



**AREA CALCULATIONS:**

- 2,179 SF - WETLAND (EXISTING - NO CHANGE)
- 9,617 SF - STANDARD 35 FT WETLAND & 50 FT WATERCOURSE BUFFER
- 6,011 SF - REDUCED 25 FT WETLAND & WATERCOURSE BUFFER

**DRAWING NOTES:**

1. THE SURVEY AND SITE PLAN USED TO PREPARE THIS PLAN WAS PROVIDED BY RIPPLE DESIGN STUDIO (4303 STONE WAY NORTH - SEATTLE, WASHINGTON 98103). SOURCE DRAWINGS HAVE BEEN MODIFIED FOR VISUAL ENHANCEMENT.

**RECOMMENDED CONSTRUCTION SEQUENCE:**

1. FLAG WORK AREA LIMITS.
2. LOCATE AND PROTECT ALL UNDERGROUND UTILITIES.
3. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROL (TESC) MEASURES PER DETAIL 2-1 AND CITY OF MERCER ISLAND STANDARDS.
4. REQUEST AND ATTEND A PRE-CONSTRUCTION MEETING WITH OWNER.
5. CONTROL NOXIOUS WEEDS.
6. REMOVE ALL NON-NATIVE PLANTS (TREES, SHRUBS, GRASSES).
7. DEMOLISH AND REMOVE EXISTING IMPROVEMENTS (GAZEBO, CONCRETE, GRAVEL, ETC.)
8. DECOMPACT AND AMEND SOILS.
9. INSTALL NATIVE PLANTS - SEASONAL RESTRICTIONS APPLY.
10. INSTALL MULCH.
11. CLEAN-UP AND DEMOBILIZE FROM SITE.
12. REQUEST FROM AND ATTEND INSPECTION WITH OWNER.
13. CONTRACTOR TO PROVIDE 1 YEAR OF MAINTENANCE UNDER DIRECTION OF OWNER.
14. OWNER TO COMPLETE 5 YEARS OF MONITORING.

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**BUFFER REDUCTION SITE PLAN**

**GENERAL CONSTRUCTION NOTES:**

1. CONSTRUCTION SHALL CONFORM TO ALL CITY OF MERCER ISLAND CODES, ORDINANCES, AND REGULATIONS.
2. BEFORE THE START OF ANY CONSTRUCTION, A PRE-CONSTRUCTION MEETING MUST BE HELD BETWEEN THE CITY OF MERCER ISLAND, THE OWNER, AND THE PLAN DESIGNER.
3. A COPY OF THESE APPROVED DRAWINGS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
4. SITE CONDITIONS MAY VARY BASED ON SEASON AND/OR TIME OF YEAR. THE CONSTRUCTION CONTRACTOR SHALL ACCOMMODATE REALIZED AND ANTICIPATED SITE CONDITIONS WHEN COMPLETING THE WORK SHOWN ON THESE DRAWINGS.
5. THE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF THE WORK SHOWN ON THESE DRAWINGS. ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE TRAFFIC CONTROL IN ACCORDANCE WITH ANY AND ALL CITY OF MERCER ISLAND STANDARDS.
6. THE TEMPORARY EROSION AND SEDIMENT CONTROL (TESC) MEASURES SHOWN ON THESE DRAWINGS, IF ANY, ARE THE MINIMUM REQUIRED. ADJUST, AMEND, AND/OR ADD TO THE TESC MEASURES SHOWN TO ACCOMMODATE SITE AND WEATHER CONDITIONS AND/OR AS OTHERWISE DIRECTED BY OWNER OR PER THE CITY OF MERCER ISLAND.

**MAINTENANCE AND MONITORING PLAN:**

**PLAN GOALS, OBJECTIVES, AND PERFORMANCE STANDARDS**

PLAN GOALS, OBJECTIVES, AND PERFORMANCE STANDARDS ARE OUTLINED IN THE TABLE SHOWN ON THIS SHEET. THE GOALS AND OBJECTIVES OF THIS PLAN ARE CONSIDERED ACHIEVED WHEN THE PERFORMANCE STANDARDS ARE SATISFIED.

**MONITORING PLAN**

**AS-BUILT**

SCHEDULE: **IMMEDIATELY FOLLOWING CONSTRUCTION**

FOLLOWING COMPLETION OF THE WORK SHOWN ON THIS PLAN, A QUALIFIED PROFESSIONAL SHALL PREPARE AN AS-BUILT OF THE COMPLETED WORK. THE AS-BUILT SHALL SUMMARIZE THE COMPLETED WORK AS WELL AS ANY DEVIATIONS FROM THE APPROVED VERSION OF THIS PLAN.

IN ADDITION, THE AS-BUILT SHALL CONTAIN BASELINE MONITORING DATA AND PHOTOGRAPHS FOR EACH PLANTING AREA. BASELINE MONITORING DATA SHALL BE CONSISTENT WITH THAT DESCRIBED FOR "ANNUAL MONITORING" (PERCENT SURVIVAL, PERCENT COVERAGE, ETC.). IN ADDITION, PERMANENT PHOTO POINTS SHALL BE ESTABLISHED AND REPRESENTATIVE PHOTOGRAPHS SHALL BE TAKEN OF EACH PLANTING AREA.

THE AS-BUILT AND BASELINE MONITORING DATA SHALL BE SUBMITTED TO THE CITY OF MERCER ISLAND NO LATER THAN **30 DAYS** FROM THE DATE THAT THE WORK SHOWN ON THIS PLAN HAS BEEN COMPLETED.

**ANNUAL MONITORING (5 YEARS)**

SCHEDULE: **ANNUALLY FOR A PERIOD OF 5 YEARS**

FOLLOWING ACCEPTANCE OF THE AS-BUILT BY THE CITY OF MERCER ISLAND, ANNUAL MONITORING SHALL BE COMPLETED BY A QUALIFIED PROFESSIONAL AND SHALL COMPRISE SITE INVESTIGATIONS AND REPORTING PER THE FOLLOWING INTERVAL:

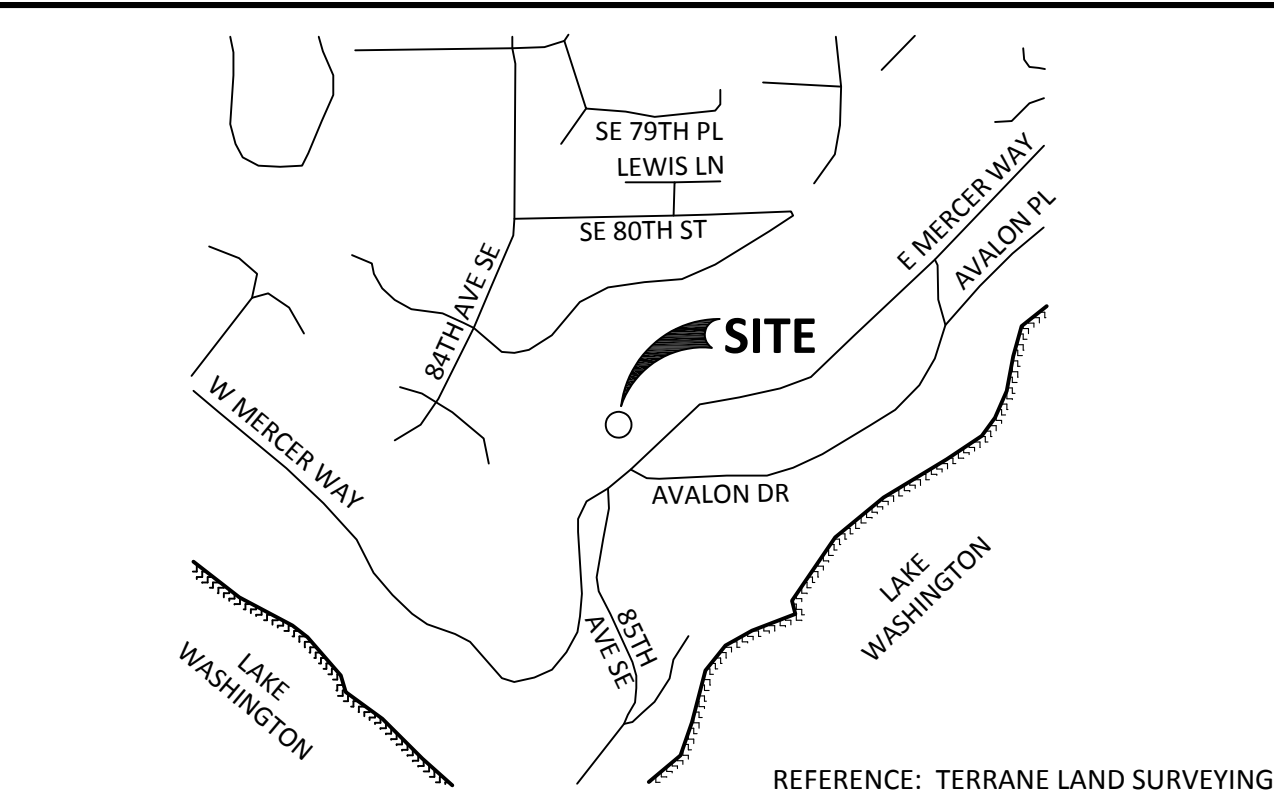
- AT THE END OF THE GROWING SEASON DURING YEARS 1, 2, 3, 4, AND 5.
- EACH ANNUAL MONITORING SHALL COMPRISE A QUANTITATIVE ASSESSMENT OF CONDITIONS WITHIN THE PLANTING AREA FOR PURPOSES OF EVALUATING THE CURRENT YEAR'S PERFORMANCE STANDARDS. AT THE TIME OF EACH MONITORING, THE FOLLOWING INFORMATION SHALL BE COLLECTED AND ASSESSED RELATIVE TO THE PERFORMANCE STANDARDS ESTABLISHED FOR THE PROJECT:
  - THE PERCENT SURVIVAL OF INSTALLED PLANT STOCK (**ALL YEARS**). A DIRECT COUNT INVENTORY AND ASSESSMENT OF ALL INSTALLED PLANTS SHALL BE USED TO EVALUATE PERCENT SURVIVAL. THE RATIONAL FOR POOR SURVIVAL, IF PRESENT, WILL BE DETERMINED TO THE EXTENT FEASIBLE.
  - THE PERCENT COVERAGE PROVIDED BY NATIVE PLANT SPECIES (**ALL YEARS**). INSTALLED PLANT STOCK PERCENT COVERAGE SHALL BE ASSESSED USING APPROPRIATELY SIZED SAMPLE PLOTS OR LINE INTERCEPT TRANSECTS.
  - THE PERCENT COVERAGE PROVIDED BY NOXIOUS WEED SPECIES (**ALL YEARS**). INSTALLED PLANT STOCK PERCENT COVERAGE SHALL BE ASSESSED USING APPROPRIATELY SIZED SAMPLE PLOTS OR LINE INTERCEPT TRANSECTS.

IN ADDITION TO THE DATA COLLECTION AND ANALYSIS REGARDING PLANT COMMUNITY CONDITIONS, PHOTOGRAPHS OF EACH PLANTING AREA SHALL BE TAKEN FROM THE PERMANENT PHOTO POINTS ESTABLISHED DURING THE AS-BUILT.

THE RESULTS OF EACH MONITORING ASSESSMENT SHALL BE SUMMARIZED IN A WRITTEN REPORT AND SUBMITTED TO THE CITY OF MERCER ISLAND NO LATER THAN **30 DAYS** AFTER EACH MONITORING ASSESSMENT.

**GOALS, OBJECTIVES, MONITORING SCHEDULE, & PERFORMANCE STANDARDS**

GOAL	OBJECTIVE	SCHEDULE	PERFORMANCE STANDARDS
TO SUCCESSFULLY ESTABLISH A DENSE NATIVE PLANT COMMUNITY WITHIN REDUCED WETLAND AND WATERCOURSE BUFFERS.	TO INSTALL AND SUCCESSFULLY ESTABLISH <b>350</b> NATIVE PLANTINGS WITHIN REDUCED WETLAND WATERCOURSE BUFFERS.	AUGUST OR SEPTEMBER OF YEARS 1, 2, 3, 4 & 5 FOLLOWING ACCEPTANCE OF AN AS-BUILT BY THE CITY OF MERCER ISLAND.	<ul style="list-style-type: none"> <li>• <b>100%</b> SURVIVAL BY INSTALLED PLANT STOCK AFTER THE FIRST GROWING SEASON (YEAR 1). THIS STANDARD CAN BE MET THROUGH PLANT ESTABLISHMENT OR REPLANTING, AS NECESSARY, TO ACHIEVE THE REQUIRED PLANT NUMBERS.</li> <li>• <b>85%</b> SURVIVAL BY INSTALLED PLANT STOCK AFTER THE SECOND AND THIRD GROWING SEASONS (YEAR 2 &amp; YEAR 3).</li> <li>• COVERAGE BY NATIVE TREES AND SHRUBS PER THE FOLLOWING STANDARDS: <b>40%</b> (YEAR 3); <b>60%</b> (YEAR 5). UP TO <b>20%</b> OF TREE/SHRUB COVERAGE MAY BE COMPRISED OF DESIRABLE NATIVE COLONIZING SPECIES.</li> <li>• SPECIES DIVERSITY: ESTABLISHMENT OF A MINIMUM OF 2 TREE AND 4 SHRUB SPECIES BY THE END OF THE FIFTH GROWING SEASON (YEAR 5)</li> </ul>
TO LIMIT NOXIOUS WEED SPECIES WITHIN REDUCED WETLAND AND WATERCOURSE BUFFERS.	TO PROVIDE FULL INITIAL CONTROL OF NOXIOUS WEED SPECIES AND THEN TO MINIMIZE THE GENERAL PRESENCE OF NOXIOUS WEED SPECIES THROUGH THE MONITORING PERIOD WITHIN REDUCED WETLAND AND WATERCOURSE BUFFERS.	AUGUST OR SEPTEMBER OF YEARS 1, 2, 3, 4 & 5 FOLLOWING ACCEPTANCE OF AN AS-BUILT BY THE CITY OF MERCER ISLAND.	<ul style="list-style-type: none"> <li>• LESS THAN <b>10%</b> COVERAGE BY ALL CLASS "A", "B", AND "C" NOXIOUS WEEDS (INCLUDING NON-REGULATED "B" AND "C" NOXIOUS WEEDS) IDENTIFIED ON THE LATEST KING COUNTY NOXIOUS WEED LIST.</li> </ul>



Wetland Delineation  
Mitigation Design  
Mitigation Monitoring

**Evergreen Aquatic Resource Consultants, LLC**  
PO BOX 1721  
ISSAQUAH, WASHINGTON 98027  
TEL - (425) 677-1166  
WWW.EVERGREENARC.COM

NO	DATE	DESCRIPTION
1	11/09/17	REVISE PER CITY COMMENTS

**811**  
Know what's below.  
Call before you dig.

THE UNDERGROUND ROUTING AND CONDITION OF BURIED UTILITIES HAS NOT BEEN VERIFIED OR CONFIRMED. FIELD LOCATE, VERIFY DEPTH OF, AND ADEQUATELY PROTECT ALL UTILITIES PRIOR TO THE START OF WORK.

**CAO17-008 & CAO17-009**  
PERMIT NO:

APPROVED BY:

DATE:

PROJECT:

**WETLAND & WATERCOURSE BUFFER REDUCTION PLAN**

**EAST MERCER DEVELOPMENT**

8375 + 8379 E MERCER WAY  
MERCER ISLAND, WA  
TPN# 032110-0141 + 032110-0145

PREPARED FOR:

RIPPLE DESIGN STUDIO  
4303 STONE WAY NORTH  
SEATTLE, WASHINGTON 98103

SHEET TITLE:

**SITE PLAN, NOTES, MAINTENANCE & MONITORING PLAN**

PROJECT NO: 17029  
DATE: 06/22/2017  
SHEET NUMBER:

NO	DATE	DESCRIPTION
1	11/09/17	REVISE PER CITY COMMENTS



Know what's below.  
Call before you dig.

THE UNDERGROUND ROUTING AND CONDITION OF BURIED UTILITIES HAS NOT BEEN VERIFIED OR CONFIRMED. FIELD LOCATE, VERIFY DEPTH OF, AND ADEQUATELY PROTECT ALL UTILITIES PRIOR TO THE START OF WORK.

**CAO17-008 & CAO17-009**  
PERMIT NO:

APPROVED BY:

DATE:

PROJECT:

# WETLAND & WATERCOURSE BUFFER REDUCTION PLAN

## EAST MERCER DEVELOPMENT

8375 + 8379 E MERCER WAY  
MERCER ISLAND, WA  
TPN# 032110-0141 + 032110-0145

PREPARED FOR:

RIFFLE DESIGN STUDIO  
4303 STONE WAY NORTH  
SEATTLE, WASHINGTON 98103

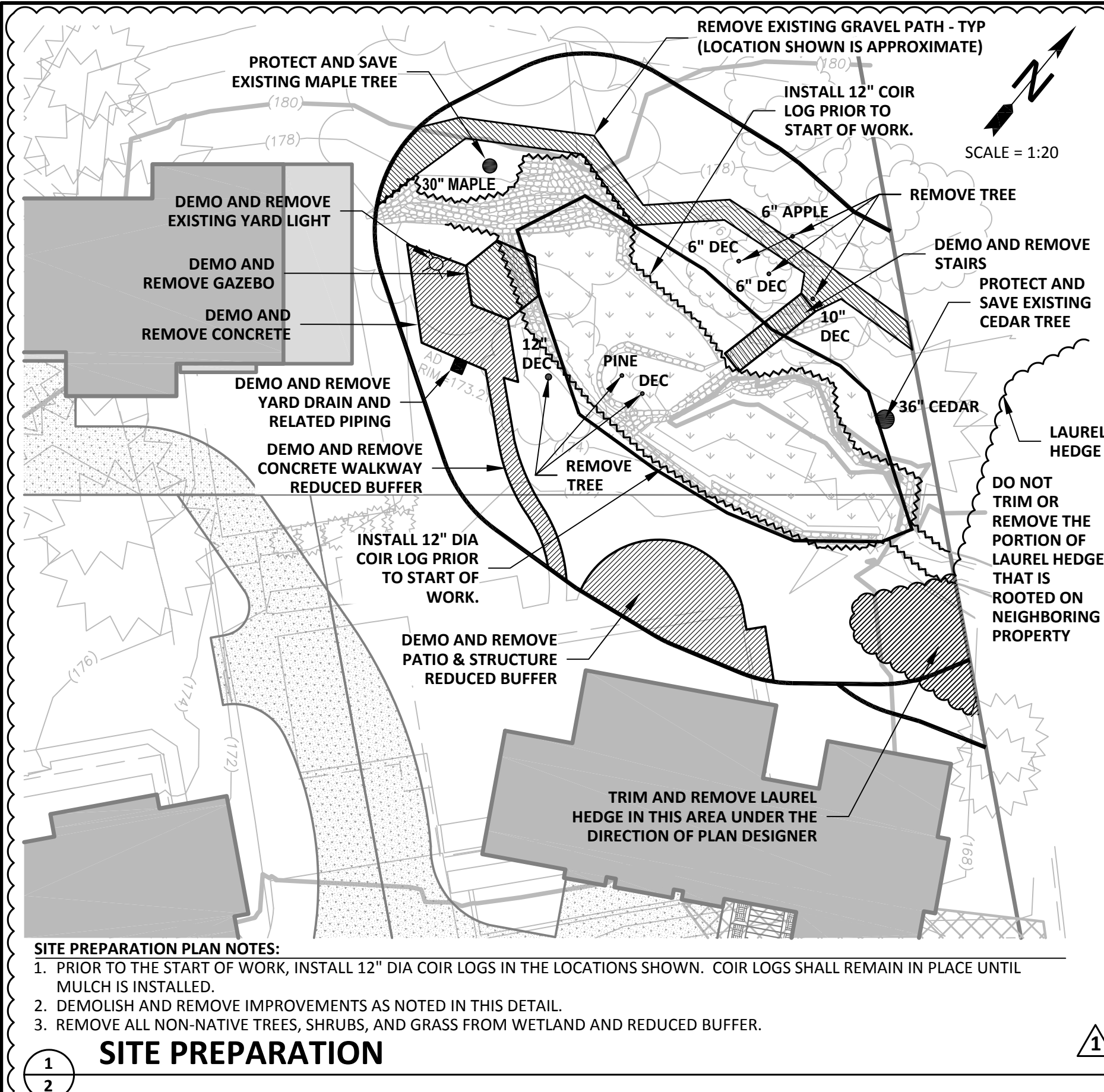
SHEET TITLE:

# SITE PREPARATION, SOIL DECOMPACT & AMENDMENT PLAN, AND PLANTING PLAN

PROJECT NO: 17029

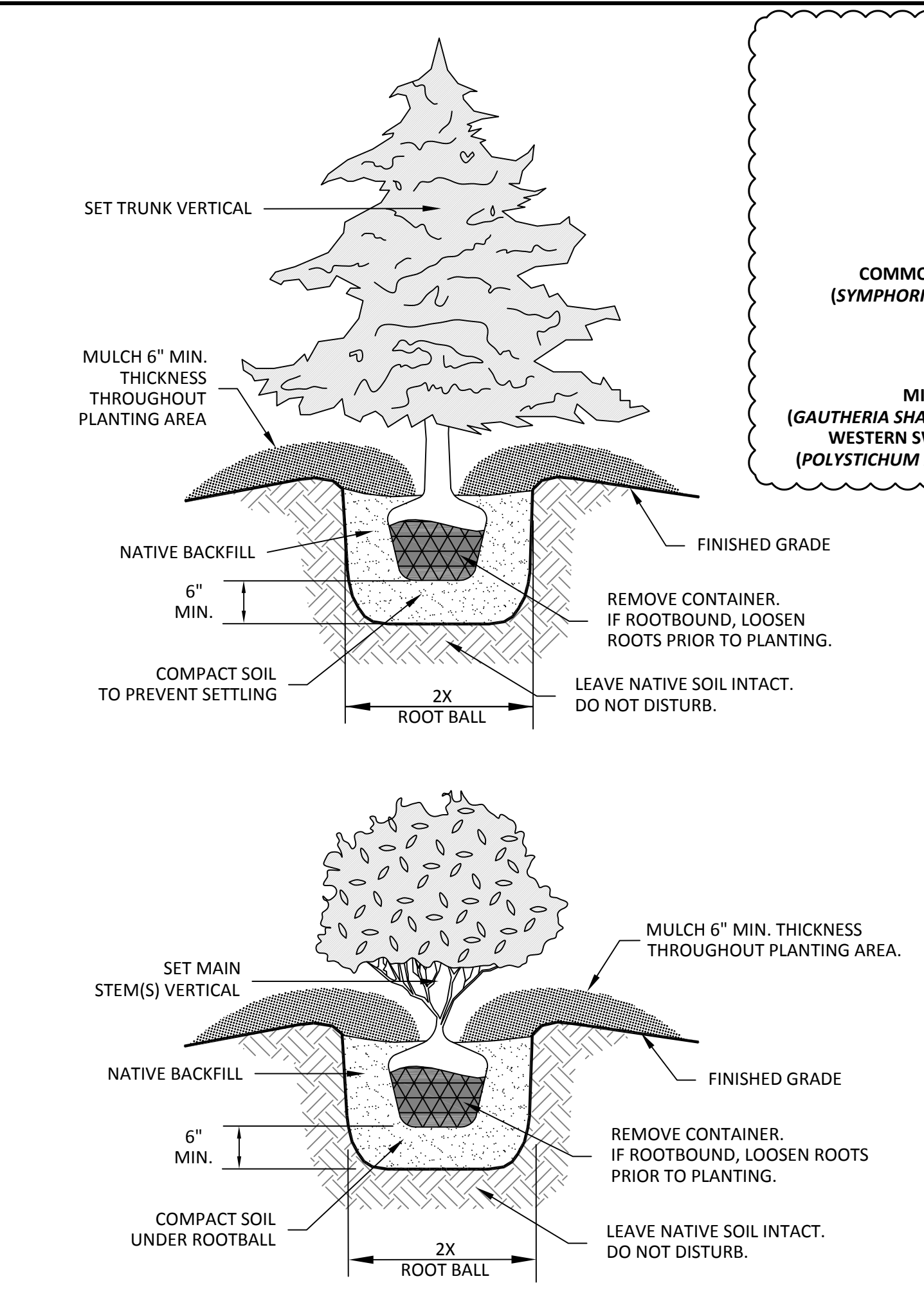
DATE: 06/22/2017

SHEET NUMBER:



**SOIL DECOMPACTION AND AMENDMENT NOTES:**

- PRIOR TO PLANT INSTALLATION, DECOMPACT AND AMEND SOILS IN THE HATCHED AREA SHOWN PER THE FOLLOWING SPECIFICATIONS:
  - MECHANICALLY DECOMPACT SOIL TO A MINIMUM DEPTH OF 12 INCHES.
  - APPLY 4 INCHES OF ORGANIC COMPOST COMPRISING CEDAR GROVE COMPOSTING "BUILDERS BLEND" (WWW.CEDAR-GROVE.COM; 1-877-SOILS4U) OR APPROVED EQUAL TO THE DECOMPACTED SOIL.
  - UNIFORMLY TILL IN COMPOST TO ACHIEVE A UNIFORM MIXTURE OF EXISTING SOIL AND COMPOST WITHIN THE UPPER 8 INCHES OF THE DECOMPACTED SOIL.
  - RAKE/GRADE FINAL SURFACE TO PROVIDE A UNIFORM APPEARANCE.



**PLANT MATERIAL SOURCE AND SPECIFICATIONS:**

PLANTS SHALL BE DERIVED FROM STOCK ACCLIMATED TO WESTERN WASHINGTON ENVIRONMENTAL CONDITIONS, HAVING BEEN CONSISTENTLY CULTIVATED AND GROWN UNDER SIMILAR CONDITIONS. ACCEPTABLE PLANT SUPPLIERS INCLUDE STORM LAKE GROWERS (WWW.SLGGROWERS.COM), SOUND NATIVE PLANTS (WWW.SOUNDNATIVEPLANTS.COM), PACIFIC PLANTS (425-392-6164), OR APPROVED EQUAL.

PLANTS SHALL BE NATIVE TO THE PACIFIC NORTHWEST, PREFERABLY THE PUGET SOUND REGION OF WASHINGTON STATE. PLANTS SHALL BE PROPAGATED FROM NATIVE STOCK; NO CULTIVARS OR HORTICULTURAL VARIETIES ARE ALLOWED. SALVAGED PLANTS ARE NOT ACCEPTABLE.

PLANTS SHALL BE NORMAL IN PATTERN OF GROWTH, HEALTHY, WELL-BRANCHED AND HAVE ALL LEADERS AND BUDS INTACT. TREES SHALL NOT HAVE SUNSCALDS, DISFIGURING KNOTS, FRESH CUTS OF LIMBS, DAMAGED LEADERS, AND/OR DEFORMED TRUNKS.

CONTAINERIZED PLANT STOCK SHALL BE GROWN IN A CONTAINER LONG ENOUGH TO DEVELOP A ROOT SYSTEM THAT REACHES THE EDGES OF THE CONTAINER IN WHICH IT HAS GROWN. TREES AND SHRUBS SHALL BE WELL ROOTED AND SHALL HAVE SUFFICIENT ROOT MASS TO HOLD TOGETHER THE SOIL, IN WHICH PLANT IS GROWING, WHEN REMOVED FROM THE POT.

**PLANT INSTALLATION TIMING:**

PLANT INSTALLATION SHALL OCCUR BETWEEN **NOVEMBER 1** AND **FEBRUARY 15**, UNLESS OTHERWISE APPROVED BY THE PLAN DESIGNER AND THE **CITY OF MERCER ISLAND**.

**NOXIOUS WEED CONTROL SPECIFICATIONS:**

PRIOR TO PLANT INSTALLATION, CONTROL NOXIOUS WEEDS IN WETLAND AND REDUCED WETLAND BUFFER. TARGET NOXIOUS WEED SPECIES SHALL INCLUDE THE FOLLOWING: **ALL CLASS "A", "B", AND "C" NOXIOUS WEEDS (INCLUDING NON-REGULATED "B" AND "C" NOXIOUS WEEDS AND "WEEDS OF CONCERN")** IDENTIFIED ON THE LATEST KING COUNTY NOXIOUS WEED LIST. DURING NOXIOUS WEED CONTROL WORK, EXISTING NATIVE VEGETATION SHALL BE PROTECTED FROM DAMAGE. ALL NOXIOUS WEED CONTROL CUTTINGS AND DEBRIS SHALL BE REMOVED FROM THE SITE.

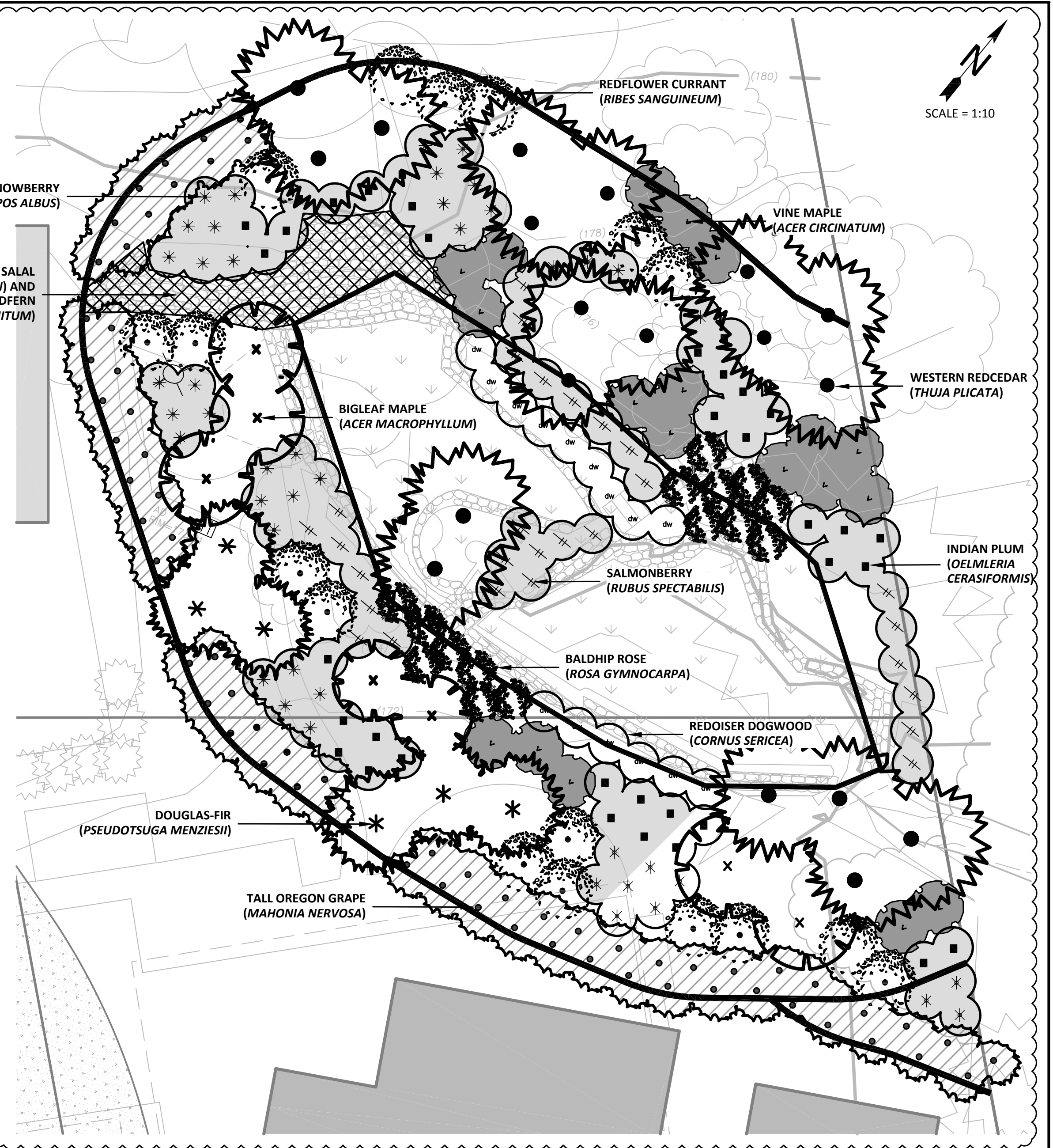
**CONTROL METHODS:**

- REDUCE TOP GROWTH OF NOXIOUS WEEDS. ACCEPTABLE METHODS INCLUDE: POWER SAW, BRUSH HOG, LINE TRIMMER, LOPPERS, CLIPPERS, HAND PULLING, OR APPROVED EQUAL.
- GRUB OUT LARGE ROOT CROWNS AND MAJOR ROOTS BY HAND USING CLAW MATTOCK, PULASKI, OR APPROVED EQUAL.

**MULCH SPECIFICATION:**

MULCH SHALL BE COMMERCIALLY AVAILABLE "**DOT WOODCHIP MULCH**" (WWW.PACIFICTOPSOILS.COM; 425-337-2700), ARBORIST CHIPS, OR APPROVED EQUAL. MULCH SHALL NOT CONTAIN RESIN, TANNIN, OR OTHER COMPOUNDS IN QUANTITIES THAT WOULD BE DETRIMENTAL TO PLANT LIFE. MULCH SHALL NOT BE DERIVED FROM STUMP GRINDINGS AND SHALL NOT CONTAIN SOIL. HOG FUEL OR EQUAL IS NOT ACCEPTABLE. SUBJECT TO REVIEW BY THE PLAN DESIGNER, LOCAL ARBORIST AND/OR COMMERCIAL TREE TRIMMING COMPANIES MAY BE ALTERNATIVE ACCEPTABLE MATERIAL SOURCES (WWW.DROPCHIP.IN).

## PLANTING PLAN, SPECIFICATIONS, AND DETAILS



**PLANTING PLAN NOTES:**

- TOTAL PLANTED AREA = 6,409 SF (6,011 BUFFER + 398 WETLAND).
- PROTECT AND ACCOMMODATE EXISTING NATIVE VEGETATION WITHIN ALL PLANTING AREAS.
- PRIOR TO PLANT INSTALLATION, CONTROL NOXIOUS WEEDS AND REMOVE NON-NATIVE TREES, SHRUBS, AND GRASSES.
- PLANT MATERIAL QUALITY AND LOCATIONS SHALL BE INSPECTED BY PLAN DESIGNER PRIOR TO INSTALLATION.
- PLANT LOCATIONS SHOWN ARE APPROXIMATE. ADJUST PLANT LOCATIONS TO ACCOMMODATE SITE CONDITIONS AND/OR PER PLAN DESIGNER AT TIME OF INSTALLATION.
- FOLLOWING PLANT INSTALLATION, PLACE MULCH AT BASE OF PLANTS TO A MINIMUM DEPTH OF 6 INCHES.

**PLANT SCHEDULE:**

TREES	COMMON NAME	SCIENTIFIC NAME	SIZE/FORM	QTY	NOTES
	BIGLEAF MAPLE	ACER MACROPHYLLUM	2 GALLON CONTAINERIZED	7	8' MIN. ON-CENTER SPACING
	DOUGLAS-FIR	PSEUDOTSUGA MENZIESII	2 GALLON CONTAINERIZED	6	8' MIN. ON-CENTER SPACING
	WESTERN REDCEDAR	THUJA PLICATA	2 GALLON CONTAINERIZED	19	8' MIN. ON-CENTER SPACING
	<b>TOTAL TREES</b>			<b>32</b>	
<b>SHRUBS</b>					
	VINE MAPLE	ACER CIRCINATUM	2 GALLON CONTAINERIZED	19	
	REDOISER DOGWOOD	CORNUS SERICEA	2 GALLON CONTAINERIZED	15	
	TALL OREGON GRAPE	MAHONIA NERVOSA	2 GALLON CONTAINERIZED	64	
	INDIAN PLUM	OELMLERIA CERASIFORMIS	2 GALLON CONTAINERIZED	36	
	REDFLOWER CURRANT	RIBES SANGUINEUM	2 GALLON CONTAINERIZED	17	
	BALDHIP ROSE	ROSA GYMNOCARPA	2 GALLON CONTAINERIZED	15	
	SALMONBERRY	RUBUS SPECTABILIS	2 GALLON CONTAINERIZED	28	
	COMMON SNOWBERRY	SYMPHORICARPOS ALBUS	2 GALLON CONTAINERIZED	44	
	<b>TOTAL SHRUBS</b>			<b>238</b>	
<b>GROUND COVER</b>					
	SALAL	GAUTHERIA SHALLON	1 GALLON CONTAINERIZED	40	2 FEET ON-CENTER TRIANGULAR SPACING
	WESTERN SWORDFERN	POLYSTICHUM MUNITUM	1 GALLON CONTAINERIZED	40	2 FEET ON-CENTER TRIANGULAR SPACING
	<b>TOTAL GROUND COVER</b>			<b>80</b>	

**IRRIGATION REQUIREMENTS:**

IRRIGATION SHALL BE PROVIDED FOR 2 GROWING SEASONS FOLLOWING PLANT INSTALLATION. IRRIGATION SHALL BE PROVIDED BY AN ABOVE GROUND AUTOMATIC SPRINKLER OR AUTOMATIC DRIP SYSTEM THAT PROVIDES A MINIMUM RAINFALL EQUIVALENT OF 1 INCH PER WEEK FROM **JUNE 15 THROUGH SEPTEMBER 15**. IRRIGATION SHALL BE APPLIED IN A MANNER THAT MAINTAINS PLANT HEALTH, PREVENTS WILTING, AND PROMOTES DEEP PLANT ROOT SYSTEMS.