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Utilities Underground Location Center

(ID,MT,ND,OR,WA)

SAFETY PRECAUTION SHALL BE IMPLEMENTED BY CONTRACTOR(S) AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARDS

ELECTRIC - RED | SEWER - GREEN | GAS/OIL - YELLOW | SURVEY - PINK | TELCATV - ORANGE | PROPOSED - WHITE | WATER - BLUE

MILLS SINGLE FAMILY RESIDENTIAL (SFR)

PROJECT INFORMATION

PROJECT NAME:
MILLS SINGLE FAMILY RESIDENCE

TAX PARCEL NUMBER:
192405-9324

SITE ADDRESS:
5236 WEST MERCER WAY
MERCER ISLAND, WA 98040

SITE AREA:
15,682 SQUARE FEET / 0.36 ACRES

JURISDICTION:
CITY OF MERCER ISLAND

AREA CALCULATIONS:
ONSITE WETLAND AREA
= 6,806 SF
ONSITE 35-FOOT WETLAND BUFFER AREA
= 11,315 SF
ONSITE 25-FOOT WETLAND BUFFER AREA
= 7,911 SF
PROPOSED ONSITE WETLAND BUFFER
= 8,370 SF
PROPOSED WETLAND BUFFER RESTORATION AREA
= 8,370 SF

PROPERTY OWNER:
ED MILLS
8430 53RD PL
MERCER ISLAND

APPLICANT:
JOSEPH GREIF
921 NE BOAT STREET
SEATTLE, WA 98105

CIVIL ENGINEER:
PACE ENGINEERS
DAN WESTLEY, P.E.
11255 KIRKLAND WAY, SUITE 300
KIRKLAND, WA 98033
(425) 827-2014

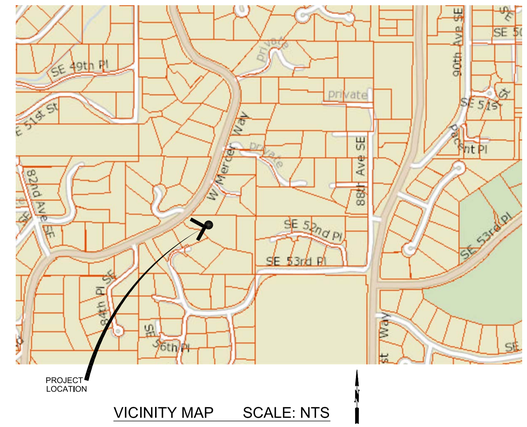
ARCHITECT:
GREIF ARCHITECTS
JOSEPH GREIF
921 NE BOAT STREET
SEATTLE, WA 98105
(206) 465-9201

SURVEYOR:
PACE ENGINEERS, INC.
11255 KIRKLAND WAY, SUITE 300
KIRKLAND, WA 98033
(425) 827-2014

WETLAND BIOLOGISTS:
MARK RIGOS, P.E. AND CHRIS HOLCOMB
440 SE DARST STREET
ISSAQUAH, WA 98027
(425) 652-6013
MARKRIGOS@HOTMAIL.COM

SHEET INDEX:

W1.0 WETLAND BUFFER MITIGATION PLAN
W2.0 MITIGATION NOTES AND DETAILS



VICINITY MAP SCALE: NTS

SPECIAL NOTES:

1. TREE DATA FOR EXISTING TREES IS SHOWN ON THE TOPOGRAPHICAL AND BOUNDARY SURVEY PROVIDED BY OTHERS.
2.

INVASIVE REMOVAL NOTES:

BEFORE INSTALLING PLANTINGS FOR RESTORATION AREAS, TAKE NOTE OF ANY INVASIVE WEED SPECIES FOUND ON-SITE. CONTROL OF THESE SPECIES IS VERY IMPORTANT IN RESTORATION AREAS IN ORDER TO ALLOW FOR THE SUCCESSFUL ESTABLISHMENT OF PLANTINGS THAT MIGHT OTHERWISE HAVE DIFFICULTY COMPETING WITH THESE AGGRESSIVE PLANTS.

WHERE ENCOUNTERED, INVASIVE WEEDS SHOULD BE REMOVED MANUALLY WITHOUT THE USE OF PESTICIDE (INCLUDES HERBICIDE), EXCEPT IN RARE CASES WHEN APPLIED BY A STATE LICENSED PESTICIDE APPLICATOR. MANUAL REMOVAL CAN BE ACCOMPLISHED BY GRUBBING OUT PLANTS AND ROOTS ENTIRELY (INCLUDING SEED PODS, FRUITS AND LEAVES) WITHOUT SIMULTANEOUSLY SPREADING MORE SEEDS. THE IDEAL TIME FOR REMOVAL IS PRIOR TO FLOWERING IN SPRING OR SUMMER. IF REMOVAL IS TO OCCUR AFTER FLOWERING, IT IS RECOMMENDED THAT FLOWERS BE CUT OFF AND DISPOSED OF PRIOR TO GRUBBING. GRUBBED OUT MATERIALS SHOULD BE DISPOSED OF OFF-SITE IMMEDIATELY, SINCE MANY OF THESE SPECIES ARE STILL CAPABLE OF PROPAGATING POST-REMOVAL. DO NOT USE WEED MATERIALS FOR MULCH AND DO NOT PUT INTO COMPOST OR YARD WASTE BINS.

ONCE THE INVASIVE SPECIES HAVE BEEN REMOVED, YOU CAN ASSESS SITE SOIL QUALITY. CERTAIN INVASIVE SPECIES SUCH AS SCOTCH BROOM DISPERSES THOUSANDS OF SEEDS PER PLANT. IN EXTREME CASES, TOPSOIL REMOVAL MAY BE NECESSARY TO EVACUATE THE INVASIVE SEED BANK. DENSE NATIVE PLANTING IS RECOMMENDED AND HAS PROVEN SUCCESSFUL AT PREVENTING WEEDY AND/OR INVASIVE SPECIES FROM REEMERGING.

LEGEND

- CONCRETE WALL
- TEMP. SHORING
- WL — WETLAND BOUNDARY
- W-# — WETLAND FLAG #
- WETLAND FLAG
- WETLAND
- SP-# — SAMPLE POINT FLAG #

WETLAND BUFFER MITIGATION PLAN

GRAPHIC SCALE
20 0 10 20
(IN FEET)
1 inch = 20 ft.

MARK RIGOS
440 SE DARST STREET
ISSAQUAH, WA 98027
(425) 652-6013

MILLS SFR
5236 WEST MERCER WAY
MERCER ISLAND, WA 98040

REV.	DATE:

DATE: 10/09/2017

W1.0

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GENERAL NOTES:

1. THE GOAL OF THIS MITIGATION PLAN IS TO PROVIDE EQUIVALENT OR GREATER HABITAT ASSOCIATED WITH STREAM BUFFER RESTORATION. IT IS A 3-YEAR MONITORING PERIOD.

2. VEGETATION WILL HAVE 100% SURVIVAL RATE AFTER YEAR 1 AND 85% AFTER YEAR 2. VEGETATION WILL HAVE AN 80% SURVIVAL RATE THROUGH THE MONITORING PERIOD. THERE WILL BE LESS THAN 10% AERIAL COVER BY NON-NATIVE INVASIVE SPECIES IN THE MITIGATION AREA DURING THE ENTIRE MONITORING PERIOD.

3. SHRUB COVER WILL BE GREATER THAN 60% AFTER YEAR 1, AND GREATER THAN 60% AFTER YEAR 2, AND GREATER THAN 85% AFTER YEAR 3.

4. NON-NATIVE INVASIVE PLANTS WILL NOT MAKE UP MORE THAN 10% OF COVER IN ANY GROWING SEASON.

5. IF ANY MONITORING REPORT OR CITY INSPECTION SHOWS THAT MITIGATION IS NOT MEETING THESE PERFORMANCE STANDARDS, BOND HOLDER WILL WORK WITH CITY TO PERFORM CORRECTIVE ACTIONS APPROPRIATE TO THE MITIGATION: E.G., FAILING PLANTS WILL BE REPLACED, OTHER PLANT SPECIES WILL BE SUBSTITUTED, NON-NATIVE INVASIVE WILL BE REMOVED BY HAND WITHOUT PESTICIDES, ETC.

6. WHEN IT IS AVAILABLE, CONTACT INFORMATION MUST BE PROVIDED TO CITY FROM THE APPLICANT THAT INCLUDES NAMES, ADDRESSES, AND PHONE NUMBERS OF PERSONS/FIRMS THAT WILL BE RESPONSIBLE FOR INSTALLING REQUIRED PLANTING, AND PERFORMING REQUIRED MAINTENANCE AND MONITORING.

7. FOR THE FIRST YEAR FOLLOWING INSTALLATION, WATER THE MITIGATION AREA AT A RATE OF ONE INCH PER WEEK FROM JUNE THROUGH OCTOBER, IN WEEKS WHEN THERE IS LESS THAN ONE INCH OF RAINFALL. ALSO, THE MITIGATION AREA SHALL BE WATERED AS APPROPRIATE DURING THE VARIOUS SEASONS TO ENSURE A HIGH SHRUB SURVIVAL RATE.

8. IMPLEMENTATION OF THE MITIGATION PLAN MUST OCCUR DURING THE FIRST DORMANT SEASON FOLLOWING INSTALLATION. INSTALLATION MUST BE INSPECTED AND APPROVED BY CITY. THE INSTALLATION INSPECTION WILL VERIFY THAT SOILS HAVE BEEN DECONSOLIDATED AND AMENDED, PLANTS ARE INSTALLED ACCORDING TO DESIGN AND IN GOOD HEALTH, AREA HAS BEEN SEEDED, AND OTHER CONDITIONS HAVE BEEN MET. NURSERY INVOICES MUST BE PROVIDED TO INSPECTOR. ONCE APPROVED, MONITORING PERIOD BEGINS.

9. MONITORING PERIOD WILL BE FOR THREE YEARS, WITH RESULTS OF ANNUAL MONITORING EVENTS REPORTED TO THE CITY. MONITORING MAY BE EXTENDED IF FINAL INSPECTION SHOWS RESTORATION HAS NOT ACHIEVED PERFORMANCE STANDARDS, UNTIL SUCH TIME AS PERFORMANCE STANDARDS HAVE BEEN MET.

10. MONITORING MUST INCLUDE DESCRIPTION/DATA FOR:
- PLANT SURVIVAL, VIGOR, AND ESTIMATED AERIAL COVERAGE
- OBSERVED WILDLIFE, INCLUDING AMPHIBIANS, AVIANS, AND OTHERS
- RECEIPTS FOR OFFSITE DISPOSAL OF ANY DUMPING, WEEDS, OR INVASIVE PLANTS
- 4"x6" COLOR PHOTOGRAPHS FROM PERMANENT PHOTO-POINTS AS SHOWN ON REVISED MITIGATION PLANS

11. THE MITIGATION AREA/BUFFER MUST BE IDENTIFIED USING PERMANENT SENSITIVE AREA BOUNDARY SIGNS INSTALLED IN TWO LOCATIONS. SIGNS ARE AVAILABLE FOR SALE AT THE CITY DPER CASHIER.

12. ANY DEFICIENCY DISCOVERED DURING ANY MONITORING OR INSPECTION VISIT MUST BE CORRECTED WITHIN 60 DAYS.

13. PRIOR TO BEGINNING ANY WORK, THE APPLICANT MUST PROVIDE A RESTORATION BOND OR ASSIGNMENT OF FUNDS PER CITY PROCEDURES. A BOND QUANTITY WORKSHEET WILL NEED TO BE COMPLETED BASED ON ALL ELEMENTS OF THE MITIGATION PLAN. THE TOTAL COST, PLUS CONTINGENCY FEES, WILL BE THE AMOUNT OF THE RESTORATION BOND THE APPLICANT IS REQUIRED TO PROVIDE. NOTE THAT THE APPROVED BOND WILL INCLUDE REQUIRED START DATE FOR MITIGATION CONSTRUCTION. BONDS ARE ELIGIBLE FOR REDUCTION TO MAINTENANCE STATUS AFTER SUCCESSFUL INSTALLATION INSPECTION, PROVIDING THAT IT ALSO MEETS PERFORMANCE STANDARDS ESTABLISHED IN THE MITIGATION PLAN AND CITY SENSITIVE AREA MITIGATION GUIDELINES (OCTOBER 2000).

14. STANDARDS: ALL WORK AND MATERIALS SHALL CONFORM TO CITY STANDARDS AND SPECIFICATIONS, AND TO THE SPECIFICATIONS AND DETAILS SHOWN ON THESE PLANS.

15. CONTRACTOR'S QUALIFICATIONS: ALL WORK SHALL BE PERFORMED BY A LICENSED LANDSCAPE CONTRACTOR REGISTERED IN THE STATE OF WASHINGTON. CONTRACTOR MUST BE EXPERIENCED IN MITIGATION AND RESTORATION WORK. THE CONTRACTOR SHALL PROVIDE THAT THERE IS ONE PERSON ON THE SITE AT ALL TIMES DURING WORK AND INSTALLATION WHO IS THOROUGHLY FAMILIAR WITH THE TYPE OF MATERIALS BEING INSTALLED AND THE BEST METHODS FOR THEIR INSTALLATION, AND WHO SHALL DIRECT ALL WORK BEING PERFORMED UNDER THESE SPECIFICATIONS. THIS PERSON SHALL HAVE A MINIMUM OF FIVE (5) YEARS EXPERIENCE INSTALLING NATIVE PLANT MATERIALS FOR WETLAND MITIGATION OR RESTORATION PROJECTS, UNLESS OTHERWISE ALLOWED BY THE LANDSCAPE DESIGNER, WETLAND BIOLOGIST AND/OR CITY ECOLOGIST.

16. SITE CONDITIONS: THE APPLICANT SHALL IMMEDIATELY NOTIFY CITY OF ANY DISCREPANCIES BETWEEN THESE PLANS AND THE SITE CONDITIONS. THE LOCATIONS OF PLANTS AND THE QUANTITIES OF PLANTS SHOWN MAY BE MODIFIED IN THE FIELD BY THE LANDSCAPE DESIGNER AND / OR THE WETLAND BIOLOGIST BASED ON FIELD CONDITIONS AT THE TIME OF PLANTING.

17. PLANTS: PLANTS IN NUMBER AND SIZE ARE REQUIRED IN ACCORDANCE WITH APPROVED PLANS.

A. ORIGIN: PLANT MATERIALS SHALL BE NATIVE PLANTS, NURSERY GROWN IN THE PUGET SOUND AREA OF WASHINGTON. DUG PLANTS MAY ONLY BE USED UPON APPROVAL OF THE CITY.

B. HANDLING: PLANTS SHALL BE HANDLED SO AS TO AVOID ALL DAMAGE, INCLUDING BREAKING, BRUISING, ROOT DAMAGE, SUNBURN, DRYING, FREEZING OR OTHER INJURY. PLANTS MUST BE COVERED DURING TRANSPORT. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE IN A MANNER THAT COULD DAMAGE BRANCHES. PROTECT PLANT ROOTS WITH SHADE AND WET SOIL IN THE TIME PERIOD BETWEEN DELIVERY AND INSTALLATION. DO NOT LIFT CONTAINER STOCK BY TRUNKS, STEMS, OR TOPS. DO NOT REMOVE FROM CONTAINERS UNTIL READY TO PLANT. WATER ALL PLANTS AS NECESSARY TO KEEP MOISTURE LEVELS APPROPRIATE TO THE SPECIES HORTICULTURAL REQUIREMENTS. PLANTS SHALL NOT BE ALLOWED TO DRY OUT. ALL PLANTS SHALL BE WATERED THOROUGHLY IMMEDIATELY UPON INSTALLATION. SOAK ALL CONTAINERIZED PLANTS THOROUGHLY PRIOR TO INSTALLATION. BARE ROOT PLANTS ARE SUBJECT TO THE FOLLOWING SPECIAL REQUIREMENTS, AND SHALL NOT BE USED UNLESS PLANTED BETWEEN NOVEMBER 1 AND MARCH 1, AND ONLY WITH THE PERMISSION OF THE LANDSCAPE DESIGNER AND CITY ECOLOGIST. BARE ROOT PLANTS MUST HAVE ENOUGH FIBROUS ROOT TO INSURE PLANT SURVIVAL. ROOTS MUST BE COVERED AT ALL TIMES WITH MUD AND/OR WET STRAW, MOSS, OR OTHER SUITABLE PACKING MATERIAL UNTIL TIME OF INSTALLATION. PLANTS WHOSE ROOTS HAVE DRIED OUT FROM EXPOSURE WILL NOT BE ACCEPTED AT INSTALLATION INSPECTION.

C. STORAGE: PLANTS STORED BY THE APPLICANT FOR LONGER THAN ONE MONTH PRIOR TO PLANTING SHALL BE PLANTED IN NURSERY ROWS, AND TREATED IN A MANNER SUITABLE TO THAT SPECIES HORTICULTURAL REQUIREMENTS. PLANTS MUST BE REINSPECTED BY THE WETLAND BIOLOGIST AND / OR LANDSCAPE DESIGNER PRIOR TO INSTALLATION.

D. DAMAGED PLANTS: DAMAGED DRIED OUT, OR OTHERWISE MISHANDLED PLANTS WILL BE REJECTED AT INSTALLATION INSPECTION. ALL REJECTED PLANTS SHALL BE IMMEDIATELY REMOVED FROM THE SITE.

E. PLANT NAMES: PLANT NAMES SHALL COMPLY WITH THOSE GENERALLY ACCEPTED IN THE NATIVE PLANT NURSERY TRADE. ANY QUESTION REGARDING PLANT SPECIES OR VARIETY SHALL BE REFERRED TO THE LANDSCAPE DESIGNER, WETLAND BIOLOGIST OR CITY ECOLOGIST. ALL PLANT MATERIALS SHALL BE TRUE TO SPECIES AND VARIETY AND LEGIBLY TAGGED.

F. PLANT SUBSTITUTIONS: PLANT SUBSTITUTIONS ARE NOT PERMITTED WITHOUT THE PERMISSION OF THE LANDSCAPE DESIGNER, WETLAND BIOLOGIST AND/OR CITY ECOLOGIST. SAME SPECIES SUBSTITUTIONS OF LARGER SIZE DO NOT REQUIRE SPECIAL PERMISSION.

G. QUALITY AND CONDITION: PLANTS SHALL BE NORMAL IN PATTERN OF GROWTH, HEALTHY, WELL-BRANCHED, VIGOROUS, WITH WELL-DEVELOPED ROOT SYSTEMS, AND FREE OF PESTS AND DISEASES. DAMAGED, DISEASED, PEST-INFESTED, SCRAPED, BRUISED, DRIED OUT, BURNED, BROKEN, OR DEFECTIVE PLANTS WILL BE REJECTED. PLANTS WITH PRUNING WOUNDS OVER 1" IN DIAMETER WILL BE REJECTED.

H. ROOTS. ALL PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINERIZED, UNLESS EXPLICITLY AUTHORIZED BY THE LANDSCAPE DESIGNER. ROOT BOUND PLANTS OR B&B PLANTS WITH DAMAGED, CRACKED OR LOOSE ROOTBALLS WILL BE REJECTED. BARE ROOT PLANTINGS OF WOODY MATERIAL IS ALLOWED ONLY WITH PERMISSION FROM THE LANDSCAPE DESIGNER.

I. SIZES. PLANT SIZES SHALL BE AT LEAST THE SIZE INDICATED IN THE PLANT SCHEDULE. LARGER STOCK IS ACCEPTABLE PROVIDED THAT IT HAS NOT BEEN CUT BACK TO SIZE SPECIFIED, AND THAT THE ROOT BALL IS PROPORTIONATE TO THE SIZE OF THE PLANT. MEASUREMENTS, CALIPER, BRANCHING AND BALLING AND BURLAPPING SHALL CONFORM TO THE AMERICAN STANDARD OF NURSERY STOCK BY THE AMERICAN ASSOCIATION OF NURSERYMEN (LATEST EDITION).

J. FORM: EVERGREEN TREES, IF USED, SHALL HAVE SINGLE TRUNKS AND SYMMETRICAL, WELL-DEVELOPED FORM. DECIDUOUS TREES SHALL BE SINGLE TRUNKED UNLESS SPECIFIED AS MULTI-STEM IN THE PLANT SCHEDULE. SHRUBS SHALL HAVE MULTIPLE STEMS, AND BE WELL-BRANCHED.

K. PLANTING: PLANTING SHALL BE DONE IN ACCORDANCE WITH ILLUSTRATED DETAILS IN THE MITIGATION PLAN SET AND ACCEPTED INDUSTRY STANDARDS.

L. WEEDING: EXISTING AND EXOTIC VEGETATION IN THE MITIGATION AND BUFFER AREAS WILL BE HAND WEEDED FROM AROUND ALL NEWLY INSTALLED PLANTS AT THE TIME OF INSTALLATION. NO CHEMICAL CONTROL OF VEGETATION ON ANY PORTION OF THE SITE IS ALLOWED WITHOUT THE WRITTEN PERMISSION OF THE CITY.

M. COMPOST: ALL LANDSCAPED AREAS DENUDED OF VEGETATION AND ALL PLANTING PIT AREAS SHALL RECEIVE NO LESS THAN 2" OF COMPOST AFTER PLANTING. COMPOST SHALL BE KEPT WELL AWAY (AT LEAST 2") FROM THE TRUNKS AND STEMS OF WOODY PLANTS. COMPOST SHALL BE CEDAR GROVE PURE COMPOST OR APPROVED EQUAL. NO BARK PRODUCTS OR SAWDUST WILL BE PERMITTED. WEED-FREE STRAW MAY BE REQUIRED FOR APPLICATION OVER COMPOST FOR EROSION CONTROL (SEE EROSION CONTROL NOTES).

N. SITE CONDITIONS: CONTRACTOR SHALL IMMEDIATELY NOTIFY THE LANDSCAPE DESIGNER AND WETLAND BIOLOGIST OF DRAINAGE OR SOIL CONDITIONS LIKELY TO BE DETRIMENTAL TO THE GROWTH OR SURVIVAL OF PLANTS. PLANTING OPERATIONS SHALL NOT BE CONDUCTED UNDER THE FOLLOWING CONDITIONS: FREEZING WEATHER, WHEN THE GROUND IS FROZEN, EXCESSIVELY WET WEATHER, EXCESSIVELY WINDY WEATHER, OR IN EXCESSIVE HEAT.

O. PLANT LOCATIONS: LOCATIONS SHALL BE AS DEPICTED IN THE APPROVED PLAN SET. THE LANDSCAPE DESIGNER AND / OR WETLAND BIOLOGIST MAY CHANGE THE LOCATIONS OF PLANTINGS SHOWN ON PLANS BASED ON FIELD CONDITIONS.

P. PLANTING IN PITS: PLANTING PITS SHALL BE CIRCULAR OR SQUARE WITH VERTICAL SIDES, AND SHALL BE 6" DEEPER AND 12" LARGER IN DIAMETER THAN THE ROOT BALL OF THE PLANT. BREAK UP THE SIDES OF THE PIT IN COMPACTED SOILS. SET PLANTS UPRIGHT IN PITS, WITH CROWN OF ROOT BALL 2"-3" ABOVE FINAL GRADE. BURLAP SHALL BE REMOVED FROM THE PLANTING PIT. BACKFILL SHALL BE TAMPED DOWN FIRMLY.

Q. WATER: PLANTS SHALL BE WATERED MIDWAY THROUGH BACKFILLING, AND AGAIN UPON COMPLETION OF BACKFILLING. A RIM OF EARTH SHALL BE MOUNDED AROUND THE BASE OF THE TREE OR SHRUB NO CLOSER THAN THE DRIP LINE, EXCEPT ON STEEP SLOPES OR IN HOLLOWS. PLANTS SHALL BE WATERED A SECOND TIME WITHIN 24-48 HOURS AFTER INSTALLATION.

R. INTERMEDIATE INSPECTIONS: ALL PLANTS SHALL BE INSPECTED AND APPROVED BY THE LANDSCAPE DESIGNER AND /OR WETLAND BIOLOGIST PRIOR TO INSTALLATION. CONDITION OF ROOTS OF A RANDOM SAMPLE OF PLANTS WILL BE INSPECTED, AS WELL AS ALL ABOVEGROUND GROWTH ON ALL PLANTS. ROOTS OF ANY BARE ROOT PLANTS, IF PERMITTED FOR USE, WILL BE INSPECTED. PLANT MATERIAL MAY BE APPROVED AT THE SOURCE, AT THE DISCRETION OF THE LANDSCAPE DESIGNER AND THE WETLAND BIOLOGIST, BUT ALL MATERIAL MUST BE RE-INSPECTED AND APPROVED ON THE SITE PRIOR TO INSTALLATION. PLANT LOCATIONS SHALL BE INSPECTED AND APPROVED PRIOR TO PLANTING.

18. HAND SEEDING: SEEDING IS REQUIRED AS DESCRIBED IN APPROVED PLANS,

A. TIMING: SEEDING SHALL NOT TAKE PLACE UNTIL MULCHING IS COMPLETE. CONTRACTOR SHALL INSURE THAT AREAS TO RECEIVE SEED ARE CLEAN OF DEBRIS AND THAT FINAL GRADES ARE CORRECT. SEEDING SHALL BE PERFORMED AFTER OTHER PLANT INSTALLATION IS COMPLETE. SEEDING IS THE FINAL STEP OF THE INITIAL INSTALLATION; SITE SHALL BE CLOSED TO ALL VEHICLES AND FOOT TRAFFIC SHALL BE MINIMIZED AFTER SEEDING IS COMPLETE. SEEDING SHALL NOT TAKE PLACE WHEN THE GROUND IS FROZEN OR IN WINDY WEATHER. SEEDS SHALL BE HAND BROADCAST OR BY MECHANICAL HAND POWERED SPREADER, WITH AS EVEN DISTRIBUTION AS FEASIBLE. AREAS WITHIN 6"-12" OF STEMS OF INSTALLED PLANTS SHALL NOT BE SEEDED.

B. SEED MIX: USE WETLAND SEED MIX IN WETLAND AREA AND BUFFER SEED MIX FOR WETLAND BUFFER AREAS. THE MIX SHOULD BE COMPOSED OF WEIGHT PERCENTAGES SPECIFIED IN THE TABLE. ALL SEED MATERIALS SHALL BE FREE OF WEED SEEDS OR OTHER FOREIGN MATTER DETRIMENTAL TO PLANT GROWTH. NOTE: SEED MIX SHOULD BE ORDERED AS EARLY AS POSSIBLE TO INSURE AN ADEQUATE SUPPLY OF SPECIFIED NATIVE SEED. SEED MIX SHALL NOT INCLUDE CLOVER, PERENNIAL GRASS OR TURF GRASS.

C. POST SEEDING EROSION CONTROL: SCATTER 2" OF CERTIFIED WEED-FREE STRAW ON ALL BARE GROUND AFTER SEEDING IS COMPLETE AND INSPECTED, FOR EROSION CONTROL (SEE EROSION CONTROL NOTES).

19. MAINTENANCE: MAINTENANCE SHALL BE REQUIRED IN ACCORDANCE WITH CITY SENSITIVE AREAS MITIGATION GUIDELINES (2000) AND APPROVED PLANS.

A. SURVIVAL: THE APPLICANT SHALL BE RESPONSIBLE FOR THE HEALTH OF 100% OF ALL NEWLY INSTALLED PLANTS FOR ONE GROWING SEASON AFTER INSTALLATION HAS BEEN ACCEPTED BY CITY ECOLOGIST (SEE PERFORMANCE STANDARDS). A GROWING SEASON IS DEFINED AS OCCURRING FROM SPRING (MARCH 15 - MARCH 15, FOLLOWING YEAR). FOR FALL INSTALLATION, THE GROWING SEASON WILL BEGIN THE FOLLOWING SPRING. THE APPLICANT SHALL REPLACE ANY PLANTS THAT ARE FAILING, WEAK, DEFECTIVE IN MANNER OF GROWTH, OR DEAD DURING THIS GROWING SEASON, AS DIRECTED BY THE APPLICANT'S LANDSCAPE DESIGNER, WETLAND BIOLOGIST, AND/OR CITY ECOLOGIST.

B. INSTALLATION TIMING FOR REPLACEMENT PLANTS: THE APPLICANT'S LANDSCAPE DESIGNER, WETLAND BIOLOGIST, AND/OR CITY ECOLOGIST SHALL DETERMINE TIMING OF THE INSTALLATION FOR REPLACEMENT PLANTS.

C. DURATION AND EXTENT: IN ORDER TO ACHIEVE PERFORMANCE STANDARDS, THE APPLICANT SHALL HAVE THE MITIGATION AREA MAINTAINED FOR THE DURATION OF THE MONITORING PERIOD, 3 YEARS. MAINTENANCE WILL INCLUDE WATERING, WEEDING AROUND BASE OF INSTALLED PLANTS, PRUNING, FERTILIZING, REPLACEMENT, REMOVAL OF DEAD MATERIAL (OTHER THAN FALLEN LOGS, LARGE WOODY DEBRIS, ETC), RESTAKING, AND ANY OTHER MEASURES NEEDED TO INSURE PLANT SURVIVAL. ALL MAINTENANCE SHALL BE DIRECTED BY THE LANDSCAPE DESIGNER AND / OR WETLAND BIOLOGIST.

D. STANDARDS FOR REPLACEMENT PLANTS: REPLACEMENT PLANTS SHALL MEET THE SAME STANDARDS FOR SIZE AND TYPE AS THOSE SPECIFIED FOR ORIGINAL INSTALLATION UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE DESIGNER, WETLAND BIOLOGIST, AND/OR CITY ECOLOGIST. REPLACEMENT PLANTS SHALL BE INSPECTED AS DESCRIBED ABOVE FOR THE ORIGINAL INSTALLATION.

E. REPLANTING: PLANTS THAT HAVE SETTLED IN THEIR PLANTING PITS TOO DEEP, TOO SHALLOW, LOOSE, OR CROOKED SHALL BE REPLANTED AS DIRECTED BY THE LANDSCAPE DESIGNER, WETLAND BIOLOGIST, AND/OR CITY ECOLOGIST.

20. MONITORING: MONITORING SHALL BE CONDUCTED IN ACCORDANCE WITH THE APPROVED MITIGATION / RESTORATION MONITORING PLAN.

A. VEGETATION MONITORING: SAMPLING POINTS OR TRANSECTS WILL BE ESTABLISHED FOR VEGETATION MONITORING, AND PHOTO-POINTS ESTABLISHED FROM WHICH PHOTOS WILL BE TAKEN THROUGHOUT THE MONITORING PERIOD. LINEAR TRANSECTS ARE THE PREFERRED METHOD FOR VEGETATION MONITORING FOR THIS SITE. NO LESS THAN ONE (1) - 25 METER TRANSECTS WILL BE ESTABLISHED IN THE RESTORATION AREA. PERMANENT TRANSECT LOCATION(S) MUST BE IDENTIFIED ON RESTORATION SITE PLANS IN THE FIRST MONITORING REPORT (THEY MAY BE DRAWN ON APPROVED RESTORATION PLANS BY HAND). EACH TRANSECT SHALL DETAIL HERB, SHRUB, AND TREE AERIAL COVER AT RADII OF 1M, 5M, AND 10M RESPECTIVELY, USING THE BRAUN-BLANQUET RELEVE METHOD OR OTHER ACCEPTABLE FIELD METHOD.

B. PHOTOPOINTS: NO LESS THAN THREE (3) PHOTOPOINTS WILL BE ESTABLISHED - PHOTOGRAPHS WILL BE TAKEN FROM AT LEAST THREE (3) POINTS WITHIN THE RESTORATION AREA TO VISUALLY DEPICT THE CONDITION OF THE RESTORATION AREA.

C. REPORTS: MONITORING REPORTS SHALL BE SUBMITTED AFTER THE END OF EACH GROWING SEASON (BY NOVEMBER 15) FOR THREE (3) CONSECUTIVE YEARS FOLLOWING SUCCESSFUL INSTALLATION INSPECTION. MONITORING REPORTS MUST INCLUDE DESCRIPTION / DATA FOR:

I. PLANT SURVIVAL, VIGOR, AND AERIAL COVERAGE FROM EVERY PLANT COMMUNITY (TRANSECT DATA)
II. SITE HYDROLOGY, INCLUDING EXTENT OF INUNDATION, SATURATION, DEPTH TO GROUNDWATER, FUNCTION OF ANY HYDROLOGIC STRUCTURES, INPUTS, OUTLETS, ETC.
III. SLOPE CONDITION, SITE STABILITY, ANY STRUCTURES OR SPECIAL FEATURES
IV. BUFFER CONDITIONS, E.G. SURROUNDING LAND USE, USE BY HUMANS, WILD AND DOMESTIC CREATURES
V. OBSERVED WILDLIFE, INCLUDING AMPHIBIANS, AVIANS, AND OTHERS
VI. SOILS, INCLUDING TEXTURE, MUNSELL COLOR, ROOTING AND OXIDIZED RHIZOSPHERES
VII. RECEIPTS FOR OFF-SITE DISPOSAL OF ANY DUMPING, WEEDS, OR INVASIVE PLANTS
VIII. RECEIPTS FOR ANY STRUCTURAL REPAIR OR REPLACEMENT
IX. 4" X 6" COLOR PHOTOGRAPHS TAKEN FROM PERMANENT PHOTO-POINTS AS SHOWN ON MONITORING PLAN.

D. CONTINGENCY PLAN: SHOULD ANY MONITORING REPORT REVEAL THE MITIGATION HAS FAILED IN WHOLE OR IN PART, AND SHOULD THAT FAILURE BE BEYOND THE SCOPE OF ROUTINE MAINTENANCE, A CONTINGENCY PLAN WILL BE SUBMITTED. THE CONTINGENCY PLAN MAY RANGE IN COMPLEXITY FROM A LIST OF PLANTS SUBSTITUTED, TO CROSS-SECTIONS OF PROPOSED ENGINEERED STRUCTURES. ONCE APPROVED, IT MAY BE INSTALLED, AND WILL REPLACE THE APPROVED MITIGATION PLAN. IF THE FAILURE IS SUBSTANTIAL, THE CITY MAY EXTEND THE MONITORING PERIOD FOR THAT MITIGATION.

PREPARATION AND PLANTING NOTES:

1. ENSURE THAT ALL NON-NATIVE VEGETATION SUCH AS HIMALAYAN BLACKBERRY HAS BEEN REMOVED IN THE MITIGATION AREAS.

2. DECONSOLIDATE DISTURBED SOIL TO A MINIMUM DEPTH OF 12". SPREAD 2" (TWO INCHES) OF VEGETATIVE COMPOST OVER BARE SOILS WITHIN MITIGATION AREA.

3. MIX INTO SOIL TO A DEPTH OF 12" (TWELVE INCHES) USING A ROTOTILLER OR A SHOVEL.

4. PUT PLANTS IN THEIR PLACES ACCORDING TO THE APPROVED BASIC MITIGATION PLAN.

5. DIG SQUARE BOTTOMED HOLES FOR PLANTS, TWICE THE SIZE OF CONTAINER (SEE SHRUB PLANTING DETAIL).

6. SCORE EDGES OF PLANTING HOLE WITH SHOVEL, SO THAT ROOTS CAN TRAVEL OUTSIDE HOLE.

7. LOOSEN PLANT ROOTS SLIGHTLY, AND PLACE IN CENTER OF HOLE, UPRIGHT AND LEVEL WITH GROUND SURFACE.

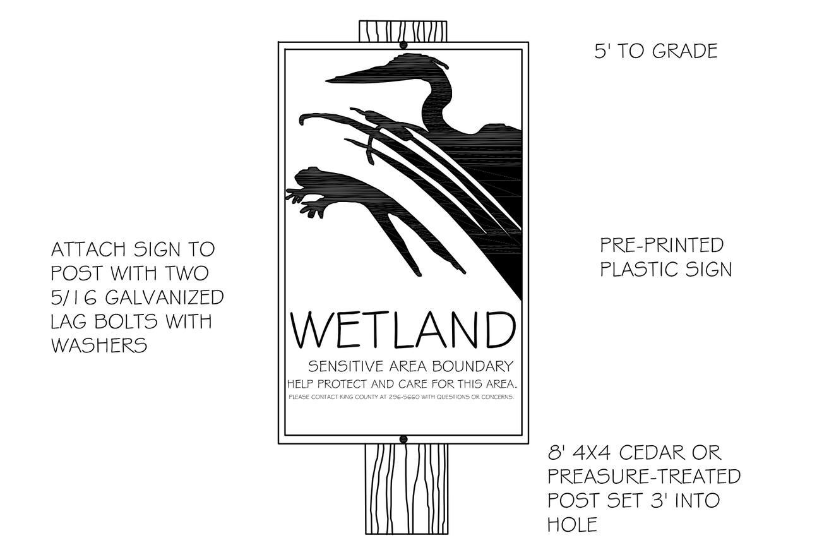
8. AFTER ALL PLANTS HAVE BEEN PLANTED, HANDSEED OVER THE ENTIRE RESTORATION AREA. USE APPROXIMATELY 1-2 POUNDS OF GRASS SEED MIX PER 1,000 SQ. FT. OF MITIGATION AREA USING THE SEED MIXES NOTED BELOW.

9. WATER THE MITIGATION PLANTS WITH WATER RIGHT AFTER PLANTING. CONTINUE TO WATER AS NECESSARY TO ENSURE PLANT SURVIVAL.

10. PLAN SHOWS PLANTS ARRANGED IN NATURALIZED CLUSTERS. PLAN SHOWS CERTAIN PLANTS IN THE WETTER BUFFER AND DRIER BUFFER, ACCORDING TO THEIR WATER AND LIGHT NEEDS.

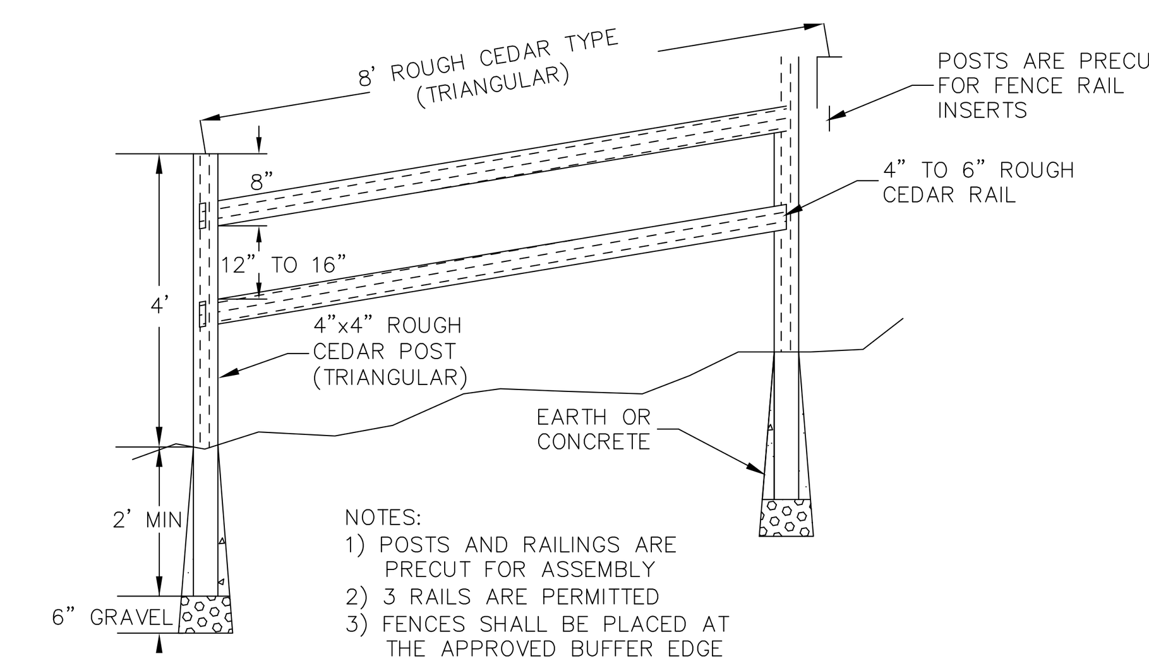
PLANT MATERIALS FOR WETLAND BUFFER RESTORATION

SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	TOTAL NUMBER	STRATUM	SPACING ON CENTER	MAX HEIGHT	SITE PLACEMENT	LIGHT NEEDS
BM	BIG LEAF MAPLE	ACER MACROPHYLLUM	2 GAL.	3	TREE	9'	100'	DRIER BUFFER	SHADE TOLERANT
SP	SHORE PINE	PINUS CONTORTA	2 GAL.	1	TREE	9'	60'	WETTER BUFFER	HIGHLY ADAPTABLE
PY	PACIFIC YEW	TAXUS BREVIFOLIA	2 GAL.	3	TREE	9'	80'	WETTER BUFFER	SHADE TOLERANT
WC	WESTERN RED CEDAR	THUJA PLICATA	2 GAL.	4	TREE	9'	230'	SATURATED SOILS	SHADE DEPENDENT
PW	PACIFIC WILLOW	SALIX LASIANDRA	2 GAL.	3	TREE	9'	50'	SATURATED SOILS	HIGHLY ADAPTABLE
RD	RED-OSIER DOGWOOD	CORNUS STOLONIFERA	2 GAL.	9	SHRUB	6'	20'	SATURATED SOILS	SHADE TOLERANT
VM	VINE MAPLE	ACER CIRCINATUM	2 GAL.	8	SHRUB	5'	25'	WETTER BUFFER	SHADE DEPENDENT
SB	SALMONBERRY	RUBUS SPECTABILIS	2 GAL.	35	SHRUB	5'	15'	WETTER BUFFER	HIGHLY ADAPTABLE
RE	RED ELDERBERRY	SAMBUCUS RACEMOSA	2 GAL.	16	SHRUB	6'	20'	WETTER BUFFER	HIGHLY ADAPTABLE
NR	NOOTKA ROSE	ROSA NUTKANA	2 GAL.	10	SHRUB	5'	10'	WETTER BUFFER	SHADE TOLERANT
O	SHORT OREGON GRAPE	BERBERIES NERVOSA	2 GAL.	35	SHRUB	4'	4'	DRIER BUFFER	SHADE TOLERANT
SF	WESTERN SWORD FERN	POLYSTICHUM MUNITUM	2 GAL.	54	FERN	3'	5'	DRIER BUFFER	SHADE TOLERANT
R	SOFT RUSH	JUNCUS EFFUSES	1 GAL.	12	RUSH	3'	3'	SATURATED SOILS	SHADE TOLERANT
LF	LADY FERN	ATHYRIUM FILIX-FEMINA	1 GAL.	56	FERN	3'	4'	WETTER BUFFER	SHADE TOLERANT
M	TALL MANNAGRASS	GLYCERIA ELATA	1 GAL.	20	GRASS	3'	4.5'	WATER'S EDGE	SHADE DEPENDENT
D	DEER FERN	BLECHUM SPICANT	1 GAL.	11	FERN	2'	2'	WETTER BUFFER	SHADE DEPENDENT

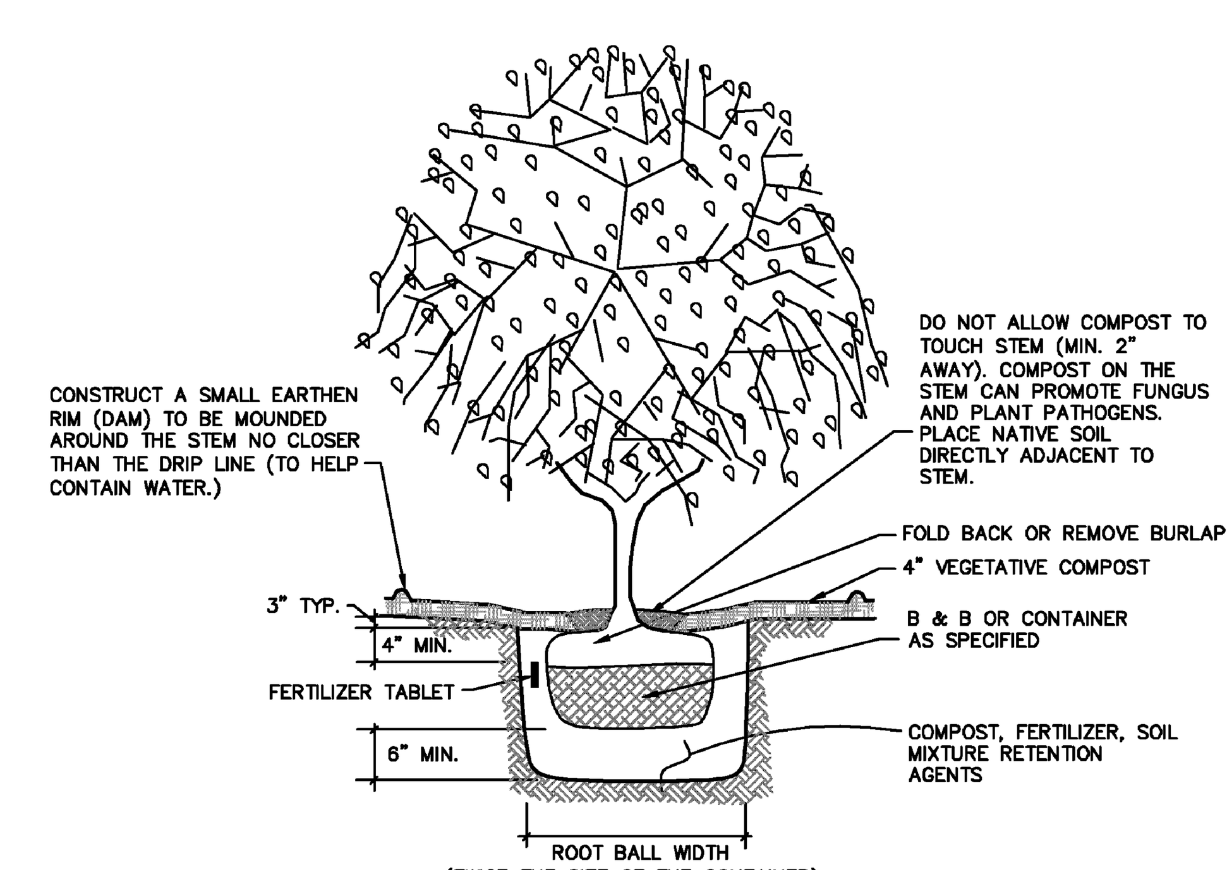


KING COUNTY
WETLAND/STREAM SIGN INSTALLATION DETAIL
NTS

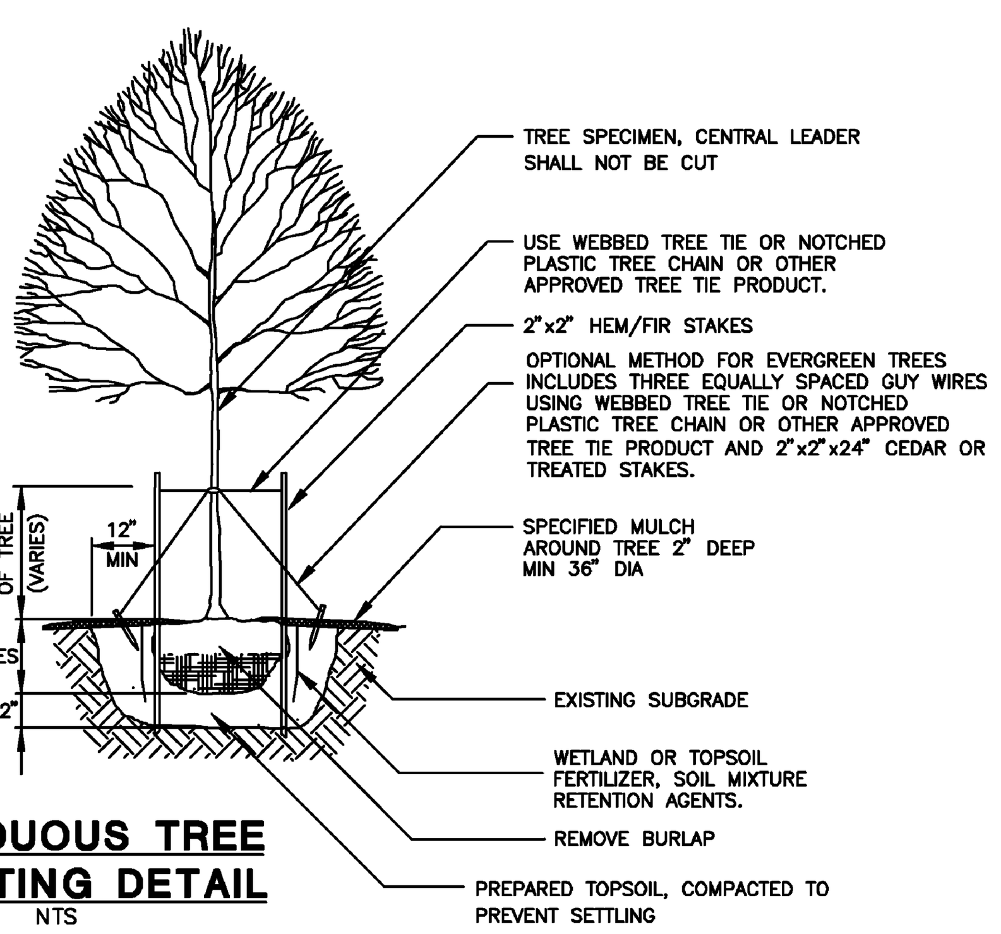
1. WETLAND/STREAM SIGN SHALL BE POSTED AT THE BOUNDARY BETWEEN THE SENSITIVE AREA BUFFER, SETBACK AREA OR TRACT AND THE BUILDING SETBACK AREA.
2. ONE SIGN SHALL BE POSTED WHERE SHOWN ON THE PLAN. SIGNS MAY ALSO BE ATTACHED TO FENCES.
3. SIGNS ARE AVAILABLE FOR $2.50 FROM:
KING COUNTY BUILDING AND LAND DEVELOPMENT DIVISION
900 OAKSDALE AVENUE SW
RENTON, WA. 98055-1219



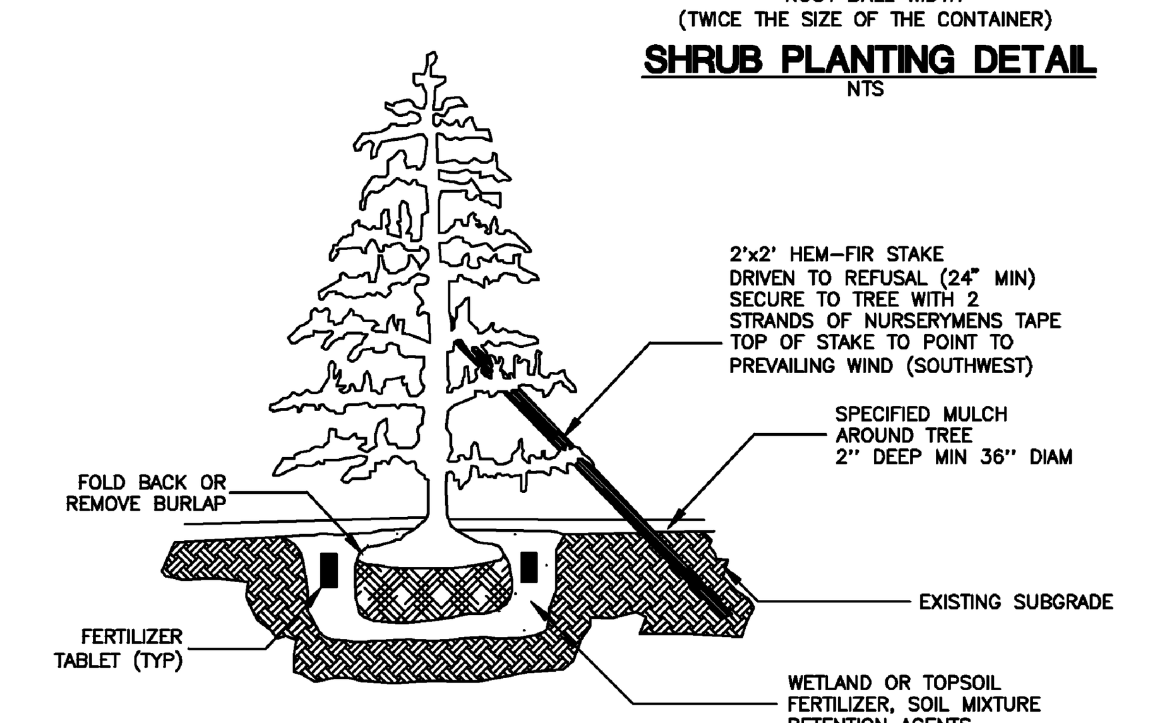
SPLIT-RAIL CEDAR FENCE DETAIL
NTS



SHRUB PLANTING DETAIL
NTS



DECIDUOUS TREE PLANTING DETAIL
NTS



EVERGREEN TREE PLANTING DETAIL
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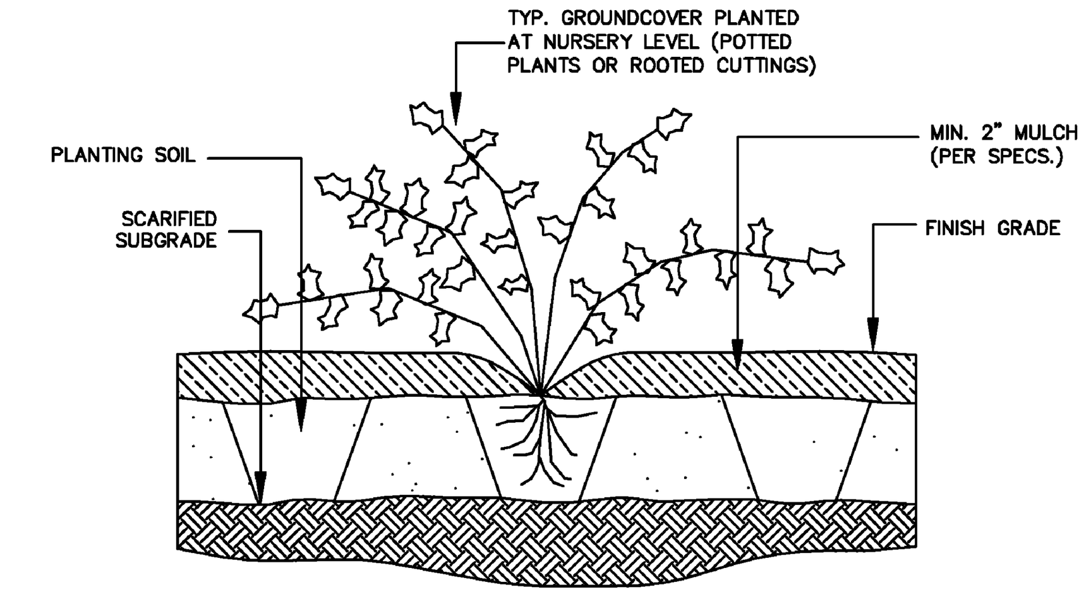

GROUNDCOVER PLANTING DETAIL
NTS

MARK RIGOS
440 SE DARST STREET
ISSAQUAH, WA 98027
(425) 652-6013

MILLS SFR
5236 WEST MERCER WAY
MERCER ISLAND, WA 98040

REV.	DATE:

DATE: 10/09/2017

MITIGATION NOTES AND DETAILS

W2.0