNITS WITH BALLS OF
  - EARTH FIRMLY WRAPPED WITH BURLAP. THE DIAMETER AND DEPTH OF THE BALLS OF EARTH MUST BE SUFFICIENT TO encompass the fibrous root feeding systems necessary for the healthy development of the plant. No plant SHALL BE ACCEPTED WHEN THE BALL OF EARTH SURROUNDING ITS ROOTS HAS BEEN BADLY CRACKED OR BROKEN PREPARATORY TO OR DURING THE PROCESS OF PLANTING. THE BALLS SHALL REMAIN INTACT DURING ALL OPERATIONS. ALL PLANTS THAT CANNOT BE PLANTED AT ONCE MUST BE HEELED-IN BY SETTING IN THE GROUND AND COVERING THE BALLS WITH SOIL OR MULCH AND THEN WATERING. HEMP BURLAP AND TWINE IS PREFERABLE TO TREATED. IF TREATED BURLAP IS USED, ALL TWINE IS TO BE CUT FROM AROUND THE TRUNK AND ALL BURLAP IS TO BE REMOVED.
  - 8. PLANTS TRANSPORTED TO THE PROJECT IN OPEN VEHICLES SHALL BE COVERED WITH TARPS OR OTHER SUITABLE COVERS securely fastened to the body of the vehicle to prevent iniury to the plants. Closed vehicles shall be ADEQUATELY VENTILATED TO PREVENT OVERHEATING OF THE PLANTS. EVIDENCE OF INADEQUATE PROTECTION FOLLOWING DIGGING, CARELESSNESS WHILE IN TRANSIT, OR IMPROPER HANDLING OR STORAGE SHALL BE CAUSE FOR REJECTION OF PLANT MATERIAL. ALL PLANTS SHALL BE KEPT MOIST, FRESH, AND PROTECTED. SUCH PROTECTION SHALL ENCOMPASS THE
  - ENTIRE PERIOD DURING WHICH THE PLANTS ARE IN TRANSIT. BEING HANDLED, OR ARE IN TEMPORARY STORAGE. 9. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE CORRESPONDING LANDSCAPE PLAN AND PLANTING DETAILS.
  - 10. LANDSCAPE CONTRACTOR SHALL MAKE BEST EFFORT TO INSTALL PLANTINGS ON THE SAME DAY AS DELIVERY. IF PLANTS ARE NOT PLANTED IMMEDIATELY ON SITE, PROPER CARE SHALL BE TAKEN TO PLACE THE PLANTINGS IN PARTIAL SHADE WHEN POSSIBLE. THE ROOT BALL SHALL BE KEPT MOIST AT ALL TIME AND COVERED WITH MOISTENED MULCH OR AGED WOODCHIPS. PROPER IRRIGATION SHALL BE SUPPLIED SO AS TO NOT ALLOW THE ROOT BALL TO DRY OUT. PLANTINGS HALL BE UNTIED AND PROPER SPACING SHALL BE ALLOTTED FOR AIR CIRCULATION AND TO PREVENT DISEASE, WILTING, AND LEAF LOSS. PLANTS THAT REMAIN UNPLANTED FOR A PERIOD OF TIME GREATER THAN THREE (3) DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH AND WATERED AS REQUIRED TO PRESERVE ROOT MOISTURE.
  - II. NO PLANT MATERIAL SHALL BE PLANTED IN MUDDY OR FROZEN SOIL. 12. PLANTS WITH INJURED ROOTS OR BRANCHES SHALL BE PRUNED PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY DISEASED OR INJURED PLANTS SHALL BE REMOVED. 13. IF ROCK OR OTHER UNDERGROUND OBSTRUCTION IS ENCOUNTERED, THE LANDSCAPE DESIGNER RESERVES THE RIGHT TO
  - RELOCATE OR ENLARGE PLANTING PITS OR DELETE PLANT MATERIAL FROM THE CONTRACT. 14. IF PLANTS ARE PROPOSED WITHIN SIGHT TRIANGLES, TREES SHALL BE LIMBED AND MAINTAINED TO A HEIGHT OF EIGHT FEET (8') ABOVE GRADE, AND SHRUBS, GROUND COVER, PERENNIALS, AND ANNUALS SHALL BE MAINTAINED TO A HEIGHT NOT TO EXCEED TWO FEET (2") ABOVE GRADE UNLESS OTHERWISE NOTED OR SPECIFIED BY THE GOVERNING MUNICIPALITY OR
  - 15. INSTALLATION SHALL OCCUR DURING THE FOLLOWING SEASONS:

PLANTS (MARCH 15 - DECEMBER 15)

LAWNS (MARCH 15 - JUNE 15 OR SEPTEMBER 1 - DECEMBER 1) 16. THE FOLLOWING TREES ARE SUSCEPTIBLE TO TRANSPLANT SHOCK AND SHALL NOT BE PLANTED DURING THE FALL SEASON (STARTING SEPTEMBER 15)

(STARTING SEPTEMBER 15):		
ABIES CONCOLOR	CORNUS VARIETIES	OSTRYA VIRGINIANA
ACER BUERGERIANUM	CRATAEGUS VARIETIES	PINUS NIGRA
ACER FREEMANII	CUPRESSOCYPARIS LEYLANDII	PLATANUS VARIETIES
ACER RUBRUM	FAGUS VARIETIES	POPULUS VARIETIES
ACER SACCHARINUM	HALESIA VARIETIES	PRUNUS VARIETIES
BETULA VARIETIES	ILEX X FOSTERII	PYRUS VARIETIES
CARPINUS VARIETIES	ILEX NELLIE STEVENS	QUERCUS VARIETIES (NOT Q. PALUSTRIS)
CEDRUS DEODARA	ILEX OPACA	SALIX WEEPING VARIETIES
CELTIS VARIETIES	JUNIPERUS VIRGINIANA	SORBUS VARIETIES
CERCIDIPHYLLUM VARIETIES	KOELREUTERIA PANICULATA	TAXODIUM VARIETIES

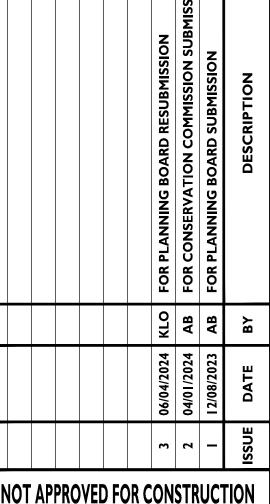
- CERCIS CANADENSIS LIQUIDAMBAR VARIETIES TAXUX B REPANDENS **CORNUS VARIETIES** LIRIODENDRON VARIETIES TILIA TOMENTOSA VARIETIES **CRATAEGUS VARIETIES** MALUS IN LEAF ULMUS PARVIFOLIA VARIETIES NYSSA SYLVATICA **ZELKOVA VARIETIES**
- 17. IF A PROPOSED PLANT IS UNATTAINABLE OR ON THE FALL DIGGING HAZARD LIST, AN EQUIVALENT SPECIES OF THE SAME SIZE MAY BE REQUESTED FOR SUBSTITUTION OF THE ORIGINAL PLANT. ALL SUBSTITUTIONS SHALL BE APPROVED BY THE PROJECT LANDSCAPE DESIGNER OR MUNICIPAL OFFICIAL PRIOR TO ORDERING AND INSTALLATION.
- 18. DURING THE COURSE OF CONSTRUCTION/PLANT INSTALLATION, EXCESS AND WASTE MATERIALS SHALL BE CONTINUOUSLY and promptly removed at the end of each work day. All debris, materials, and tools shall be properly STORED, STOCKPILED OR DISPOSED OF AND ALL PAVED AREAS SHALL BE CLEANED.
- 19. THE LANDSCAPE CONTRACTOR SHALL DISPOSE OF ALL RUBBISH AND EXCESS SOIL AT HIS EXPENSE TO AN OFF-SITE LOCATION AS APPROVED BY THE LOCAL MUNICIPALITY.
- 20. A 90-DAY MAINTENANCE PERIOD SHALL BEGIN IMMEDIATELY AFTER ALL PLANTS HAVE BEEN SATISFACTORILY INSTALLED. 21. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, REPLACING MULCH THAT HAS BEEN DISPLACED BY EROSION OR DTHER MEANS. REPAIRING AND RESHAPING WATER RINGS OR SAUCERS. MAINTAINING STAKES AND GUYS IF ORIGINALI REQUIRED, WATERING WHEN NEEDED OR DIRECTED, WEEDING, PRUNING, SPRAYING, FERTILIZING, MOWING THE LAWN, AND
- PERFORMING ANY OTHER WORK REQUIRED TO KEEP THE PLANTS IN A HEALTHY CONDITION. 2. Mow all grass areas at regular intervals to keep the grass height from exceeding three inches (3"). Mowing SHALL BE PERFORMED ONLY WHEN GRASS IS DRY. MOWER BLADE SHALL BE SET TO REMOVE NO MORE THAN ONE THIRD (1/3) OF THE GRASS LENGTH. WHEN THE AMOUNT OF GRASS IS HEAVY, IT SHALL BE REMOVED TO PREVENT DESTRUCTION OF THE underlying turf. Mow grass areas in such a manner as to prevent clippings from blowing on paved areas,
- AND SIDEWALKS. CLEANUP AFTER MOWING SHALL INCLUDE SWEEPING OR BLOWING OF PAVED AREAS AND SIDEWALKS TO CLEAR THEM FROM MOWING DEBRIS. 23. GRASSED AREAS DAMAGED DURING THE PROCESS OF THE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL RESTORE THE DISTURBED AREAS TO A CONDITION SATISFACTORY TO THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL
- OFFICIAL, OR OWNER/OWNER'S REPRESENTATIVE. THIS MAY INCLUDE FILLING TO GRADE, FERTILIZING, SEEDING, AND
- 24. SHOULD THE OWNER REQUIRE MAINTENANCE BEYOND THE STANDARD 90-DAY MAINTENANCE PERIOD, A SEPARATE CONTRACT SHALL BE ESTABLISHED.
- 25. LANDSCAPE CONTRACTOR SHALL WATER NEW PLANTINGS FROM TIME OF INSTALL AND THROUGHOUT REQUIRED 90-DAY MAINTENANCE PERIOD UNTIL PLANTS ARE ESTABLISHED. IF ON-SITE WATER IS NOT AVAILABLE AT THE PROJECT LOCATION, THE LANDSCAPE CONTRACTOR SHALL FURNISH IT BY MEANS OR A WATERING TRUCK OR OTHER ACCEPTABLE MANNER.
- 26. THE QUANTITY OF WATER APPLIED AT ONE TIME SHALL BE SUFFICIENT TO PENETRATE THE SOIL TO A MINIMUM OF EIGHT INCHES (8") IN SHRUB BEDS AND SIX INCHES (6") IN TURF AREAS AT A RATE WHICH WILL PREVENT SATURATION OF THE SOIL. 27. IF AN AUTOMATIC IRRIGATION SYSTEM HAS BEEN INSTALLED. IT CAN BE USED FOR WATERING PLANT MATERIAL. HOWEVER. FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY OF PLANT HEALTH AND

# PLANT MATERIAL GUARANTEE NOTES

- the Landscape Contractor Shall Guarantee all plant material for a period of one year (1 yr.) from approval OF LANDSCAPE INSTALLATION BY THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIAL, OR OWNER/OWNER'S
- I. THE LANDSCAPE CONTRACTOR SHALL REMOVE AND REPLACE DYING, DEAD, OR DEFECTIVE PLANT MATERIAL AT HIS EXPENSE. THE LANDSCAPE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS COMPANY'S OPERATIONS. 3. ALL REPLACEMENT PLANTS SHALL BE OF THE SAME SPECIES AND SIZE AS SPECIFIED ON THE APPROVED OR FINAL PLANT LIST. REPLACEMENTS RESULTING FROM REMOVAL, LOSS, OR DAMAGE DUE TO OCCUPANCY OF THE PROJECT IN ANY PART, VANDALISM, PHYSICAL DAMAGE BY ANIMALS, VEHICLES, ETC., AND LOSSES DUE TO CURTAILMENT OF WATER BY LOCAL AUTHORITIES SHALL BE APPROVED AND PAID FOR BY THE OWNER.
- 4. THE CONTRACTOR SHALL INSTRUCT THE OWNER AS TO THE PROPER CARE AND MAINTENANCE OF ALL PLANTINGS.

# **LAWN (SEED OR SOD) NOTES:**

- . SEED MIXTURE SHALL BE FRESH, CLEAN, NEW CROP SEED. SOD SHALL BE STRONGLY ROOTED, UNIFORM IN THICKNESS, AND FREE OF WEEDS, DISEASE, AND PESTS.
- .. SEED OR SOD SHALL BE PURCHASED FROM A RECOGNIZED DISTRIBUTOR AND SHALL BE COMPOSED OF THE MIX OR BLEND WITHIN THE PROVIDED "SEED SPECIFICATION" OR "SOD SPECIFICATION." 3. REFERENCE LANDSCAPE PLAN FOR AREAS TO BE SEEDED OR LAID WITH SOD
- 4. SEEDING SHALL NOT BE PERFORMED IN WINDY WEATHER. IF THE SEASON OF THE PROJECT COMPLETION PROHIBITS PERMANENT STABILIZATION, TEMPORARY STABILIZATION SHALL BE PROVIDED IN ACCORDANCE WITH THE "TEMPORARY SEEDING SPECIFICATION.'
- . PROTECT NEW LAWN AREAS AGAINST TRESPASSING WHILE THE SEED IS GERMINATING. FURNISH AND INSTALL FENCES, SIGNS, BARRIERS OR ANY OTHER NECESSARY TEMPORARY PROTECTIVE DEVICES. DAMAGE RESULTING FROM TRESPASS. EROSION. WASHOUT, SETTLEMENT OR OTHER CAUSES SHALL BE REPAIRED BY THE LANDSCAPE CONTRACTOR AT HIS EXPENSE. REMOVE ALL FENCES, SIGNS, BARRIERS OR OTHER TEMPORARY PROTECTIVE DEVICES ONCE LAWN HAS BEEN ESTABLISHED.







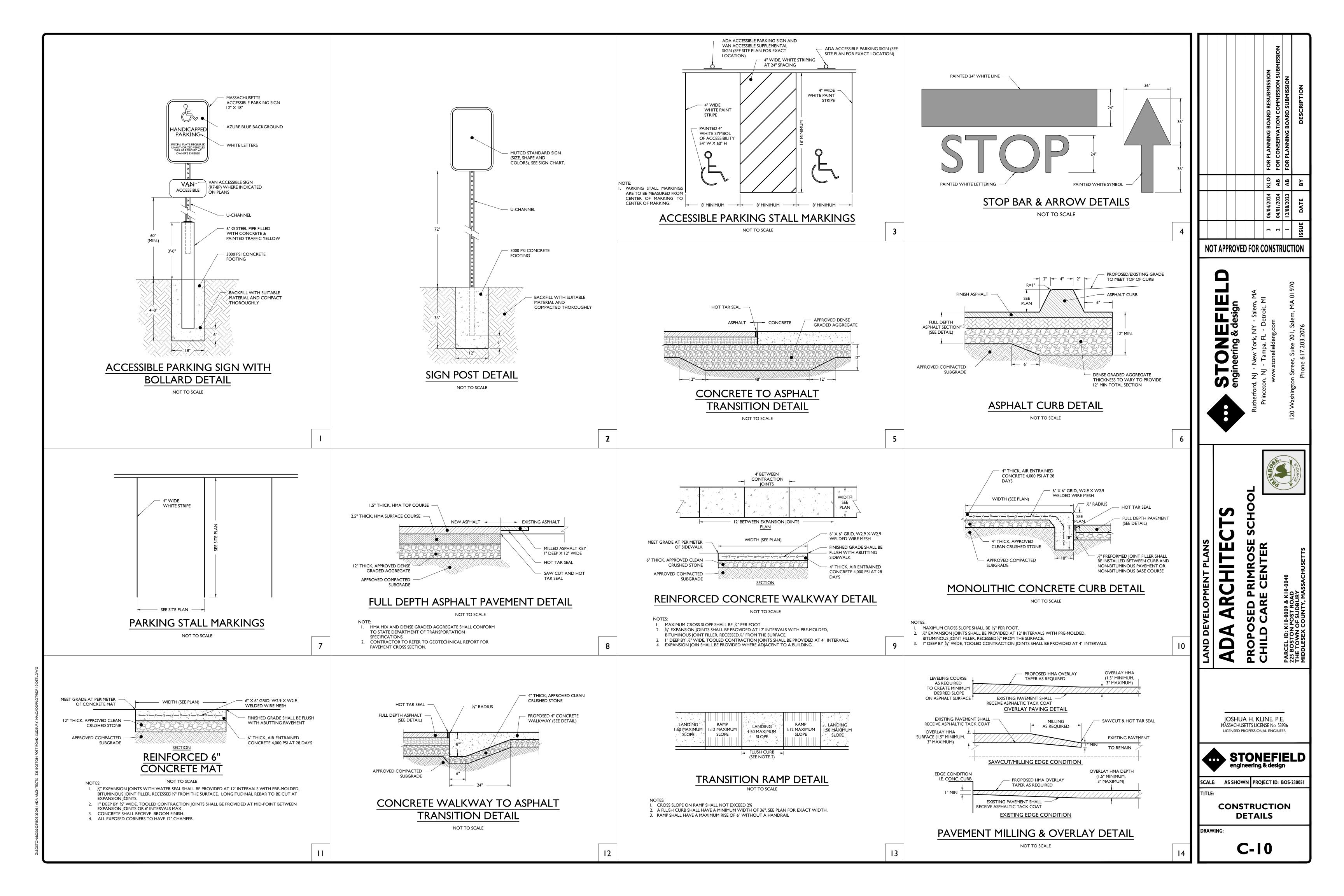
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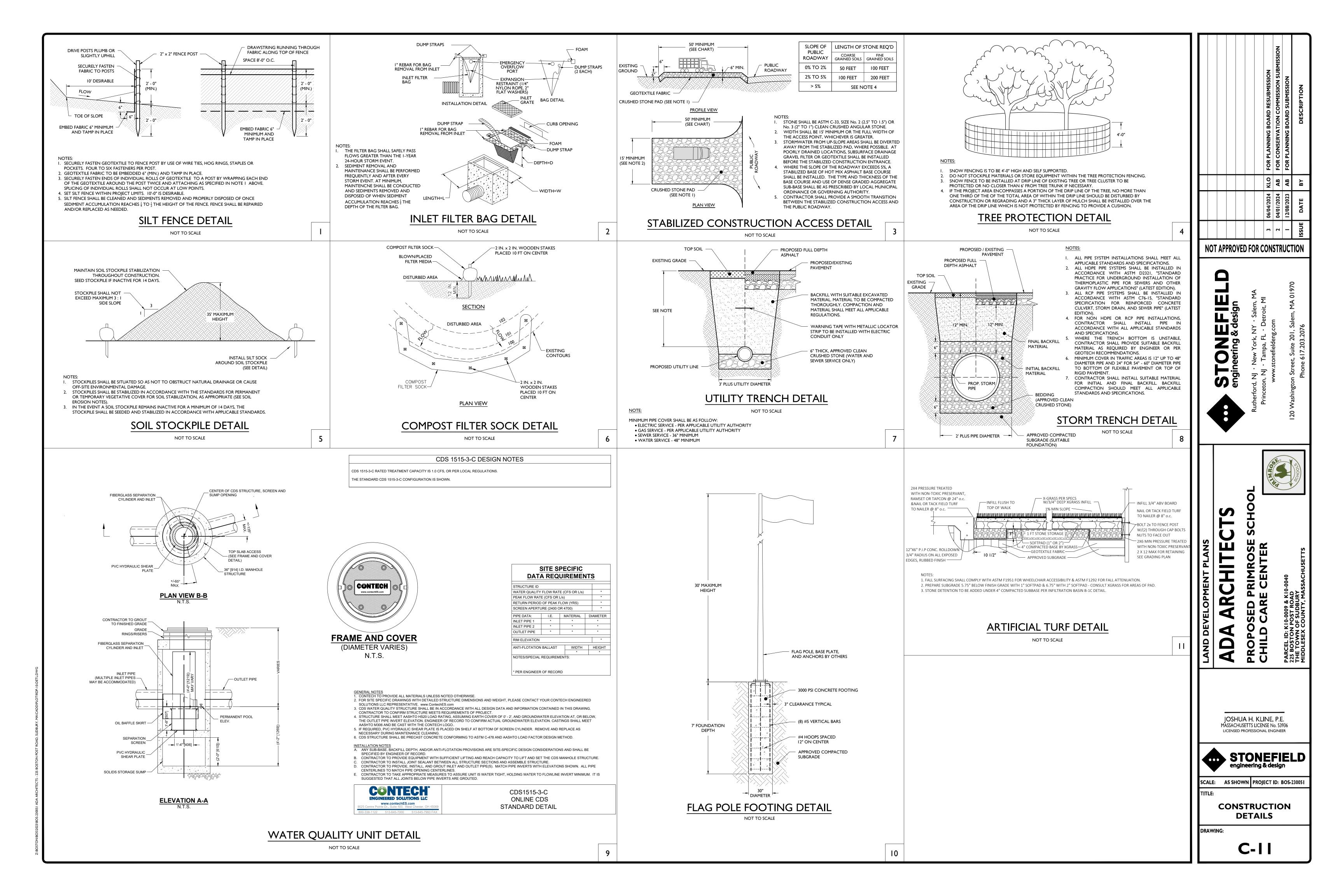
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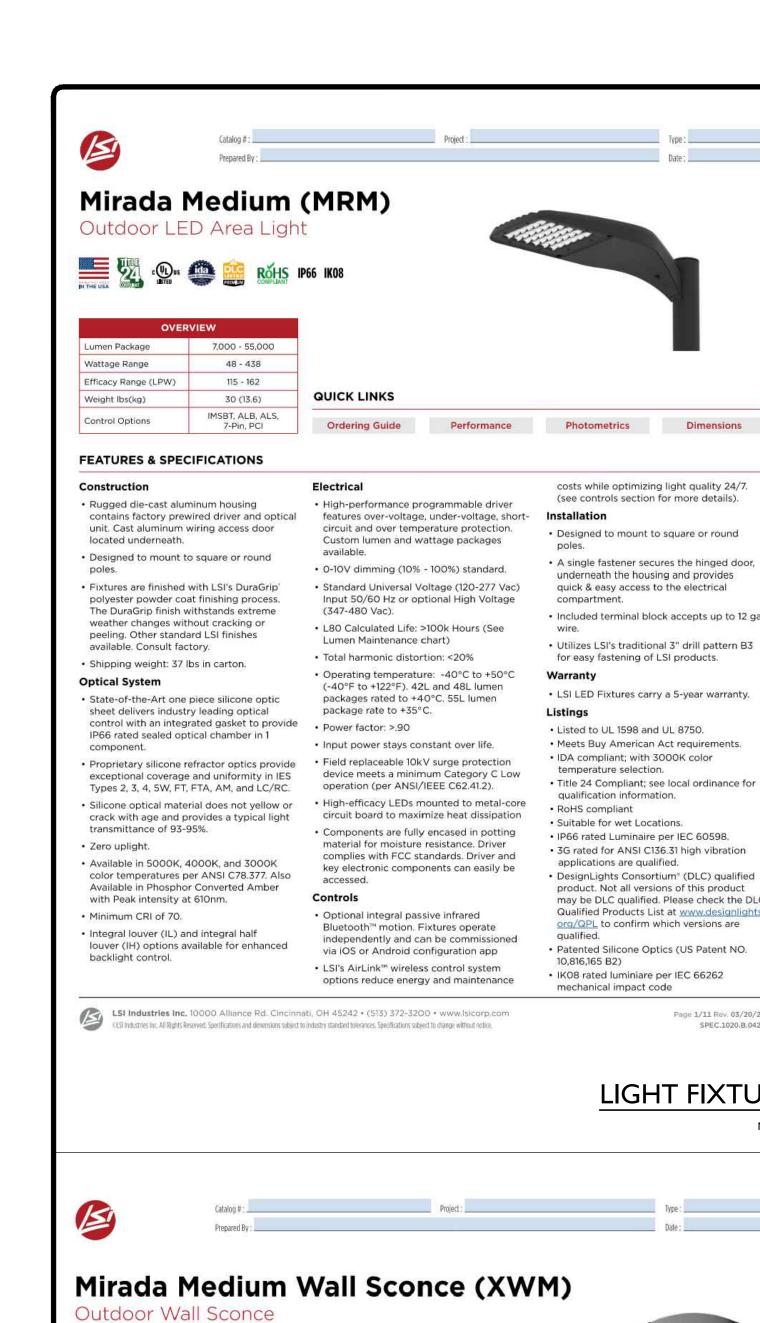


SCALE: AS SHOWN PROJECT ID: BOS-230051

LANDSCAPING DETAILS







1P65 IK08

comes standard with hinging mechanism

Optional pole-mounting bracket (XPMA)

Fixtures are finished with LSI's DuraGrip\*

polyester powder coat finishing process, The

DuraGrip finish withstands extreme weather

changes without cracking or peeling. Other

standard LSI finishes available. Consult

State-of-the-Art one piece silicone optic

provides industry leading optical control

while also acting as an integrated gasket

reducing system complexity and improving

Proprietary silicone refractor optics provide

Types 2, 3, 4, and FT distributions.

Custom lumen and wattage packages

ransmittance of 93-95%.

Max shipping weight: 30lbs in carton

**Optical System** 

fixture reliability.

Zero uplight.

to easily access the junction box wire

permits mounting to standard poles.

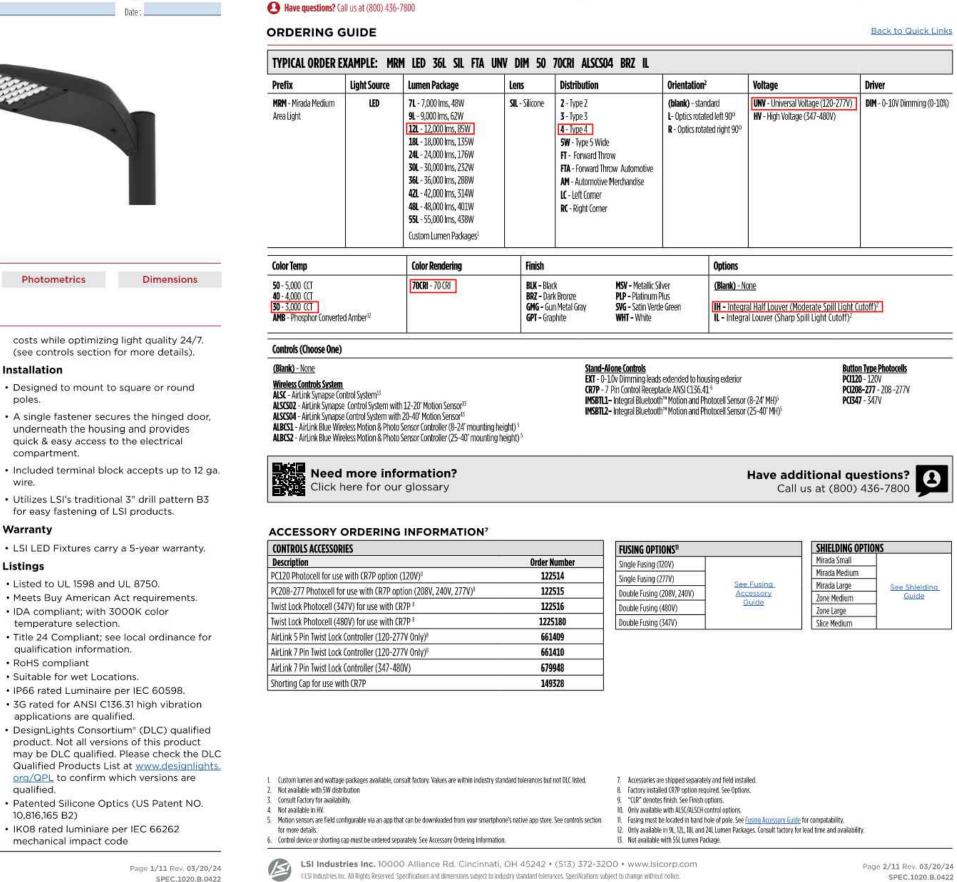
Lumen Package

Wattage Range

Weight lbs(kg)

Control Options

Efficacy Range (LPW)



Mirada Medium Outdoor LED Area Light

# LIGHT FIXTURE 'A' & 'D' DETAIL NOT TO SCALE

costs while optimizing light quality 24/7.

(see controls section for more details).

Designed to mount to square or round

underneath the housing and provides

Utilizes LSI's traditional 3" drill pattern B3

LSI LED Fixtures carry a 5-year warranty.

· Meets Buy American Act requirements.

• IP66 rated Luminaire per IEC 60598.

• 3G rated for ANSI C136.31 high vibration

DesignLights Consortium® (DLC) qualified

product. Not all versions of this product

org/QPL to confirm which versions are

Patented Silicone Optics (US Patent NO.

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SPEC.1020.B.0422

IKO8 rated luminiare per IEC 66262

mechanical impact code

for easy fastening of LSI products.

Listed to UL 1598 and UL 8750.

temperature selection.

RoHS compliant

10,816,165 B2)

qualification information.

Suitable for wet Locations.

applications are qualified.

· IDA compliant: with 3000K color

quick & easy access to the electrical

Mirada Medium Wall Sconce (XWM) Outdoor Wall Sconce Have questions? (all us at (800) 436-7800 **ORDERING GUIDE** Back to Quick Links TYPICAL ORDER EXAMPLE: XWM 2 LED 03L 30 UE BRZ ALSC Color Temperature XWM - Mirada Medium Wall Sconce **30** - 3000K **40** - 4000K - Type 2 **6L** - 6,000 50 - 5000K FT - Type 4 Forward Throw 8L - 8,000 AMB - Phosphor Converted Amber<sup>2</sup> 12L - 12,000 15L - 15,000 18L - 18,000 21L - 21,000 Custom Lumen Packages<sup>1</sup> UE - Universal Voltage (120-277V) BLK - Black HV - High Voltage (347-480V) BRZ - Dark Bronze BB - Battery Back-up (0°C)5 Wireless Controls CWBB - Cold Weather Battery Backup (-20°C)5 GMG - Gun Metal Gray ALSC - Airlink Synapse Control System GPT - Graphite ALSCS01 - AirLink Synapse Control System with 8-12' Motion Sensor XPMA - Pole Mounting Bracket MSV - Metallic Silver SP1 - 10kV Surge Protection ALSCS02 - AirLink Synapse Control System with 12-20' Motion Sensor PLP - Platinum Plus TB - Terminal Block ALBCS1 - AirLink Blue Wireless Motion & Photo Sensor Controller (8-24' MH)<sup>3</sup> SVG - Satin Verde Green ALBCS2 - AirLink Blue Wireless Motion & Photo Sensor Controller (25-40' MH)3 Standalone Controls

DIM - 0-10v Dimming leads extended to housing exterior IMSBT1 -Integral Bluetooth<sup>14</sup> Motion and Photocell Sensor (8-24' MH)<sup>3,4</sup> IMSBT2 - Integral Bluetooth™ Motion and Photocell Sensor (25-40' MH)3A **Button Type Photocells** Need more information? Have additional questions Click here for our glossary Call us at (800) 436-78 FUSING ACCESSORY ORDERING INFORMATION®

Performance	Photometrics	Dimensions
100%) standard. tage (120-277 Vac) onal High Voltage	module provides wire	일 때에게 현대하는 게 맛있는 이 보는 이 사람들이 되었다.
on (THD): <20% nperature: -40°C to F)	a fully customizable s  Installation  Universal wall mounti	chedule. ng plate easily mounts
֡	100%) standard. tage (120-277 Vac) onal High Voltage 00k Hours on (THD): <20% nperature: -40°C to	LSI's AirLink™ Blue lig is a simple feature rich mesh network. The in module provides wire fixtures based on module provides wire fix

**FEATURES & SPECIFICATIONS** Rugged die-cast aluminum housing contains Stand factory prewired driver and optical unit. Hinged die-cast aluminum wiring access door located underneath. L80

3,000 - 21,000

23 - 175

125 - 158

27 (12.2)

IMSBT, ALB, ALS, PCI

 Galvanized-steel universal wall mount bracket +50°C (-40°F to +122°F) connections without removing the luminaire.

 15L operating temperature: -40°C to +45°C (-40°F to +113°F). 18L operating temperature: -40°C to +40°C (-40°F to +104°F).

 21L operating temperature: -40°C to +35°C (-40°F to + 95°F). Power factor (PF): >.90

 Input power stays constant over life. Optional 10kV surge protection device meets

a minimum Category C Low operation (per ANSI/IEEE C62.41.2). · High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation Components are fully encased in potting

material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed via hinged door. Optional integral emergency battery pack provides 90-minutes of constant power to the LED system, ensuring code compliance.

exceptional coverage and uniformity in Silicone optical material does not vellow or crack with age and provides a typical light A test switch/indicator button is installed on the housing for ease of maintenance. The fixture delivers 1500 lumens during Available in 5000K, 4000K and 3000K emergency mode.

color temperatures per ANSI C78.377. Also Available in Phosphor Converted Amber with Controls Peak intensity at 610nm. Minimum CRI of 70. High-performance programmable driver features over-voltage, under-voltage, shortcircuit and over temperature protection.

LSI Industries Inc. 10000 Alliance Rd. Cincinnati, OH 45242 • (513) 372-3200 • www.lsicorp.com

ndustries Inc. All Rights Reserved. Specifications and dimensions subject to industry standard televances. Specifications subject to change without notice.

 Integral passive infrared Bluetooth™ motion sensor options. Fixtures operate independently and can be commissioned via an iOS or Android configuration app. Updates and modifications to the control strategy are easily implemented via an intuitive app.

Warranty LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/ terms-conditions-warranty/ for more information.

directly to 4" octagonal or square junction

underneath the housing and provide quick &

Optional terminal block accepts up to 12 ga

easy access to the electrical compartment for

2 fasteners secure the hinged door

nstalling/servicing.

 1 Year warranty on Battery Back-up option. Listed to UL 1598 and UL 8750.

· Meets Buy American Act requirements. IDA compliant; with 3000K or lower color temperature selection.

 Title 24 Compliant; see local ordinance for qualification information. Suitable for wet Locations. IP65 rated luminaire per IEC 60598 3G rated for ANSI C136.31 high vibration

applications when pole mounted (using optional XPMA bracket) or wall mounted IKO8 rated luminiare per IEC 66262 mechanical impact code DesignLights Consortium\* (DLC) Premium qualified product. Not all versions of this

product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

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SPEC.1024.C.0823

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FK120 - Single Fusing

FK277 - Single Fusing

FK347 - Single Fusing

DFK - Double Fusing

DFK - Double Fusing (240V

DFK - Double Fusing (480V)

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BEACON design performance technology SRT1 EDGE-LIT

**FEATURES** 

Type:

 For ceiling mount and parking garage applications from an 8–15 · Edge-lit flat lens for optimal visual comfort and uniformity across · Two optical distributions specifically design for parking garage and canopy applications are available making the Beacon Edge-Lit luminaire both versatile and functional UL/cUL listed for wet locations, IP65 and 3G vibration rated

> dimming operation PREMIUM

**CONTROL TECHNOLOGY** 

**SPECIFICATIONS** 

· Die-cast aluminum housing ensures long electrical component life and luminaire performance

· Corrosion resistant powder coat finish both protects and provides architectural appearance One piece molded silicone gasket ensures weather proof seal

· Occupancy sensor available for complete on/off and

 Thermally isolated driver mounted to dedicated bracket reduces operating temperatures and increases driver life and reliability

· Torx head screws standard for tamper resistant housing

· Edge-lit acrylic light guide provides blended

non-pixelated light for unprecedented visual comfort Choice of multiple light outputs with lumen

range of 2000-6000 Two distribution types: Type 5 Square Wide, Type 5 Concentrated

· Wide variety of CCT's and CRI's offered: 3000K (70CRI), 3000K (80CRI), 3500K (80CRI), 4000K (70CRI), 4000K (80CRI) or 5000K (70 CRI) CCT

Current @

SPEC.1020.B.0422

ELECTRICAL CERTIFICATIONS 120V-277V 50/60Hz available Listed to UL1598 for use in wet location, 0-10V dimming drivers are RoHS compliant

leads are extended out of the luminaire

INSTALLATION

unless control options require connection

to the dimming leads. Must specify if wiring

Standard quick mount plate over standard

4" junction box or octagonal junction box

and allows for simplified fixture installation

Standard luminaire accepts a rigid or 3/4"

NPT stem for pendant mounting via wet

Standalone occupancy sensor available for

Optional bird deterrent shroud available

Uplight option provides approximately

Vandal resistant wire guard available as

an option for factory installation or as an

Please consult brand or sales representative

as some combinations may not operate as

anticipated depending on your application

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when combining control and electrical options

800 lumens and consumes only 8

location j-box (by others)

on/off or dimming operation

accessory for field installation

for field installation

OPTIONS/CONTROLS

additional watts

currentlighting.com/beacon

TYPE: PROJECT:

CATALOG #:

listed for -40°C to 40°C applications IDA approved with zero uplight for 3000K Dimming Drivers are standard and dimming and warmer CCTs DLC<sup>®</sup> (DesignLights Consortium) Qualified, Please refer to the DLC leads are to be greater than the 24" standard website for specific product qualifications at www.designlights.org

SRT1 8 lbs / 3.6 kg

WARRANTY 5 year warranty

DRIVE

Rev 10/11/23

BEA\_SRT1\_Edgelit\_R04

BEACON TYPE: PROJECT: SRT1 EDGE-LIT

**ORDERING GUIDE** Example: SRT1-35-3K7-5QW-UNV-BLT-WG CATALOG # Uplight Module Single Fuse (120, 277) DBT Dark Bronze Matte LD3 36" Lead Length<sup>2</sup> DBS Dark Bronze Gloss LD6 72" Lead Length? 277 277V GTT Graphite Matte Textured LD9 108" Lead Length<sup>3</sup> 55 55W Nomina LGS Light Grey Gloss Smooth SP10K 10kA Surge Protection<sup>3</sup> PSS Platinum Silver Smooth LMB Less Mounting Bracket WHT White Matte Textured WHS White Glass Smooth

Accessories (Order Separately)

REMOTE

SRT1-WG Wire Guard

SRT-MB Mounting bracket for pre-installation

CLEDSJK Whiteway stem and junction box

SRT1-BS-XXX Bird deterrent shroud for SRT1 version, not

Remote control for SCP option; order at

available with uplight

NXWS-12F NX hubbNET Wireless Enabled Integral NXSMP2-OMNI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming Sensor Controls<sup>3</sup> Remote control programmable line voltage sensor (8-12' recommended mounting height)<sup>4</sup> SCP-20F Remote control programmable line voltage sensor (12-20' recommended mounting height) 4

Must specify voltage

2 Standard wire lead length 24" 3 SP10K, NX and SCP not available with uplight. 4 120V or 277V only

PERFORMANCE DATA

5K (5000K NOMINAL 70 CRI) 4K (4000K NOMINAL 70 CRI) 3K (3000K NOMINAL 70 CRI) Lumens LPW B U G Lumens LPW B U G Lumens LPW B U G 20 5QW 4574 126.01 2 0 1 4552 125.41 5C 6814 127.13 2 0 1 6782 126.52 2 0 55

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currentlighting.com/beacon

5QW 6552 122.24 3 0 1 6521 121.66 3 0 1 6270 116.98 3 0

LIGHT FIXTURE 'B' DETAIL

Current @

NOT TO SCALE

O

BEA\_SRT1\_Edgelit\_R04

NOT APPROVED FOR CONSTRUCTION

م هر

JOSHUA H. KLINE, P.E. MASSACHUSETTS LICENSE No. 53936 LICENSED PROFESSIONAL ENGINEER



LIGHT FIXTURE 'C' DETAIL

NOT TO SCALE

MOUNTING ACCESSORY ORDERING INFORMATION<sup>6</sup>

10' Linear Bird Spike Kit (2' Recommended per Luminaire)

XWM Wet Location Surface Conduit/Wiring Box

Custom lumen and waitage packages available consult factory. Values are within industry standard tolerances but not DLC listed. 6 Accessories are shipped separately and field installed. Only available in 61. Lumen Package. Consult factory for lead time and availability. IMSBT and ALBCS control options are not available in 3L or 4L lumen packages when high voltage (HV) is specified. Fusing must be located in a hand hole for pole or in the junction box. IMSBTxL is field configurable via the Leviton app that can be downloaded from your smartphone's app store. 8 "CLR" to be replaced by paint finish selection. See Finish options for paint color selections.

**C-12** 

SCALE: AS SHOWN PROJECT ID: BOS-230051

LIGHTING DETAILS

DRAWING:

# **STONEFIELD**

# STORMWATER OPERATIONS & MAINTENANCE PLAN PRIMROSE SCHOOL FRANCHISING COMPANY

PROPOSED CHILDCARE FACILITY
PARCEL ID: K10-0009 & K10-0040
225 Boston Post Road
Town of Sudbury
MIDDLESEX COUNTY, MASSACHUSETTS

**PREPARED FOR:** 

PRIMROSE SCHOOL FRANCHISING COMPANY
21 CONKLIN LANE
WARREN, NEW JERSEY 07059

PREPARED BY:

STONEFIELD ENGINEERING & DESIGN, LLC 120 WASHINGTON STREET, SUITE 201 SALEM, MASSACHUSETTS

**REPORT DATE:** 

**DECEMBER 8, 2023 REVISED : JUNE 4, 2024** 

JOSHUA H. KLINE, PE MA PE LICENSE #53936

STONEFIELDENG.COM

617.203.2073 T. 201.340.4472 F.

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### 1.0 Introduction

This Stormwater Operations & Maintenance Plan has been prepared to identify the operational and maintenance responsibilities for the existing and proposed stormwater facilities for the redevelopment of the parcel located at 225 Boston Post Road, Town of Sudbury, Middlesex County, Massachusetts. This Plan has been prepared in conjunction with the Land Development Plans and the Stormwater Management Report, prepared by Stonefield Engineering & Design, and in accordance with the standards and regulations set forth by Town of Sudbury and the Massachusetts Department of Environmental Protection (MassDEP).

Operation and maintenance of the permanent stormwater control Best Management Practices (BMPs) shall be the responsibility of the operator of the project site at the time that the applicable maintenance is required. The existing stormwater treatment and conveyance systems on the development site shall remain and be reutilized under post-development conditions. Improvements associated with this redevelopment include the incorporation of additional water quality measures into the existing system. All guidelines, standards and requirements set forth in this Plan shall be implemented for all existing and proposed stormwater infrastructure. These guidelines are not exclusive to the proposed improvements, and existing infrastructure shall be maintained in accordance with this document.

A copy of this report shall be kept on-site at all times both during and after construction. Upon reviewing agency approval, the title and date of the maintenance plan as well as the contact information of the current agent responsible for maintaining the stormwater management measures for the project shall be recorded on the deed of the property on which the measures are located. Any future change in this information such as change in property ownership shall also be recorded on the deed.

### I.I RESPONSIBILITY

The purpose of the Stormwater Operations and Maintenance (O&M) plan is to ensure adequate inspection of the systems, removal of accumulated sediments, oils, and debris, and implementation of corrective action and record keeping activities. The enclosed O&M activities will be performed by a Contract Operator for the scope of maintenance. The Contract Operator will be a professional engineer or other technical professional with expertise and experience with stormwater management facilities operation and maintenance. The Owner, its successors, and/or assigns shall be responsible for the maintenance of the stormwater infrastructure associated with the proposed site improvements. Adequate maintenance is defined in this document as good working condition.

The current responsible agent shall evaluate the maintenance plan for effectiveness at least annually and revise the plan, as necessary. A detailed, written log of all preventative and corrective maintenance performed for each stormwater management measure must be kept, including a record of all inspections and copies of maintenance-

STORMWATER OPERATIONS & MAINTENANCE PLAN

PRIMROSE SCHOOL FRANCHISING COMPANY

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related work orders. Upon request from a public entity with jurisdiction over the project area the responsible

agent shall make available the maintenance plan and associate logs and other records for review.

Responsible Agent:

Name: <u>Primrose School Franchising Company</u>

Address: 21 Conklin Lane, Warren, New Jersey 07059

**Contact:** <u>Matt Taylor</u> **Phone:** (617) 901-9015

Email: <a href="mailto:mtaylor@primroseschools.com">mtaylor@primroseschools.com</a>

**I.2 DOCUMENTATION** 

Quarterly Operation and Maintenance Record Log and Schedule will be kept by the Owner summarizing inspections, maintenance, repairs and any corrective actions taken. The log will include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, the location where the sediment and debris was disposed after removal will be indicated. Sample Inspection, Preventive Maintenance and Corrective Maintenance Logs are enclosed.

Additionally, invoices and other documentation of performance of maintenance activities (e.g., sediment disposal)

shall be kept by the Owner or the legally authorized representative. The documentation will be kept on file at the

on-site Property Management office.

The site supervisor shall be responsible for ensuring that the scheduled tasks as described in this plan are appropriately completed and recorded in the Maintenance Log. Accurate records of all inspections, routine maintenance and repairs shall be documented and these records shall be available for inspection by members of

the Sudbury Conservation Commission, or their designated agent, upon request.

1.3 CHANGES TO OPERATIONS & MAINTENANCE PLAN

The Owner(s) and/or Responsible Agent shall notify the designated Governing Authority of any changes to the

Operations & Maintenance Plan. Amendments to the Plan include but are not limited to changes in ownership,

changes in assignment of financial responsibility, change in responsible parties, and modifications to the procedures

outlined herein. Changes to the Plan shall be recorded on the Amendment Log in APPENDIX E of this Plan.

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### 2.0 OPERATIONS & MAINTENANCE

The Owner, Property Manager and maintenance staff will conduct the Operation and Maintenance program set forth in this document. The Owner or Property Manager will ensure that inspections and record keeping are timely and accurate, and that cleaning and maintenance are performed in accordance with the recommended frequency for each stormwater component. Inspection & Maintenance Log Forms (provided herein) shall include the date and the amount of the last significant storm event in excess of I" of rain in a 24-hour period, physical conditions of the structures, depth of sediment in structures, evidence of overtopping or debris blockage and maintenance required of each structure.

### 2. I Inspection and Maintenance of Stormwater Management Systems

The following areas, facilities and measures will be inspected by the Owner or Property Manager and maintained as specified below. The following guidelines are applicable to both existing and proposed stormwater structures and facilities on the parcel. Identified deficiencies will be corrected. Accumulated sediments and debris will be properly handled and disposed of off-site, in accordance with local, state, and federal guidelines and regulations.

### **CATCH BASINS**

The existing storm drain conveyance system is comprised of multiple catch basins with sumps that will be reutilized with the redevelopment.

- Existing catch basins shall be inspected prior to start of construction.
- Catch basins with hoods shall be cleaned and inspected according to manufacturer recommendations.
- All catch basins shall be inspected at least four times per year and cleaned a minimum of at least once per
  year or when the depth of deposits is greater than one half of the depth from the bottom of the sump to
  the invert of the lowest connecting pipe.
- Sediment and/or floatable pollutants shall be pumped from the basin and disposed of at an approved offsite facility in accordance with all applicable regulations.
- Any structural damage or other indication of malfunction will be reported to the site manager and repaired
  as necessary.
- During colder periods, the catch basin grates must be kept free of snow and ice.
- During warmer periods, the catch basin grates must be kept free of leaves, litter, sand, and debris.

### **STORM DRAIN PIPING**

The existing site storm drain system is comprised of a network of piping and structures discharging to an above-ground stormwater basin. The existing system shall be reutilized, inspected, and maintained alongside all new infrastructure.

- Existing storm drain pipes to be inspected and deemed adequate for reuse prior to construction.
- All storm drain piping (existing and/or proposed) will be inspected quarterly and cleaned as necessary.
- Sediments and hydrocarbons will be properly handled and disposed of off-site, in accordance with local, state and federal guidelines and regulations.
- Pipe outlets should be cleaned away from the existing stormwater basin to prevent discharge of sediment into the basin.

### FLARED END SECTIONS

One (I) flared end section exists on the project site as a part of the existing conveyance system. No new flared end sections are proposed with the redevelopment.

- Flared end sections shall be inspected quarterly or as necessary to ensure that they are working in their intended fashion.
- Remove and dispose of any trash or debris at outfall.
- Remove any obstructions to flow; remove accumulated sediments and debris at the outlet and within the conduit and repair any erosion damage.
- Maintain riprap pad below flared end section and replace washout as needed.

### **STORMWATER BASINS**

The site consists of an existing above-ground stormwater basin that shall be reestablished in accordance with the original approved design drawings. The side slopes and basin bottom shall be cleared of overgrowth and debris and reestablished and permanently seeded / stabilized. Upon re-establishment of the stormwater basin, the basin shall be maintained in accordance with this Plan.

- Stormwater basin shall be inspected annually and after major storm events. Maintenance and repairs will be completed as necessary.
- Basins will be mowed at least twice a year.
- Sediment will be removed as necessary, or every five (5) years. Removal procedures should not take place until the floor of the basin is thoroughly dry.

- Inspect planted areas on a semi-annual basis and remove any litter.
- Regular maintenance includes mowing, keeping the grass no shorter than 3 to 4 inches and no larger than
   6-inches.
- Grass clippings, organic matter, and accumulated trash and debris are removed at least twice during the growing season.
- Eroded or barren spots should be reseeded immediately after inspection to prevent additional erosion and accumulation of sediment.
- Vegetated drainage systems shall be inspected at regular intervals and record specific information:
  - O Notable changes in general extent of standing water.
  - O Stability of embankments, channels, and outfall areas.
  - Accumulation of sediment

### **VEGETATED AREAS**

Existing vegetated areas shall remain with the redevelopment alongside multiple proposed plantings. Existing and proposed plantings and vegetated areas shall be maintained in accordance with the guidelines enclosed in this Plan.

The existing parcel is known to have invasive Japanese Knotweed. The Property Owner shall follow all applicable rules and regulations regarding the treatment of the species (if they choose to do so). The licensed and/or qualified party handling the treatment of the invasive species is responsible for seeking all applicable approvals/permits including but not limited to seeking approval from the Town of Sudbury Conservation Commission if proposing any treatment within the 100-foot buffer area.

The following minimum inspection and maintenance actions shall be taken within the development area:

- Inspect slopes and embankments early in the growing season to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. If erosion is evident, armor the area with an appropriate lining or riprap stone.
- Inspect planted areas on a semi-annual basis and remove any litter.
- Maintain planted areas adjacent to pavement to prevent soil washout.
- Immediately clean any soil deposited on pavement.
- Re-seed bare areas; install appropriate erosion control measures when native soil is exposed, or erosion channels are forming.
- Plant alternative mixture of grass species in the event of unsuccessful establishment.
- The grass vegetation should be cut to a height between three and four inches.

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 Pesticide/Herbicide Usage – No pesticides are to be used unless a single spot treatment is required for a specific control application.

• No pesticides or herbicides are allowed within the 100' adjacent upland resource area property without

prior approval of the Governing Authority.

 Fertilizer usage should be avoided. If deemed necessary, fertilizer may only be of the low nitrogen and phosphorous variety. Fertilizer may be used to begin the establishment of vegetation in bare or damaged

areas but should not be applied on a regular basis unless necessary.

• Fertilizer applications shall be limited to the spring and early fall and applied per the manufacturers' specifications. Nitrogen content shall not exceed 25% with ratios for Nitrogen, Phosphorus, and Potassium

at 3-1-2 or 3-1-1. It is also recommended that at least 30%-50% of total nitrogen be slow release.

Annual application of compost amendments and aeration are recommended.

WATER QUALITY UNIT

The stormwater drainage system includes a structural water quality device, a Contech CDS unit, which efficiently removes sediment and hydrocarbons from stormwater runoff. An Operation & Maintenance Field Guide for the proprietary system has been enclosed herein.

• All water quality units are to be inspected at least twice per year and cleaned a minimum of at least once per year or when sediment reaches 75% of the sump depth, whichever occurs sooner.

• Remove oil and sediment through manhole access cover.

 $\bullet \quad \text{Follow manufacturer instructions and contact manufacturer if system is malfunctioning. Manufacturer's} \\$ 

inspection and maintenance instructions are included in APPENDIX C.

offsite in a reasonable timeframe. Street sweepings may not be disposed of on parking lots or lands.

2.2 PARKING SURFACES AND SITE ACCESS DRIVES

Roadways with curbs and catch basins must be swept at a minimum of once per year. Roadways with curbs and catch basins that discharge to nitrogen or phosphorus impaired waters, or their tributaries are swept at a minimum of twice per year, once in the spring and once in the fall. Sweeping on rural uncurbed roads and parking lots with no catch basins must be conducted on an as-needed basis. All street sweepings collected must be disposed of. The responsible party may temporarily store street sweepings in labor yards, but street sweepings must be disposed of

The following minimum maintenance measures shall be implemented:

• Sweep or vacuum standard asphalt pavement areas with a rotary brush sweeper and properly dispose of

removed material.

JUNE 4, 2024

- Minimum recommended sweeping schedule:
  - October / November
  - o April / May
  - More frequent sweeping of paved surfaces will result in less accumulation in catch basins, less cleaning of subsurface structures, and less disposal costs.
- Check loading docks and dumpster areas frequently for spillage and/or pavement staining and clean as necessary.
- No coal-tar, petroleum-based, or other parking lot "sealants" are permitted to be used on-site. Normal
  maintenance activities intended to extend the life expectancy of the pavement surfaces including the use
  of bitumen asphalt to seal developing cracks, asphalt repair are not subject to this special condition.

The following street and parking lot sweeping procedures shall be performed to reduce the discharge of pollutants:

### **Sweeping**

- Street sweeping will be conducted in dry weather. Sweeping will not be conducted during or immediately
  after rainstorms.
- Dry cleaning methods will be used whenever possible with the exception of very fine water spray for dust control. Avoid wet cleaning or flushing of the pavement.
- When necessary, parking bans will be enacted to facilitate sweeping on busy streets.
- Sweeping will be conducted in a manner that avoids depositing debris into storm drains.
- Sweeping equipment (mechanical, regenerative air, vacuum filter, tandem sweeping) will be selected
  depending on the level of debris. Brush alignment, sweeper speed, rotation rate, and sweeping patterns
  will be set to optimate levels to manage debris.
- Sweeping equipment will be routinely inspected and maintained to reduce the potential for leaks.

### **Disposal**

- The reuse of sweepings is recommended by MassDEP. If street sweepings are reused, e.g., as anti-skid
  material or to fill in parking lots), they will be properly filtered to remove solid waste, such as paper or
  trash, in accordance with their intended reuse. All reuse and/or disposal of street sweeping will be
  managed in accordance with current MassDEP policies and regulations.
- Street sweepings can be stored for up to one year in approved temporary storage areas. Storage areas
  will be protected to prevent erosion and runoff and should be located away from wetland resource areas
  and buffer zones, surface water, or groundwater.
- Sweepings are classified as solid waste and are disposed of at solid waste disposal sites.

### 2.3 WINTER MAINTENANCE AND SNOW & ICE MANAGEMENT

The landowner will contract with a professional snow removal/winter conditions management contractor to treat the paved parking and walking areas within the developed area for safe access during winter conditions. All snow and ice operators are required to be trained annually on the MassDOT practices. The contractor is responsible for minimizing de-icing applications while ensuring safe vehicle and pedestrian access to onsite facilities.

Snow storage and removal shall be conducted in accordance with the following minimum requirements:

- Snow will be stored in areas that do not block or hinder access to any structure or accessory facility.
- Should it become infeasible to store snow onsite without hindering pedestrian or vehicle circulation, snow shall be removed from the site and disposed of in accordance with the MassDOT Snow & Ice Control Program by a qualified operator.
- Snow storage areas will be managed to prevent blockage of storm drain catch basins, stormwater
  drainage channels, and on-street parking. Snow combined with sand and debris may block a storm
  drainage system, diminishing the drainage capacity of the system and causing localized flooding.
- Sand and debris deposited on vegetated or paved areas shall be cleared from the site and properly
  disposed of at the end of the snow season, no later than May 15.
- Snow shall not be dumped into any waterbody, pond, or wetland resource area.
- All sand shall be removed from the top of bank and on the banks of all wetlands immediately following spring snow melt each year.

In addition to snow removal, potentially icy and unsafe paved surfaces are addressed as follows:

- The de-icing program consists of two treatment zones: The largest area, parking and vehicle circulation areas, and the smaller area, the sidewalks/front doors of the facility.
- The parking and vehicle circulation areas within the center will be treated with approved treatment product mixed with sand. Per deicing event up to 200 gallons per acre may be applied.
- The front door entrances and sidewalks of the stores will have a non-sodium pelletized de-icing material
  that may contain calcium chloride or magnesium chloride as the active ice melting ingredient. The pellets
  are broadcast at a rate up to 1 lb. per 75-100 square feet.
- Only calcium or magnesium-based de-icing chemicals shall be used on surfaces where runoff/drainage will discharge into any wetland resources, or the 100' adjacent upland resource area.

The following winter maintenance procedures shall be performed to reduce the discharge of pollutants:

### STORMWATER OPERATIONS & MAINTENANCE PLAN

PRIMROSE SCHOOL FRANCHISING COMPANY JUNE 4, 2024

- Minimize the use and optimize the application of sodium chloride and other salt (while maintaining public safety) and consider opportunities for use of alternative methods.
- Optimize sand and/or chemical application rates through the use, where practicable, of automated application equipment (e.g., zero velocity spreaders), anti-icing and pre-wetting techniques.
   Implementation of pavement management systems, and alternate chemicals. Maintain records of the application of sand, anti-icing and/or de-icing chemicals to document the reduction of chemicals to meet established goals.
- Prevent exposure of de-icing product (salt, sand, or alternative products) storage piles to precipitation
  by enclosing or covering the storage piles. Implement good housekeeping, diversions, containment, or
  other measures to minimize exposure resulting from adding to or removing materials from the pile.
  Store piles in such a manner as not to impact surface water resources, groundwater resources, recharge
  areas, and wells.
- The MS4 permit prohibits snow disposal into waters of the United States. Snow disposal activities, including selection of appropriate snow disposal sites, will adhere to the Massachusetts Department of Environmental Protection Snow Disposal Guidance, Guideline No. BWR G2015-01 (Effective Date: December 21, 2015).
- MassDEP Snow Disposal Guidance for ice melting operations and skating rinks shall be followed.

# 3.0 Inspection & Logs of Preventative and Corrective Measures

The person responsible for maintenance shall maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders.

A maintenance plan shall include a schedule of regular inspections and tasks, and detailed logs of all preventative and corrective maintenance performed on the stormwater management measure, including all maintenance-related work orders. The person with maintenance responsibility must retain and, upon request, make available the maintenance plan and associated logs and other records for review by a public entity with administrative, health, environmental, or safety authority over the site.

All inspection and maintenance activities shall be recorded to document frequency of inspection and maintenance, and implementation of corrective action. All regularly scheduled inspections, inspections following one (I) inch of precipitation, maintenance activities, and repairs shall be recorded. General Inspection Checklists and Maintenance Logs can be found in **APPENDIX D** of this Plan. The enclosed general log forms shall be considered a minimum standard for recording purposes; the Operator and Inspection/Maintenance Personnel are encouraged to supplement the Log with additional notes and photos.

### 4.0 Annual Evaluation of the Effectiveness of the Plan

The person responsible for maintenance shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed. The responsible party should evaluate the effectiveness of the maintenance plan by comparing the maintenance plan with the actual performance of the maintenance. The items to evaluate may include, but not limited to:

- Whether the inspections have been performed as scheduled;
- Whether the preventive maintenance has been performed as scheduled;
- Whether the frequency of preventative maintenance needs to increase or decrease;
- Whether the planned resources were enough to perform the maintenance;
- Whether the repairs were completed on time;
- Whether the actual cost was consistent with the estimated cost;
- Whether the inspection, maintenance, and repair records have been kept.

If actual performance of those items has been deviated from the maintenance plan, the responsible party should find the causes and implement solutions in a revised maintenance plan. Should modifications to the Plan be deemed necessary to ensure longevity of the site systems, the changes should be noted within the enclosed Amendment Log in **APPENDIX E**.

# APPENDIX A PROJECT FIGURES

### **INVENTORY**

FIGURE I: AERIAL MAP

FIGURE 2: TAX & ZONING MAP

FIGURE 3: USGS LOCATION MAP

FIGURE 4: FEMA MAP

FIGURE 5: NHESP MAP

FIGURE 6: SITE PLAN (NOT TO SCALE)

FIGURE 7: GRADING, DRAINAGE & UTILITY PLAN

(NOT TO SCALE)

FIGURE 8: SESC PLAN (NOT TO SCALE)

FIGURE 9: LANDSCAPING PLAN (NOT TO SCALE)

QC

08/28/2023

1" = 300

BOS-230051

CHECKED BY:

DATE:

SCALE:

PROJECT ID:

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SOURCE: AERIAL MAP RETRIEVED FROM NEARMAP AUGUST 25, 2023

**CHILD CARE CENTER** 

PARCEL ID: K10-0009 & K10-0040

MIDDLESEX COUNTY, MASSACHUSETTS

225 BOSTON POST ROAD TOWN OF SUDBURY

PROPOSED PRIMROSE SCHOOL

# **USGS QUADRANGLE MAP**



**GRAPHIC SCALE IN FEET** I"= 2000'

SOURCE: USGS QUADRANGLE MAPS 7.5 SERIES MAYNARD & FRAMINGHAM, MASSACHUSETTS 2021

## PROPOSED PRIMROSE SCHOOL CHILD CARE CENTER

PARCEL ID: K10-0009 & K10-0040 225 BOSTON POST ROAD TOWN OF SUDBURY MIDDLESEX COUNTY, MASSACHUSETTS DRAWN BY: CHECKED BY: DATE: 08/28/2023 SCALE: 1" = 2.000 PROJECT ID: BOS-230051



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# EFFECTIVE FEMA FLOOD INSURANCE RATE MAP



I"= 500'

SOURCE: FLOOD INSURANCE RATE MAP, MIDDLESEX COUNTY, MA, REVISED JULY 7, 2014

# PROPOSED PRIMROSE SCHOOL CHILD CARE CENTER

PARCEL ID: K10-0009 & K10-0040 225 BOSTON POST ROAD TOWN OF SUDBURY MIDDLESEX COUNTY, MASSACHUSETTS CHECKED BY:

JK

DATE:

08/28/2023

SCALE:

I" = 500'

PROJECT ID:

BOS-230051

DRAWN BY:



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# **ENDANGERED SPECIES PROGRAM MAP**

**GRAPHIC SCALE IN FEET** I"= 500'

SOURCE: PRIORITY AND ESTIMATED HABITAT MAPS, NATURAL HERITAGE ATLAS, AUGUST 1, 2021, INTERACTIVE MAP VIEWER

# PROPOSED PRIMROSE SCHOOL **CHILD CARE CENTER**

PARCEL ID: K10-0009 & K10-0040 225 BOSTON POST ROAD TOWN OF SUDBURY MIDDLESEX COUNTY, MASSACHUSETTS DRAWN BY:

CHECKED BY:

DATE:

SCALE: 1" = 500'

03/14/2024

PROJECT ID: BOS-230051



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		/	
LA	AND USE AND Z	ONING	
	K10-0009 & K10-00	)40	
	SINGLE RESIDENTIAL (	(RES A-I)	
PROPOSED USE			
CHILD CARE FACILITY (*)	PERMITTED USE		
ZONING REQUIREMENT	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	40,000 SF	214,118 SF	NO CHANGE
MINIMUM LOT FRONTAGE	180 FT	364.8 FT	NO CHANGE
MAXIMUM BUILDING COVERAGE	40% (85,647 SF) (**)	5.03% (10,770 SF) (**)	NO CHANGE
MAXIMUM BUILDING HEIGHT	2.5 STORIES (35 FT)	I STORY	NO CHANGE
MINIMUM FRONT YARD SETBACK	40 FT	103.8 FT	NO CHANGE
MINIMUM SIDE YARD SETBACK	20 FT	44.4 FT	NO CHANGE
MINIMUM REAR YARD SETBACK	30 FT	195.4 FT	NO CHANGE
MAXIMUM IMPERVIOUS COVERAGE	N/S	16.5% (35,400 SF)	14.6% (31,161 SF) (***)

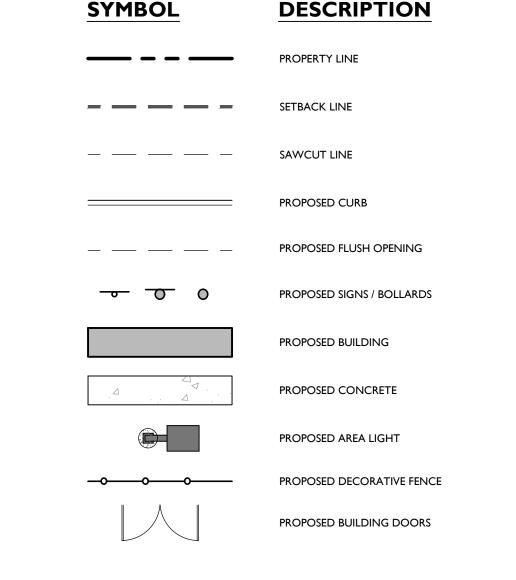
EXEMPT AND INSTITUTIONAL USES INCLUDING PRINCIPAL AND ACCESSORY BUILDINGS (\*\*\*) EXCLUDES 6,232 SF OF TURF SURFACE

	OFF-STREET PARKING REQUIREMENTS			
CODE SECTION	REQUIRED	PROPOSED		
§ 3120	REQUIRED PARKING:			
	I SPACE FOR EACH STAFF POSITION (22 STAFF) * (I SPACE) = 22 SPACES			
	I FOR SPACE EACH 5 PERSONS OF RATED CAPACITY OF THE LARGEST AUDITORIUM N/A - NO AUDITORIUM PROPOSED			
	I SPACE FOR EACH STUDENT VEHICLE AT MAX CAPACITY (8 STUDENT DROP OFF VEHICLES) * (I SPACE) = 9 SPACES			
	TOTAL: 22 + 9 = 31 SPACES	45 SPACES		
§ 3130	DIMENSIONAL REGULATIONS 90 DEGREE PARKING:			
	WIDTH = 9 FT LENGTH = 18.5 FT WIDTH OF DRIVE AISLE = 24 FT	9 FT 18 FT (W) 23.1 FT (W)		
§ 3142	PARKING SETBACK:			
	SETBACK = 10 FT (DRIVE/WALKWAYS EXCLUDED)	21 FT		

SIGNAGE REQUIREMENTS				
CODE SECTION	REQUIRED	PROPOSED		
§ 3280	RESIDENTIAL SIGNS:			
	MAXIMUM SIGNS: I SIGN	6 SIGNS (W)		
	MOUNTING OPTIONS: ATTACHED OR FREESTANDING	COMPLIES		
	MAXIMUM SIGN AREA: 10 SF	54 SF (W)		
	MAXIMUM SIGN HEIGHT: 10 FT	8 FT		
	MAXIMUM SIGN CLEARANCE: 40% OF HEIGHT	N/A		
	MINIMUM SIGN SETBACK: 10 FT	I0 FT		

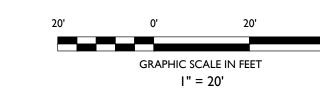
N/A NOT APPLICABLE

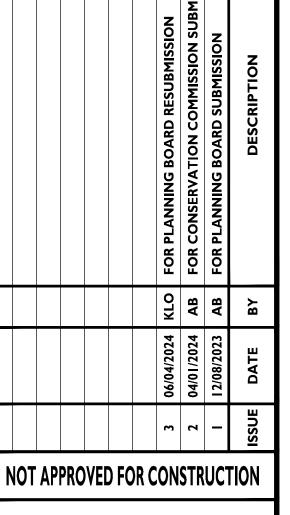
SIGNS, LANDSCAPING AND OTHER FEATURES LOCATED WITHIN SIGHT TRIANGLE AREAS SHALL BE DESIGNED, INSTALLED AND MAINTAINED SO AS NOT TO EXCEED 2.5 FT IN HEIGHT. SNOW ACCUMULATION LOCATED WITHIN SIGHT TRIANGLE AREAS THAT EXCEED 3.5 FT IN HEIGHT OR THAT WOULD OTHERWISE INHIBIT SIGHT LINES SHALL BE PROMPTLY REMOVED.

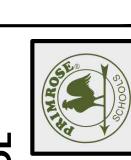


# SITE IMPROVEMENTS NOTES

- I. EXISTING LIGHT POLES AND EXTERIOR LIGHTS TO BE REUTILIZED. CONTRACTOR SHALL INSPECT AND REPAIR AND REPLACE LIGHT FIXTURE, LIGHT POLES, AND LIGHT BASES AS DEEMED NECESSARY. PARKING LOT SHALL BE MILLED AND OVERLAID TO ENSURE POSITIVE DRAINAGE TO ALL STRUCTURES. FINAL LIMITS OF FULL DEPTH REPAIR SHALL BE COORDINATED WITH APPLICANT PRIOR
- **GENERAL NOTES**
- I. THE CONTRACTOR SHALL VERIFY AND FAMILIARIZE THEMSELVES WITH THE EXISTING SITE CONDITIONS AND THE PROPOSED SCOPE OF WORK (INCLUDING DIMENSIONS, LAYOUT, ETC.) PRIOR TO INITIATING THE IMPROVEMENTS IDENTIFIED WITHIN THESE DOCUMENTS. SHOULD ANY DISCREPANCY BE FOUND BETWEEN THE EXISTING SITE CONDITIONS AND THE PROPOSED WORK THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. PRIOR TO THE START
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ENSURE THAT ALL REQUIRED APPROVALS HAVE BEEN OBTAINED PRIOR TO THE START OF CONSTRUCTION. COPIES OF ALL REQUIRED PERMITS AND APPROVALS SHALL BE KEPT ON SITE AT ALL TIMES DURING
- 3. ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS STONEFIELD ENGINEERING & DESIGN, LLC. AND IT'S SUB-CONSULTANTS FROM AND AGAINST ANY DAMAGES AND LIABILITIES INCLUDING ATTORNEY'S FEES ARISING OUT OF CLAIMS BY EMPLOYEES OF THE CONTRACTOR IN ADDITION TO CLAIMS CONNECTED TO THE PROJECT AS A RESULT OF NOT CARRYING THE PROPER INSURANCE FOR WORKERS COMPENSATION, LIABILITY INSURANCE, AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE. THE CONTRACTOR SHALL NOT DEVIATE FROM THE PROPOSED IMPROVEMENTS IDENTIFIED WITHIN
- THIS PLAN SET UNLESS APPROVAL IS PROVIDED IN WRITING BY STONEFIELD ENGINEERING & DESIGN,
- 5. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF 6. THE CONTRACTOR SHALL NOT PERFORM ANY WORK OR CAUSE DISTURBANCE ON A PRIVATE
- PROPERTY NOT CONTROLLED BY THE PERSON OR ENTITY WHO HAS AUTHORIZED THE WORK WITHOUT PRIOR WRITTEN CONSENT FROM THE OWNER OF THE PRIVATE PROPERTY 7. THE CONTRACTOR IS RESPONSIBLE TO RESTORE ANY DAMAGED OR UNDERMINED STRUCTURE OR SITE FEATURE THAT IS IDENTIFIED TO REMAIN ON THE PLAN SET. ALL REPAIRS SHALL USE NEW
- MATERIALS TO RESTORE THE FEATURE TO ITS EXISTING CONDITION AT THE CONTRACTORS 8. CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE SHOP DRAWINGS, PRODUCT DATA,
- AND OTHER REQUIRED SUBMITTALS FOR REVIEW. STONEFIELD ENGINEERING & DESIGN, LLC. WILL REVIEW THE SUBMITTALS IN ACCORDANCE WITH THE DESIGN INTENT AS REFLECTED WITHIN THE
- 9. THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. 10. THE CONTRACTOR IS REQUIRED TO PERFORM ALL WORK IN THE PUBLIC RIGHT-OF-WAY IN
- ACCORDANCE WITH THE APPROPRIATE GOVERNING AUTHORITY AND SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF STREET OPENING PERMITS. II. THE CONTRACTOR IS REQUIRED TO RETAIN AN OSHA CERTIFIED SAFETY INSPECTOR TO BE
- PRESENT ON SITE AT ALL TIMES DURING CONSTRUCTION & DEMOLITION ACTIVITIES.
- 12. SHOULD AN EMPLOYEE OF STONEFIELD ENGINEERING & DESIGN, LLC. BE PRESENT ON SITE AT ANY TIME DURING CONSTRUCTION, IT DOES NOT RELIEVE THE CONTRACTOR OF ANY OF THE RESPONSIBILITIES AND REQUIREMENTS LISTED IN THE NOTES WITHIN THIS PLAN SET.







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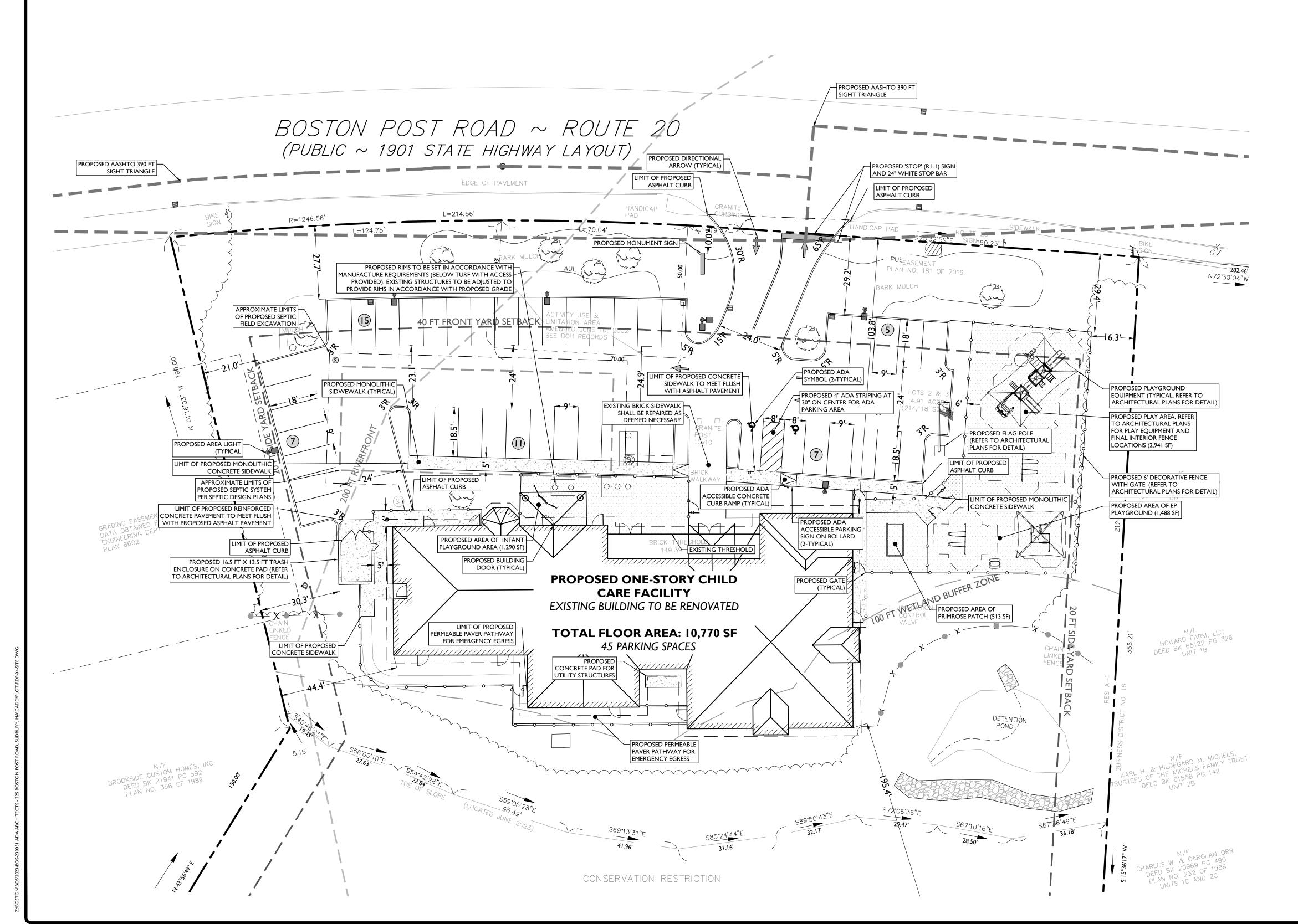
JOSHUA H. KLINE, P.E. 1ASSACHUSETTS LICENSE No. 53936 LICENSED PROFESSIONAL ENGINEER



I" = 20' PROJECT ID: BOS-230051

**SITE PLAN** 

DRAWING:



### DRAINAGE AND UTILITY NOTES

FOLLOWING COMPLETION OF WORK.

- I. THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF I. THE CONTRACTOR IS REQUIRED TO REVIEW THE REFERENCED GEOTECHNICAL CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC.
- IMMEDIATELY IN WRITING. 2. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN IN OPERATION ALL UTILITIES NOT DESIGNATED TO BE REMOVED.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO ANY EXISTING UTILITY IDENTIFIED TO REMAIN WITHIN THE LIMITS OF THE PROPOSED WORK DURING CONSTRUCTION. 4. A MINIMUM HORIZONTAL SEPARATION OF 10 FEET IS REQUIRED BETWEEN ANY SANITARY SEWER SERVICE AND ANY
- WATER LINES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASEMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN. LLC 5. ALL WATER LINES SHALL BE VERTICALLY SEPARATED ABOVE SANITARY SEWER LINES BY A MINIMUM DISTANCE OF 18 inches. If this separation cannot be provided, a concrete encasement shall be utilized for the sanitary
- SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC. 6. THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR WATER AND SANITARY SEWER CONNECTION IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IN
- 7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING GAS, ELECTRIC AND TELECOMMUNICATION CONNECTIONS WITH THE APPROPRIATE GOVERNING AUTHORITY.
- 8. CONTRACTOR SHALL START CONSTRUCTION OF ANY GRAVITY SEWER AT THE LOWEST INVERT AND WORK **UP-GRADIENT** 9. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD SET OF PLANS REFLECTING THE LOCATION OF EXISTING
- UTILITIES THAT HAVE BEEN CAPPED, ABANDONED, OR RELOCATED BASED ON THE DEMOLITION/REMOVAL ACTIVITIES REQUIRED IN THIS PLAN SET. THIS DOCUMENT SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF 10. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED

UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT

LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER

### **EXCAVATION, SOIL PREPARATION, AND DEWATERING NOTES**

- DOCUMENTS PRIOR TO CONSTRUCTION, THESE DOCUMENTS SHALL BE CONSIDERED A PART OF THE PLAN SET.
- THE CONTRACTOR IS REQUIRED TO PREPARE SUBGRADE SOILS BENEATH ALL PROPOSED IMPROVEMENTS AND BACKFILL ALL EXCAVATIONS IN ACCORDANCE WITH RECOMMENDATIONS BY THE GEOTECHNICAL ENGINEER OF RECORD

3. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SHORING FOR ALL

- EXCAVATIONS AS REQUIRED. CONTRACTOR SHALL HAVE THE SHORING DESIGN PREPARED BY A QUALIFIED PROFESSIONAL. SHORING DESIGNS SHALL BE SUBMITTED TO STONEFIELD ENGINEERING & DESIGN, LLC. AND THE OWNER PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL OPEN
- EXCAVATIONS ARE PERFORMED AND PROTECTED IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS.
  - THE CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING DESIGN AND OPERATIONS, AS REQUIRED, TO CONSTRUCT THE PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL OBTAIN ANY REQUIRED PERMITS FOR DEWATERING OPERATIONS AND GROUNDWATER DISPOSAL.

### **EXCAVATION & UTILITY VERIFICATION NOTE:**

PRIOR TO THE START OF CONSTRUCTION (RECOMMENDED 30 DAYS PRIOR) THE CONTRACTOR SHALL PERFORM EXPLORATORY TEST PITS AT LOCATIONS OF UTILITY / DRAINAGE CROSSINGS OR CONNECTIONS WITH EXISTING UTILITY OR STORMWATER INFRASTRUCTURE. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ANY NECESSARY ROAD OPENING PERMITS TO PERFORM SAID EXPLORATORY WORK. SHOULD A CONFLICT BE DISCOVERED WITH THE INFORMATION CONTAINED WITHIN THESE PLANS THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IN WRITING.

### **SANITARY / STORMWATER CONSTRUCTION NOTE:**

THE CONTRACTOR SHALL START CONSTRUCTION OF ALL GRAVITY SANITARY AND STORMWATER INFRASTRUCTURE AT THE DOWNSTREAM CONNECTION POINT (E.G. LOWEST INVERT) AND WORK UP-GRADIENT.

# SEPTIC INSTALLATION NOTE:

ENGINEER IN WRITING AS SOON AS POSSIBLE.

PROPOSED SEPTIC SYSTEM AND ASSOCIATED COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED SEPTIC DESIGN PLAN PREPARED BY GRADY CONSULTING, LLC. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND DEPTH OF EXISTING SANITARY INFRASTRUCTURE THAT IS TO REMAIN AND BE REUTILIZED, AND CONFIRM FEASIBILITY OF REUSE. CONTRACTOR TO INSPECT FOR STRUCTURAL INTEGRITY AND CONFIRM CAPACITY OF THE SYSTEMS REMAINING. SHOULD THE SYSTEMS BE DEEMED INFEASIBLE FOR REUSE, CONTRACTOR SHALL NOTIFY THE SEPTIC DESIGN

### **EXISTING BASIN RECONSTRUCTION:**

VEGETATIVE PROPAGULES TO NEW LOCATIONS.

EXISTING DETENTION BASIN AND GRASS SWALE SHALL BE REESTABLISHED IN ACCORDANCE WITH "PLAN OF PROPOSED GRASS SWALE" PREPARED BY ROBERT I PARENTE, PE DATED MAY 8, 1998. SIDE SLOPES AND BASIN BOTTOM SHALL BE CLEÁRED AND REESTABLISHED (PERMANENTLY STABILIZED / SEEDED).

### **INVASIVE MANAGEMENT PLAN - JAPANESE KNOTWEED:**

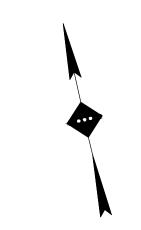
THE FOLLOWING INVASIVE MANAGEMENT PLAN SHALL BE FOLLOWED IF THE APPLICANT WISHES TO CONTROL THE EXISTING JAPANESE KNOTWEED WITHIN THE AREA OF DISTURBANCE:

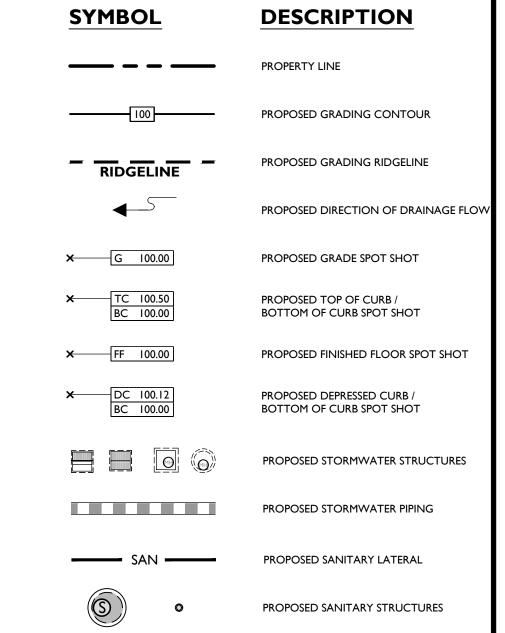
I. JAPANESE KNOTWEED IS TO BE CONTROLLED THROUGH A COMBINATION OF CUTTING AND HERBICIDE TREATMENTS. HERBICIDE APPLICATION SHALL BE COMPLETED IN ACCORDANCE WITH APPLICABLE REGULATIONS INCLUDING THOSE THAT APPLY TO WETLAND AREAS. HERBICIDE APPLICATIONS SHALL BE DONE BY MA LICENSED HERBICIDE APPLICATOR OR PROPERTY OWNERS WITHIN THEIR LIMITED USE AREA. 2. THE STAND OF KNOTWEED SHALL BE CUT AT THE BASE MOTORIZED TRIMMERS WITH METAL BLADES OR HAND TOOLS. MOWING IS NOT RECOMMENDED AS IT MAY SPREAD

3. CUT STEMS SHALL LEFT ON SITE AND PLACED ON A TARP OR PAVEMENT TO DRY OUT. THE BROWN STEMS MAY BE DISPOSED OF WHEN THEY ARE COMPLETELY DRIED OUT. CONTACT WITH SOIL IS NOT PERMITTED. 4.A FOLIAR TREATMENT OF HERBICIDE SHALL BE APPLIED IN EARLY SEPTEMBER, JUST AFTER THE PLANT FLOWERS

5. THE AREA SHALL BE MONITORED THE FOLLOWING SPRING AND THE ABOVE PROCESS REPEATED FOR A TOTAL OF THREE YEARS TO TREAT THE REMAINING JAPANESE KNOTWEED

6. THE AREA SHALL BE MONITORED AND IF KNOTWEED SHOOTS ARE IDENTIFIED, THEY SHALL BE SPOT TREATED WITH HERBICIDE TO MINIMIZE EFFECTS ON SURROUNDING





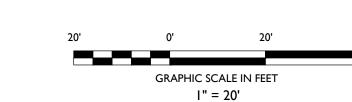
- I. ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE. AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS
- BROUGHT TO THE SITE. 2. THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES, INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES, TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.
- 3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC. FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.
- 4. THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE
- MUNICIPAL, COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS. 5. MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS: CURB GUTTER:
- CONCRETE SURFACES: 1.00% ASPHALT SURFACES:
- 6. A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL
- ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF THIS CONDITION CANNOT BE MET. 7. FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND

REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL

DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM

### THE GOVERNING STORM SEWER SYSTEM AUTHORITY. **ADA NOTES**

- I. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING
- 2. THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES. 3. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS
- SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET. 4. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS.
- LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP, AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL. THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 5. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00% IF A LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP. FOR ALTERATIONS, A CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURBS RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH OF A CURB RAMP SHALL BE NO LESS THAN
- 6. ACCESSIBLE RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.
- 7. A SLIP RESISTANT SURFACE SHALL BE CONSTRUCTED ALONG THE ACCESSIBLE PATH AND WITHIN ADA 8. THE CONTRACTOR SHALL ENSURE A MAXIMUM OF 1/4 INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN 1/4 INCHES AND 1/2 INCHES EXISTS, CONTRACTOR
- SHALL ENSURE THAT THE TOP 1/4 INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN I UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE). 9. THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN 1/2 INCH.



# NOT APPROVED FOR CONSTRUCTION



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JOSHUA H. KLINE, P.E.



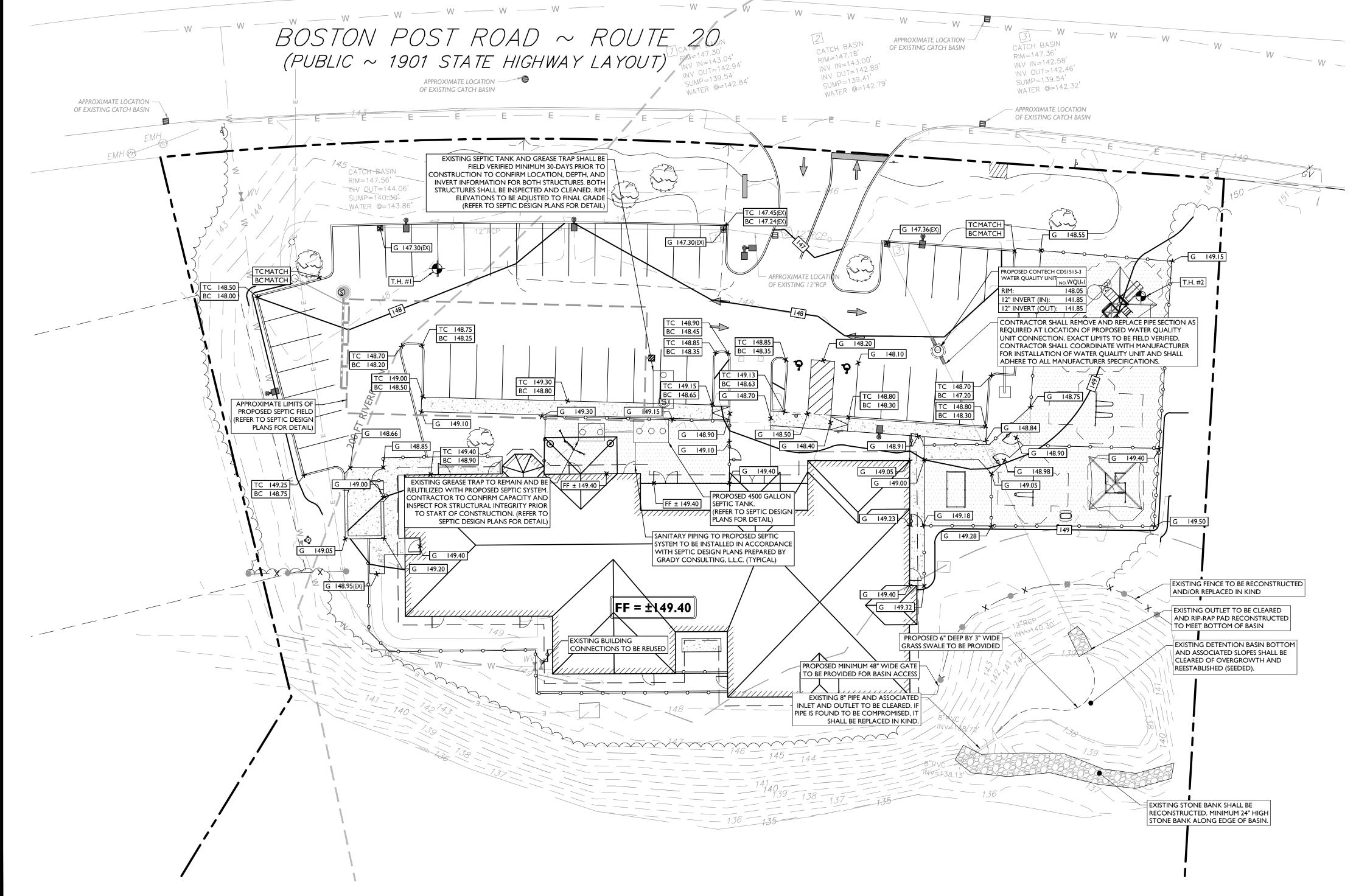
1ASSACHUSETTS LICENSE No. 53936

LICENSED PROFESSIONAL ENGINEER

engineering & design I" = 20' PROJECT ID: BOS-230051

**GRADING, DRAINAGE & UTILITY PLAN** 

DRAWING:



### **STABILIZATION SPECIFICATIONS:**

- I.A. TEMPORARY SEEDING AND MULCHING:
- GROUND LIMESTONE APPLIED UNIFORMLY ACCORDING TO SOIL TEST RECOMMENDATIONS. FERTILIZER - APPLY IILBS./I,000 SF OF 10-20-10 OR EQUIVALENT WITH 50% WATER
- INSOLUBLE NITROGEN (UNLESS A SOIL TEST INDICATES OTHERWISE) WORKED INTO THE SOIL A MINIMUM OF 4".
- SEED PERENNIAL RYEGRASS 100 LBS./ACRE (2.3 LBS./1,000 SF) OR OTHER APPROVED SEEDS; PLANT BETWEEN MARCH I AND MAY 15 OR BETWEEN AUGUST 15 AND
- MULCH UNROTTED STRAW OR HAY AT A RATE OF 70 TO 90 LBS./I,000 SF APPLIED TO ACHIEVE 95% SOIL SURFACE COVERAGE. MULCH SHALL BE ANCHORED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER). I.B. PERMANENT SEEDING AND MULCHING:
  - TOPSOIL UNIFORM APPLICATION TO A DEPTH OF 5" (UNSETTLED). GROUND LIMESTONE - APPLIED UNIFORMLY ACCORDING TO SOIL TEST
  - RECOMMENDATIONS. FERTILIZER - APPLY II LBS./I,000 SF OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN (UNLESS A SOIL TEST INDICATES OTHERWISE) WORKED INTO
  - THE SOIL A MINIMUM OF 4". SEED - TURF TYPE TALL FESCUE (BLEND OF 3 CULTIVARS) 350 LBS./ACRE (8 LBS./I,000 SF)
    OR OTHER APPROVED SEEDS; PLANT BETWEEN MARCH I AND OCTOBER I (SUMMER SEEDINGS REQUIRE IRRIGATION)
  - MULCH UNROTTED STRAW OR HAY AT A RATE OF 70 TO 90 LBS./I,000 SF APPLIED TO ACHIEVE 95% SOIL SURFACE COVERAGE. MULCH SHALL BE ANCHORED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER).

### SEQUENCE OF CONSTRUCTION

- INSTALL CONSTRUCTION ENTRANCE, SILT FENCING, TREE PROTECTION, INLET FILTERS AND OTHER APPLICABLE EROSION CONTROL MEASURES (2 DAYS). DEMOLISH EXISTING PAVEMENT AND GRAVEL (7 DAYS).
- ROUGH GRADING AND TEMPORARY SEEDING (21 DAYS). BUILDING RENOVATION AND SITE IMPROVEMENTS (120 DAYS).
- LANDSCAPING IMPROVEMENTS AND FINAL SEEDING (7 DAYS). REMOVE SOIL EROSION MEASURES (I DAY).

### TOTAL ESTIMATED TIME = 8 MONTHS

NOTE: TIME DURATIONS ARE APPROXIMATE AND ARE INTENDED TO ACT AS A GENERAL GUILE TO THE CONSTRUCTION TIMELINE. ALL DURATIONS ARE SUBJECT TO CHANGE BY CONTRACTOR, CONTRACTOR SHALL SUBMIT CONSTRUCTION SCHEDULE TO TOWNSHIP AND ENGINEER. CONTRACTOR SHALL PHASE CONSTRUCTION ACCORDINGLY IF REQUIRED.

ALL EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO THE BEGINNING OF ANY DEMOLITION ACTIVITIES OR ANY OTHER ON-SITE WORK. CONTRACT TO ENSURE, AT MINIMUM, ALL CONTROLS ARE INSTALLED PER APPROVED PLANS. CONTROL MEASURES SHALL BE INSPECTED FREQUENTLY TO ENSURE CONTINUED FUNCTIONALITY THROUGHOUT THE FULL COURSE OF CONSTRUCTION.

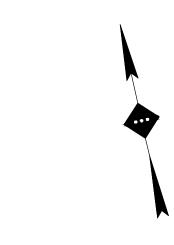
# **DUST CONTROL NOTES**

- MULCHES SEE STANDARD OF STABILIZATION WITH MULCHES ONLY, PG. <u>VEGETATIVE</u> <u>COVER</u> - SEE STANDARD FOR: TEMPORARY VEGETATIVE COVER, PG. 7-I, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION PG. 4-1 AND PERMANENT STABILIZATION WITH SOD, PG. 6-1
- SPRAY-ON ADHESIVES ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE.
  THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART AND SPRING-TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED
- SPRINKLING SITE IS SPRINKLED UNTIL THE SURFACE IS WET.

  BARRIERS SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE
- WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. CALCIUM CHLORIDE - SHALL BE IN THE FORM OF LOOSE, DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. IF USED ON STEEPER SLOPES, THEN USE OTHER PRACTICES TO PREVENT WASHING INTO STREAMS OR ACCUMULATION AROUND PLANTS. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

	SOIL CHARACTERISTICS CHART					
TYPE OF SOIL	52A- FREETOWN MUCK	255B-WINDSOR LOAMY SAND	302C-MONTAUK FINE SANDY LOAN			
PERCENT OF SITE COVERAGE	35.70%	59.50%	4.70%			
HYDROLOGIC SOIL GROUP	B/D	A	С			
DEPTH TO RESTRICTIVE LAYER	>80 INCHES	>80 INCHES	20 - 43 INCHES			
SOIL PERMEABILITY	0.14 - 14.17 INCHES/HOUR	1.42 - 99.90 INCHES/HOUR	0.00 - 1.42 INCHES/HOUR			
DEPTH TO WATER TABLE	0 - 6 INCHES	>80 INCHES	18 - 37 INCHES			





<b>SYMBOL</b>	<b>DESCRIPTION</b>
	PROPERTY BOUNDARY
	ADJACENT PROPERTY BOUNDARY
LOD —	PROPOSED LIMIT OF DISTURBANCE
———— SF ————	PROPOSED SILT FENCE
	PROPOSED SILT SOCK
——— TPF ———	PROPOSED TREE PROTECTION FENCE
	PROPOSED STOCKPILE & EQUIPMENT STORAGE
	PROPOSED STABILIZED CONSTRUCTION ENTRANCE
	PROPOSED INLET PROTECTION FILTER



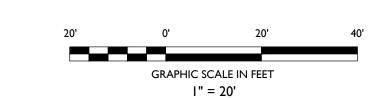
Know what's **below Call** before you dig.

# **SOIL EROSION AND SEDIMENT CONTROL NOTES**

- I. THE CONTRACTOR IS RESPONSIBLE FOR SOIL EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL
- REQUIREMENTS.

  2. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL AIR QUALITY
- 3. THE CONTRACTOR IS RESPONSIBLE TO INSPECT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES WEEKLY AND AFTER A PRECIPITATION EVENT GREATER THAN I INCH. THE CONTRACTOR SHALL MAINTAIN AN INSPECTION LOG ON SITE AND DOCUMENT

CORRECTIVE ACTION TAKEN THROUGHOUT THE COURSE OF CONSTRUCTION AS REQUIRED.



				FOR PLANNING BOARD RESUBMISSION	FOR CONSERVATION COMMISSION SUBMISS	FOR PLANNING BOARD SUBMISSION	DESCRIPTION
				KLO	AB	AB	ΒY
				06/04/2024	04/01/2024	12/08/2023	DATE
				3	2		ISSUE
OT APPROVED FOR CONSTRUCTION							







JOSHUA H. KLINE, P.E. MASSACHUSETTS LICENSE No. 53936

LICENSED PROFESSIONAL ENGINEER

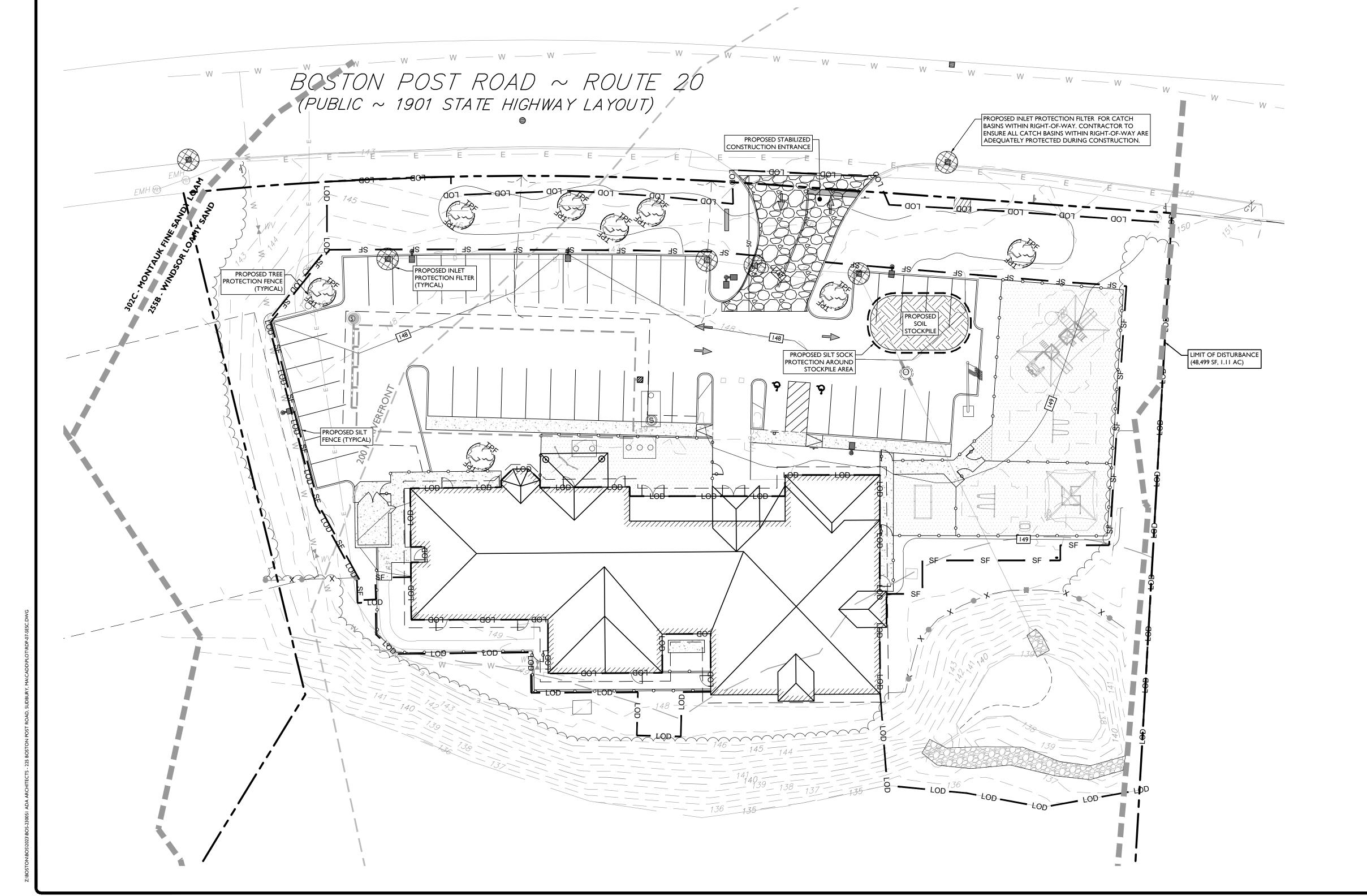


I" = 20' PROJECT ID: BOS-230051

**SOIL EROSION AND SEDIMENT CONTROL PLAN** 

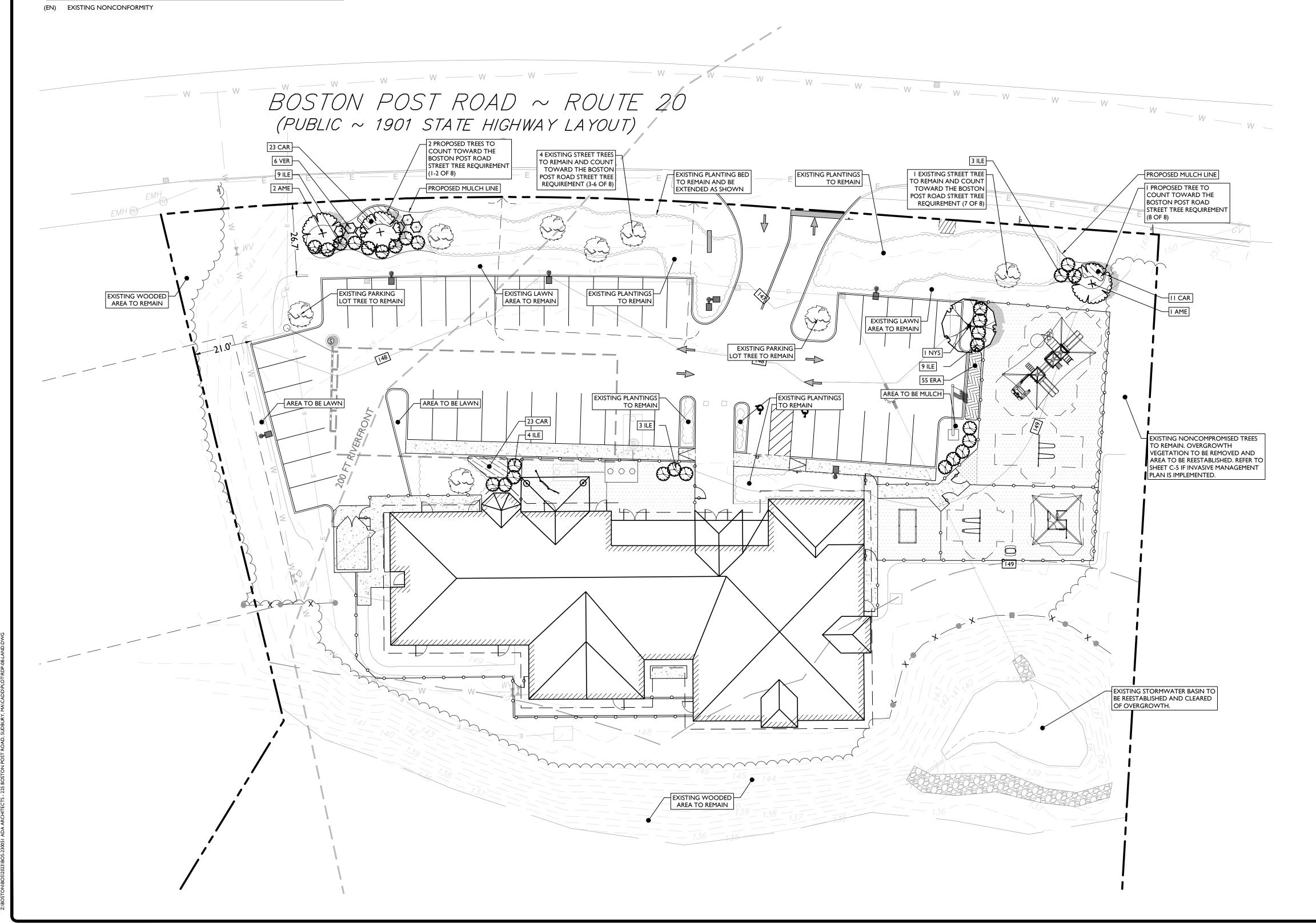
DRAWING:

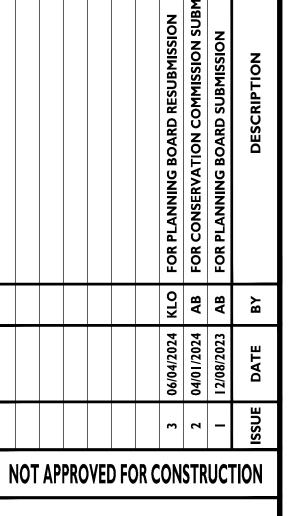
**C-7** 



LANDSCAPING AND BUFFER REQUIREMENTS					
CODE SECTION	REQUIRED	PROPOSED			
	LANDSCAPE REQUIREMENTS				
§ 3532.	MINIMUM 30% OF LOT SHALL BE OPEN SPACE				
	LOT AREA: 214,118 SF				
	(214,118 SF) * (0.30) = 64,235 SF	174,516 SF (81%)			
	PARKING LOT LANDSCAPING				
§ 3541.	150 SF LANDSCAPING FOR EVERY 1,000 OF PARKING				
	PARKING LOT AREA: 15,847 SF				
	(15,847 SF) * (150 SF / 1,000 SF) = 2,377 SF	3,459 SF			
	PLANTED AREAS SHALL CONTAIN TREES AND OTHER PLANTINGS	COMPLIES			
§ 3542.	PARKING AND REFUSE AREAS SHALL BE SCREENED FROM VIEW OF R.O.W. AND ADJACENT PROPERTIES WITH PLANTED AREAS, BERMS, OR FENCES	COMPLIES			
§ 3543.	BUFFER STRIP REQUIRED BETWEEN PARKING LOT AND SIDE/REAR LOT LINES	PROVIDED			
	MINIMUM BUFFER WIDTH: 25 FT	21.0 FT (EN)			
	STREET FRONTAGE LANDSCAPING				
§ 3550.	LANDSCAPE BUFFER WIDTH: 20 FT	26.7 FT			
	BUFFER SHALL BE PLANTED WITH GRASS, SHRUBS, AND TREES	COMPLIES			
	I TREES FOR EVERY 40 LF OF FRONTAGE				
	BOSTON POST ROAD: 322 FT				
_	(322 FT) * (I TREE / 40 FT FRONTAGE) = 8 TREES	5 EXISTING TREES 3 TREES PROPOSED			

PLANT SCHEDULE							
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME SIZE		CONTAINER	REMARKS
DECIDUOUS TREES							
	NYS	I	NYSSA SYLVATICA	NYSSA SYLVATICA TUPELO 2" - 2.5" CAL B&B		NATIVE. SALT TOLERANT	
ORNAMENTAL TREES							
(+)	AME	3	AMELANCHIER CANADENSIS	CANADIAN SERVICEBERRY	2" - 2.5" CAL	B&B	SINGLE STEM; NATIVE, DROUGHT TOLERANT, SALT TOLERANT
SHRUBS							
+	VER	6	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	30" - 36"	POT	NATIVE, SALT TOLERANT
EVERGREEN SHRUBS							
$\bigcirc$	ILE	28	ILEX GLABRA	INKBERRY HOLLY	30" - 36"	B&B	NATIVE. DROUGHT TOLERANT. SALT TOLERANT
PERENNIALS AND GRASSES							
	CAR	57	CAREX PENSYLVANICA	PENNSYLVANIA SEDGE	24" O.C.	I GAL. POT	NATIVE, DROUGHT TOLERANT
	ERA	55	ERAGROSTIS SPECTABILIS	PURPLE LOVEGRASS	18" O.C.	I GAL. POT	NATIVE, DROUGHT TOLERANT, SALT TOLERANT
NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE LANDSCAPE PLAN AND WITHIN THE PLANT LIST, THE PLAN SHALL DICTATE.							







JOSHUA H. KLINE, P.E. MASSACHUSETTS LICENSE No. 53936 LICENSED PROFESSIONAL ENGINEER



I" = 20' PROJECT ID: BOS-230051

LANDSCAPING PLAN

DRAWING:

**C-8** 

Know what's **below Call** before you dig.

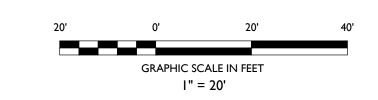
# **IRRIGATION NOTE:**

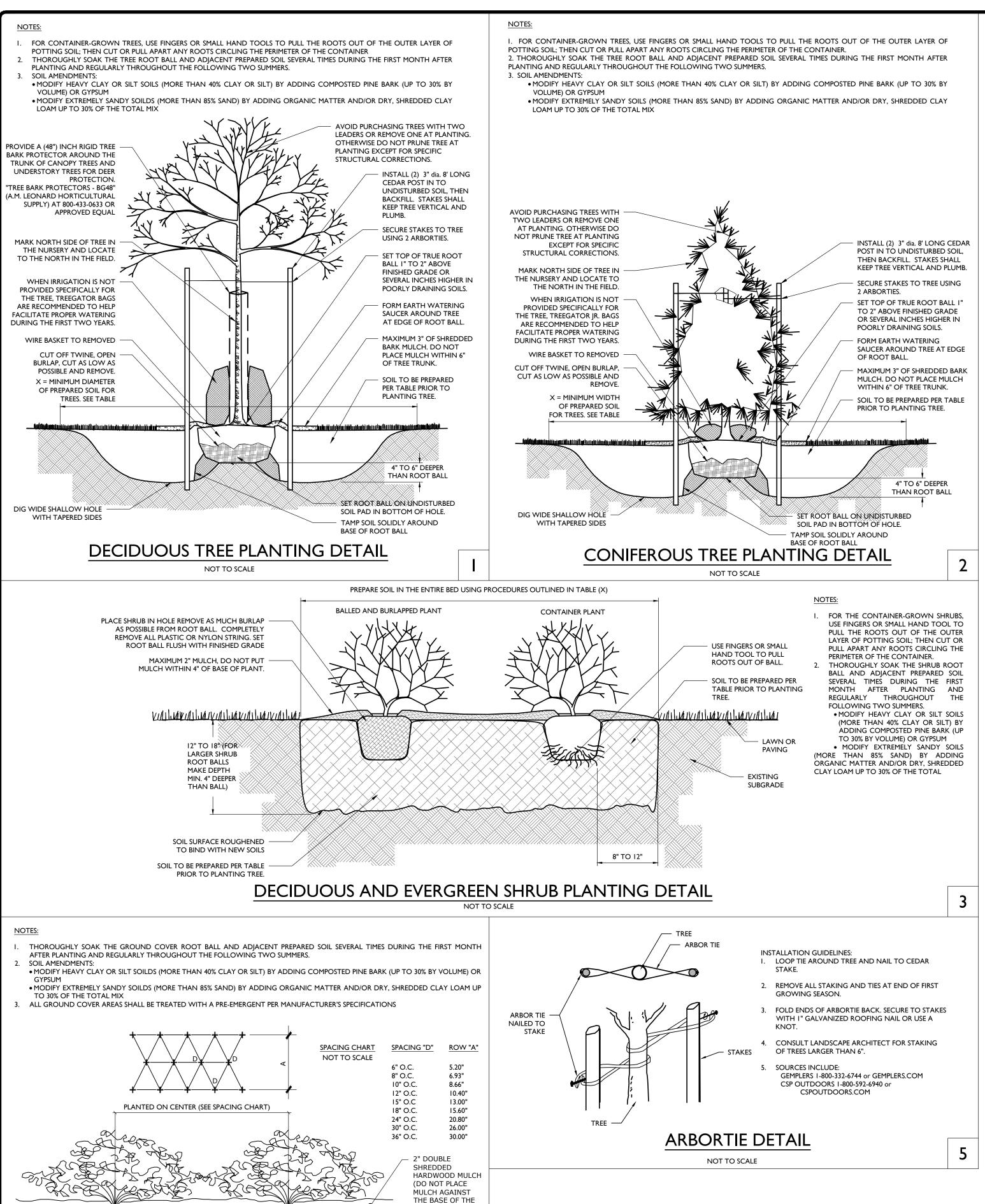
IRRIGATION CONTRACTOR TO PROVIDE A DESIGN FOR AN IRRIGATION SYSTEM SEPARATING PLANTING BEDS FROM LAWN AREA. PRIOR TO CONSTRUCTION, DESIGN IS TO BE SUBMITTED TO THE PROJECT LANDSCAPE DESIGNER FOR REVIEW AND APPROVAL. WHERE POSSIBLE, DRIP IRRIGATION AND OTHER WATER CONSERVATION TECHNIQUES SUCH AS RAIN SENSORS SHALL BE IMPLEMENTED. CONTRACTOR TO VERIFY MAXIMUM ON SITE DYNAMIC WATER PRESSURE AVAILABLE MEASURED IN PSI. PRESSURE REDUCING DEVICES OR BOOSTER PUMPS SHALL BE PROVIDED TO MEET SYSTEM PRESSURE REQUIREMENTS. DESIGN TO SHOW ALL VALVES, PIPING, HEADS, BACKFLOW PREVENTION, METERS, CONTROLLERS, AND SLEEVES WITHIN HARDSCAPE AREAS.

# LANDSCAPING NOTES

- I. THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRASS AND LANDSCAPED AREAS TO MATCH EXISTING CONDITIONS UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 2. THE CONTRACTOR SHALL RESTORE ALL DISTURBED LAWN AREAS WITH A MINIMUM 4 INCH LAYER OF TOPSOIL AND SEED. 3. THE CONTRACTOR SHALL RESTORE MULCH AREAS WITH A MINIMUM
- 3 INCH LAYER OF MULCH.

  4. THE MAXIMUM SLOPE ALLOWABLE IN LANDSCAPE RESTORATION AREAS SHALL BE 3 FEET HORIZONTAL TO 1 FOOT VERTICAL (3:1 SLOPE) UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 5. THE CONTRACTOR IS REQUIRED TO LOCATE ALL SPRINKLER HEADS IN AREA OF LANDSCAPING DISTURBANCE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL RELOCATE SPRINKLER HEADS AND LINES IN ACCORDANCE WITH OWNER'S DIRECTION WITHIN AREAS OF DISTURBANCE.
- 6. THE CONTRACTOR SHALL ENSURE THAT ALL DISTURBED LANDSCAPED AREAS ARE GRADED TO MEET FLUSH AT THE ELEVATION OF WALKWAYS AND TOP OF CURB ELEVATIONS EXCEPT UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET. NO ABRUPT CHANGES IN GRADE ARE PERMITTED IN DISTURBED LANDSCAPING





PLANT) GENTLY PULL ROOTS AWAY FROM TOPSOIL MASS WITH

1 PART SOIL AMENDMENT

(BASED ON SOIL TEST)

3 PARTS NATIVE TOPSOIL

FINGERS

GROUND COVER/PERENNIAL/ANNUAL

PLANTING DETAIL

BACKFILL SOIL

#### GENERAL LANDSCAPING NOTES:

- SPECIFICATIONS, APPROVED OR FINAL DRAWINGS, AND INSTRUCTIONS PROVIDED BY THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIALS, OR OWNER/OWNER'S REPRESENTATIVE. ALL WORK COMPLETED AND MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH THE INTENTION OF THE SPECIFICATIONS, DRAWINGS, AND INSTRUCTIONS AND EXECUTED WITH THE STANDARD LEVEL OF CARE FOR THE LANDSCAPE INDUSTRY.
- WORK MUST BE CARRIED OUT ONLY DURING WEATHER CONDITIONS FAVORABLE TO LANDSCAPE CONSTRUCTION AND TO THE HEALTH AND WELFARE OF PLANTS. THE SUITABILITY OF SUCH WEATHER CONDITIONS SHALL BE DETERMINED BY THE
- PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL. 3. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR. BEFORE ORDERING OR PURCHASING MATERIALS. TO PROVIDE
- SAMPLES OF THOSE MATERIALS TO THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL FOR APPROVAL, IF SO REQUESTED.
- 4. IF SAMPLES ARE REQUESTED, THE LANDSCAPE CONTRACTOR IS TO SUBMIT CERTIFICATION TAGS FROM TREES, SHRUBS AND SEED VERIFYING TYPE AND PURITY. 5. UNLESS OTHERWISE AUTHORIZED BY THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL, THE
- ANTICIPATED DELIVERY DATE OF ANY PLANT MATERIALS TO THE PROJECT SITE. A LEGIBLE COPY OF THE INVOICE, SHOWING VARIETIES AND SIZES OF MATERIALS INCLUDED FOR EACH SHIPMENT SHALL BE FURNISHED TO THE PROJECT LANDSCAPE DESIGNER, OR GOVERNING MUNICIPAL OFFICIAL 6. THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL RESERVES THE RIGHT TO INSPECT AND REJECT

# PROTECTION OF EXISTING VEGETATION NOTES

PLANTS AT ANY TIME AND AT ANY PLACE.

- BEFORE COMMENCING WORK, ALL EXISTING VEGETATION WHICH COULD BE IMPACTED AS A RESULT OF THE PROPOSED CONSTRUCTION ACTIVITIES MUST BE PROTECTED FROM DAMAGE BY THE INSTALLATION OF TREE PROTECTION FENCING. FENCING SHALL BE LOCATED AT THE DRIP-LINE OR LIMIT OF DISTURBANCE AS DEPICTED WITHIN THE APPROVED OR FINAL PLAN SET, ESTABLISHING THE TREE PROTECTION ZONE. FENCE INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE PROTECTION FENCE DETAIL." NO WORK MAY BEGIN UNTIL THIS REQUIREMENT IS FULFILLED. THE FENCING SHALL BE INSPECTED REGULARLY BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION
- IN ORDER TO AVOID DAMAGE TO ROOTS BARK OR LOWER BRANCHES NO VEHICLE FOLIPMENT DEBRIS OR OTHER MATERIALS SHALL BE DRIVEN, PARKED OR PLACED WITHIN THE TREE PROTECTION ZONE. ALL ON-SITE CONTRACTORS SHALL USE ANY AND ALL PRECAUTIONARY MEASURES WHEN PERFORMING WORK AROUND TREES, WALKS, PAVEMENTS, UTILITIES, AND ANY OTHER FEATURES FITHER EXISTING OR PREVIOUSLY INSTALLED UNDER THIS CONTRACT 3. IN RARE INSTANCES WHERE EXCAVATING, FILL, OR GRADING IS REQUIRED WITHIN THE DRIP-LINE OF TREES TO REMAIN, THE
- WORK SHALL BE PERFORMED AS FOLLOWS: • TRENCHING: WHEN TRENCHING OCCURS AROUND TREES TO REMAIN, THE TREE ROOTS SHALL NOT BE CUT. BUT THE TRENCH SHALL BE TUNNELED UNDER OR AROUND THE ROOTS BY CAREFUL HAND DIGGING AND WITHOUT INJURY TO
- THE ROOTS. NO ROOTS, LIMBS, OR WOODS ARE TO HAVE ANY PAINT OR MATERIAL APPLIED TO ANY SURFACE. RAISING GRADES: WHEN THE GRADE AT AN EXISTING TREE IS BELOW THE NEW FINISHED GRADE. AND FILL NOT EXCEPDING 6 INCHES (6") IS REQUIRED. CLEAN, WASHED GRAVEL FROM ONE TO TWO INCHES (1" - 2") IN SIZE SHALL BE PLACED DIRECTLY AROUND THE TREE TRUNK. THE GRAVEL SHALL EXTEND OUT FROM THE TRUNK ON ALL SIDES A MINIMUM OF 18 INCHES (18") AND FINISH APPROXIMATELY TWO INCHES (2") ABOVE THE FINISH GRADE AT TREE. INSTALL GRAVEL BEFORE ANY EARTH FILL IS PLACED. NEW EARTH FILL SHALL NOT BE LEFT IN CONTACT WITH THE TRUNK OF ANY TREE REQUIRING FILL. WHERE FILL EXCEEDING 6 INCHES (6") IS REQUIRED, A DRY LAID TREE WELL SHALL BE CONSTRUCTED.
- IF APPLICABLE, TREE WELL INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE WELL DETAIL." LOWERING GRADES: EXISTING TREES LOCATED IN AREAS WHERE THE NEW FINISHED GRADE IS TO BE LOWERED, SHALL HAVE RE-GRADING WORK DONE BY HAND TO THE INDICATED ELEVATION, NO GREATER THAN SIX INCHES (6"). ROOTS SHALL BE CUT CLEANLY THREE INCHES (3") BELOW FINISHED GRADE UNDER THE DIRECTION OF A LICENSED ARBORIST WHERE CUT EXCEEDING 6 INCHES (6") IS REQUIRED, A DRY LAID RETAINING WALL SHALL BE CONSTRUCTED. IF APPLICABLE, THE RETAINING WALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE RETAINING WALL DETAIL."

#### **SOIL PREPARATION AND MULCH NOTES:**

- I. LANDSCAPE CONTRACTOR SHALL OBTAIN A SOIL TEST OF THE IN-SITU TOPSOIL BY A CERTIFIED SOIL LABORATORY PRIOR TO PLANTING. LANDSCAPE CONTRACTOR SHALL ALLOW FOR A TWO WEEK TURNAROUND TIME FROM SUBMITTAL OF SAMPLE TO NOTIFICATION OF RESULTS.
- . BASED ON SOIL TEST RESULTS, ADJUST THE RATES OF LIME AND FERTILIZER THAT SHALL BE MIXED INTO THE TOP SIX INCHES (6") OF TOPSOIL. THE LIME AND FERTILIZER RATES PROVIDED WITHIN THE "SEED SPECIFICATION" OR "SOD SPECIFICATION" IS APPROXIMATE AND FOR BIDDING PURPOSES ONLY. IF ADDITIONAL AMENDMENTS ARE NECESSARY, ADJUST THE TOPSOIL AS
- MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM.
- MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX. TOPSOIL SHALL BE FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMING CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL
- MATERIAL OBTAINED FROM A WELL-DRAINED ARABLE SITE, FREE FROM ALL CLAY, LUMPS, COARSE SANDS, STONES, PLANTS, ROOTS, STICKS, AND OTHER FOREIGN MATERIAL GREATER THAN ONE INCH (1"). 4. TOPSOIL SHALL HAVE A PH RANGE OF 5.0-7.0 AND SHALL NOT CONTAIN LESS THAN 6% ORGANIC MATTER BY WEIGH 5. OBTAIN TOPSOIL ONLY FROM LOCAL SOURCES OR FROM AREAS HAVING SIMILAR SOIL CHARACTERISTICS TO THAT FOUND AT
- THE PROIECT SITE. 5. CONTRACTOR SHALL PROVIDE A SIX INCH (6") DEEP LAYER OF TOPSOIL IN ALL PLANTING AREAS. TOPSOIL SHALL BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN SOIL CONDITIONS.
- UNLESS OTHERWISE NOTED IN THE CONTRACT, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBED AREA OF THE SITE. LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE SUB-GRADE ELEVATION MEETS THE FINISHED GRADE ELEVATION (LES
- REOUIRED TOPSOIL). IN ACCORDANCE WITH THE APPROVED OR FINAL GRADING PLAN. 9. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THE APPROVED OR FINAL CONSTRUCTION SET UNLESS OTHERWISE DIRECTED BY THE PROIECT LANDSCAPE DESIGNER OR MUNICIPAL OFFICIAL
- IO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SURFACE AND SUBSURFACE PLANT BED DRAINAGE PRIOR TO THE INSTALLATION OF PLANTINGS. IF POOR DRAINAGE CONDITIONS EXIST, CORRECTIVE ACTION SHALL BE TAKEN PRIOR TO INSTALLATION. ALL PLANTING AND LAWN AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW A FREE FLOW OF SURFACE
- II. DOUBLE SHREDDED HARDWOOD MULCH OR APPROVED EQUAL SHALL BE USED AS A THREE INCH (3") TOP DRESSING IN ALL SHRUB PLANTING BEDS AND AROUND ALL TREES PLANTED BY LANDSCAPE CONTRACTOR, GROUND COVER, PERENNIAL, AND ANNUAL PLANTING BEDS SHALL BE MULCHED WITH A TWO INCH (2") TOP DRESSING. SINGLE TREES OR SHRUBS SHALL BE MULCHED TO AVOID CONTACT WITH TRUNK OR PLANT STEM. MULCH SHALL BE OF SUFFICIENT CHARACTER AS NOT TO BE EASILY DISPLACED BY WIND OR WATER RUNOFF
- 13. SOIL SHALL BE LOOSENED WITH A BACKHOE OR OTHER LARGE COARSE-TILING EQUIPMENT UNLESS THE SOIL IS FROZEN OR EXCESSIVELY WET. TILING THAT PRODUCES LARGE, COARSE CHUNKS OF SOIL IS PREFERABLE TO TILING THAT RESULTS IN FINE GRAINS UNIFORM IN TEXTURE. AFTER THE AREA IS LOOSENED IT SHALL NOT BE DRIVEN OVER BY ANY VEHICLE.

2. WHENEVER POSSIBLE, THE SOIL PREPARATION AREA SHALL BE CONNECTED FROM PLANTING TO PLANTING.

14. APPLY PRE-EMERGENT WEED CONTROL TO ALL PLANT BEDS PRIOR TO MULCHING. ENSURE COMPATIBILITY BETWEEN PRODUCT AND PLANT MATERIAL

# 15. ALL PLANTING SOIL SHALL BE AMENDED WITH THE FOLLOWING:

- MYCRO® TREE SAVER A DRY GRANULAR MYCORRHIZAL FUNGI INOCULANT THAT IS MIXED IN THE BACKFILL WHEN PLANTING TREES AND SHRUBS. IT CONTAINS SPORES OF BOTH ECTOMYCORRHIZAL AND VA MYCORRHIZAL FUNGI (VAM), BENEFICIAL RHIZOSPHERE BACTERIA, TERRA-SORB SUPERABSORBENT HYDROGEL TO REDUCE WATER LEACHING, AND SELECTED ORGANIC MICROBIAL NUTRIENTS
- DIRECTIONS FOR USE: USE 3-OZ PER EACH FOOT DIAMETER OF THE ROOT BALL, OR 3-OZ PER INCH CALIPER. MIX INTO THE BACKFILL WHEN TRANSPLANTING TREES AND SHRUBS. MIX PRODUCT IN A RING-SHAPED VOLUME OF SOIL AROUND THE UPPER PORTION OF THE ROOT BALL. EXTENDING FROM THE SOIL SURFACE TO A DEPTH OF ABOUT 8 INCHES. AND EXTENDING OUT FROM THE ROOT BALL ABOUT 8 INCHES INTO THE BACKFILL, APPLY WATER TO SOIL SATURATION MYCOR® TREE SAVER® IS EFFECTIVE FOR ALL TREE AND SHRUB SPECIES EXCEPT RHODODENDRONS, AZALEAS, AND MOUNTAIN LAUREL, WHICH REQUIRE ERICOID MYCORRHIZAE.
- SOIL PH: THE FUNGI IN THIS PRODUCT WERE CHOSEN BASED ON THEIR ABILITY TO SURVIVE AND COLONIZE PLANT ROOTS IN A PH RANGE OF 3 TO 9.
- FUNGICIDES: THE USE OF CERTAIN FUNGICIDES CAN HAVE A DETRIMENTAL EFFECT ON THE INOCULATION PROGRAM. SOIL APPLICATION OF ANY FUNGICIDE IS NOT RECOMMENDED FOR TWO WEEKS AFTER APPLICATION. • OTHER PESTICIDES: HERBICIDES AND INSECTICIDES DO NOT NORMALLY INTERFERE WITH MYCORRHIZAL FUNGAL
- DEVELOPMENT, BUT MAY INHIBIT THE GROWTH OF SOME TREE AND SHRUB SPECIES IF NOT USED PROPERLY.

### • FERTILIZER TABLETS ARE PLACED IN THE UPPER 4 INCHES OF BACKFILL SOIL WHEN PLANTING TREES AND SHRUBS.

• TABLETS ARE FORMULATED FOR LONG-TERM RELEASE BY SLOW BIODEGRADATION, AND LAST UP TO 2 YEARS AFTER PLANTING. TABLETS CONTAIN 12-8-8 NPK FERTILIZER, AS WELL AS A MINIMUM OF SEVEN PERCENT (7%) HUMIC ACID BY WEIGHT, MICROBIAL NUTRIENTS DERIVED FROM SEA KELP, PROTEIN BYPRODUCTS, AND YUCCA SCHIDIGERA, AND A COMPLEMENT OF BENEFICIAL RHIZOSPHERE BACTERIA. THE STANDARD 21 GRAM TABLET IS SPECIFIED HERE. DIRECTIONS FOR USE: FOR PLANTING BALLED & BURLAPPED (B&B) TREES AND SHRUBS, MEASURE THE THICKNESS OF THE TRUNK, AND USE ABOUT I TABLET (21-G) PER HALF-INCH. PLACE THE TABLETS DIRECTLY NEXT TO THE ROOT BALL, EVENLY DISTRIBUTED AROUND ITS PERIMETER, AT A DEPTH OF ABOUT 4 INCHES.

IRRIGATION DURING ESTABLISHMENT						
SIZE AT PLANTING IRRIGATION FOR VITALITY IRRIGATION FOR SURVIVA						
< 2" CALIPER	DAILY FOR TWO WEEKS, EVERY OTHER DAY FOR TWO MONTHS, WEEKLY UNTIL ESTABLISHED	TWO TO THREE TIMES WEEKLY FOR TWO TO THREE MONTHS				
2"-4 CALIPER	DAILY FOR ONE MONTH, EVERY OTHER DAY FOR THREE MONTHS, WEEKLY UNTIL ESTABLISHED	TWO TO THREE TIMES WEEKLY FOR THREE TO FOUR MONTHS				
4 >" CALIPER	DAILY FOR SIX WEEKS, EVERY OTHER DAY FOR FIVE MONTHS, WEEKLY UNTIL ESTABLISHED	TWICE WEEKLY FOR FOUR TO FIVE MONTHS				

I. AT EACH IRRIGATION, APPLY TWO TO THREE GALLONS PER INCH TRUNK CALIPER TO THE ROOT BALL SURFACE. APPLY IT IN A MANNER SO ALL WATER SOAKS THE ENTIRE ROOT BALL. DO NOT WATER IF ROOT BALL IS WET/SATURATED ON THE IRRIGATION DAY.

2. WHEN IRRIGATING FOR VITALITY, DELETE DAILY IRRIGATION WHEN PLANTING IN WINTER OR WHEN PLANTING IN COOL CLIMATES. ESTABLISHMENT TAKES THREE TO FOUR MONTHS PER INCH TRUNK CALIPER. NEVER APPLY IRRIGATION IF THE SOIL IS SATURATED.

3. WHEN IRRIGATION FOR SURVIVAL TREES TAKE MUCH LONGER TO ESTABLISH THAN REGULARLY IRRIGATED TREES. IRRIGATION MAY BE REQUIRED IN THE NORMAL HOT, DRY PORTIONS OF THE FOLLOWING YEAR.

#### PLANT QUALITY AND HANDLING NOTES

- I. THE LANDSCAPE CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL WORK IN ACCORDANCE WITH THESE I. ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004) OR LATEST REVISION AS PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
  - 2. IN ALL CASES, BOTANICAL NAMES LISTED WITHIN THE APPROVED OR FINAL PLANT LIST SHALL TAKE PRECEDENCE OVER COMMON NAMES 3. ALL PLANTS SHALL BE OF SELECTED SPECIMEN QUALITY, EXCEPTIONALLY HEAVY, TIGHTLY KNIT, SO TRAINED OR FAVORED IN
  - THEIR DEVELOPMENT AND APPEARANCE AS TO BE SUPERIOR IN FORM, NUMBER OF BRANCHES, COMPACTNESS AND SYMMETRY. ALL PLANTS SHALL HAVE A NORMAL HABIT OR SOUND. HEALTHY, VIGOROUS PLANTS WITH WELL DEVELOPED ROOT SYSTEM. PLANTS SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS OR LARVAE
  - 4. PLANTS SHALL NOT BE PRUNED BEFORE DELIVERY. TREES WITH ABRASION OF THE BARK, SUNSCALDS, DISFIGURING KNOTS OR
  - FRESH CUTS OF LIMBS OVER ONE AND ONE-FOURTH INCHES (I-1/4") WHICH HAVE NOT COMPLETELY CALLOUSED SHALL BE
  - 5. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH AND BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE.
- 6. THE ROOT SYSTEM OF EACH PLANT SHALL BE WELL PROVIDED WITH FIBROUS ROOTS. ALL PARTS SHALL BE SOUND, HEALTHY, VIGOROUS WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF LANDSCAPE CONTRACTOR SHALL PROVIDE NOTICE AT LEAST FORTY-EIGHT HOURS (48 HRS.) IN ADVANCE OF THE '. ALL PLANTS DESIGNATED BALL AND BURLAP (B&B) MUST BE MOVED WITH THE ROOT SYSTEM AS SOLID UNITS WITH BALLS OF
  - EARTH FIRMLY WRAPPED WITH BURLAP. THE DIAMETER AND DEPTH OF THE BALLS OF EARTH MUST BE SUFFICIENT TO encompass the fibrous root feeding systems necessary for the healthy development of the plant. No plant SHALL BE ACCEPTED WHEN THE BALL OF EARTH SURROUNDING ITS ROOTS HAS BEEN BADLY CRACKED OR BROKEN PREPARATORY TO OR DURING THE PROCESS OF PLANTING. THE BALLS SHALL REMAIN INTACT DURING ALL OPERATIONS. ALL PLANTS THAT CANNOT BE PLANTED AT ONCE MUST BE HEELED-IN BY SETTING IN THE GROUND AND COVERING THE BALLS WITH SOIL OR MULCH AND THEN WATERING. HEMP BURLAP AND TWINE IS PREFERABLE TO TREATED. IF TREATED BURLAP IS USED, ALL TWINE IS TO BE CUT FROM AROUND THE TRUNK AND ALL BURLAP IS TO BE REMOVED.
  - 8. PLANTS TRANSPORTED TO THE PROJECT IN OPEN VEHICLES SHALL BE COVERED WITH TARPS OR OTHER SUITABLE COVERS securely fastened to the body of the vehicle to prevent iniury to the plants. Closed vehicles shall be ADEQUATELY VENTILATED TO PREVENT OVERHEATING OF THE PLANTS, EVIDENCE OF INADEQUATE PROTECTION FOLLOWING DIGGING, CARELESSNESS WHILE IN TRANSIT, OR IMPROPER HANDLING OR STORAGE SHALL BE CAUSE FOR REJECTION OF PLANT MATERIAL. ALL PLANTS SHALL BE KEPT MOIST, FRESH, AND PROTECTED. SUCH PROTECTION SHALL ENCOMPASS THE
  - ENTIRE PERIOD DURING WHICH THE PLANTS ARE IN TRANSIT. BEING HANDLED, OR ARE IN TEMPORARY STORAGE. 9. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE CORRESPONDING LANDSCAPE PLAN AND PLANTING DETAILS.
  - 10. LANDSCAPE CONTRACTOR SHALL MAKE BEST EFFORT TO INSTALL PLANTINGS ON THE SAME DAY AS DELIVERY. IF PLANTS ARE NOT PLANTED IMMEDIATELY ON SITE, PROPER CARE SHALL BE TAKEN TO PLACE THE PLANTINGS IN PARTIAL SHADE WHEN POSSIBLE. THE ROOT BALL SHALL BE KEPT MOIST AT ALL TIME AND COVERED WITH MOISTENED MULCH OR AGED WOODCHIPS. PROPER IRRIGATION SHALL BE SUPPLIED SO AS TO NOT ALLOW THE ROOT BALL TO DRY OUT. PLANTINGS HALL BE UNTIED AND PROPER SPACING SHALL BE ALLOTTED FOR AIR CIRCULATION AND TO PREVENT DISEASE, WILTING, AND LEAF LOSS. PLANTS THAT REMAIN UNPLANTED FOR A PERIOD OF TIME GREATER THAN THREE (3) DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH AND WATERED AS REQUIRED TO PRESERVE ROOT MOISTURE.
  - II. NO PLANT MATERIAL SHALL BE PLANTED IN MUDDY OR FROZEN SOIL. 12. PLANTS WITH INJURED ROOTS OR BRANCHES SHALL BE PRUNED PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY DISEASED OR INJURED PLANTS SHALL BE REMOVED. 13. IF ROCK OR OTHER UNDERGROUND OBSTRUCTION IS ENCOUNTERED, THE LANDSCAPE DESIGNER RESERVES THE RIGHT TO
  - RELOCATE OR ENLARGE PLANTING PITS OR DELETE PLANT MATERIAL FROM THE CONTRACT. 14. IF PLANTS ARE PROPOSED WITHIN SIGHT TRIANGLES, TREES SHALL BE LIMBED AND MAINTAINED TO A HEIGHT OF EIGHT FEET (8') ABOVE GRADE, AND SHRUBS, GROUND COVER, PERENNIALS, AND ANNUALS SHALL BE MAINTAINED TO A HEIGHT NOT TO EXCEED TWO FEET (2") ABOVE GRADE UNLESS OTHERWISE NOTED OR SPECIFIED BY THE GOVERNING MUNICIPALITY OR
  - 15. INSTALLATION SHALL OCCUR DURING THE FOLLOWING SEASONS:

PLANTS (MARCH 15 - DECEMBER 15)

LAWNS (MARCH 15 - JUNE 15 OR SEPTEMBER 1 - DECEMBER 1) 16. THE FOLLOWING TREES ARE SUSCEPTIBLE TO TRANSPLANT SHOCK AND SHALL NOT BE PLANTED DURING THE FALL SEASON (STARTING SEPTEMBER 15)

(STARTING SEPTEMBER 15):		
ABIES CONCOLOR	CORNUS VARIETIES	OSTRYA VIRGINIANA
ACER BUERGERIANUM	CRATAEGUS VARIETIES	PINUS NIGRA
ACER FREEMANII	CUPRESSOCYPARIS LEYLANDII	PLATANUS VARIETIES
ACER RUBRUM	FAGUS VARIETIES	POPULUS VARIETIES
ACER SACCHARINUM	HALESIA VARIETIES	PRUNUS VARIETIES
BETULA VARIETIES	ILEX X FOSTERII	PYRUS VARIETIES
CARPINUS VARIETIES	ILEX NELLIE STEVENS	QUERCUS VARIETIES (NOT Q. PALUSTRIS)
CEDRUS DEODARA	ILEX OPACA	SALIX WEEPING VARIETIES
CELTIS VARIETIES	JUNIPERUS VIRGINIANA	SORBUS VARIETIES
CERCIDIPHYLLUM VARIETIES	KOELREUTERIA PANICULATA	TAXODIUM VARIETIES

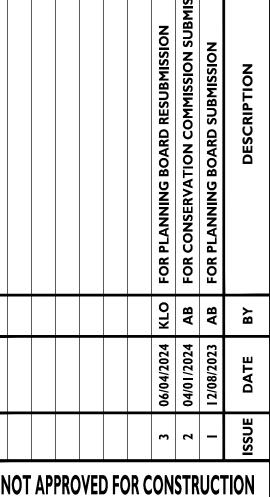
- CERCIS CANADENSIS LIQUIDAMBAR VARIETIES TAXUX B REPANDENS **CORNUS VARIETIES** LIRIODENDRON VARIETIES TILIA TOMENTOSA VARIETIES **CRATAEGUS VARIETIES** MALUS IN LEAF ULMUS PARVIFOLIA VARIETIES NYSSA SYLVATICA **ZELKOVA VARIETIES**
- 17. IF A PROPOSED PLANT IS UNATTAINABLE OR ON THE FALL DIGGING HAZARD LIST, AN EQUIVALENT SPECIES OF THE SAME SIZE MAY BE REQUESTED FOR SUBSTITUTION OF THE ORIGINAL PLANT. ALL SUBSTITUTIONS SHALL BE APPROVED BY THE PROJECT LANDSCAPE DESIGNER OR MUNICIPAL OFFICIAL PRIOR TO ORDERING AND INSTALLATION.
- 18. DURING THE COURSE OF CONSTRUCTION/PLANT INSTALLATION, EXCESS AND WASTE MATERIALS SHALL BE CONTINUOUSLY and promptly removed at the end of each work day. All debris, materials, and tools shall be properly STORED, STOCKPILED OR DISPOSED OF AND ALL PAVED AREAS SHALL BE CLEANED.
- 19. THE LANDSCAPE CONTRACTOR SHALL DISPOSE OF ALL RUBBISH AND EXCESS SOIL AT HIS EXPENSE TO AN OFF-SITE LOCATION AS APPROVED BY THE LOCAL MUNICIPALITY.
- 20. A 90-DAY MAINTENANCE PERIOD SHALL BEGIN IMMEDIATELY AFTER ALL PLANTS HAVE BEEN SATISFACTORILY INSTALLED. 21. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, REPLACING MULCH THAT HAS BEEN DISPLACED BY EROSION OR DTHER MEANS. REPAIRING AND RESHAPING WATER RINGS OR SAUCERS. MAINTAINING STAKES AND GUYS IF ORIGINALI REQUIRED, WATERING WHEN NEEDED OR DIRECTED, WEEDING, PRUNING, SPRAYING, FERTILIZING, MOWING THE LAWN, AND
- PERFORMING ANY OTHER WORK REQUIRED TO KEEP THE PLANTS IN A HEALTHY CONDITION. 2. Mow all grass areas at regular intervals to keep the grass height from exceeding three inches (3"). Mowing SHALL BE PERFORMED ONLY WHEN GRASS IS DRY. MOWER BLADE SHALL BE SET TO REMOVE NO MORE THAN ONE THIRD (1/3) OF THE GRASS LENGTH. WHEN THE AMOUNT OF GRASS IS HEAVY, IT SHALL BE REMOVED TO PREVENT DESTRUCTION OF THE underlying turf. Mow grass areas in such a manner as to prevent clippings from blowing on paved areas,
- AND SIDEWALKS. CLEANUP AFTER MOWING SHALL INCLUDE SWEEPING OR BLOWING OF PAVED AREAS AND SIDEWALKS TO CLEAR THEM FROM MOWING DEBRIS. 23. GRASSED AREAS DAMAGED DURING THE PROCESS OF THE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL RESTORE THE DISTURBED AREAS TO A CONDITION SATISFACTORY TO THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL
- OFFICIAL, OR OWNER/OWNER'S REPRESENTATIVE. THIS MAY INCLUDE FILLING TO GRADE, FERTILIZING, SEEDING, AND
- 24. SHOULD THE OWNER REQUIRE MAINTENANCE BEYOND THE STANDARD 90-DAY MAINTENANCE PERIOD, A SEPARATE CONTRACT SHALL BE ESTABLISHED.
- 25. LANDSCAPE CONTRACTOR SHALL WATER NEW PLANTINGS FROM TIME OF INSTALL AND THROUGHOUT REQUIRED 90-DAY MAINTENANCE PERIOD UNTIL PLANTS ARE ESTABLISHED. IF ON-SITE WATER IS NOT AVAILABLE AT THE PROJECT LOCATION, THE LANDSCAPE CONTRACTOR SHALL FURNISH IT BY MEANS OR A WATERING TRUCK OR OTHER ACCEPTABLE MANNER.
- 26. THE QUANTITY OF WATER APPLIED AT ONE TIME SHALL BE SUFFICIENT TO PENETRATE THE SOIL TO A MINIMUM OF EIGHT INCHES (8") IN SHRUB BEDS AND SIX INCHES (6") IN TURF AREAS AT A RATE WHICH WILL PREVENT SATURATION OF THE SOIL. 27. IF AN AUTOMATIC IRRIGATION SYSTEM HAS BEEN INSTALLED. IT CAN BE USED FOR WATERING PLANT MATERIAL. HOWEVER. FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY OF PLANT HEALTH AND

### PLANT MATERIAL GUARANTEE NOTES

- the Landscape Contractor Shall Guarantee all plant material for a period of one year (1 yr.) from approval OF LANDSCAPE INSTALLATION BY THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIAL, OR OWNER/OWNER'S
- I. THE LANDSCAPE CONTRACTOR SHALL REMOVE AND REPLACE DYING, DEAD, OR DEFECTIVE PLANT MATERIAL AT HIS EXPENSE. THE LANDSCAPE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS COMPANY'S OPERATIONS. 3. ALL REPLACEMENT PLANTS SHALL BE OF THE SAME SPECIES AND SIZE AS SPECIFIED ON THE APPROVED OR FINAL PLANT LIST. REPLACEMENTS RESULTING FROM REMOVAL, LOSS, OR DAMAGE DUE TO OCCUPANCY OF THE PROJECT IN ANY PART, VANDALISM, PHYSICAL DAMAGE BY ANIMALS, VEHICLES, ETC., AND LOSSES DUE TO CURTAILMENT OF WATER BY LOCAL AUTHORITIES SHALL BE APPROVED AND PAID FOR BY THE OWNER.
- 4. THE CONTRACTOR SHALL INSTRUCT THE OWNER AS TO THE PROPER CARE AND MAINTENANCE OF ALL PLANTINGS.

# **LAWN (SEED OR SOD) NOTES:**

- . SEED MIXTURE SHALL BE FRESH, CLEAN, NEW CROP SEED. SOD SHALL BE STRONGLY ROOTED, UNIFORM IN THICKNESS, AND FREE OF WEEDS, DISEASE, AND PESTS.
- .. SEED OR SOD SHALL BE PURCHASED FROM A RECOGNIZED DISTRIBUTOR AND SHALL BE COMPOSED OF THE MIX OR BLEND WITHIN THE PROVIDED "SEED SPECIFICATION" OR "SOD SPECIFICATION." 3. REFERENCE LANDSCAPE PLAN FOR AREAS TO BE SEEDED OR LAID WITH SOD
- 4. SEEDING SHALL NOT BE PERFORMED IN WINDY WEATHER. IF THE SEASON OF THE PROJECT COMPLETION PROHIBITS PERMANENT STABILIZATION, TEMPORARY STABILIZATION SHALL BE PROVIDED IN ACCORDANCE WITH THE "TEMPORARY SEEDING SPECIFICATION.'
- . PROTECT NEW LAWN AREAS AGAINST TRESPASSING WHILE THE SEED IS GERMINATING. FURNISH AND INSTALL FENCES, SIGNS, BARRIERS OR ANY OTHER NECESSARY TEMPORARY PROTECTIVE DEVICES. DAMAGE RESULTING FROM TRESPASS. EROSION. WASHOUT, SETTLEMENT OR OTHER CAUSES SHALL BE REPAIRED BY THE LANDSCAPE CONTRACTOR AT HIS EXPENSE. REMOVE ALL FENCES, SIGNS, BARRIERS OR OTHER TEMPORARY PROTECTIVE DEVICES ONCE LAWN HAS BEEN ESTABLISHED.







JOSHUA H. KLINE, P.E. ASSACHUSETTS LICENSE No. 53936

LICENSED PROFESSIONAL ENGINEER

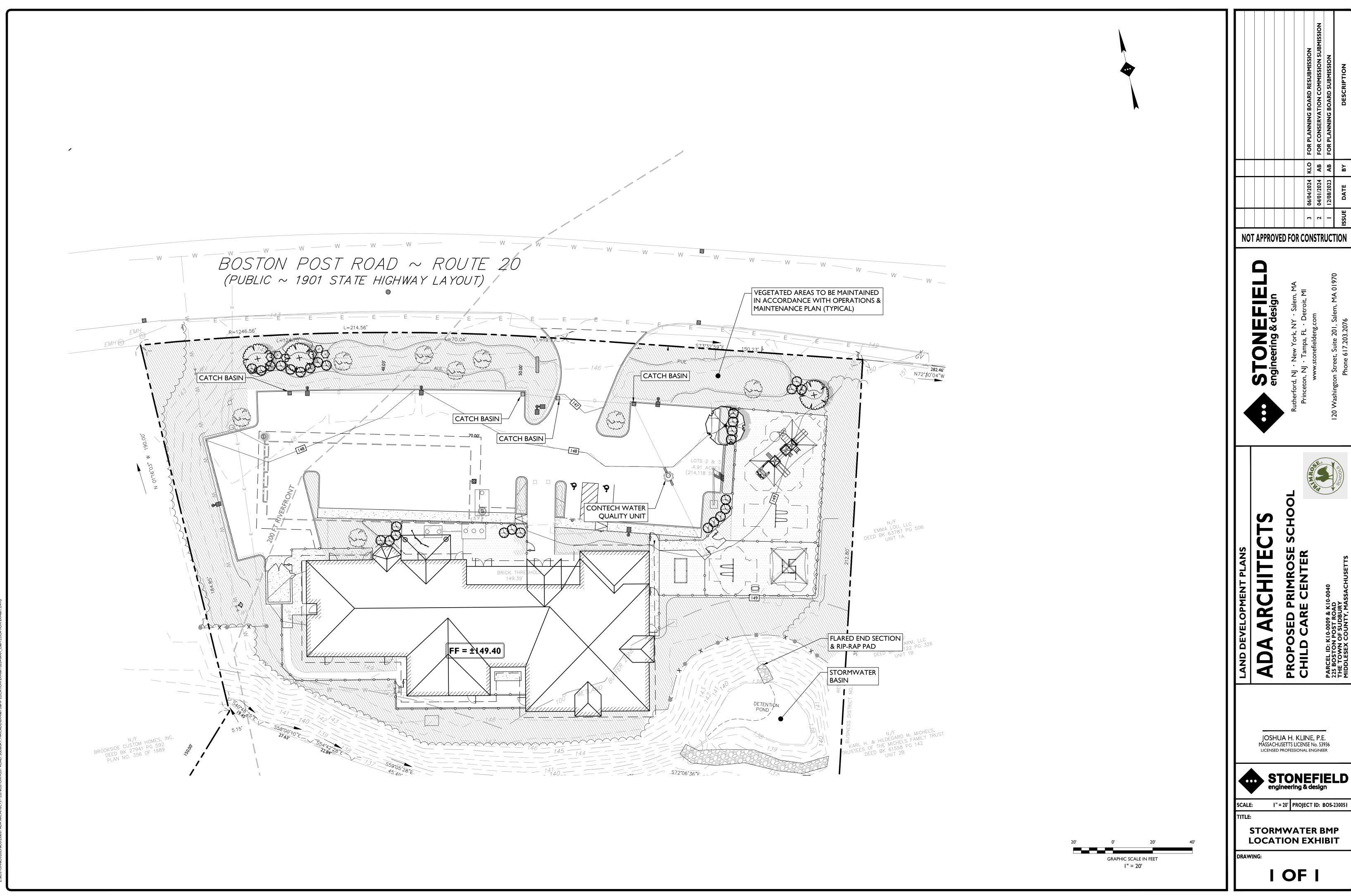


SCALE: AS SHOWN PROJECT ID: BOS-230051

LANDSCAPING DETAILS

# APPENDIX B STORMWATER BMP LOCATION EXHIBIT





# APPENDIX C CONTECH CDS WATER QUALITY UNIT OPERATION & MAINTENANCE FIELD GUIDE





# CDS Guide Operation, Design, Performance and Maintenance



#### **CDS®**

Using patented continuous deflective separation technology, the CDS system screens, separates and traps debris, sediment, and oil and grease from stormwater runoff. The indirect screening capability of the system allows for 100% removal of floatables and neutrally buoyant material without blinding. Flow and screening controls physically separate captured solids, and minimize the re-suspension and release of previously trapped pollutants. Inline units can treat up to 6 cfs, and internally bypass flows in excess of 50 cfs (1416 L/s). Available precast or cast-in-place, offline units can treat flows from 1 to 300 cfs (28.3 to 8495 L/s). The pollutant removal capacity of the CDS system has been proven in lab and field testing.

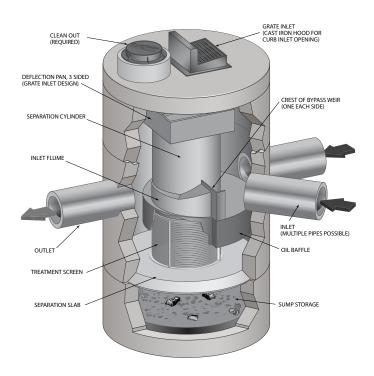
#### **Operation Overview**

Stormwater enters the diversion chamber where the diversion weir guides the flow into the unit's separation chamber and pollutants are removed from the flow. All flows up to the system's treatment design capacity enter the separation chamber and are treated.

Swirl concentration and screen deflection force floatables and solids to the center of the separation chamber where 100% of floatables and neutrally buoyant debris larger than the screen apertures are trapped.

Stormwater then moves through the separation screen, under the oil baffle and exits the system. The separation screen remains clog free due to continuous deflection.

During the flow events exceeding the treatment design capacity, the diversion weir bypasses excessive flows around the separation chamber, so captured pollutants are retained in the separation cylinder.



#### **Design Basics**

There are three primary methods of sizing a CDS system. The Water Quality Flow Rate Method determines which model size provides the desired removal efficiency at a given flow rate for a defined particle size. The Rational Rainfall Method™ or the and Probabilistic Method is used when a specific removal efficiency of the net annual sediment load is required.

Typically in the Unites States, CDS systems are designed to achieve an 80% annual solids load reduction based on lab generated performance curves for a gradation with an average particle size (d50) of 125 microns ( $\mu$ m). For some regulatory environments, CDS systems can also be designed to achieve an 80% annual solids load reduction based on an average particle size (d50) of 75 microns ( $\mu$ m) or 50 microns ( $\mu$ m).

#### **Water Quality Flow Rate Method**

In some cases, regulations require that a specific treatment rate, often referred to as the water quality design flow (WQQ), be treated. This WQQ represents the peak flow rate from either an event with a specific recurrence interval, e.g. the six-month storm, or a water quality depth, e.g. 1/2-inch (13 mm) of rainfall.

The CDS is designed to treat all flows up to the WQQ. At influent rates higher than the WQQ, the diversion weir will direct most flow exceeding the WQQ around the separation chamber. This allows removal efficiency to remain relatively constant in the separation chamber and eliminates the risk of washout during bypass flows regardless of influent flow rates.

Treatment flow rates are defined as the rate at which the CDS will remove a specific gradation of sediment at a specific removal efficiency. Therefore the treatment flow rate is variable, based on the gradation and removal efficiency specified by the design engineer.

#### Rational Rainfall Method™

Differences in local climate, topography and scale make every site hydraulically unique. It is important to take these factors into consideration when estimating the long-term performance of any stormwater treatment system. The Rational Rainfall Method combines site-specific information with laboratory generated performance data, and local historical precipitation records to estimate removal efficiencies as accurately as possible.

Short duration rain gauge records from across the United States and Canada were analyzed to determine the percent of the total annual rainfall that fell at a range of intensities. US stations' depths were totaled every 15 minutes, or hourly, and recorded in 0.01-inch increments. Depths were recorded hourly with 1-mm resolution at Canadian stations. One trend was consistent at all sites; the vast majority of precipitation fell at low intensities and high intensity storms contributed relatively little to the total annual depth.

These intensities, along with the total drainage area and runoff coefficient for each specific site, are translated into flow rates using the Rational Rainfall Method. Since most sites are relatively small and highly impervious, the Rational Rainfall Method is appropriate. Based on the runoff flow rates calculated for each intensity, operating rates within a proposed CDS system are

determined. Performance efficiency curve determined from full scale laboratory tests on defined sediment PSDs is applied to calculate solids removal efficiency. The relative removal efficiency at each operating rate is added to produce a net annual pollutant removal efficiency estimate.

#### **Probabilistic Rational Method**

The Probabilistic Rational Method is a sizing program Contech developed to estimate a net annual sediment load reduction for a particular CDS model based on site size, site runoff coefficient, regional rainfall intensity distribution, and anticipated pollutant characteristics.

The Probabilistic Method is an extension of the Rational Method used to estimate peak discharge rates generated by storm events of varying statistical return frequencies (e.g. 2-year storm event). Under the Rational Method, an adjustment factor is used to adjust the runoff coefficient estimated for the 10-year event, correlating a known hydrologic parameter with the target storm event. The rainfall intensities vary depending on the return frequency of the storm event under consideration. In general, these two frequency dependent parameters (rainfall intensity and runoff coefficient) increase as the return frequency increases while the drainage area remains constant.

These intensities, along with the total drainage area and runoff coefficient for each specific site, are translated into flow rates using the Rational Method. Since most sites are relatively small and highly impervious, the Rational Method is appropriate. Based on the runoff flow rates calculated for each intensity, operating rates within a proposed CDS are determined. Performance efficiency curve on defined sediment PSDs is applied to calculate solids removal efficiency. The relative removal efficiency at each operating rate is added to produce a net annual pollutant removal efficiency estimate.

#### **Treatment Flow Rate**

The inlet throat area is sized to ensure that the WQQ passes through the separation chamber at a water surface elevation equal to the crest of the diversion weir. The diversion weir bypasses excessive flows around the separation chamber, thus preventing re-suspension or re-entrainment of previously captured particles.

#### **Hydraulic Capacity**

The hydraulic capacity of a CDS system is determined by the length and height of the diversion weir and by the maximum allowable head in the system. Typical configurations allow hydraulic capacities of up to ten times the treatment flow rate. The crest of the diversion weir may be lowered and the inlet throat may be widened to increase the capacity of the system at a given water surface elevation. The unit is designed to meet project specific hydraulic requirements.

#### **Performance**

#### **Full-Scale Laboratory Test Results**

A full-scale CDS system (Model CDS2020-5B) was tested at the facility of University of Florida, Gainesville, FL. This CDS unit was evaluated under controlled laboratory conditions of influent flow rate and addition of sediment.

Two different gradations of silica sand material (UF Sediment & OK-110) were used in the CDS performance evaluation. The particle size distributions (PSDs) of the test materials were analyzed using standard method "Gradation ASTM D-422 "Standard Test Method for Particle-Size Analysis of Soils" by a certified laboratory.

UF Sediment is a mixture of three different products produced by the U.S. Silica Company: "Sil-Co-Sil 106", "#1 DRY" and "20/40 Oil Frac". Particle size distribution analysis shows that the UF Sediment has a very fine gradation (d50 = 20 to 30  $\mu$ m) covering a wide size range (Coefficient of Uniformity, C averaged at 10.6). In comparison with the hypothetical TSS gradation specified in the NJDEP (New Jersey Department of Environmental Protection) and NJCAT (New Jersey Corporation for Advanced Technology) protocol for lab testing, the UF Sediment covers a similar range of particle size but with a finer d50 (d50 for NJDEP is approximately 50  $\mu$ m) (NJDEP, 2003).

The OK-110 silica sand is a commercial product of U.S. Silica Sand. The particle size distribution analysis of this material, also included in Figure 1, shows that 99.9% of the OK-110 sand is finer than 250 microns, with a mean particle size (d50) of 106 microns. The PSDs for the test material are shown in Figure 1.

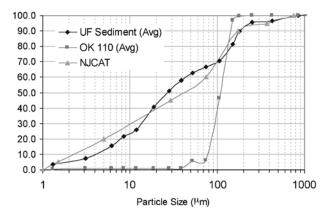


Figure 1. Particle size distributions

Tests were conducted to quantify the performance of a specific CDS unit (1.1 cfs (31.3-L/s) design capacity) at various flow rates, ranging from 1% up to 125% of the treatment design capacity of the unit, using the 2400 micron screen. All tests were conducted with controlled influent concentrations of approximately 200 mg/L. Effluent samples were taken at equal time intervals across the entire duration of each test run. These samples were then processed with a Dekaport Cone sample splitter to obtain representative sub-samples for Suspended Sediment Concentration (SSC) testing using ASTM D3977-97 "Standard Test Methods for Determining Sediment Concentration in Water Samples", and particle size distribution analysis.

#### **Results and Modeling**

Based on the data from the University of Florida, a performance model was developed for the CDS system. A regression analysis was used to develop a fitting curve representative of the scattered data points at various design flow rates. This model, which demonstrated good agreement with the laboratory data, can then be used to predict CDS system performance with respect

to SSC removal for any particle size gradation, assuming the particles are inorganic sandy-silt. Figure 2 shows CDS predictive performance for two typical particle size gradations (NJCAT gradation and OK-110 sand) as a function of operating rate.

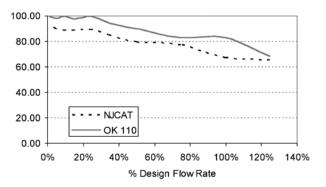


Figure 2. CDS stormwater treatment predictive performance for various particle gradations as a function of operating rate.

Many regulatory jurisdictions set a performance standard for hydrodynamic devices by stating that the devices shall be capable of achieving an 80% removal efficiency for particles having a mean particle size (d50) of 125 microns (e.g. Washington State Department of Ecology — WASDOE - 2008). The model can be used to calculate the expected performance of such a PSD (shown in Figure 3). The model indicates (Figure 4) that the CDS system with 2400 micron screen achieves approximately 80% removal at the design (100%) flow rate, for this particle size distribution (d50 = 125  $\mu$ m).

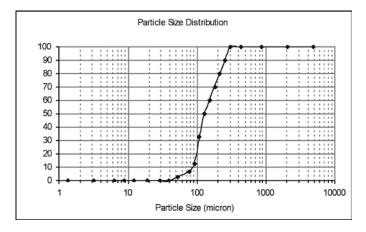
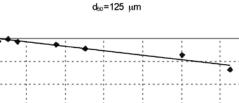


Figure 3. WASDOE PSD

CDS Unit Performance for Ecology PSD



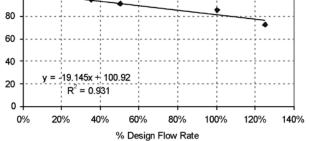


Figure 4. Modeled performance for WASDOE PSD.

#### Maintenance

The CDS system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit. For example, unstable soils or heavy winter sanding will cause the grit chamber to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

#### Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (e.g. spring and fall) however more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment washdown areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

The visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet and separation screen. The inspection should also quantify the accumulation of hydrocarbons, trash, and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified



100

during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided.

Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber (cylinder and screen) and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen. For deep units, a single manhole access point would allows both sump cleanout and access outside the screen.

The CDS system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. If absorbent material is used, it should be replaced when significant discoloration has occurred. Performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to that for easier removal of sediment. The level of sediment is easily determined by measuring from finished grade down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the as-built drawing for the unit to determine weather the height of the sediment pile off the bottom of the sump floor exceeds 75% of the total height of isolated sump.

#### Cleaning

Cleaning of a CDS systems should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. The screen should be cleaned to ensure it is free of trash and debris.

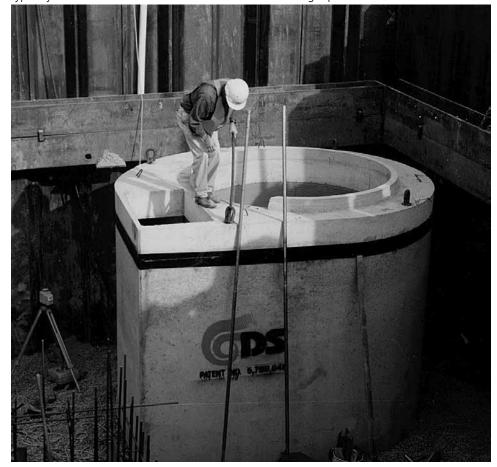
Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure that proper safety precautions have been followed. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the CDS system should be done in accordance with local regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins or deep sump manholes. Check your local regulations for specific requirements on disposal.



CDS Model	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y³	m³
CDS1515	3	0.9	3.0	0.9	0.5	0.4
CDS2015	4	1.2	3.0	0.9	0.9	0.7
CDS2015	5	1.5	3.0	0.9	1.3	1.0
CDS2020	5	1.5	3.5	1.1	1.3	1.0
CDS2025	5	1.5	4.0	1.2	1.3	1.0
CDS3020	6	1.8	4.0	1.2	2.1	1.6
CDS3025	6	1.8	4.0	1.2	2.1	1.6
CDS3030	6	1.8	4.6	1.4	2.1	1.6
CDS3035	6	1.8	5.0	1.5	2.1	1.6
CDS4030	8	2.4	4.6	1.4	5.6	4.3
CDS4040	8	2.4	5.7	1.7	5.6	4.3
CDS4045	8	2.4	6.2	1.9	5.6	4.3
CDS5640	10	3.0	6.3	1.9	8.7	6.7
CDS5653	10	3.0	7.7	2.3	8.7	6.7
CDS5668	10	3.0	9.3	2.8	8.7	6.7
CDS5678	10	3.0	10.3	3.1	8.7	6.7

Table 1: CDS Maintenance Indicators and Sediment Storage Capacities

Note: To avoid underestimating the volume of sediment in the chamber, carefully lower the measuring device to the top of the sediment pile. Finer silty particles at the top of the pile may be more difficult to feel with a measuring stick. These finer particles typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile.



# **CDS Inspection & Maintenance Log**

CDS Model:	Location:

Date	Water depth to sediment <sup>1</sup>	Floatable Layer Thickness <sup>2</sup>	Describe Maintenance Performed	Maintenance Personnel	Comments

<sup>1.</sup> The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than the values listed in table 1 the system should be cleaned out. Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.

<sup>2.</sup> For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

#### **SUPPORT**

- Drawings and specifications are available at www.ContechES.com.
- Site-specific design support is available from our engineers.



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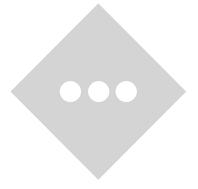
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# APPENDIX D INSPECTION CHECKLISTS



### **Primrose Schools Franchising Company**

#### 225 Boston Post Road, Sudbury, MA

Date / Time:	
Days Since Previous Rainfall and Rainfall Amount:	
Inspector:	

#### **Operation and Maintenance Log**

All oil, sediment and debris to be disposed of in accordance with local, state, and federal guidelines and regulations.

Maintenance Item	Inspection Date	Action Taken	Initials
I. Catch Basins			
(Inspected four times per year) (Cleaned biannually)			
Inspect & clean existing catch basins to remain prior to construction.			
Oil and sediments to be removed.			
Cleaned biennially or sooner if sediment build			
up exceeds 6"			
Structural damage or malfunction to be reported to site manager and			
repaired			
Cleaned immediately after fuel or oil spill.			
During colder periods, the catch basin grates must be kept free of snow and			
ice.			
During warmer periods, the catch basin grates must be kept free of leaves,			
litter, sand, and debris.			
Additional inspection, maintenance, and corrective measures taken as			
needed (please specify):			

Maintenance Item	Inspection Date	Action Taken	Initials
Water Quality Unit - Contech  (Inspected four times per year in the first year and twice per year thereafter)			
Clean when sediment reaches 6 inches or when an appreciable level of hydrocarbons and trash covers over the water surface.			
Inspect that system components are in working order and that there are no blockages or obstructions in the inlet or separation screen			
Quantify accumulation of hydrocarbons, trash, and sediment.			
Clean SDS System at least once per year or when sediment has reached 75% of capacity or when appreciable level of hydrocarbons and trash has accumulated during dry weather conditions using vacuum truck			
Additional inspection, maintenance, and corrective measures taken as needed (please specify):			
3. Flared End Sections (Inspected as needed)			
Remove & dispose of any trash or debris at outfall			
Remove any obstructions to flow; remove accumulated sediments & debris at outlet and within conduit.			
Additional inspection, maintenance, and corrective measures taken as needed (please specify):			

Maintenance Item	Inspection Date	Action Taken	Initials
4. Stormwater Basin			
(Inspected annually)			
Hand clear pond of trash and debris. Minimal hand trimming of overgrown			
vegetation at Operator discretion.			
Inspect inflow pipes for obstruction			
Vegetated drainage systems shall be inspected and record specific			
information including but not limited to: Notable changes in general extent			
of standing water; Stability of embankments, channels, and outfall areas;			
Accumulation of sediment			
Additional inspection, maintenance, and corrective measures taken as			
needed (please specify):			
5. Vegetated Areas			
(Inspected & maintained annually & as needed)			
Inspect slopes and embankments early in the growing season to identify			
active or potential erosion problems. Replant bare areas or areas with			
sparse growth. If erosion is evident, armor the area with an appropriate			
lining or riprap stone.			
Inspect planted areas on a semi-annual basis and remove any litter.			
Maintain planted areas adjacent to pavement to prevent soil washout.			
Immediately clean any soil deposited on pavement.			
The grass vegetation should be cut to a height between three and four			
inches.			
   Pesticide/Herbicide Usage – No pesticides are to be used unless a single			
spot treatment is required for a specific control application. No pesticides			
or herbicides are allowed within the 100' adjacent upland resource area or			
200' riverfront area without prior approval of the Governing Authority.			
Additional inspection, maintenance, and corrective measures taken as			
needed (please specify):			

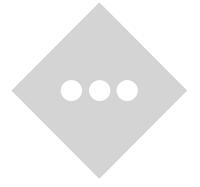
Notes:

# APPENDIX E ANNUAL EVALUATION FORMS

## **INVENTORY**

**E-I: ANNUAL EVALUATION LOG** 

**E-2: AMENDMENT LOG** 



#### **ANNUAL EVALUATION RECORD**

The person responsible for maintenance shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.

The responsible party should evaluate the effectiveness of the maintenance plan by comparing the maintenance plan with the actual performance of the maintenance. The items to evaluate may include, but not limited to,

- Whether the inspections have been performed as scheduled;
- Whether the preventive maintenance has been performed as scheduled;
- Whether the frequency of preventative maintenance needs to increase or decrease;
- Whether the planned resources were enough to perform the maintenance;
- Whether the repairs were completed on time;
- Whether the actual cost was consistent with the estimated cost;
- Whether the inspection, maintenance, and repair records have been kept.

If actual performance of those items has been deviated from the maintenance plan, the responsible party should find the causes and implement solutions in a revised maintenance plan.

Evaluator(s)	Date of Evaluation	Decision
		Maintain current version OR
		Revise current version
		Revision date
		(also update the last revision date on the cover page)
		Requires a new deed recording
l		(also update the last recording information on the cover
		page)
		Maintain current version OR
		Revise current version
		Revision date
		(also update the last revision date on the cover page)
		Requires a new deed recording
		(also update the last recording information on the cover
		page)
		Maintain current version OR
		Revise current version Revision date
		(also update the last revision date on the cover page)
		Requires a new deed recording (also update the last recording information on the cover page)

# Operations & Maintenance Plan Amendment Log

Amendment No.	Description of the Amendment	Date of Amendment	Amendment Prepared by (Name(s) and Title)
			( ( ) /