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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 GASOL-YELLOW SURVEY-PINK TELECOM-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 BUFFER ADDITION = 2,004 SF
PROPOSED BUFFER SUBTRACTION = 601 SF
BUFFER ADDITION > SUBTRACTION

PURPOSE OF MITIGATION IS TO IMPROVE FUNCTIONS AND VALUES OF WETLAND AND WETLAND BUFFER.

PROPERTY OWNER:
ED MILLS
8430 53RD PL
MERCER ISLAND

APPLICANT:
JOSEPH GREIF
921 NE BOAT STREET
SEATTLE, WA 98105
(206) 465-4201

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) 465-4201
GREIF@MSN.COM

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

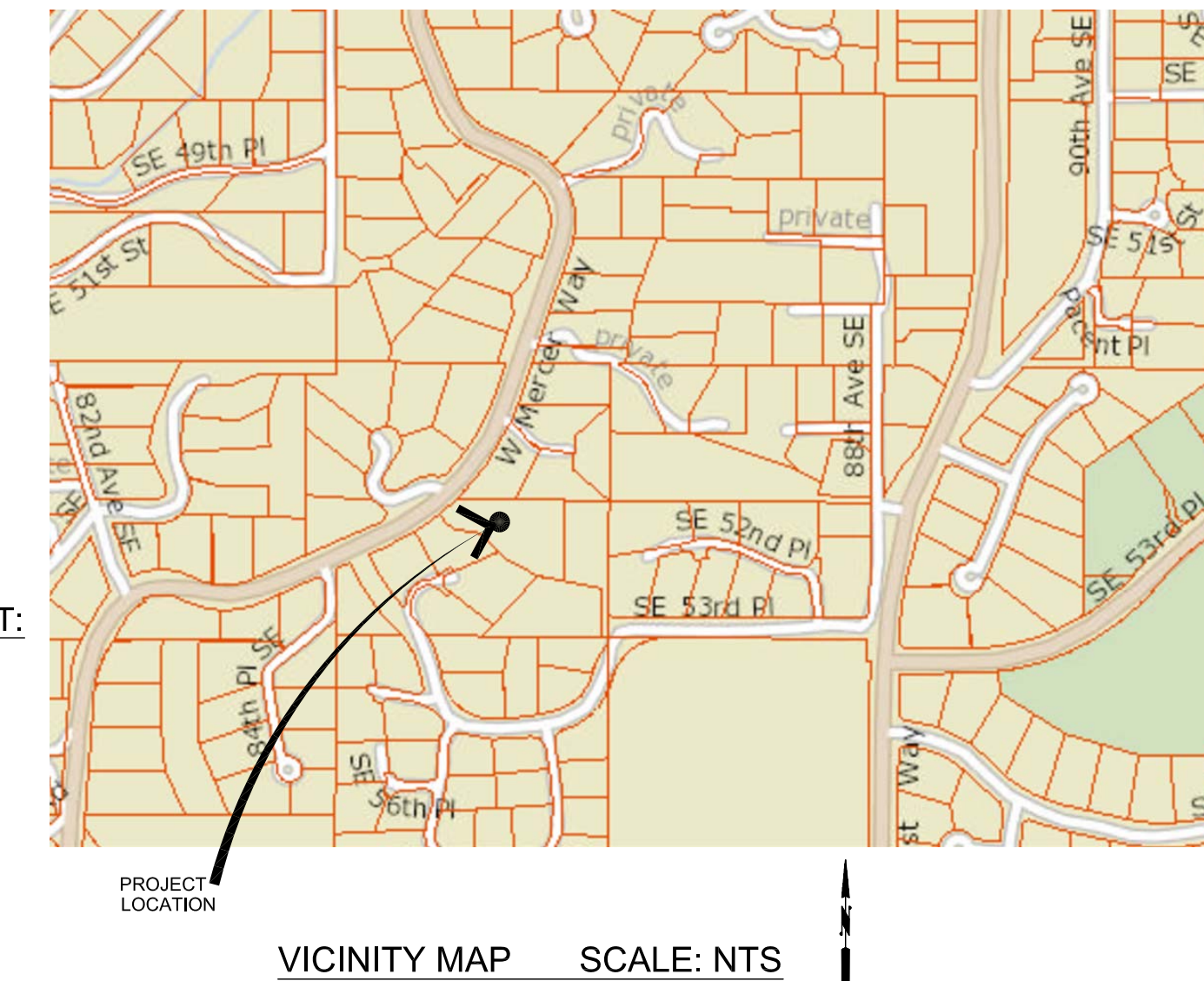
WETLAND BIOLOGISTS:
MARK RIGOS, P.E. AND CHRIS HOLCOMB
440 SE DARST STREET
ISSAQUAH, WA 98027
(425) 652-6013
MARKRIGOS@HOTMAIL.COM

SHEET INDEX:
W1.0 WETLAND BUFFER MITIGATION PLAN
W2.0 MITIGATION NOTES AND DETAILS

ARBORIST:
ARBOR OPTIONS, LLC
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RYAN@ARBOROPTIONS.COM

GEOTECHNICAL ENGINEER:
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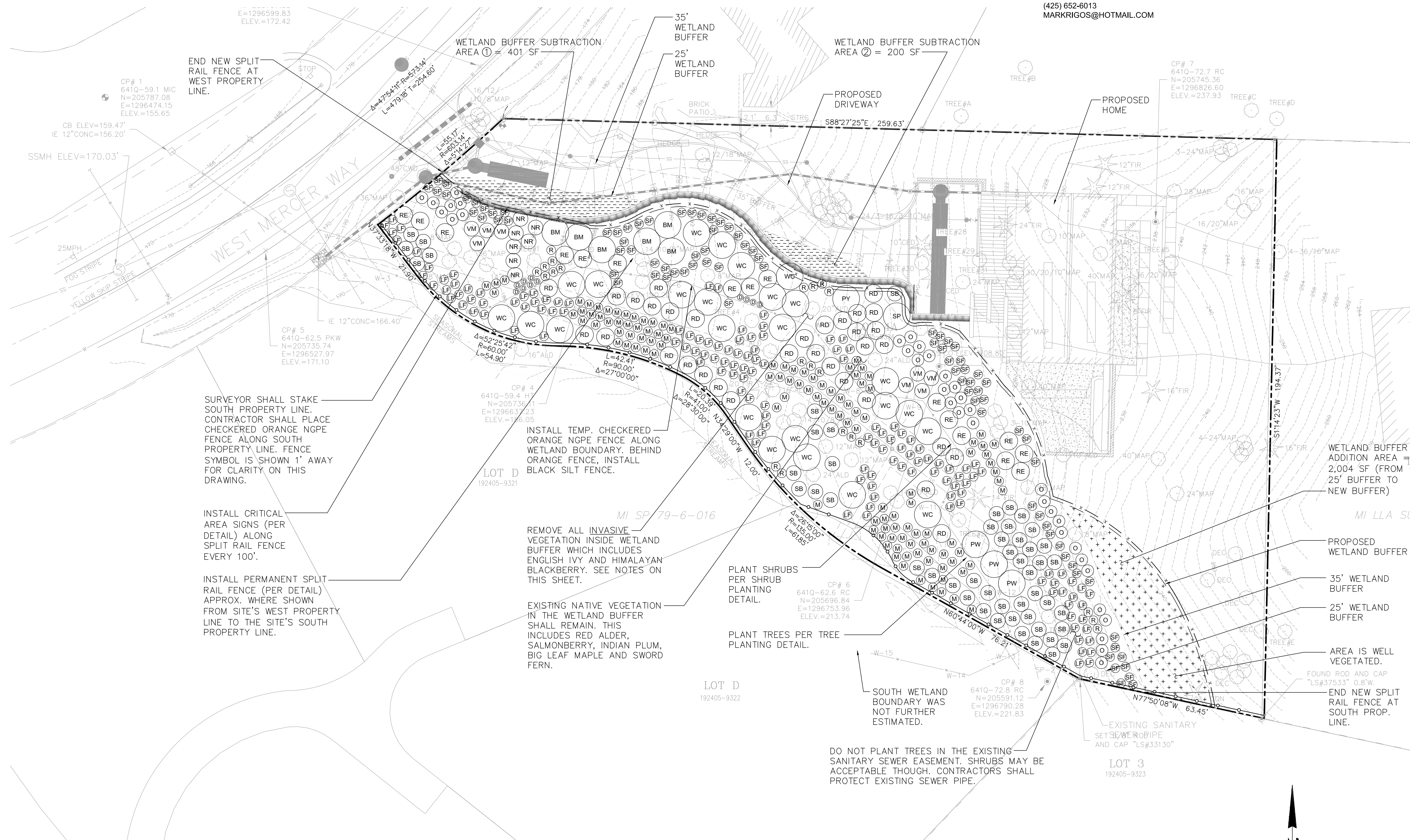


SPECIAL NOTES:
1. TREE DATA FOR EXISTING TREES IS SHOWN ON THE TOPOGRAPHICAL AND BOUNDARY SURVEY PROVIDED BY OTHERS.

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.



SURVEYOR SHALL STAKE SOUTH PROPERTY LINE. CONTRACTOR SHALL PLACE CHECKERED ORANGE NGPE FENCE ALONG SOUTH PROPERTY LINE. FENCE SYMBOL IS SHOWN 1' AWAY FOR CLARITY ON THIS DRAWING.

INSTALL CRITICAL AREA SIGNS (PER DETAIL) ALONG SPLIT RAIL FENCE EVERY 100'.

INSTALL PERMANENT SPLIT RAIL FENCE (PER DETAIL) APPROX. WHERE SHOWN FROM SITE'S WEST PROPERTY LINE TO THE SITE'S SOUTH PROPERTY LINE.

INSTALL TEMP. CHECKERED ORANGE NGPE FENCE ALONG WETLAND BOUNDARY. BEHIND ORANGE FENCE, INSTALL BLACK SILT FENCE.

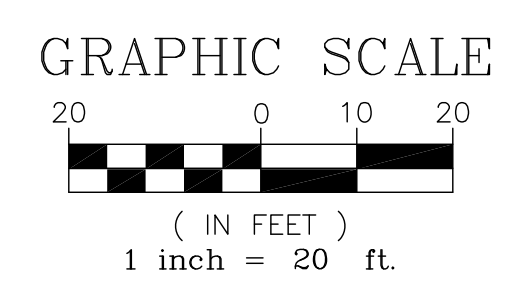
REMOVE ALL INVASIVE VEGETATION INSIDE WETLAND BUFFER WHICH INCLUDES ENGLISH IVY AND HIMALAYAN BLACKBERRY. SEE NOTES ON THIS SHEET.

EXISTING NATIVE VEGETATION IN THE WETLAND BUFFER SHALL REMAIN. THIS INCLUDES RED ALDER, SALMONBERRY, INDIAN PLUM, BIG LEAF MAPLE AND SWORD FERN.

PLANT SHRUBS PER SHRUB PLANTING DETAIL.

PLANT TREES PER TREE PLANTING DETAIL.

LEGEND	
	CONCRETE WALL
	TEMP. SHORING
	WETLAND BOUNDARY
	WETLAND FLAG #
	WETLAND FLAG
	WETLAND
	WETLAND BUFFER ADDITION AREA
	WETLAND BUFFER SUBTRACTION AREA
	SPLIT RAIL FENCE
	ORANGE CHECKERED NGPE FENCE
	SAMPLE POINT FLAG #



WETLAND BUFFER MITIGATION PLAN

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

MILLS SFR
 5236 WEST MERCER WAY
 MERCER ISLAND, WA 98040

REV.	DATE:
1	10/09/2017

DATE: 04/16/2018

W1.0

MILLS SINGLE FAMILY RESIDENTIAL (SFR)

GENERAL NOTES:

1. THE GOAL OF THIS MITIGATION PLAN IS TO PROVIDE EQUIVALENT OR GREATER HABITAT ASSOCIATED WITH STREAM AND WETLAND BUFFER RESTORATION. IT IS A 5-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 5.
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 DECONTAMINATED 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 FIVE 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 OFF-SITE 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 KING COUNTY DPFR 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, PROVIDED 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 DIED 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, SCRAPPED, 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 SIZE 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 NURSEYMEN (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 DENIUED 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 TAMPEP DOWN FIRMLY.

Q. WATER: PLANTS SHALL BE WATERED MIDWAY THROUGH BACKFILLING, AND AGAIN UPON COMPLETION OF BACKFILLING. A RIM OF EARTH SHALL BE MOUNDING AROUND THE BASE OF THE TREE OR SHRUB NO CLOSER THAN THE DRIP LINE, EXCEPT ON STEEP SLOPES OR IN HOLLOWAYS. 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. 5 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.), RESTAINING, 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 RADI OF 1M, 5M, AND 10M RESPECTIVELY, USING THE BRAUN-BLANQUET RELIEF 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 FIVE (5) CONSECUTIVE YEARS FOLLOWING SUCCESSFUL INSTALLATION INSPECTION. MONITORING REPORTS MUST INCLUDE DESCRIPTION / DATA FOR:

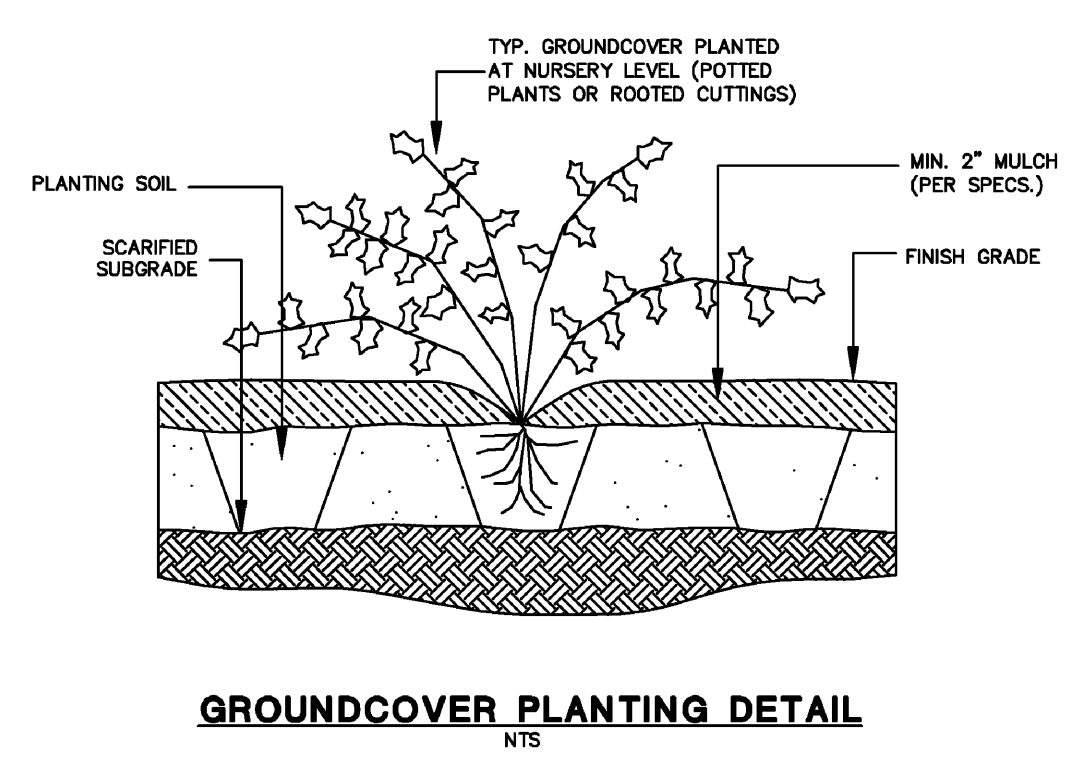
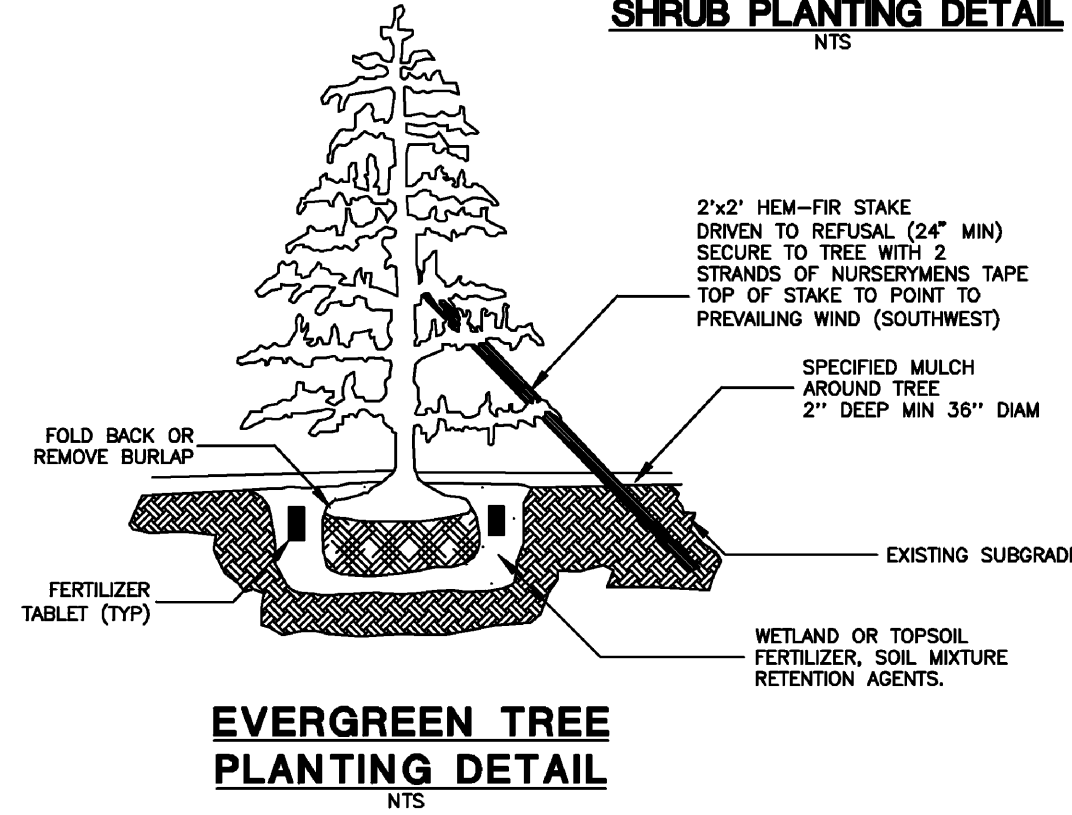
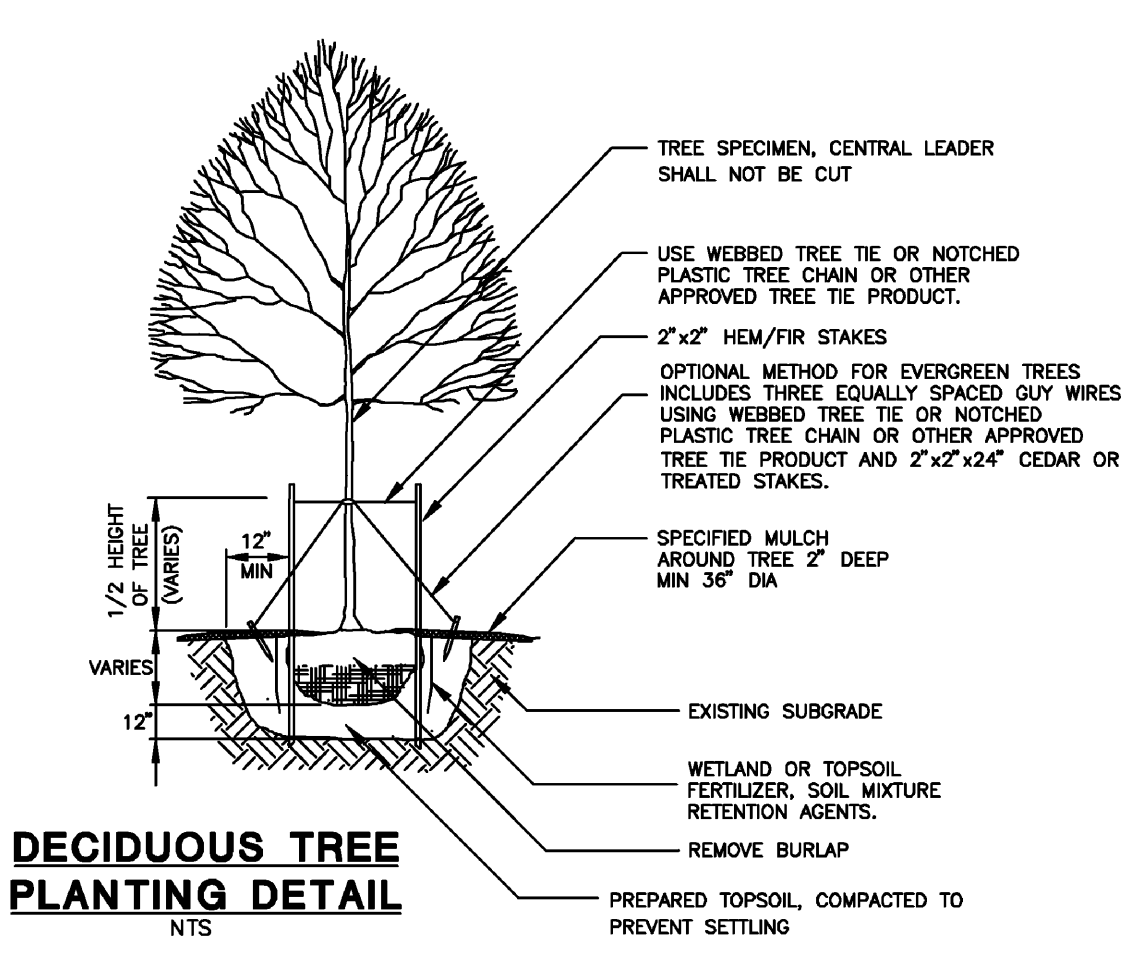
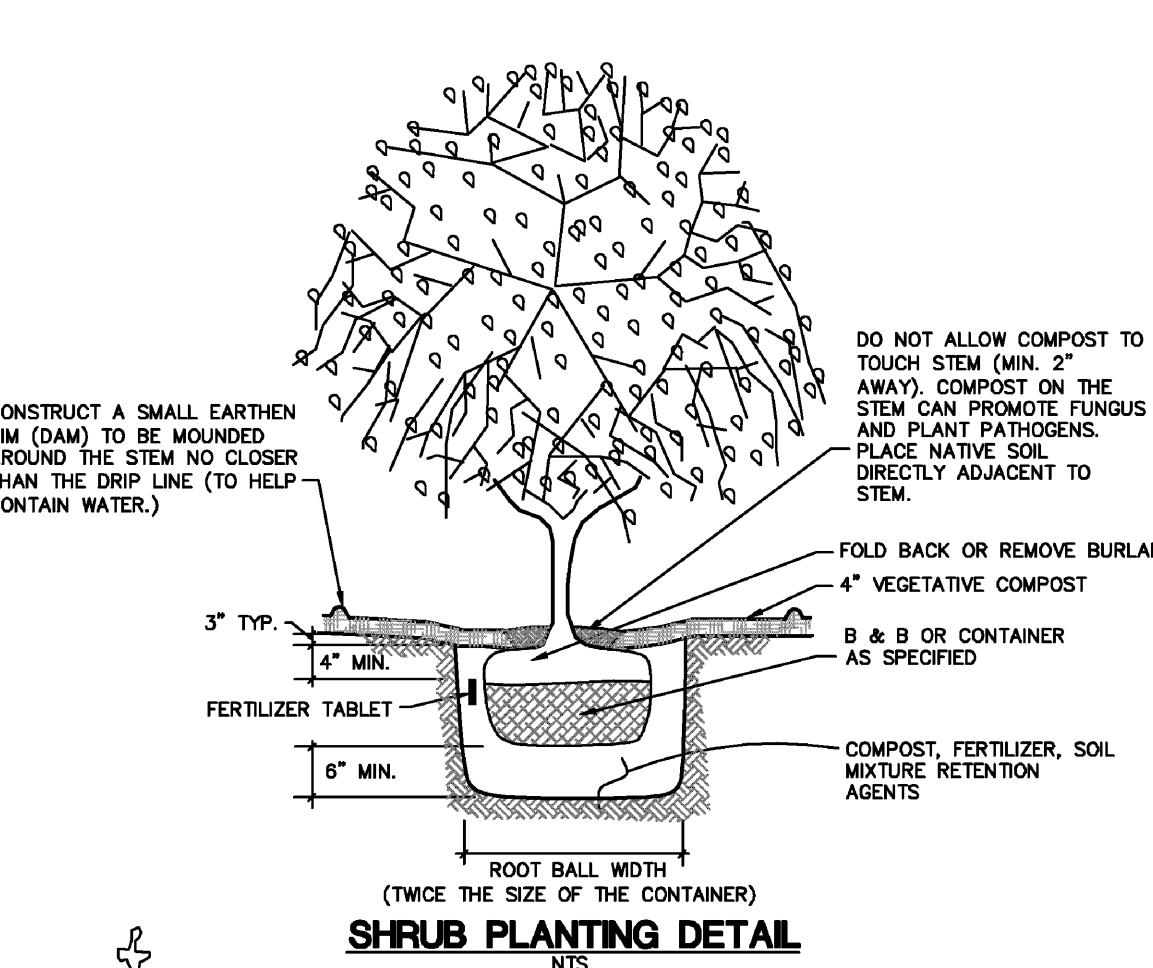
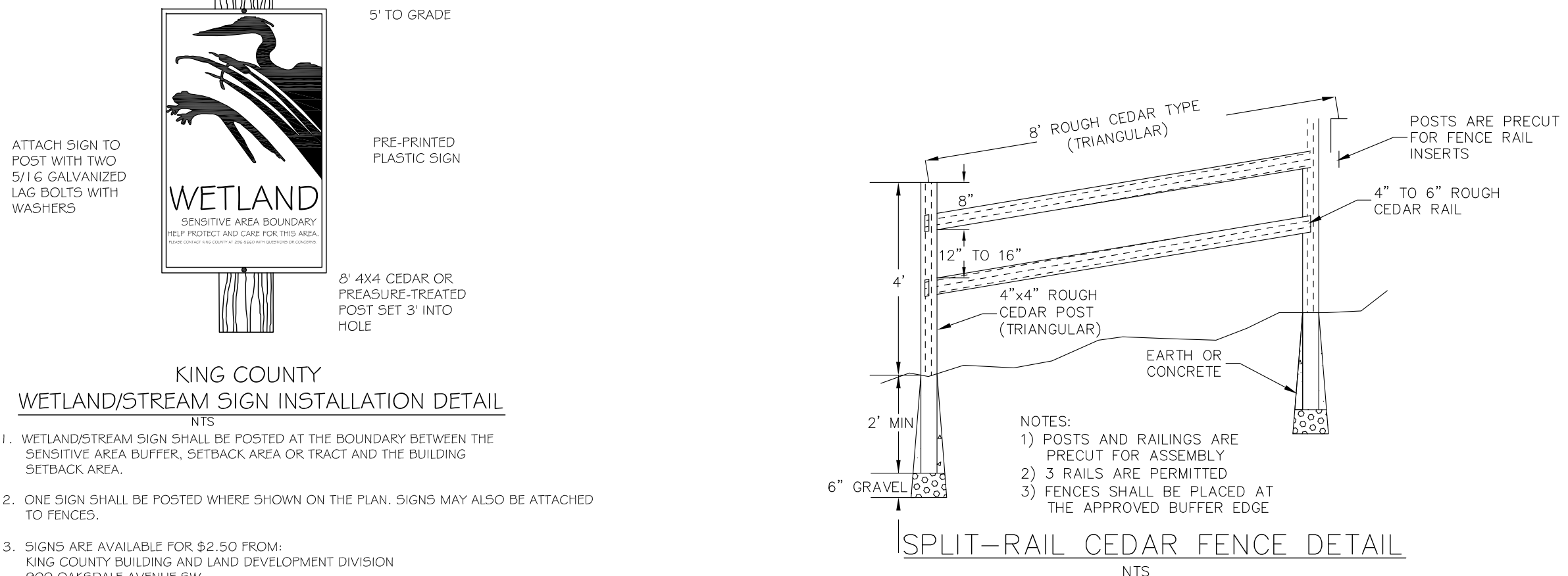
- I. PLANT SURVIVAL, VIGOR, AND AERIAL COVERAGE FROM EVERY PLANT COMMUNITY (TRANSECT DATA)
- II. SITE HYDROLOGY, INCLUDING EXTENT OF INUNDATION, SATURATION, DEPTH TO GROUNDWATER, FUNCTION OF ANY HYDROLOGIC STRUCTURES, INTAKES, OUTLETS, ETC.
- III. SOLE CONDITION, SITE STABILITY, ANY STRUCTURES OR SPECIAL 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,
- VII. MUNSELL COLOR, ROOTING AND OXIDIZED RHIZOSPHERES
- VIII. RECEIPTS FOR OFF-SITE DISPOSAL OF ANY DUMPING, WEEDS, OR INVASIVE PLANTS
- 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. DECONTAMINATE 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, HANDSOE 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.	6	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.	1	TREE	9'	80'	WETTER BUFFER	SHADE TOLERANT
WC	WESTERN RED CEDAR	THUJA PLICATA	2 GAL.	25	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.	33	SHRUB	6'	20'	SATURATED SOILS	SHADE TOLERANT
VM	VINE MAPLE	ACER GRCINATUM	2 GAL.	8	SHRUB	5'	25'	WETTER BUFFER	SHADE DEPENDENT
SB	SALMONBERRY	RUBUS SPECTABILIS	2 GAL.	51	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.	7	SHRUB	5'	10'	WETTER BUFFER	SHADE TOLERANT
O	SHORT OREGON GRAPE	BERBERIS NERVOOSA	2 GAL.	35	SHRUB	4'	4'	DRIER BUFFER	SHADE TOLERANT
SF	WESTERN SWORD FERN	POLYSTICHUM MUNITUM	2 GAL.	89	FERN	3'	5'	DRIER BUFFER	SHADE TOLERANT
R	SOFT RUSH	JUNCUS EFFUSUS	1 GAL.	22	RUSH	3'	3'	SATURATED SOILS	SHADE TOLERANT
LF	LADY FERN	ATHYRIUM FLIX-FEMINA	1 GAL.	142	FERN	3'	4'	WETTER BUFFER	SHADE TOLERANT
M	TALL MANNAGRASS	GLYCERIA ELATA	1 GAL.	105	GRASS	3'	4.5'	WATER'S EDGE	SHADE DEPENDENT
D	DEER FERN	BLECHUM SPICANT	1 GAL.	11	FERN	2'	2'	WETTER BUFFER	SHADE DEPENDENT



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

MILLS SFR
5236 WEST MERCER WAY
MERCER ISLAND, WA 98040

REV.	DATE:
1	10/09/2017

DATE: 04/16/2018

MITIGATION NOTES AND DETAILS

W2.0

5236 W MERCER WAY

SINGLE FAMILY RESIDENCE

CIVIL ENGINEERING PLANS

MAY 2018

PROJECT DATA

AREA SUMMARY:

TOTAL SITE AREA: 37,350 SF
 TOTAL IMPERVIOUS AREA: 8,000 SF
 IMPERVIOUS COVERAGE: 21.4%

EARTHWORK QUANTITIES:

CUT: 3,200* CY
 FILL: 50* CY
 NET: 3,150* CY (CUT)

* EARTHWORK QUANTITIES FOR PERMITTING PURPOSES ONLY

SETBACKS:

FRONT: 20- FEET
 SIDE: 5 MIN. (SUM 15)- FEET EACH SIDE
 REAR: 25- FEET

RECORD LEGAL DESCRIPTION:

LOT 4A OF THE REVISED MILLS LOT LINE REVISION.

SURVEY NOTES:

HORIZONTAL DATUM: NAD 1983/91 BASED ON FOUND MONUMENTS IN WEST MERCER WAY.

VERTICAL DATUM: NAVD 88 BASED ON FOUND MONUMENTS IN WEST MERCER WAY.

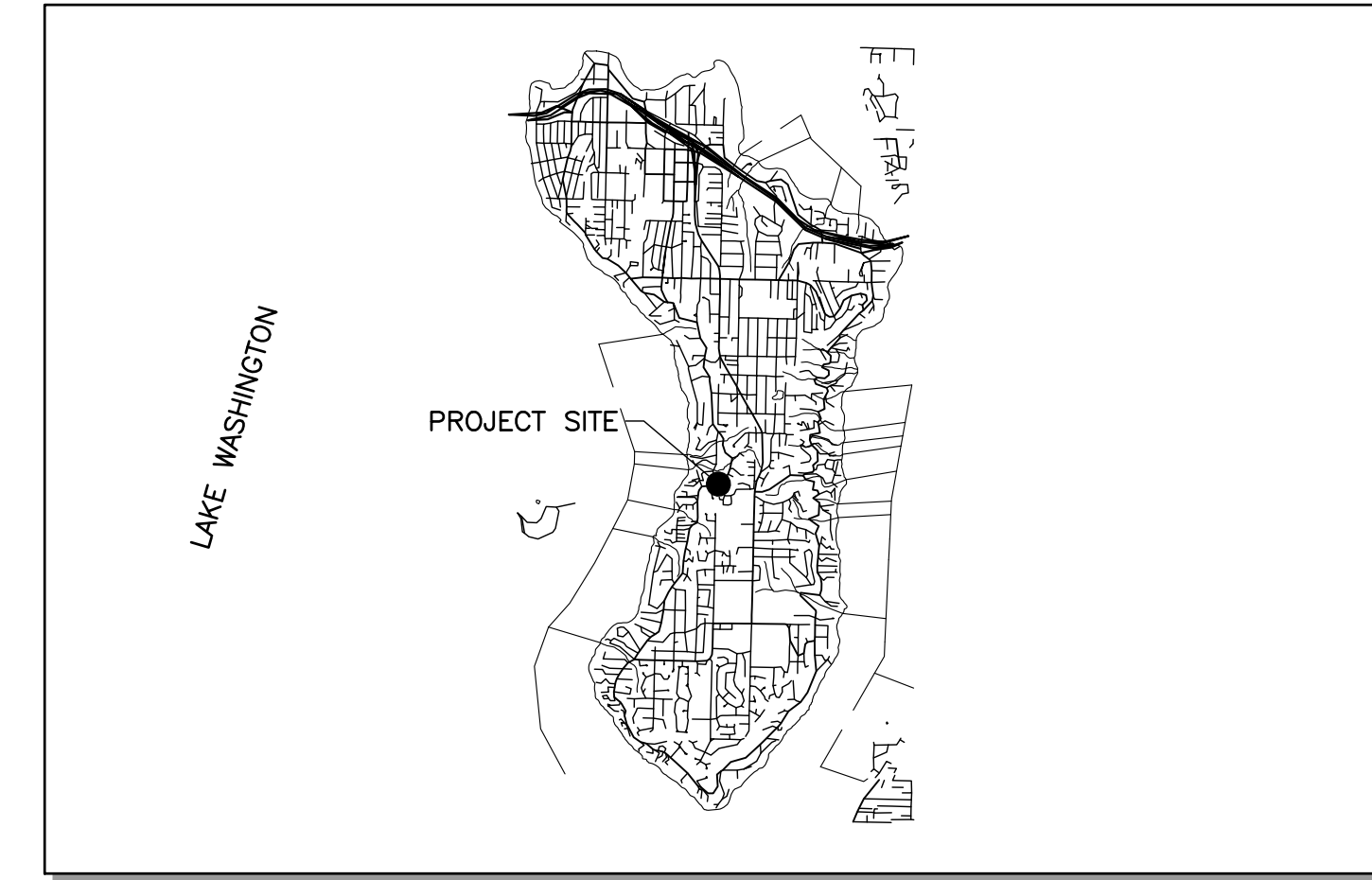
SITE AREA: 37,350 SQUARE FEET, MORE OR LESS.

UTILITY PURVEYOURS

WATER: CITY OF MERCER ISLAND
SEWER: CITY OF MERCER ISLAND
GAS: PUGET SOUND ENERGY
POWER: PSE
CABLE: COMCAST
PHONE: COMCAST
GARBAGE: REPUBLIC SERVICES



11255 Kirkland Way, Suite 300
 Kirkland, WA 98033
 p. 425.827.2014 | f. 425.827.5043
 Civil | Structural | Planning | Survey
 www.paceengrs.com



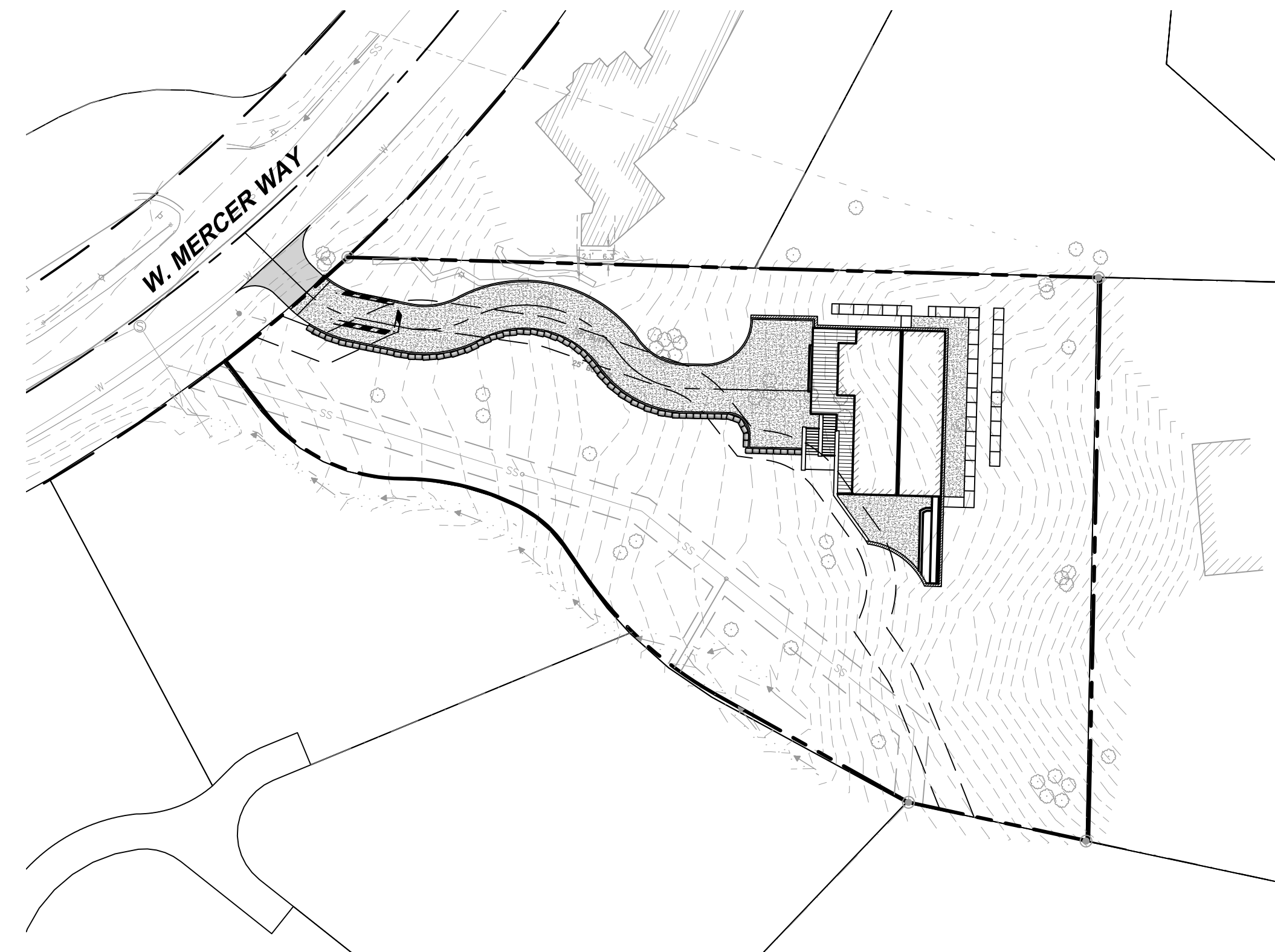
VICINITY MAP
 NTS

SITE INFORMATION

ADDRESS: 5236 W MERCER WAY

TAX PARCEL NO.: 192405-9324

ZONING: R-15



SITE PLAN

SCALE= 1"=40'

SHEET LIST TABLE

SHEET #	SHEET TITLE
C0.0	COVER SHEET
C0.1	EXISTING CONDITIONS
C0.2	TREE PROTECTION PLAN
C1.0	TESC PLAN
C1.1	TESC DETAILS
C2.0	ROAD, GRADING, STORM AND UTILITY PLAN
C2.1	STORM DRAINAGE DETAILS
C2.2	STORM DRAINAGE DETAILS
C2.3	SANITARY SIDE SEWER DETAILS
C2.4	WATER DETAILS

OWNER/DEVELOPER/CONSULTANTS

APPLICANT / ARCHITECT:

JOSEPH GREIF, AIA
 GREIF ARCHITECTS/LIVING ARCHITECTURE
 921 NE BOAT ST.
 SEATTLE, WA 98105
 (206) 465-4201
 GREIF@MSN.COM

CIVIL ENGINEER:

DAN WESTLEY, P.E.
 PACE ENGINEERS, INC.
 11255 KIRKLAND WAY
 SUITE 300
 KIRKLAND, WA 98033
 (425) 827-2014
 DANW@PACEENGRS.COM

GEOTECHNICAL ENGINEER:

JON C. REHKOPF, P.E.
 PANGEO, INC.
 3213 EASTLAKE AVENUE EAST
 SUITE D
 SEATTLE, WA 98102
 (206) 262-0370
 JREHKOPF@PANGEOINC.COM

SURVEYOR:

BILL HAWKINS, P.L.S.
 PACE ENGINEERS, INC.
 11255 KIRKLAND WAY
 SUITE 300
 KIRKLAND, WA 98033
 (425) 827-2014
 BILLH@PACEENGRS.COM

ARBORIST:

RYAN RINGE
 ARBOR OPTIONS, LLC
 (206) 755-5826
 RYAN@ARBOROPTIONS.COM

STRUCTURAL ENGINEER:

TOM WOLF
 QUALITY ENGINEERING AND DESIGN
 (206) 817-8834
 WOLFTOMJ@MSN.COM

WET LAND ENVIRONMENTALIST:

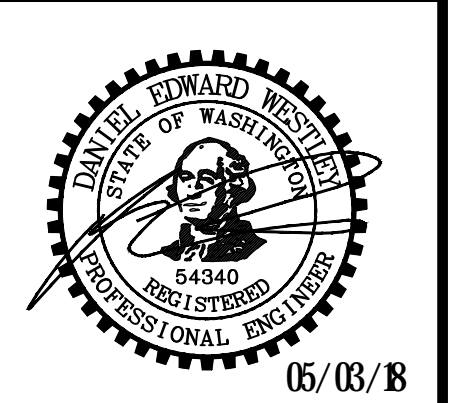
MARK RIGOS
 (425) 652-6013
 MARKRIGOS@HOTMAIL.COM

CONTRACTOR:

PAUL FERLITO
 (425) 953-3787
 PAUL@EDENCUSTOMBUILDERS.COM

NO.	DATE	REVISION	SYM.

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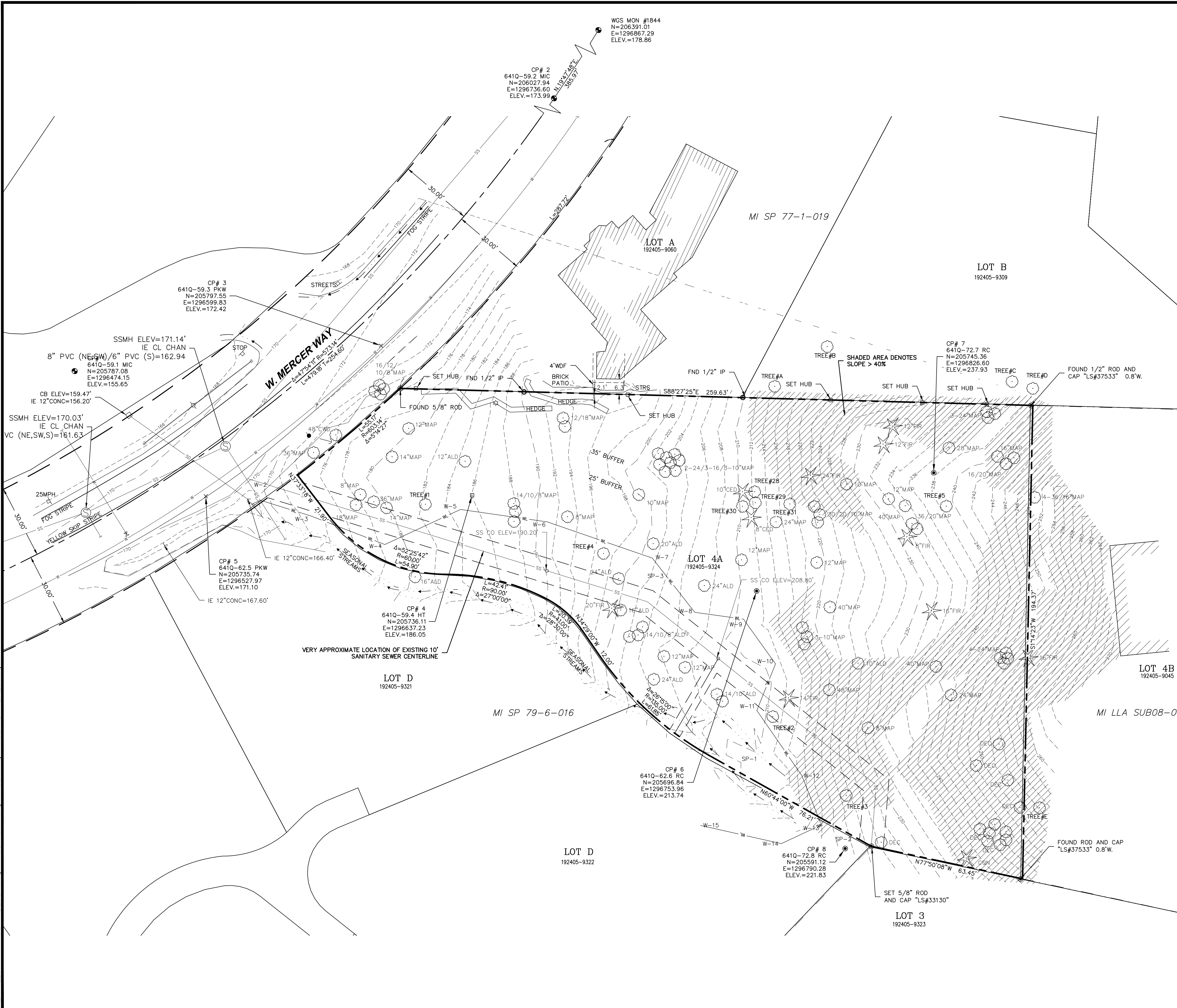
5236 W MERCER WAY
 SINGLE FAMILY RESIDENCE
 COVER SHEET

SCALE:	DATE:
AS SHOWN	05/03/18
DESIGNED BY:	CHECKED BY:
DW	JS
JOB NUMBER	17387
SHEET:	C0.0
SHEET 1 OF 10	

CALL BEFORE YOU DIG 8-11
 UNDERGROUND SERVICE (USA)

FILE NAME: P:\P1717387 5236 WEST MERCER WAY_SFR\CAD\ENGINEERING\SHEETS\P17387-CVR.DWG
 SAVE TIME: 5/3/2018 8:44:54 PM
 PLOT TIME: 5/3/2018 8:45:05 PM
 USER NAME: MICHAEL PARKER
 XREF FILES: X17387-TBLOCK.dwg X17387-SRV.dwg V17387.dwg X17387-SP.dwg X17387-HA.dwg

FILE NAME: P:\P1717387_5236 WEST MERCER WAY SFR\CAD\ENGINEERING\SHETS\P17387-EC.DWG
 SAVE TIME: 10/24/2017 8:14 PM
 PLOT TIME: 5/3/2018 2:06 PM
 USER NAME: MICHAEL PARKER
 XREF FILES: X17387-TBLOCK.dwg X17387-SRV.dwg X17387-DRIPLINES.dwg



RECORD LEGAL DESCRIPTION:
 LOT 4A OF THE REVISED MILLS LOT LINE REVISION.

REFERENCES:
 REVISED MILLS LOT LINE REVISION, MI LLA #SUB08-003. VOL. 265, PG. 020.
 AF#20090710900001

LEGEND

	WATER VALVE
	HYDRANT
	SOIL TEST PIT
	WETLAND FLAG
	WATER METER
	MANHOLES (SS/SD)
	CB
	POWER/UTILITY POLE
	GUY ANCHOR
	POWER TRANSFORMER
	POWER/TELEPHONE VAULT
	POWER METER
	TELEPHONE/TV RISER
	GAS VALVE
	JUNCTION BOX
	GAS METER
	STREET LIGHT LUMINAIRE
	SPOT ELEVATION
	SIGN
	MAILBOX
	ROCKERY
	CONIFEROUS TREE
	DECIDUOUS TREE
	CASED MONUMENT
	MAGNETIC NAIL W/ WASHER
	REBAR AND CAP
	HUB AND TACK

	CENTER LINES
	PROPERTY LINES
	RIGHT-OF-WAY LINES
	LOT LINES
	DITCH LINE
	FLOW LINE
	WATER LINE
	SANITARY SEWER LINE
	STORM DRAIN LINE
	GAS LINE
	UNDERGROUND POWER LINES
	UNDERGROUND TELEPHONE LINES
	UNDERGROUND CABLE TV LINES
	UNDERGROUND FIBER OPTIC LINES
	OVERHEAD POWER LINES
	OVERHEAD UTILITY LINES
	CHAIN LINK FENCE
	WIRE FENCE
	WOOD FENCE

SHADED AREA DENOTES SLOPE > 40%

NOTES:

HORIZONTAL DATUM: NAD 1983/91 BASED ON FOUND MONUMENTS IN WEST MERCER WAY.

VERTICAL DATUM: NAVD 88 BASED ON FOUND MONUMENTS IN WEST MERCER WAY.

SITE AREA: 37,350 SQUARE FEET, MORE OR LESS.

ALL DISTANCES SHOWN ARE GROUND DISTANCES UNLESS OTHERWISE NOTED.

THE LOCATION AND DESCRIPTION OF ALL SURVEY MARKERS SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS TAKEN IN APRIL, 2017, UNLESS OTHERWISE INDICATED.

WORK PERFORMED IN CONJUNCTION WITH THIS SURVEY UTILIZED THE FOLLOWING EQUIPMENT AND PROCEDURES: (A) 1" TRIMBLE S6 SERIES ELECTRONIC TOTAL STATION, MAINTAINED TO THE MANUFACTURER'S SPECIFICATIONS PER W.A.C. 332-130-100. (B) FIELD TRAVERSE, EXCEEDING REQUIREMENTS SET FORTH IN W.A.C. 332-130-090.

THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND DOES NOT PURPORT TO SHOW ALL EASEMENTS.

THIS TOPOGRAPHIC SURVEY DRAWING ACCURATELY PRESENTS SURFACE FEATURES LOCATED DURING THE COURSE OF THIS SURVEY. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED SOLELY UPON INFORMATION PROVIDED BY OTHERS AND PACE ENGINEERS, INC. DOES NOT ACCEPT RESPONSIBILITY OR ASSUME LIABILITY FOR THEIR ACCURACY OR COMPLETENESS. CONTRACTOR/ENGINEERS SHALL VERIFY EXACT SIZE AND LOCATION PRIOR TO CONSTRUCTION.

CALL FOR LOCATE: UTILITY LOCATION SERVICE: 811

SCALE: AS SHOWN DATE: 05/03/18

DESIGNED BY: DW CHECKED BY: JS

JOB NUMBER: 17387

SHEET: C0.1

SHEET 2 OF 10

CALL BEFORE YOU DIG 8-11
 UNDERGROUND SERVICE (USA)

DATE	
REVISION	
SYM	

PACE
 An Engineering Services Company
 11255 Kirkland Way, Suite 300
 Kirkland, WA 98033
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 Civil | Structural | Planning | Survey
 paceengus.com

WILLIAM R. HARKINS
 STATE OF WASHINGTON
 REGISTERED
 PROFESSIONAL LAND SURVEYOR

5236 W MERCER WAY
 SINGLE FAMILY RESIDENCE

EXISTING CONDITIONS

**Arborist Report notes for 5236 W Mercer Way Mercer Island
by Arbor Options, llc - Ryan Ringe - 206 755 5826**

There are 100 total trees in this inventory (59 non-wetlands subject property significant trees, 22 wetlands buffer subject property trees, 9 wetlands subject property trees, 7 adjacent property encroaching trees, and 3 ROW trees.)

A significant tree in Mercer Island is 6 in. DBH or greater for deciduous trees, and 6 ft. tall or greater for conifer trees.

Notes

Trees Marked as Hazards should be made into wildlife snags and left in place if approved by a Qualified Arborist. This will lessen the amount of wood removal, help with hillside erosion control, and provide wildlife habitat.

Tree 1345 is prioritized for retention. An analysis of this tree to evaluate tree stability and wind firmness after the proposed removal of adjacent trees is to be provided by a Qualified Arborist and include the dominance of tree in the stand.

Tree # 1158 (20" Bigleaf Maple) is located in the 35 ft. Buffer zone, and is a hazard tree. It should be removed before construction begins (or after construction entrance roads are made, with all of the large tree removals, a roadway will need to be established before removal).

Tree #1400 (10.5" Western Hemlock, Non-Wetlands tree) is in poor health and should be removed. It is also located within the proposed building footprint.

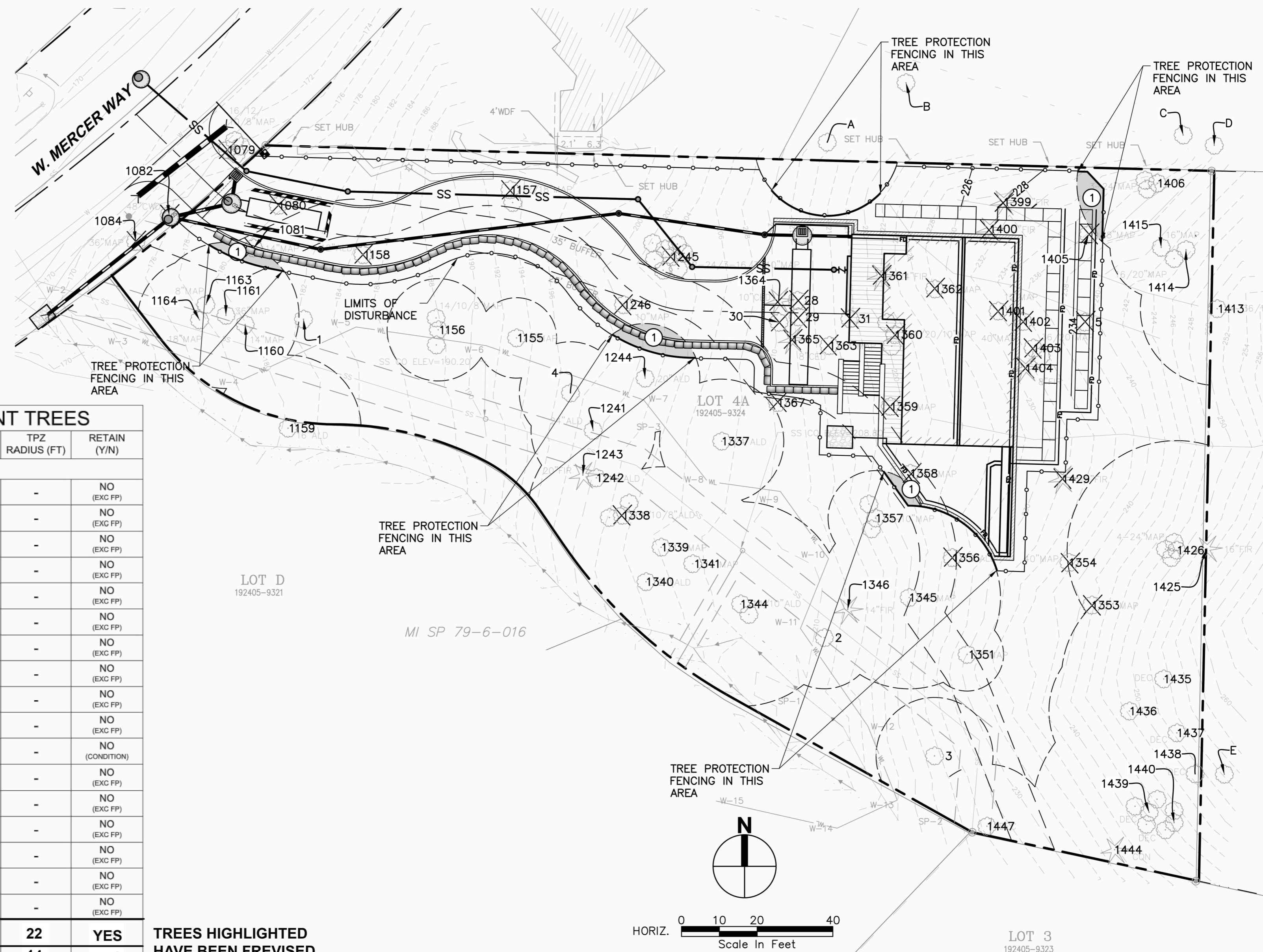
Tree #1429 (16" Western Hemlock, Non-Wetlands tree) has decay in the upper stem, and is questionable. It should be removed unless specifically desired for retention, in which case it would require aerial inspection/ coring.

Tree #1354 (47.3" Bigleaf Maple, Non-Wetlands tree) is a hazard tree and should be removed.

Tree #1439 (41.1" Bigleaf Maple, Non-Wetlands tree) has a large dead stem that should be removed or shortened.

Tree #1084 (29.5" Bigleaf Maple in the R.O.W.) is a hazard tree, and should be removed/ snagged into wildlife tree, if the City desires to retain it they should be aware of it and monitor frequently).

Trees Impacted by disturbance/ excavation to be Retained
See below for notes and TPZ (Tree Protection Zone) radius.



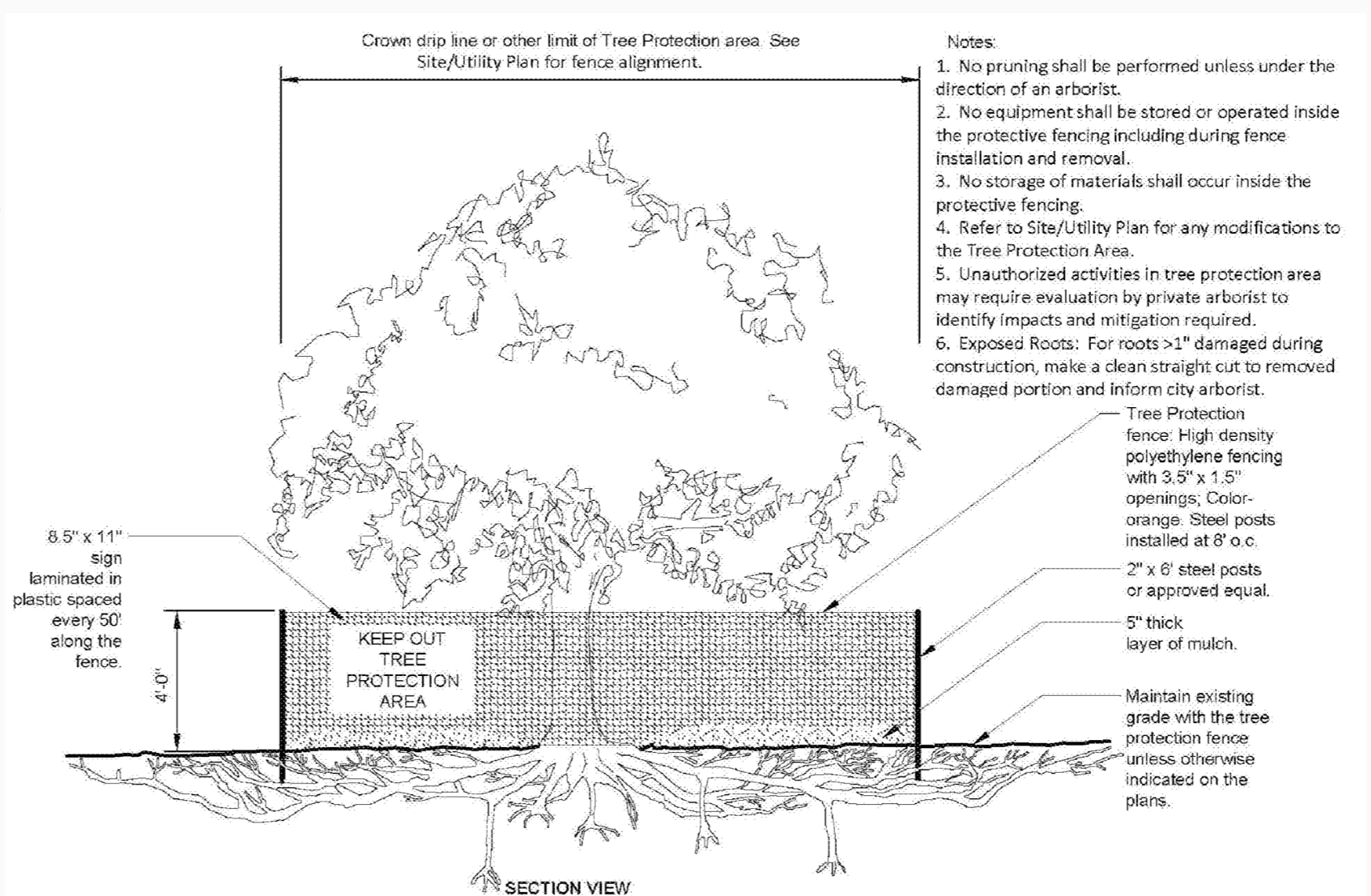
SUBJECT PROPERTY SIGNIFICANT TREES

TREE #	SPECIES	DBH (IN.)	HT. (FT.)	CONDITION	TPZ RADIUS (FT)	RETAIN (Y/N)
(35' WETLANDS BUFFER)						
1081	BIGLEAF MAPLE	21.7	80	FAIR/ POOR	-	NO (IMPACT)
1161	BIGLEAF MAPLE	33.2	85	GOOD	20	YES
1160	BIGLEAF MAPLE	13.7	80	GOOD	14	YES
1163	BIGLEAF MAPLE	6.4	25	FAIR/ POOR	7	YES
1164	BIGLEAF MAPLE	20.9	70	GOOD/ FAIR	17	YES
1158	RED ADLER	20.0	25	VERY POOR	-	NO (HAZARD)
01	BIGLEAF MAPLE	6.2	40	GOOD	-	NO (IMPACT)
1156	BIGLEAF MAPLE	23.1	70	FAIR	14	YES
1155	BIGLEAF MAPLE	7.6	40	FAIR	11	YES
1246	BIGLEAF MAPLE	9.0	50	GOOD/ FAIR	-	NO (EXC FP)
1244	RED ADLER	19.7	70	GOOD	15	YES
1337	RED ADLER	23.0	75	GOOD/ FAIR	17	YES
1367	BIGLEAF MAPLE	10.1	55	FAIR	-	NO (EXC FP)
1358	BIGLEAF MAPLE	36.8	100	GOOD/ FAIR	-	NO (EXC FP)
1357	BIGLEAF MAPLE	18.4	70	GOOD/ FAIR	13	YES
1345	BIGLEAF MAPLE	44.3	100	GOOD/ FAIR	25	YES
1346	WESTERN HEMLOCK	18.1	80	GOOD/ FAIR	14	YES
02	BIGLEAF MAPLE	7.1	20	FAIR	14	YES
1356	PACIFIC DOGWOOD	10.6	40	FAIR	-	NO (IMPACT)
1351	BIGLEAF MAPLE	9.3	40	GOOD/ FAIR	10	YES
03	BIGLEAF MAPLE	6.7	35	GOOD	16	YES
1447	BIGLEAF MAPLE	10.0	40	GOOD	17	YES
(WETLANDS)						
1241	RED ADLER	20.5	80	FAIR/ POOR	17	YES
04	BIGLEAF MAPLE	18.1	85	GOOD/ FAIR	14	YES
1242	RED ADLER	13.8	85	FAIR/ POOR	11	YES
1243	WESTERN HEMLOCK	15.7	70	FAIR	11	YES
1338	RED ADLER	20.2	70	GOOD/ FAIR	26	YES
1339	BIGLEAF MAPLE	12.0	85	GOOD/ FAIR	22	YES
1340	RED ADLER	21.4	70	FAIR	24	YES
1341	BIGLEAF MAPLE	13.0	60	GOOD/ FAIR	22	YES
1344	RED ADLER	17.2	85	GOOD/ FAIR	28	YES
ENCROACHING ADJACENT PROPERTY SIGNIFICANT TREES						
A	WESTERN RED CEDAR	26	70	GOOD	20	YES
B	WESTERN HEMLOCK	22	80	GOOD/ FAIR	22	YES
C	BIGLEAF MAPLE	16	50	FAIR	12	YES
D	BIGLEAF MAPLE	17	70	GOOD/ FAIR	13	YES
E	BIGLEAF MAPLE	40	-	-	30	YES
1413	BIGLEAF MAPLE	42	100	GOOD	21	YES
1159	RED ADLER	20	-	-	20	YES
R.O.W. SIGNIFICANT TREES						
1079	BIGLEAF MAPLE	20.1	60	GOOD/ FAIR	-	NO (IMPACT)
1082	BLACK COTTONWOOD	41.9	110	GOOD	-	NO (IMPACT)
1084	BIGLEAF MAPLE	29.5	70	POOR	-	NO (HAZARD)

SUBJECT PROPERTY SIGNIFICANT TREES

TREE #	SPECIES	DBH (IN.)	HT. (FT.)	CONDITION	TPZ RADIUS (FT)	RETAIN (Y/N)
(NON-WETLANDS)						
1080	BIGLEAF MAPLE	11.9	50	GOOD	-	NO (EXC FP)
1157	BIGLEAF MAPLE	19.1	50	FAIR	-	NO (EXC FP)
1245	BIGLEAF MAPLE	47.3	90	GOOD/ FAIR	-	NO (EXC FP)
1363	BIGLEAF MAPLE	23.1	80	GOOD/ FAIR	-	NO (EXC FP)
1365	WESTERN RED CEDAR	6.6	20	GOOD/ FAIR	-	NO (EXC FP)
1364	WESTERN RED CEDAR	10.1	40	GOOD	-	NO (EXC FP)
1361	DOUGLAS FIR	20.7	70	GOOD/ FAIR	-	NO (EXC FP)
1360	BIGLEAF MAPLE	43.4	90	GOOD/ FAIR	-	NO (EXC FP)
1359	BIGLEAF MAPLE	12.8	70	FAIR	-	NO (EXC FP)
1362	BIGLEAF MAPLE	12.1	60	GOOD/ FAIR	-	NO (EXC FP)
1400	WESTERN HEMLOCK	10.5	40	POOR	-	NO (CONDITION)
1399	WESTERN HEMLOCK	10.0	40	GOOD/ FAIR	-	NO (EXC FP)
1401	BIGLEAF MAPLE	10.8	50	GOOD/ FAIR	-	NO (EXC FP)
1402	BIGLEAF MAPLE	37.4	75	FAIR	-	NO (EXC FP)
1403	BIGLEAF MAPLE	39.4	85	GOOD/ FAIR	-	NO (EXC FP)
1404	WESTERN HEMLOCK	8.0	40	GOOD/ FAIR	-	NO (EXC FP)
1405	BIGLEAF MAPLE	23.3	80	GOOD/ FAIR	-	NO (EXC FP)
1406	BIGLEAF MAPLE	38.6	90	GOOD/ FAIR	22	YES
1415	BIGLEAF MAPLE	11.6	20	FAIR/ POOR	14	YES
1414	BIGLEAF MAPLE	28.9	90	FAIR	-	NO (IMPACT)
05	BIGLEAF MAPLE	7.6	30	GOOD/ FAIR	-	NO (EXC FP)
1429	WESTERN HEMLOCK	16.0	55	FAIR/ POOR	-	NO (HAZARD)
1354	BIGLEAF MAPLE	47.3	50	POOR	-	NO (HAZARD)
1353	BIGLEAF MAPLE	34.7	75	FAIR/ POOR	-	NO (HAZARD)
1426	BIGLEAF MAPLE	48.9	90	FAIR	30	YES
1425	WESTERN HEMLOCK	14.6	60	FAIR	15	YES
1435	BIGLEAF MAPLE	26.2	90	GOOD/ FAIR	28	YES
1437	BIGLEAF MAPLE	34.7	90	GOOD	29	YES
1438	BIGLEAF MAPLE	28.5	90	GOOD/ FAIR	31	YES
1436	BIGLEAF MAPLE	10.2	30	GOOD/ FAIR	22	YES
1439	BIGLEAF MAPLE	41.1	90	GOOD/ FAIR	32	YES
1440	BIGLEAF MAPLE	41.5	90	GOOD/ FAIR	32	YES
1444	WESTERN RED CEDAR	19.1	50	GOOD	18	YES
06-08	LEYLAND CYPRESS	4	15-20	GOOD/ FAIR	-	NO (IMPACT)
09-27	LEYLAND CYPRESS	3.5-5.5	15-20	GOOD/ FAIR	6	YES
28	WESTERN RED CEDAR	5.2	25	GOOD/ FAIR	-	NO (EXC FP)
29	WESTERN RED CEDAR	2.8	20	GOOD/ FAIR	-	NO (EXC FP)
30	WESTERN RED CEDAR	1.9	15	GOOD/ FAIR	-	NO (EXC FP)
31	WESTERN RED CEDAR	2.1	12	GOOD/ FAIR	-	NO (EXC FP)

TREES HIGHLIGHTED HAVE BEEN REVISED TYPICAL THIS TABLE

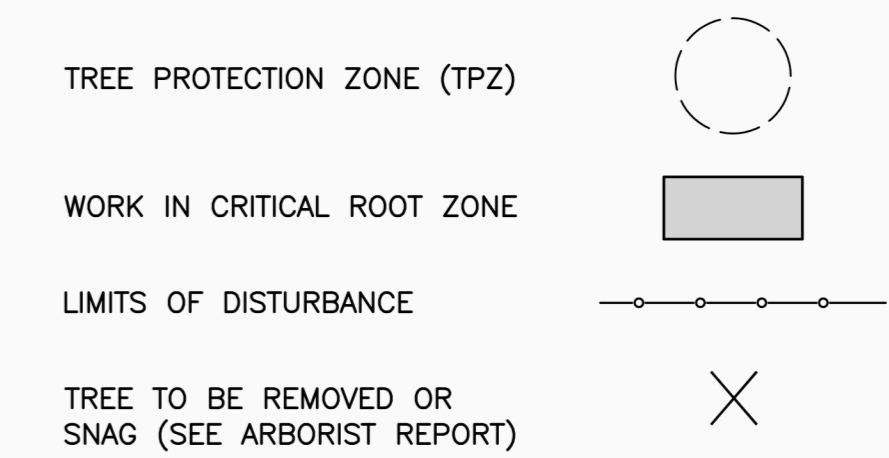


1 TREE PROTECTION DETAIL

KEYED NOTES:

- ARBORIST SUPERVISION WILL BE REQUIRED DURING EXCAVATION FOR ALL PRESERVED TREES WITH GRADING OR EXCAVATION OVER 4-INCHES IN THEIR TREE PROTECTION ZONES.

LEGEND



GENERAL NOTE:

- SEE ARBORIST PLAN AND ARBORIST REPORT FOR ADDITIONAL INFORMATION.

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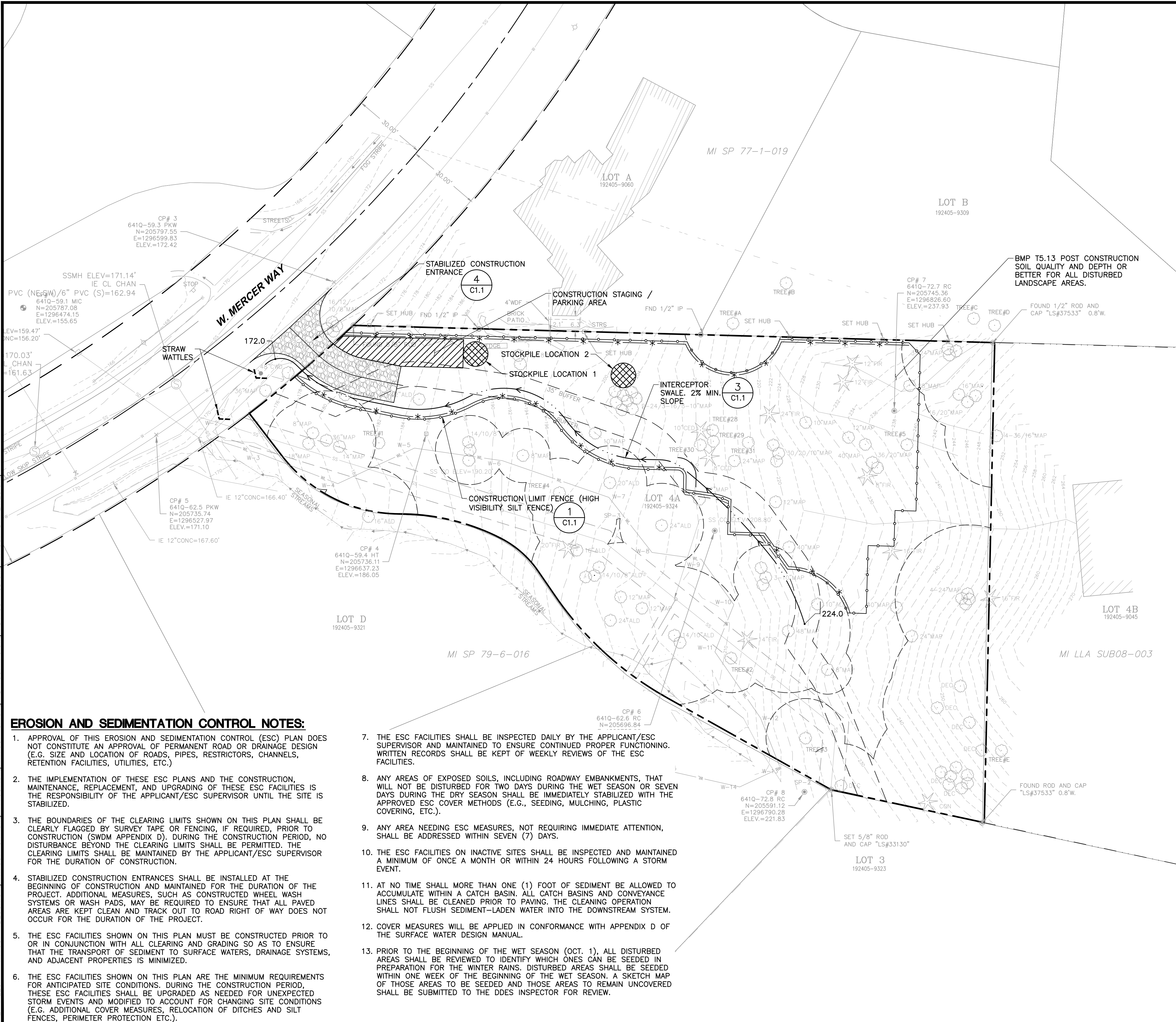
05/03/18

5236 W MERCER WAY
SINGLE FAMILY RESIDENCE
TREE PRESERVATION PLAN

SCALE: AS SHOWN DATE: 05/03/18
DESIGNED BY: DW CHECKED BY: JS
JOB NUMBER: 17387
SHEET: **C0.2**
SHEET 3 OF 10

FILE NAME: P:\P17\17387-5236 WEST MERCER WAY_SFR\CAD\ENGINEERING\SHEETS\P17387-TREE.DWG
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PLOT TIME: 5/3/2018 2:07 PM
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XREF FILES: X17387-TBLOCK.dwg X17387-SRV.dwg X17387-VI.dwg X17387-SP.dwg X17387-FG.dwg X17387-DRIPLINES.dwg X17387-SD.dwg

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 USER NAME: MICHAEL PARKER
 XREF FILES: X17387-TBLOCK.dwg X17387-SRV.dwg X17387-SP.dwg X17387-EG.dwg X17387-SD.dwg X17387-DRIPLINES.dwg



LEGEND

	SILT FENCE
	CONSTRUCTION LIMITS / CHAIN LINK FENCE
	INTERCEPTOR SWALE
	TEMPORARY CONSTRUCTION ENTRANCE
	INLET PROTECTION
	TREE PROTECTION LIMITS

GENERAL NOTES:

- TREE REMOVAL TO BE COORDINATED WITH ARBORIST AND THE CITY OF MERCER ISLAND.

- CONSTRUCTION SEQUENCE**
- INSTALL CONSTRUCTION FENCING / CHAIN LINK, ALONG IDENTIFIED CONSTRUCTION LIMITS.
 - INSTALL STORM DRAIN INLET PROTECTION.
 - GRADE AND INSTALL CONSTRUCTION ENTRANCE.
 - GRADE AND INSTALL CONSTRUCTION STAGING / PARKING AREA.
 - GRADE AND DESIGNATE STOCKPILE AREAS.
 - INSTALL TEMPORARY INTERCEPTOR SWALE AND SEDIMENT CONTROL MEASURES.
 - BEGIN DRIVEWAY CLEARING AND GRADING.
 - INSTALL UTILITIES LOCATED IN DRIVEWAY CORRIDOR.
 - INSTALL DRIVEWAY, GRADE WALLS, DRIVEWAY ACCESS BASE COURSE OR ATB PRELEVEL.
 - INSTALL GABION BASKET WALLS.
 - INSTALL BUILDING FOUNDATION SHORING.
 - CONSTRUCT BUILDING AND REMAINING HARDSCAPE FEATURES.
 - CONNECT UTILITIES.
 - STABILIZE SITE.
 - REMOVE REMAINING TESC FEATURES.
 - CONDUCT ALL ACTIVITIES IN ACCORDANCE WITH ESC NOTES, THIS SHEET.

EROSION AND SEDIMENTATION CONTROL NOTES:

- APPROVAL OF THIS EROSION AND SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.)
- THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL THE SITE IS STABILIZED.
- THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY SURVEY TAPE OR FENCING, IF REQUIRED, PRIOR TO CONSTRUCTION (SWDM APPENDIX D). DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.
- STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS CONSTRUCTED WHEEL WASH SYSTEMS OR WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN AND TRACK OUT TO ROAD RIGHT OF WAY DOES NOT OCCUR FOR THE DURATION OF THE PROJECT.
- THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.
- THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G. ADDITIONAL COVER MEASURES, RELOCATION OF DITCHES AND SILT FENCES, PERIMETER PROTECTION ETC.).
- THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES.
- ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC COVER METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).
- ANY AREA NEEDING ESC MEASURES, NOT REQUIRING IMMEDIATE ATTENTION, SHALL BE ADDRESSED WITHIN SEVEN (7) DAYS.
- THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 24 HOURS FOLLOWING A STORM EVENT.
- AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
- COVER MEASURES WILL BE APPLIED IN CONFORMANCE WITH APPENDIX D OF THE SURFACE WATER DESIGN MANUAL.
- PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON. A SKETCH MAP OF THOSE AREAS TO BE SEEDED AND THOSE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE DDES INSPECTOR FOR REVIEW.

DATE	
REVISION	
SYM	

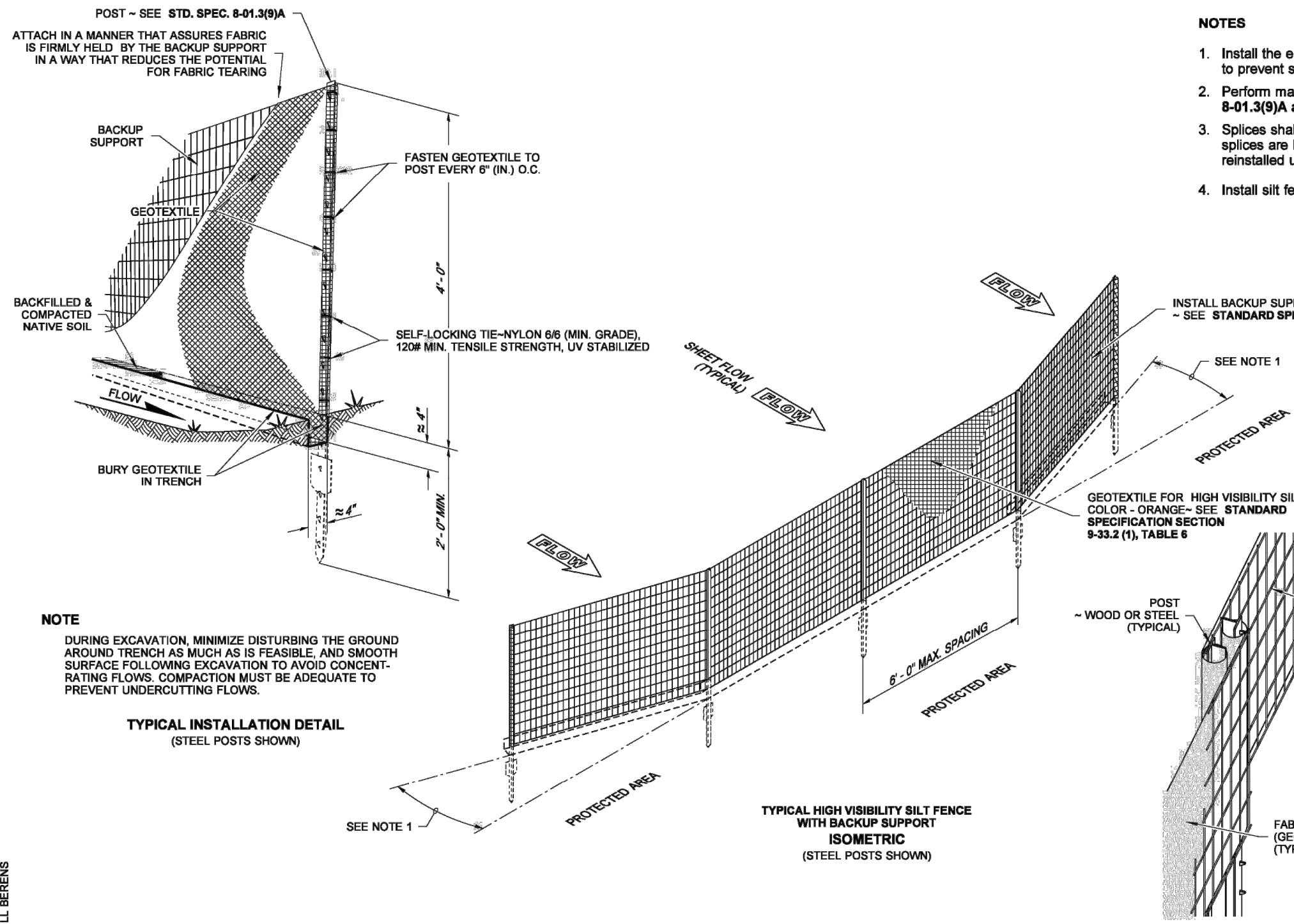
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EDWARD WOODWARD
 STATE OF WASHINGTON
 54340
 REGISTERED PROFESSIONAL ENGINEER
 05/03/18

5236 W MERCER WAY
 SINGLE FAMILY RESIDENCE
 TESC PLAN

SCALE: AS SHOWN	DATE: 05/03/18
DESIGNED BY: DW	CHECKED BY: JS
JOB NUMBER 17387	
SHEET: C1.0	
SHEET 4 OF 10	

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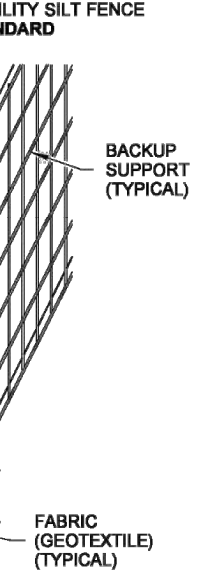


- NOTES**
1. Install the ends of the high visibility silt fence to point slightly upslope to prevent sediment from flowing around the ends of the fence.
 2. Perform maintenance in accordance with **Standard Specifications 8-01.3(9)A and 8-01.3(15)**.
 3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fence may need to be reinstalled unless the Project Engineer approves the installation.
 4. Install silt fencing parallel to mapped contour lines.

NOTE
DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE, AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENTRATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.

TYPICAL INSTALLATION DETAIL
(STEEL POSTS SHOWN)

TYPICAL HIGH VISIBILITY SILT FENCE WITH BACKUP SUPPORT ISOMETRIC
(STEEL POSTS SHOWN)

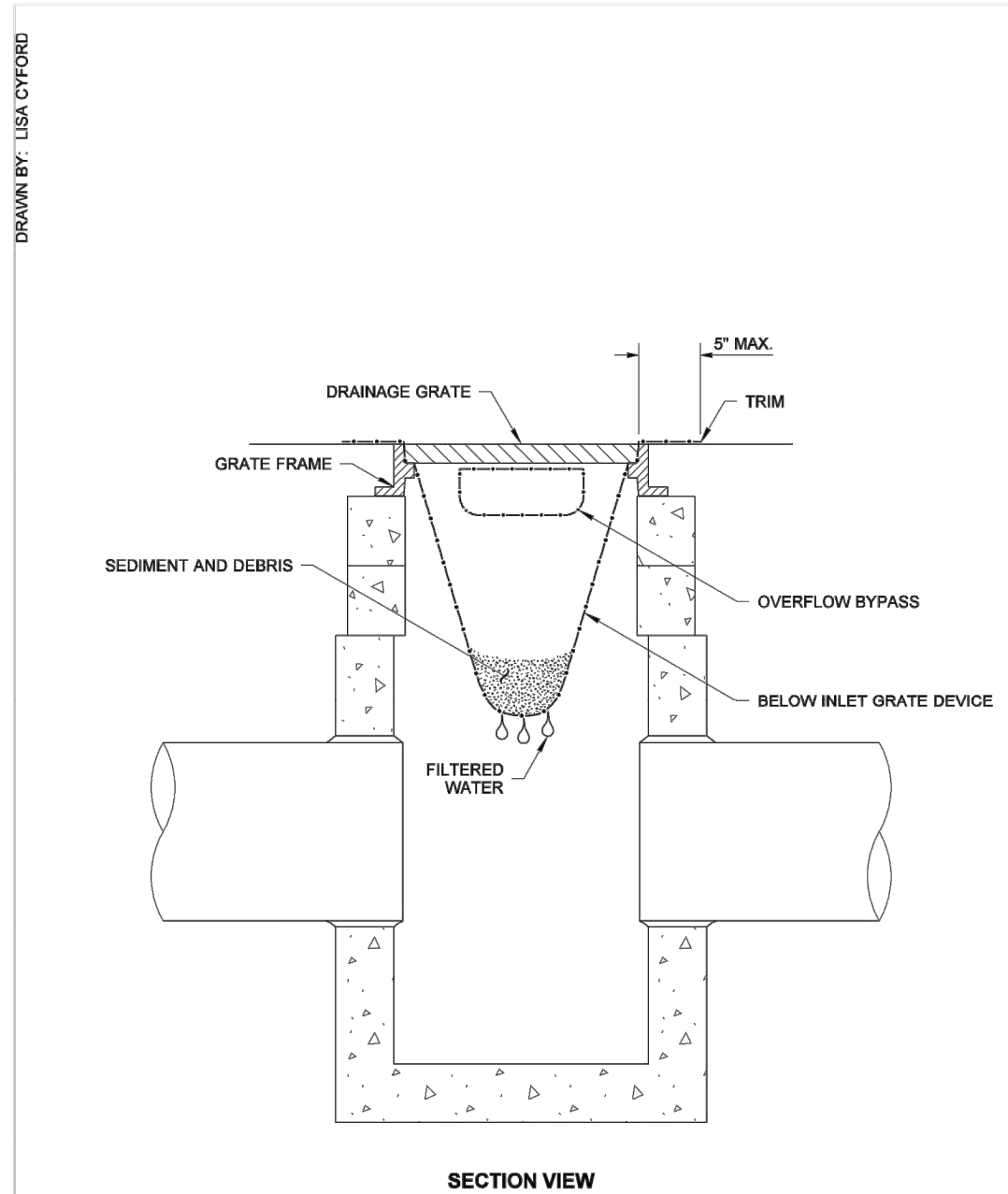


SPliced fence sections shall be close enough together to prevent silt laden water from escaping through the fence at the overlap.

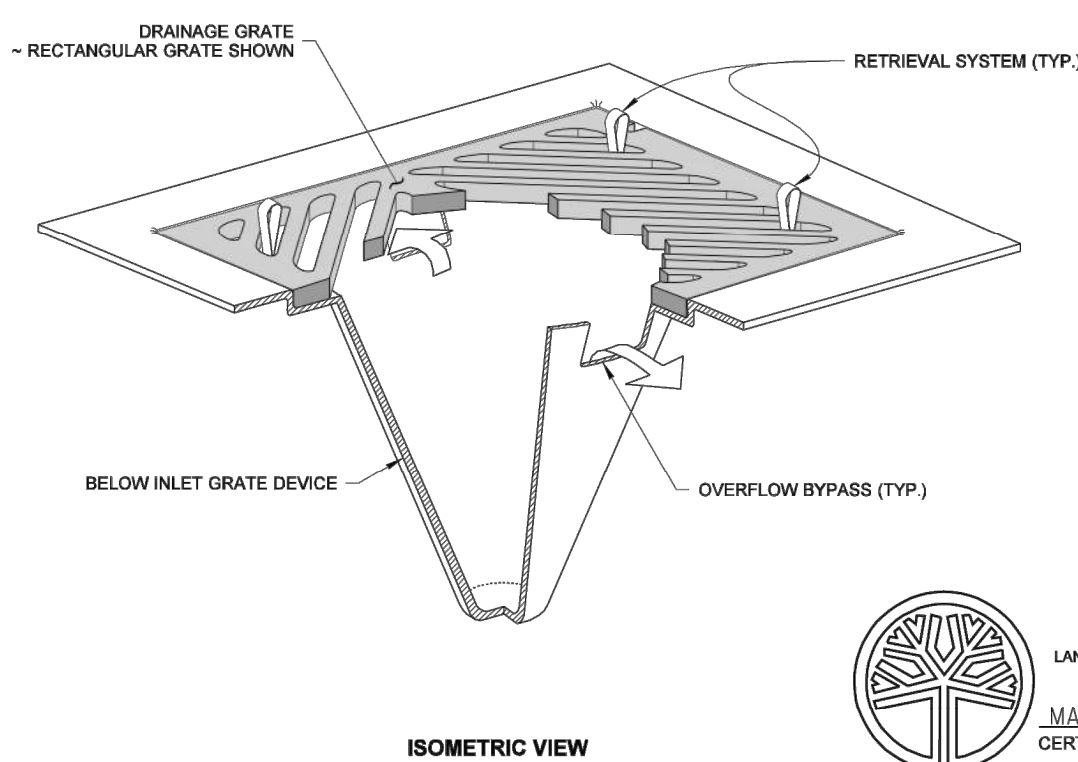
STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
SANDRA L. SALISBURY
CERTIFICATE NO. 000860
DATE: 06/06/2013

HIGH VISIBILITY SILT FENCE WITH BACKUP SUPPORT
STANDARD PLAN I-30.16-00
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Pasco Bakotich III 3/22/13
STATE LICENSE ENGINEER DATE
Washington State Department of Transportation



SECTION VIEW
NOT TO SCALE



ISOMETRIC VIEW

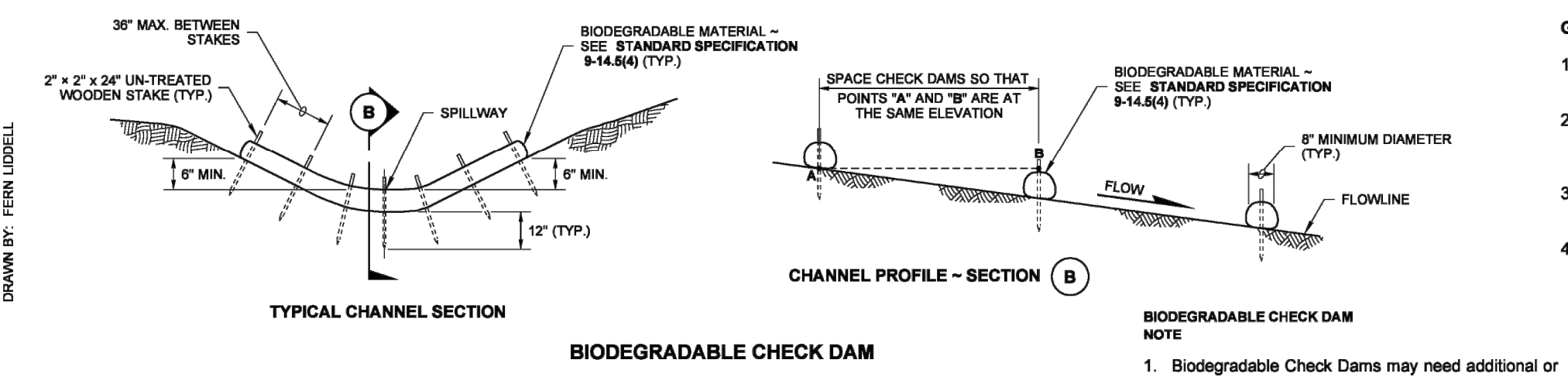
- NOTES**
1. Size the Below Inlet Grate Device (BIGD) for the storm water structure it will service.
 2. The BIGD shall have a built-in high-flow relief system (overflow bypass).
 3. The retrieval system must allow removal of the BIGD without spilling the collected material.
 4. Perform maintenance in accordance with Standard Specification 8-01.3(15).

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
MARK W. MAURER
CERTIFICATE NO. 000598
DATE: 06/06/2013

STORM DRAIN INLET PROTECTION
STANDARD PLAN I-40.20-00
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Pasco Bakotich III 09-20-07
STATE LICENSE ENGINEER DATE
Washington State Department of Transportation

1 HIGH VISIBILITY SILT FENCE
NTS



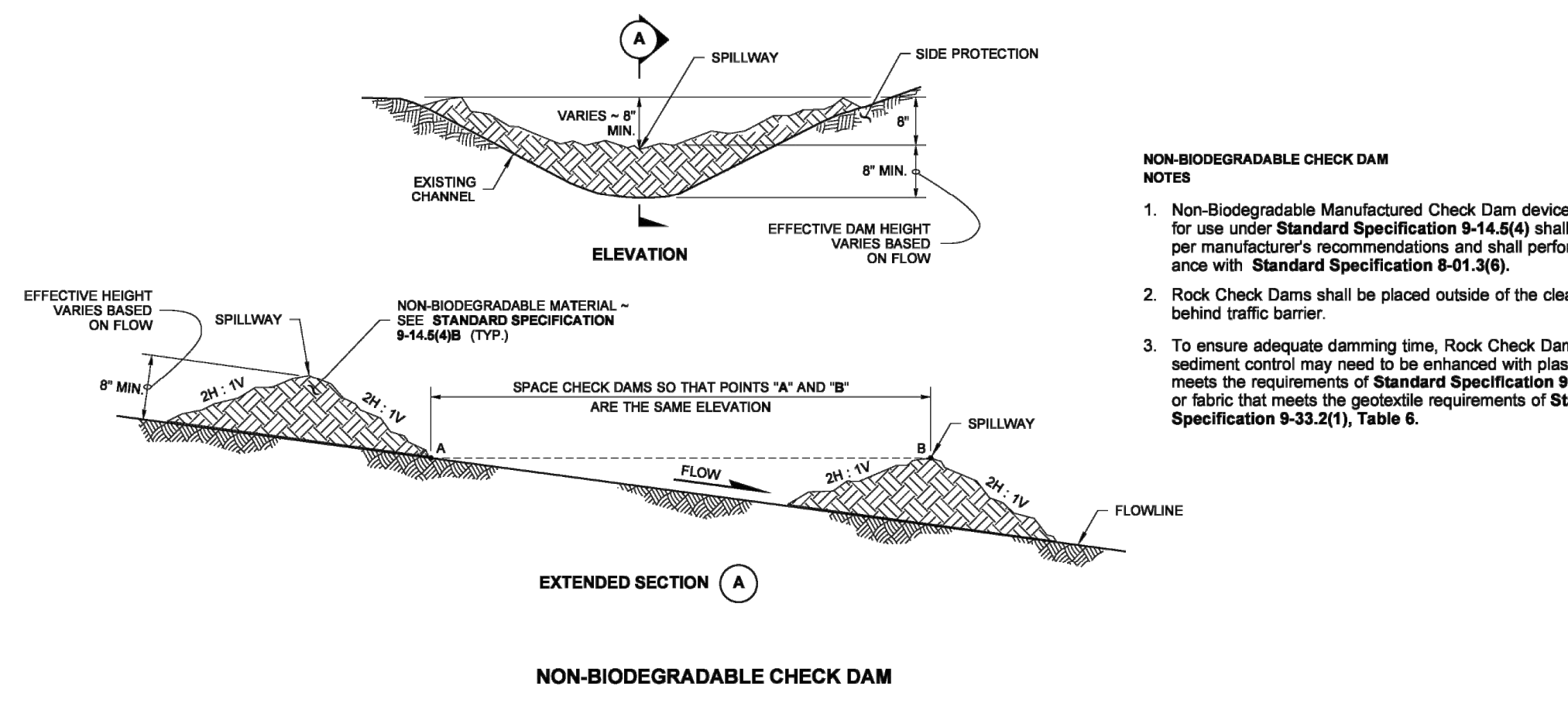
- GENERAL NOTES**
1. Check Dams shall meet the requirements of **Standard Specifications 8-01.3(6) and 8-14.5(4)**.
 2. In channels, install the sloped ends of the Check Dam a minimum of 8" higher than the spillway to ensure water flows over the dam and not around it.
 3. Perform maintenance in accordance with **Standard Specification 8-01.3(15)**.
 4. Remove Check Dams in accordance with **Standard Specification 8-01.3(16)**.

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
SANDRA L. SALISBURY
LICENSE NO. 860
DATE: June 6, 2013

CHECK DAMS ON CHANNELS
STANDARD PLAN I-50.20-01
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Pasco Bakotich III 6/10/13
STATE LICENSE ENGINEER DATE
Washington State Department of Transportation

3 INTERCEPTOR SWALE W/ROCK CHECK DAMS
NTS

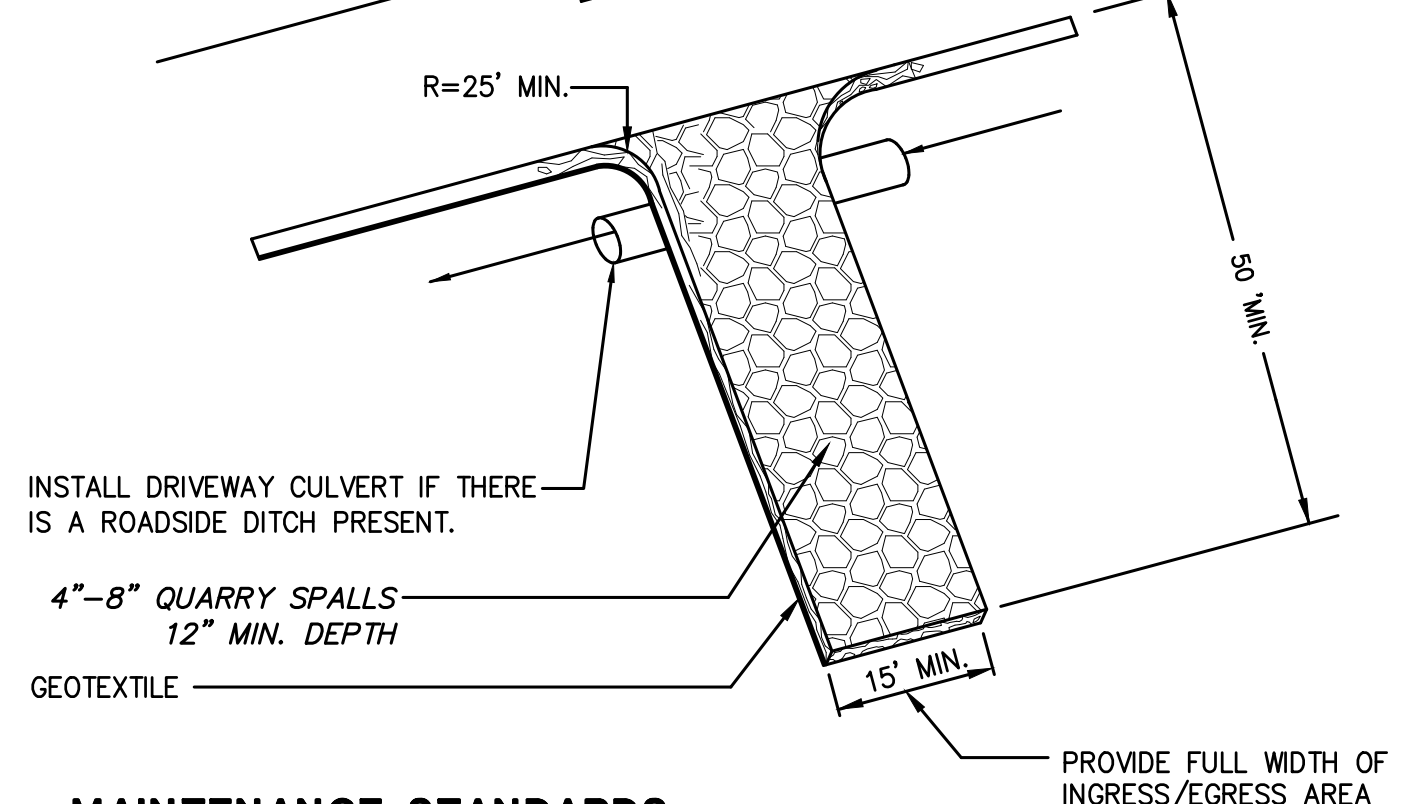


- NON-BIODEGRADABLE CHECK DAM NOTES**
1. Non-Biodegradable Manufactured Check Dam devices approved for use under **Standard Specification 8-14.5(4)** shall be installed per manufacturer's recommendations and shall perform in accordance with **Standard Specification 8-01.3(6)**.
 2. Rock Check Dams shall be placed outside of the clear zone or behind traffic barrier.
 3. To ensure adequate damming time, Rock Check Dams used as sediment control may need to be enhanced with plastic that meets the requirements of **Standard Specification 8-14.5(3)** or fabric that meets the geotextile requirements of **Standard Specification 9-33.2(1), Table 6**.

2 INLET PROTECTION
NTS

DRIVEWAYS SHALL BE PAVED TO THE EDGE OF R-O-W PRIOR TO INSTALLATION OF THE CONSTRUCTION ENTRANCE TO AVOID DAMAGING OF THE ROADWAY

IT IS RECOMMENDED THAT THE ENTRANCE BE CROWNED SO THAT RUNOFF DRAINS OFF THE PAD



- MAINTENANCE STANDARDS**
1. QUARRY SPALLS SHALL BE ADDED IF THE PAD IS NO LONGER IN ACCORDANCE WITH THE SPECIFICATIONS.
 2. IF THE ENTRANCE IS NOT PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVEMENT, THEN ALTERNATIVE MEASURES TO KEEP THE STREETS FREE OF SEDIMENT SHALL BE USED. THIS MAY INCLUDE STREET SWEEPING, AN INCREASE IN THE DIMENSIONS OF THE ENTRANCE, OR THE INSTALLATION OF A WHEEL WASH. IF WASHING IS USED, IT SHALL BE DONE ON THE AREA COVERED WITH CRUSHED ROCK, AND WASH WATER SHALL DRAIN TO A SEDIMENT TRAP OR POND.
 3. ANY SEDIMENT THAT IS TRACKED ONTO PAVEMENT SHALL BE REMOVED IMMEDIATELY BY SWEEPING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED OR STABILIZED ON-SITE. THE PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IS INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREETS, THE CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. THE SEDIMENT WOULD THEN BE WASHED INTO THE SUMP.
 4. ANY ROCK SPALLS THAT ARE LOOSEENED FROM THE PAD AND END UP ON THE ROADWAY SHALL BE REMOVED IMMEDIATELY.
 5. IF VEHICLES ARE ENTERING OR EXITING THE SITE AT POINTS OTHER THAN THE CONSTRUCTION ENTRANCE(S), FENCING SHALL BE INSTALLED TO CONTROL TRAFFIC.

4 STABILIZED CONSTRUCTION ENTRANCE
NTS

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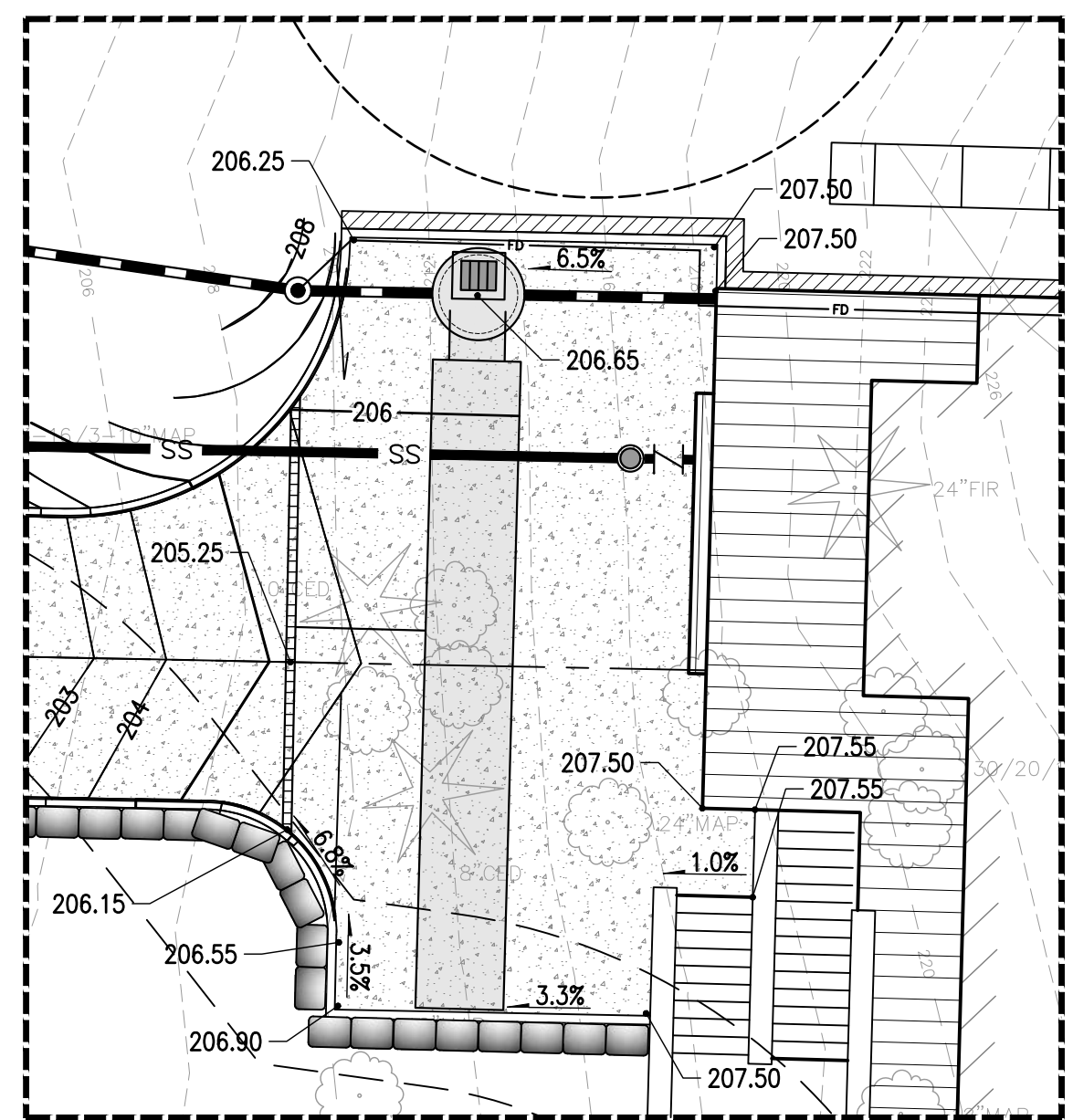
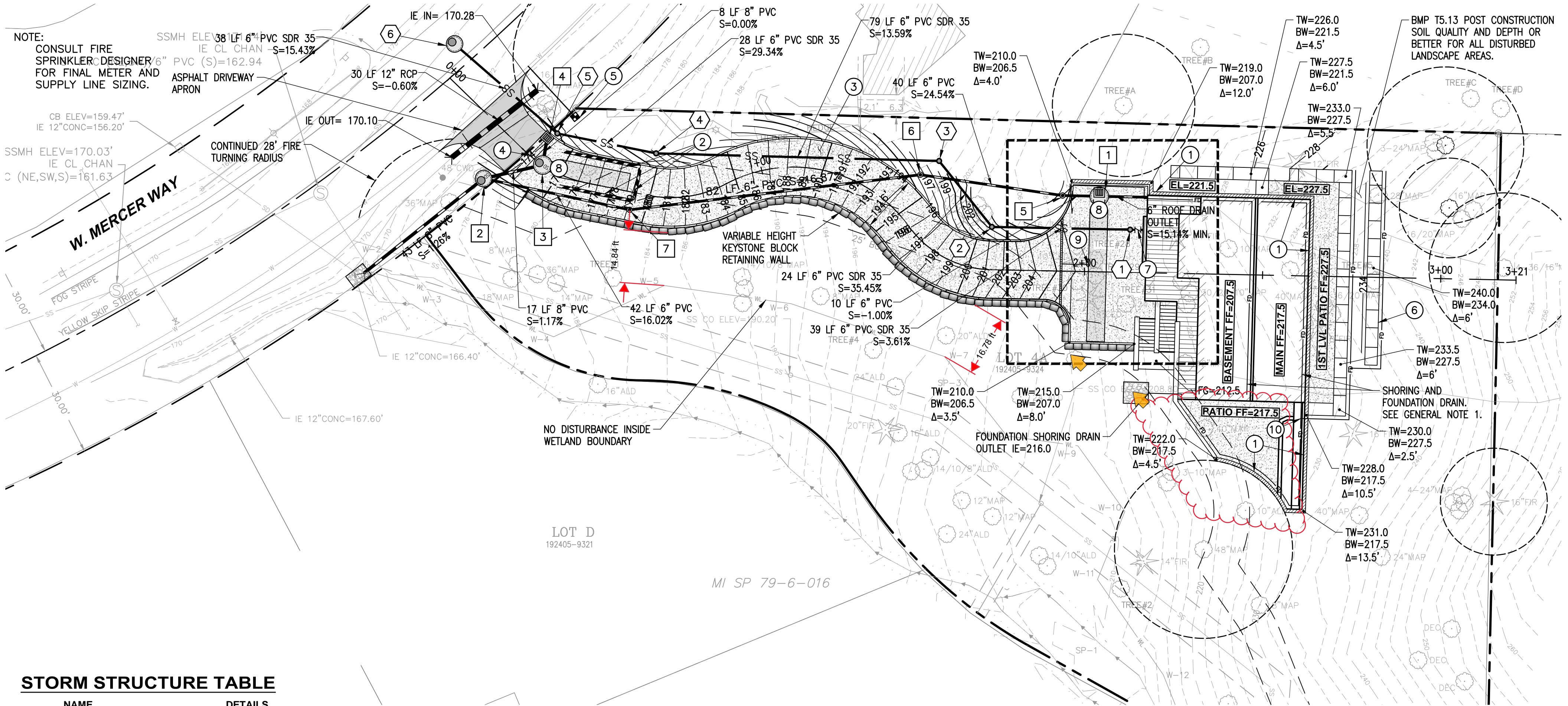
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REGISTERED
PROFESSIONAL ENGINEER
5480
1987
05/03/18

5236 W MERCER WAY
SINGLE FAMILY RESIDENCE
TESC DETAILS

SCALE:	DATE:
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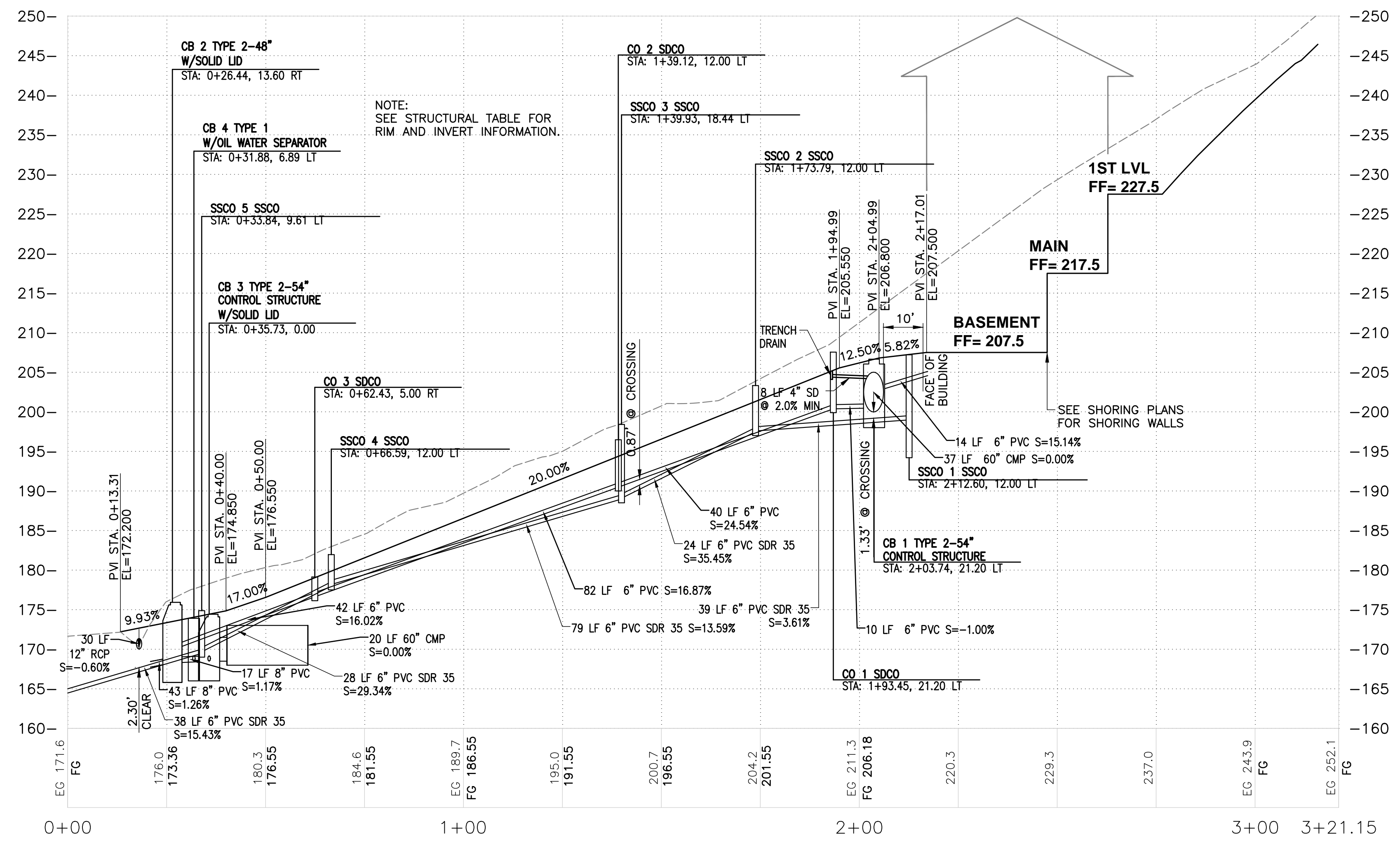
DRIVEWAY GRADING
1"=10'

STORM STRUCTURE TABLE

NAME	DETAILS
1 CB 1 TYPE 2-54" CONTROL STRUCTURE	RIM = 206.65 IE IN = 200.50 (36" CMP S) IE IN = 200.50 (6" PVC W) IE IN = 202.54 (6" PVC E)
2 CB 2 TYPE 2-48" W/SOLID LID	RIM = 175.94 IE IN = 169.93 (6" PVC E) IE IN = 168.30 (8" PVC E) IE OUT = 168.30 (8" PVC SW)
3 CB 3 TYPE 2-54" CONTROL STRUCTURE W/SOLID LID	RIM = 174.43 IE IN = 168.50 (8" PVC N) IE IN = 168.50 (36" CMP E) IE OUT = 168.50 (8" PVC W)
4 CB 4 TYPE 1 W/OIL WATER SEPARATOR	RIM = 173.91 IE OUT = 168.50 (8" PVC S)
5 CO 1 SDCO	RIM = 207.55 IE OUT = 200.40 (6" PVC E) IE OUT = 200.40 (6" PVC W)
6 CO 2 SDCO	RIM = 196.47 IE IN = 190.50 (6" PVC E) IE OUT = 190.50 (6" PVC W)
7 CO 3 SDCO	RIM = 179.14 IE IN = 176.64 (6" PVC E) IE OUT = 176.64 (6" PVC W)

SEWER STRUCTURE TABLE

NAME	DETAILS
1 SSCO 1 SSCO	RIM = 207.21 IE OUT = 199.00 (6" PVC SDR 35 W)
2 SSCO 2 SSCO	RIM = 203.32 IE IN = 197.60 (6" PVC SDR 35 E) IE OUT = 197.50 (6" PVC SDR 35 NW)
3 SSCO 3 SSCO	RIM = 198.40 IE IN = 189.10 (6" PVC SDR 35 SE) IE OUT = 189.00 (6" PVC SDR 35 W)
4 SSCO 4 SSCO	RIM = 181.96 IE IN = 178.20 (6" PVC SDR 35 E) IE OUT = 178.00 (6" PVC SDR 35 W)
5 SSCO 5 SSCO	RIM = 174.88 IE IN = 169.70 (6" PVC SDR 35 E) IE OUT = 169.50 (6" PVC SDR 35 NW)
6 SSMH 1 TYPE 1-48"	RIM = 171.26 IE IN = 163.60 (6" PVC SDR 35 SE)



KEY NOTES

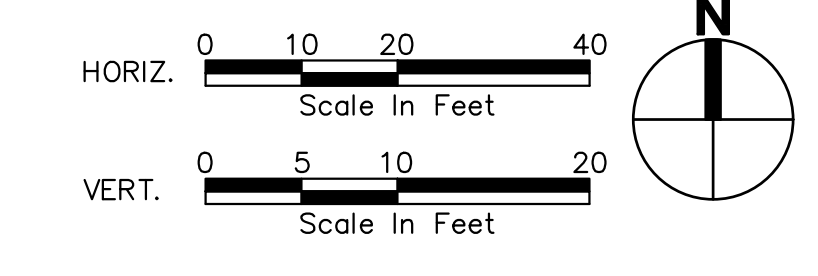
- PERMANENT SHORING WALLS
- TEMPORARY SHORING WALLS
- CONCRETE DRIVEWAY WITH VERTICAL CURB AND GUTTER.
- VALLEY GUTTER AT EDGE OF ASPHALT. SEE DETAIL 3, SHEET C2.1.
- 1" WATER METER, MINIMUM.
- GABION BASKET WALL (TYP), SEE DETAIL 4, SHEET C2.1.
- SIDE SEWER BACKFLOW PREVENTION VALVE, SEE DETAIL 5, SHEET C2.3.
- CMP DETENTION PIPE, SEE DETAILS ON SHEET C2.1.
- CONNECT TRENCH DRAIN TO DETENTION SYSTEM VIA 4" SD GRAVITY DRAIN @ 2.0% MINIMUM SLOPE.
- CONNECT GABION BASKET WALL FOOTING DRAINS TO SOLDER PILE SHORING FOOTING DRAIN.

GENERAL NOTES:

- REFERENCE SHORING AND STRUCTURAL DETAILS FOR SHORING AND FOUNDATION DRAIN OUTLET DETAILS.
- BASEMENT FLOOR SHORING-FOUNDATION DRAIN OUTLET SD @ 2.0% MIN.
- YARD DRAIN OUTLET SD @ 2.0% MIN
- STORM CONVEYANCE PIPE SHALL BE SDR 35 PVC.
- FIRE PROTECTION SYSTEM REQUIRED AND SHALL BE DESIGNED BY A FIRE SPRINKLER DESIGNER.
- GABION BASKET WALL CONSTRUCTED PRIOR TO PERMANENT SHORING CONSTRUCTION. SEE SHORING AND STRUCTURAL PLANS.

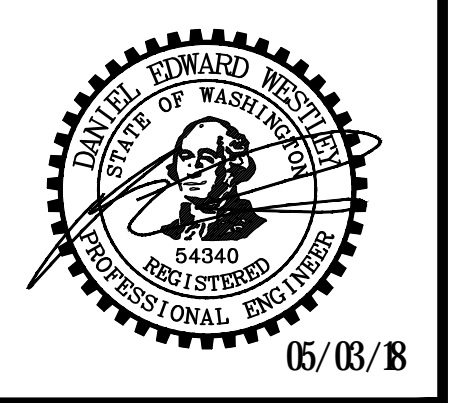
LEGEND

- PERMANENT SHORING
- TEMP. SHORING
- SANITARY SIDE SEWER
- SS CLEANOUT
- STORM DRAIN
- TRENCH DRAIN
- FOOTING DRAIN
- SD CLEANOUT
- YARD DRAIN
- CB TYPE 1
- CB TYPE 2



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5236 W MERCER WAY
SINGLE FAMILY RESIDENCE
ROAD, GRADING, STORM AND UTILITY PLAN

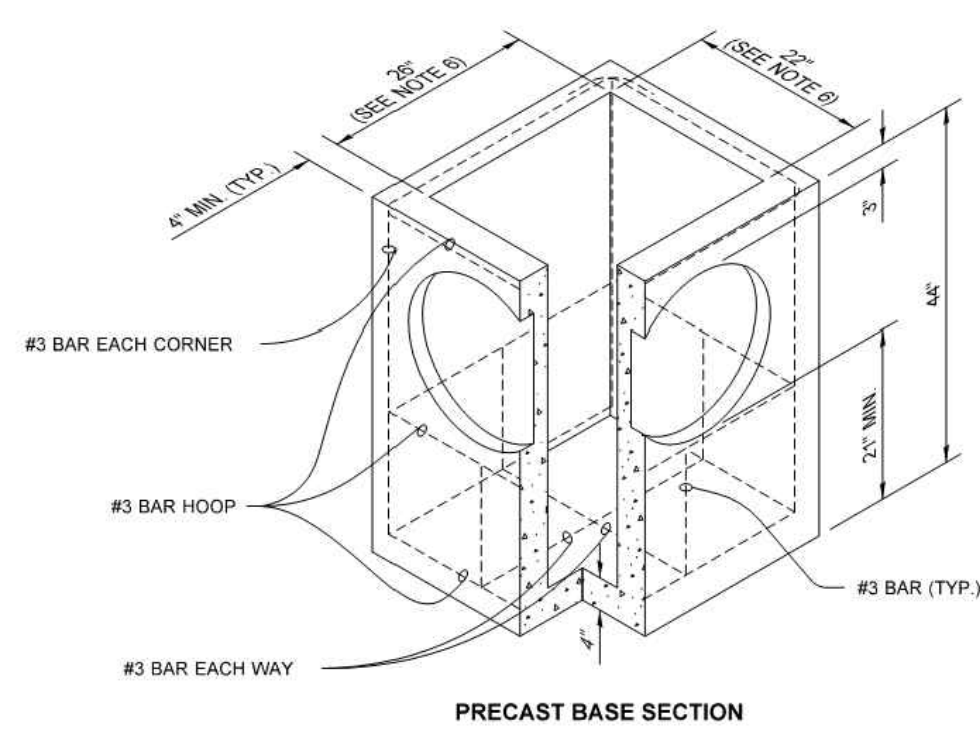
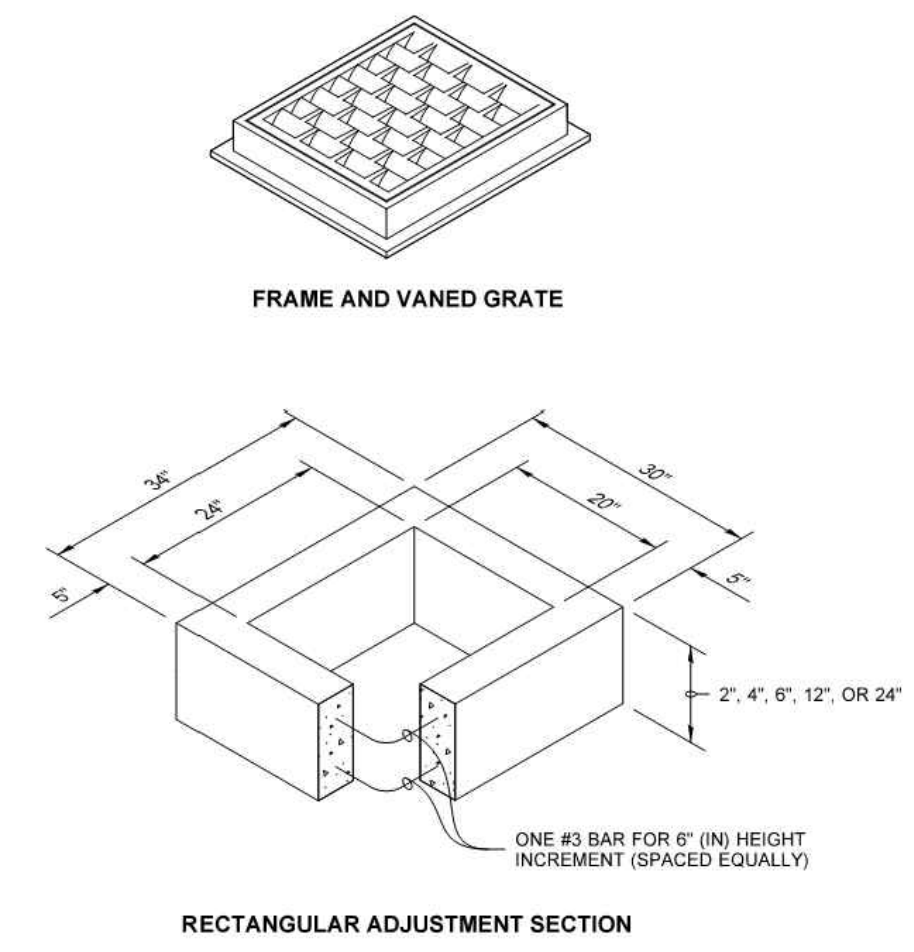
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DESIGNED BY:	CHECKED BY:
DW	JS
JOB NUMBER	17387
SHEET:	C2.0
SHEET 6 OF 10	

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 XREF FILES: P17387-TBLOCK.dwg

DRAWN BY: LISA CYFORD

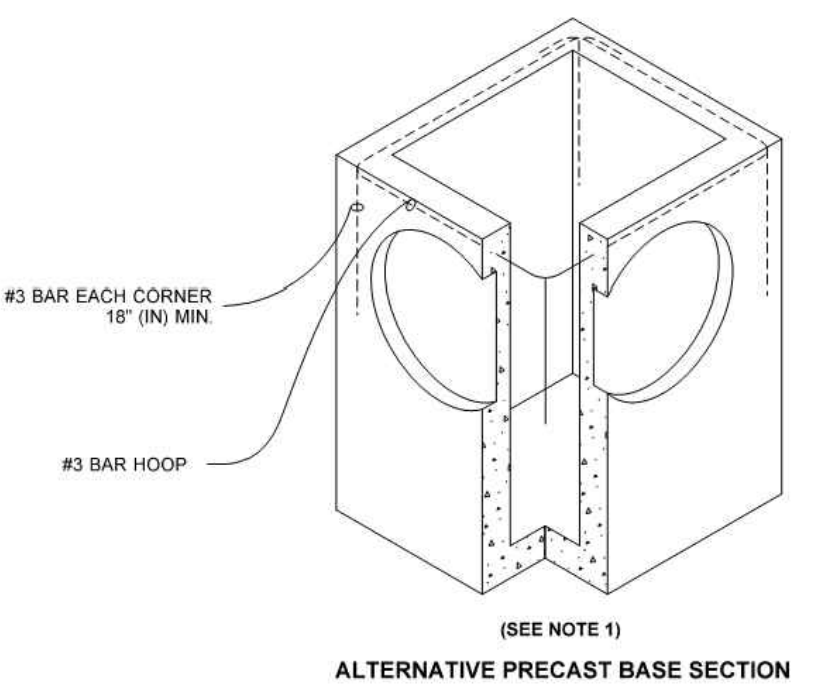
DRAWN BY: LISA CYFORD



PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP * (STD. SPEC. SECT. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. SECT. 9-05.12(2))	15"

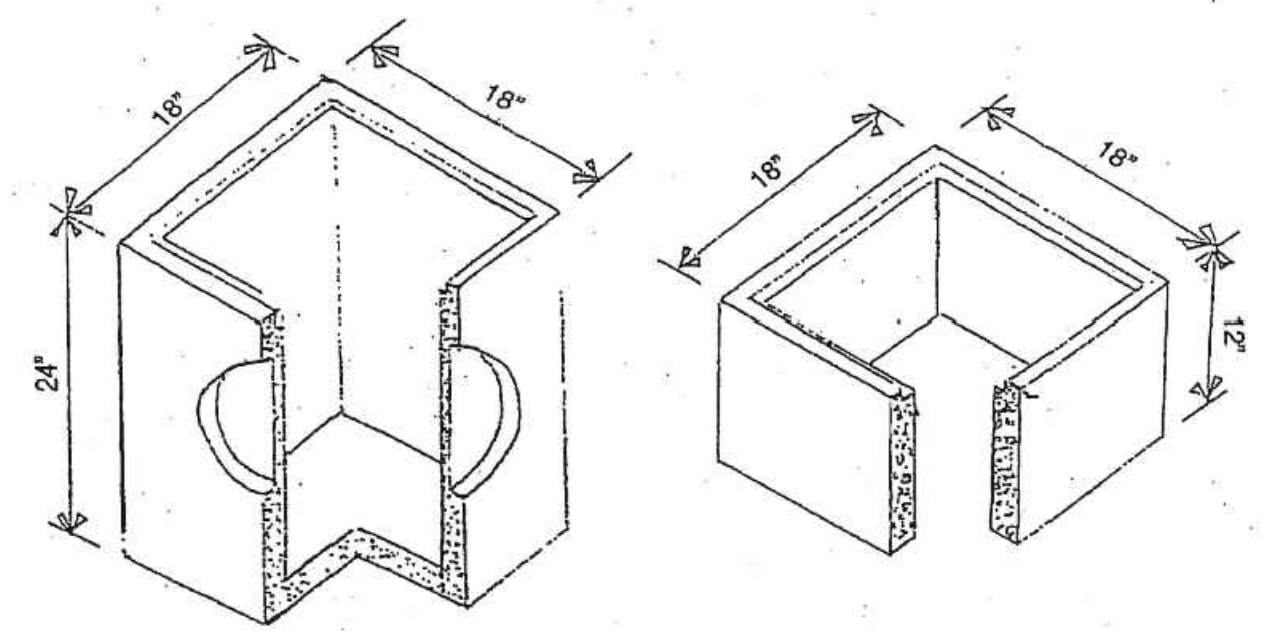
* CORRUGATED POLYETHYLENE STORM SEWER PIPE

- NOTES**
- As acceptable alternatives to the rebar shown in the PRECAST BASE SECTION, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the ALTERNATIVE PRECAST BASE SECTION. Wire mesh shall not be placed in the knockouts.
 - The knockout diameter shall not be greater than 20" (in). Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification Section 9-04.3.
 - The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
 - The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.
 - The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
 - The opening shall be measured at the top of the Precast Base Section.
 - All pickup holes shall be grouted full after the basin has been placed.



1 TYPE 1 CATCH BASIN
NTS

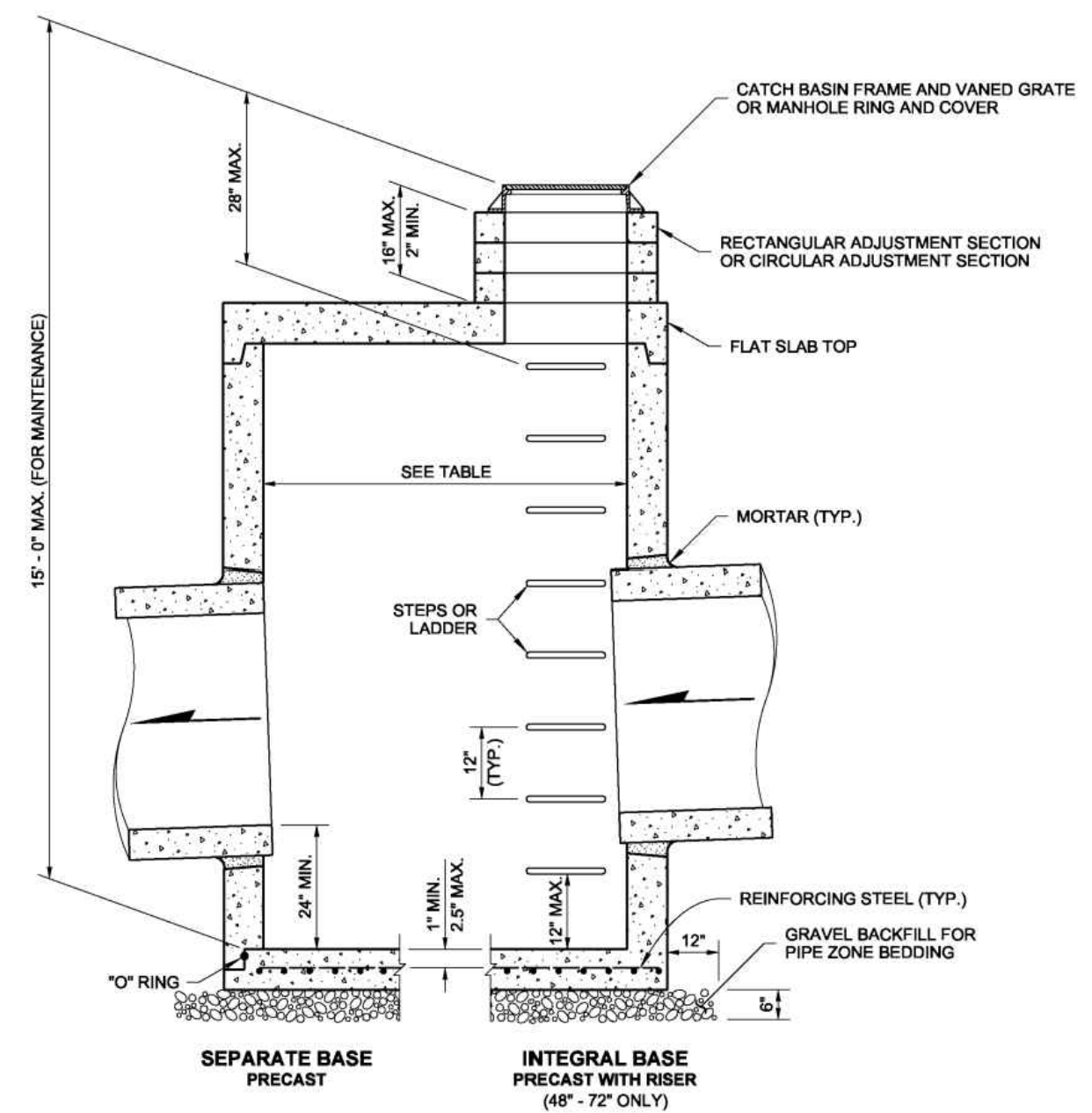
JULIA HEILMAN
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
No. 45812
HEILMAN, JULIE
Jan 25 2017 2:53 PM
CATCH BASIN TYPE 1
STANDARD PLAN B-5.20-02
SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Washington State Department of Transportation



Catch Basin (C.B.)
Depth & Volume are Minimum Dimensions.
Minimum Volume = 24 gal.

6" & 12" Adjustment Riser

- NOTES**
- No steps are required when height is 4' or less.
 - The bottom of the precast catch basin may be sloped to facilitate cleaning.
 - The rectangular frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
 - Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification 9-04.3.



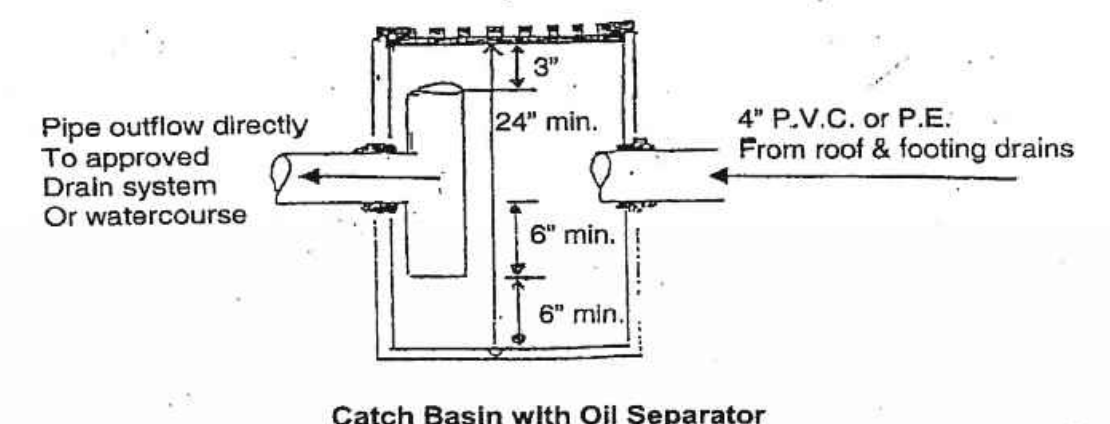
CATCH BASIN DIMENSIONS				
CATCH BASIN DIAMETER	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"
120"	10"	12"	96"	12"
144"	12"	12"	108"	12"

CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER				
	CONCRETE	ALL METAL	CPSSP ①	SOLID WALL PVC ②	PROFILE WALL PVC ③
48"	24"	30"	24"	30"	30"
54"	30"	36"	30"	36"	36"
60"	36"	42"	36"	42"	42"
72"	42"	54"	42"	48"	48"
84"	54"	60"	54"	48"	48"
96"	60"	72"	60"	48"	48"
120"	66"	84"	60"	48"	48"
144"	78"	96"	60"	48"	48"

① Corrugated Polyethylene Storm Sewer Pipe (Standard Specification 9-05.20)
 ② (Standard Specification 9-05.12(1))
 ③ (Standard Specification 9-05.12(2))

2 TYPE 2 CATCH BASIN
NTS

CASIE M. KRAMER
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KRAMER, CASIE M.
Jan 25 2017 2:53 PM
CATCH BASIN TYPE 2
STANDARD PLAN B-10.20-01
SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Pasco Bakotich III 02-07-12
Washington State Department of Transportation



3 CATCH BASIN WITH OIL SEPARATOR
NTS

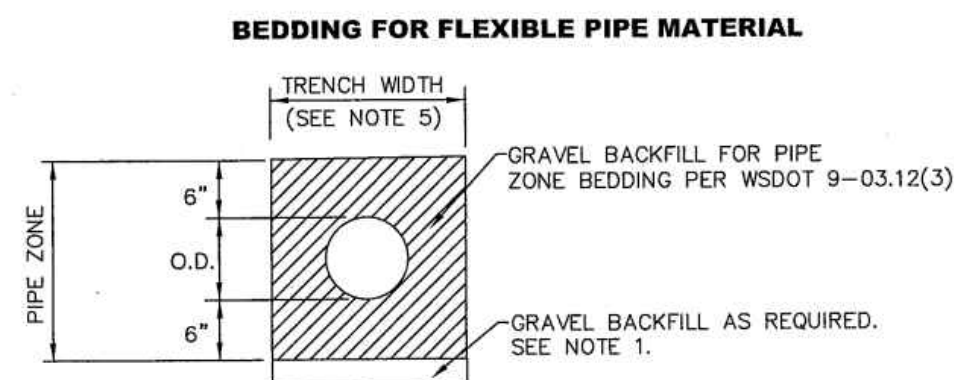
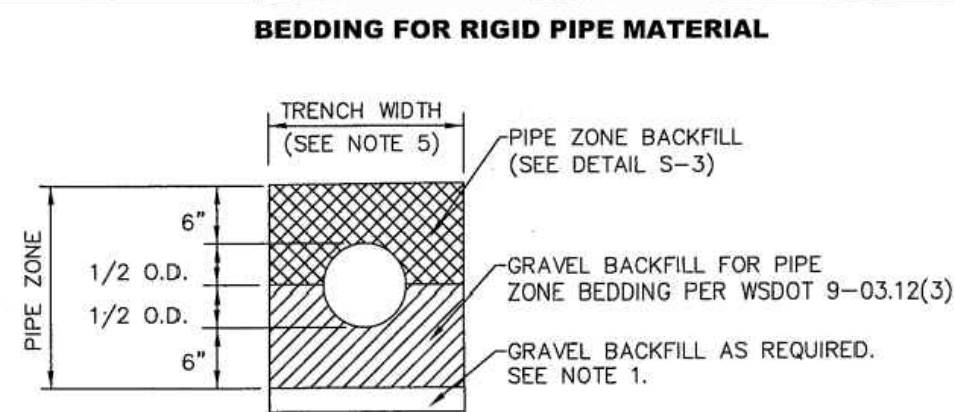
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JULIE EDWARD WOOD
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No. 45812
WOOD, JULIE EDWARD
Jan 25 2017 2:53 PM
05/03/18

5236 W MERCER WAY
SINGLE FAMILY RESIDENCE
STORM DRAINAGE DETAILS

SCALE: AS SHOWN	DATE: 05/03/18
DESIGNED BY: DW	CHECKED BY: JS
JOB NUMBER: 17387	
SHEET: C2.2	
SHEET 8 OF 10	

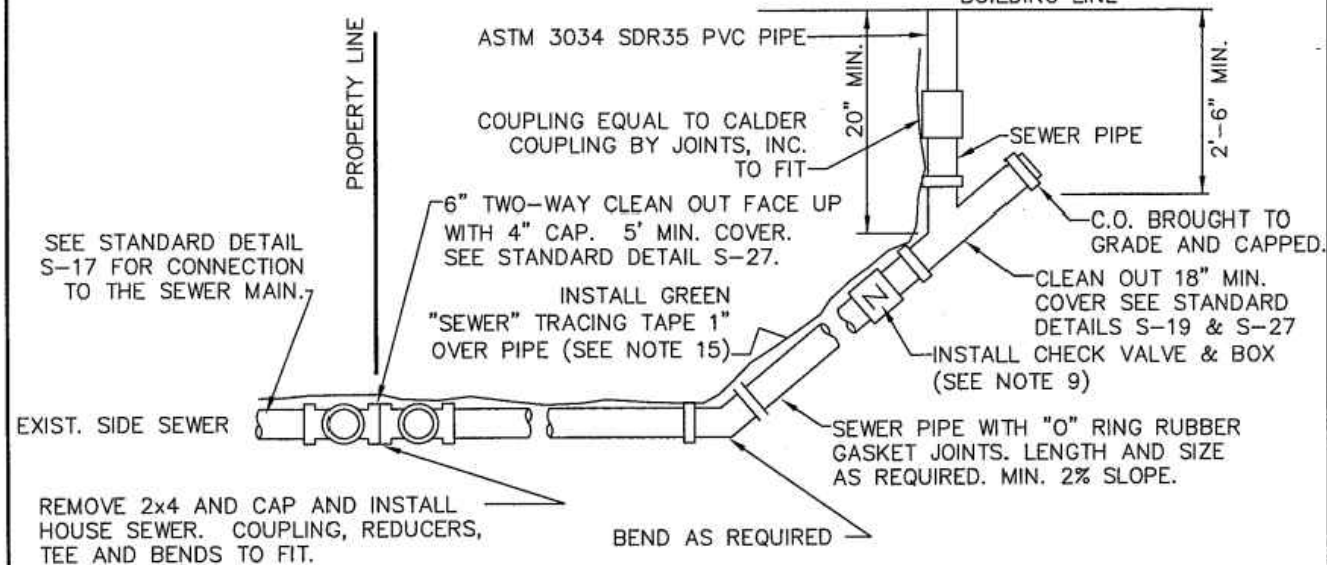


NOTES

- EXCAVATE UNSTABLE MATERIAL DOWN TO FIRM SOIL. REPLACE WITH GRAVEL BACKFILL PER WSDOT 9-03.12(3) AS DIRECTED BY THE CITY ENGINEER.
- PROVIDE UNIFORM SUPPORT UNDER BARREL.
- HAND TAMP UNDER HAUNCHES.
- COMPACT BEDDING AND BACKFILL MATERIAL TO 95% MAX. DENSITY EXCEPT DIRECTLY OVER PIPE. HAND TAMP ONLY UNTIL MINIMUM 6" ABOVE TOP OF PIPE.
- 30" MAXIMUM TRENCH WIDTH FOR PIPE UP TO AND INCLUDING 12", FOR PIPE LARGER THAN 12", USE O.D. PLUS 16".

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
PIPE
BEDDING
6-5-2009 NO SCALE S-4
APPROVED

1 PIPE BEDDING
NTS

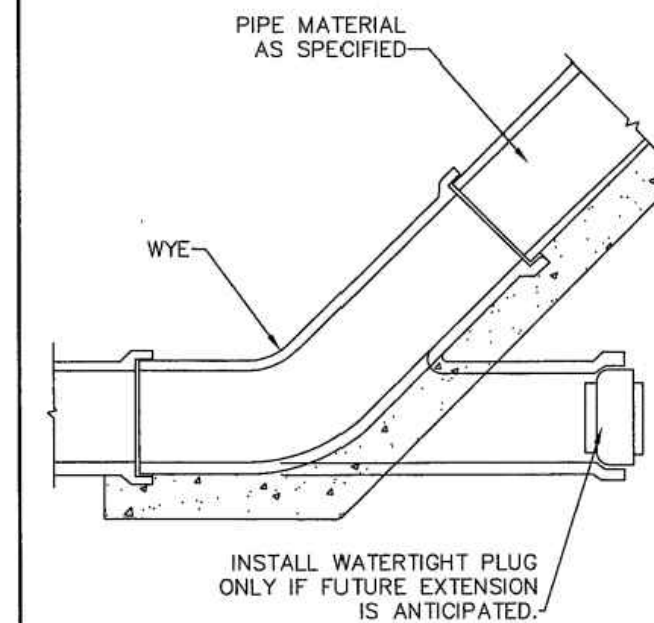
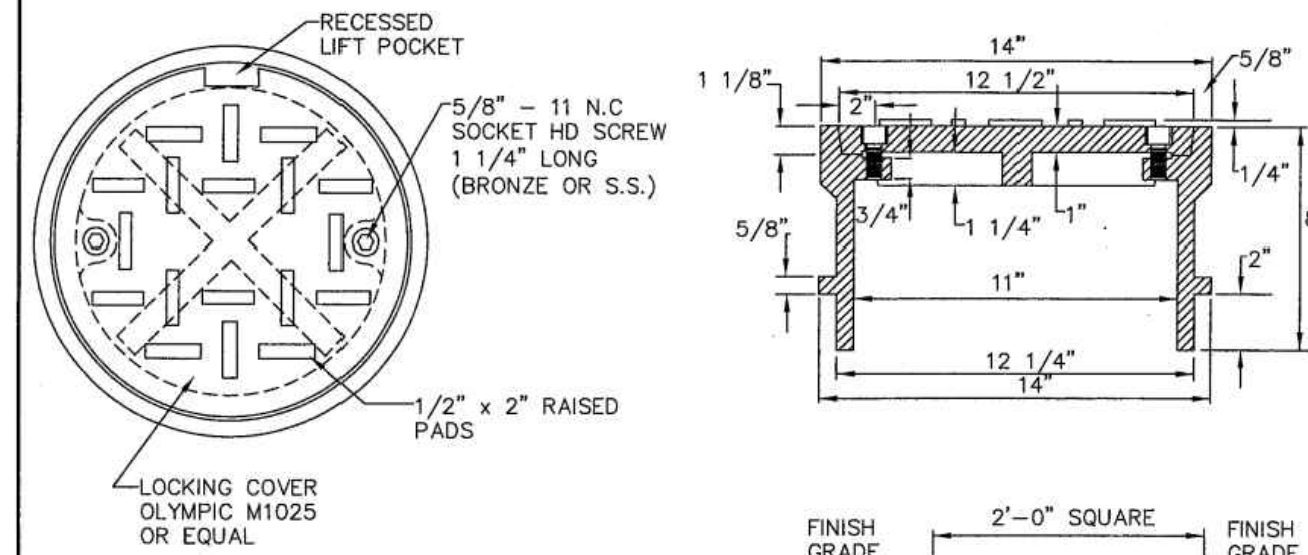


NOTES

- ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
- CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
- ALL HOUSE PLUMBING OUTLETS MUST BE CONNECTED TO THE SEWER. NO DOWN SPOUTS OR STORM DRAINAGE MAY BE CONNECTED TO THE SEWER SYSTEM.
- 18" MINIMUM COVERAGE OVER PIPE.
- LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH 1/2 BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
- 4" SEWER PIPE MINIMUM SIZE ON PROPERTY. 2% MINIMUM GRADE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT SEWER ORDINANCES.
- ALL CONSTRUCTION REQUIRES A PLAN SHOWING PROPERTY AND DIMENSIONS AND COMPLETION OF SIDE SEWER APPLICATION AND MAINTENANCE AGREEMENT, AS NEEDED.
- BACK WATER VALVE (CHECK VALVE) IS REQUIRED:
 - IF CONNECTED TO A SHARED SIDE SEWER.
 - IF CONNECTION AT HOUSE IS LOWER THAN BOTH UPSTREAM AND DOWNSTREAM MANHOLE.
 - SEE S-23 & S-24 FOR LAKE LINE REQUIREMENTS.
- AS-BUILT DRAWING SHOWING LOCATION OF SIDE SEWER & ALL BENDS, C.O. ETC., IN RELATION TO THE HOUSE IS REQUIRED AFTER INSPECTION & INSTALLATION. SEE STANDARD DETAIL S-38 FOR A TYPICAL 'AS BUILT'.
- THE MINIMUM PIPE SIZE FOR SIDE SEWERS SHALL BE:
 - 6" - WITHIN THE PUBLIC RIGHT-OF-WAY.
 - 4" - SINGLE FAMILY RESIDENCES.
 - 6" - 2 TO 6 SINGLE FAMILY RESIDENCES.
 - 6" - BUILDINGS OTHER THAN SINGLE FAMILY RESIDENCES.
- UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
HOUSE SEWER CONNECTION
6-5-2009 NO SCALE S-18
APPROVED

2 HOUSE SEWER CONNECTION
NTS

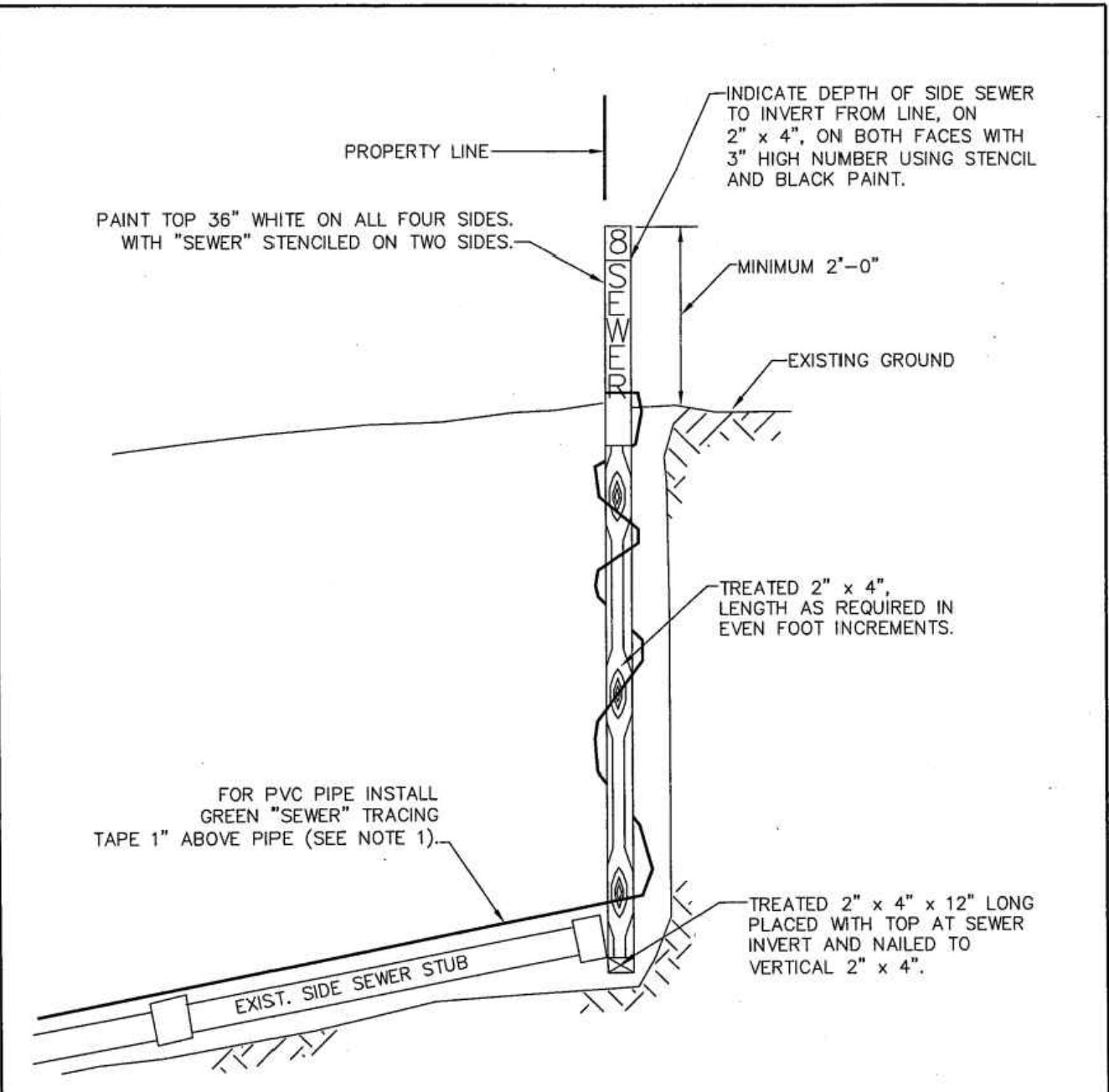


NOTES

- SEE S-27 FOR INSTALLATION DETAILS.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
CLEAN OUT DETAIL
6-5-2009 NO SCALE S-19
APPROVED

3 CLEAN OUT DETAIL
NTS

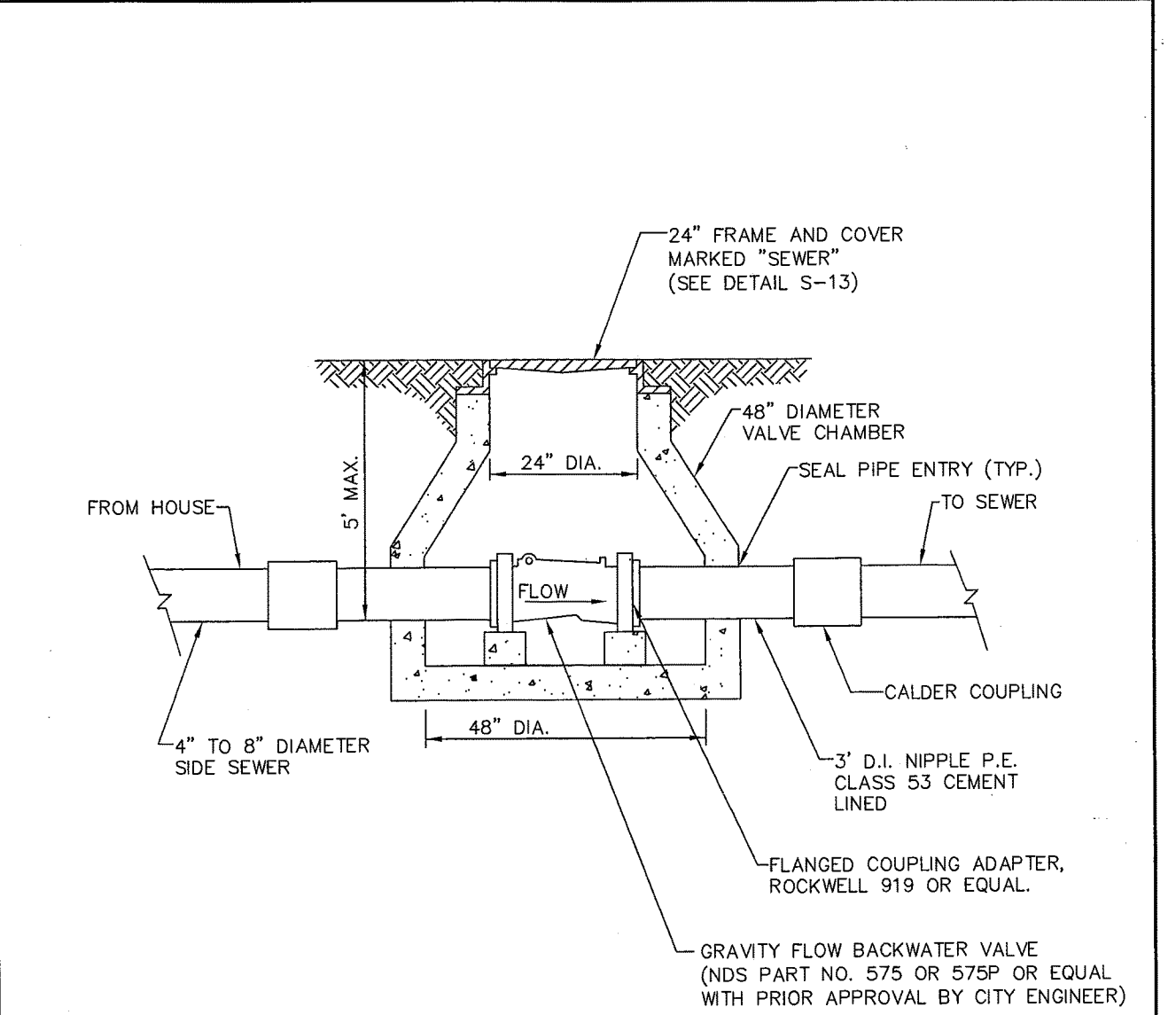


NOTES

- UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

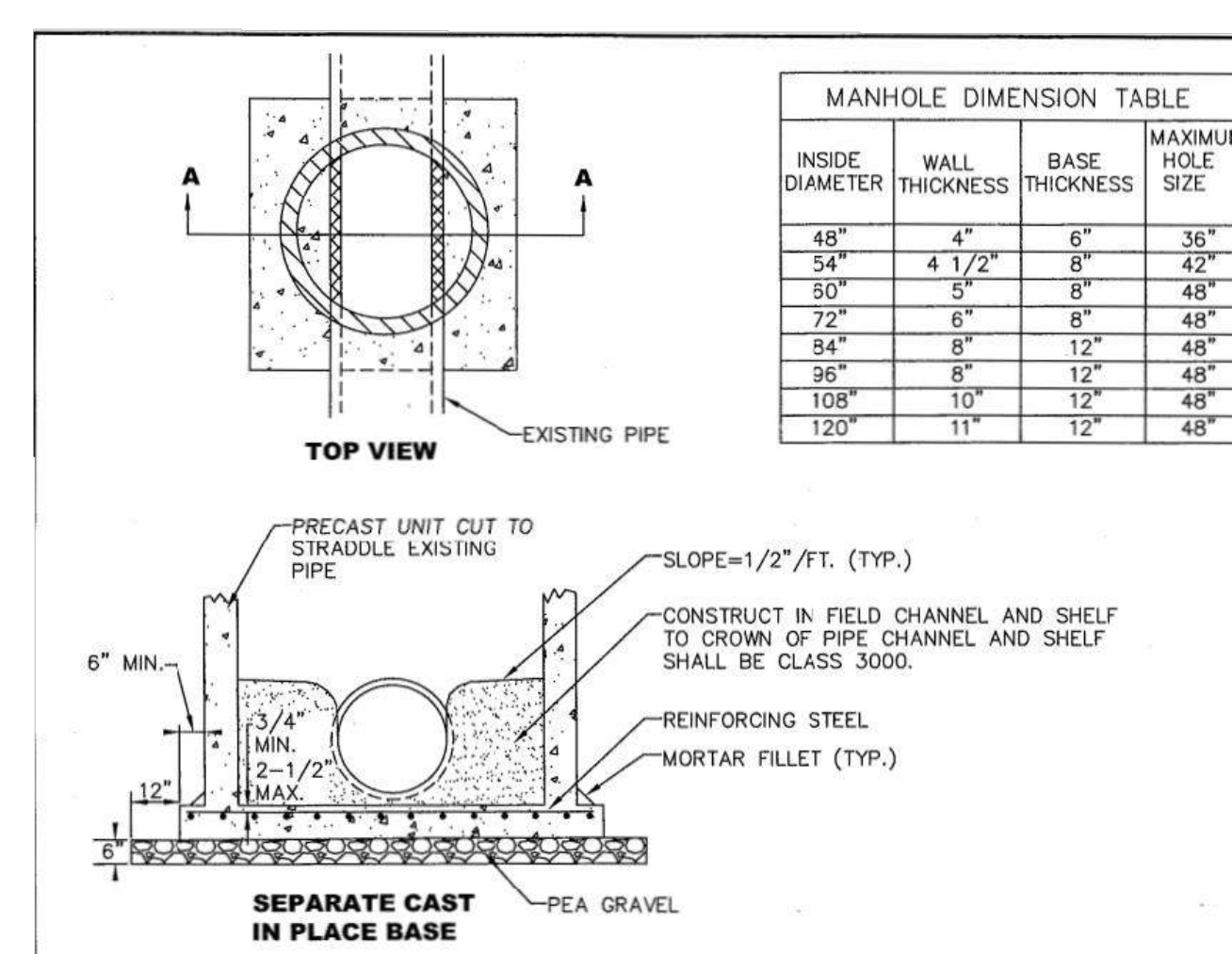
CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SIDE SEWER MARKER POST
6-5-2009 NO SCALE S-20
APPROVED

4 SIDE SEWER MARKER POST
NTS



CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
BACK WATER VALVE ASSEMBLY FOR JOINT USE SIDE SEWER (4" OR 6" DIAMETER)
6-5-2009 NO SCALE S-26
APPROVED

5 BACKFLOW PREVENTION VALVE
NTS



INSIDE DIAMETER	WALL THICKNESS	BASE THICKNESS	MAXIMUM HOLE SIZE
48"	4"	6"	36"
54"	4 1/2"	8"	42"
60"	5"	8"	48"
72"	6"	8"	48"
84"	8"	12"	48"
96"	8"	12"	48"
108"	10"	12"	48"
120"	11"	12"	48"

NOTES

- EXISTING PIPE SHALL BE SUPPORTED AT ALL TIMES.
- NO WEIGHT OF THE PRECAST UNIT SHALL BEAR ON THE EXISTING PIPE.
- CONCRETE FOR CAST-IN-PLACE BASE SHALL BE CLASS 4000.
- PRECAST MANHOLE SECTION SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD PLAN FOR THE SPECIFIED MANHOLE SIZE AND TYPE.
- MANHOLE SECTIONS SHALL NOT BE INSTALLED UNTIL CONCRETE BASE HAS SET FOR 12 HOURS.
- THE EXISTING MAIN SHALL BE LEFT IN PLACE AND THE TOP PORTION OF THE MAIN SHALL BE REMOVED. THE BOTTOM PORTION OF THE MAIN SHALL BE TIED IN AS THE CHANNEL OF THE NEW MANHOLE.
- GROUT ALL OPENINGS TO ENSURE WATER TIGHT STRUCTURE.
- A FLEXIBLE PIPE-TO-MANHOLE CONNECTOR SHALL BE EMPLOYED IN ALL CONNECTIONS OF RIGID AND FLEXIBLE PIPES TO NEW PRECAST CONCRETE MANHOLES. THE CONNECTOR SHALL BE "KOR-N-SEAL" WITH "WEDGE KOR-BAND" MANUFACTURED BY NPC, INC., OR APPROVED EQUAL.
- BASE REINFORCING STEEL SHALL BE PER MANUFACTURER'S RECOMMENDATION.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
NEW MANHOLE OVER AN EXISTING SEWER LINE
6-5-2009 NO SCALE S-15
APPROVED

6 NEW MANHOLE OVER AN EXISTING SEWER LINE
NTS

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PLOT TIME: 5/2/2018 8:27:08 PM
USER NAME: MICHAEL PARKER
XREF FILES: XT17387-TBLOCK.dwg

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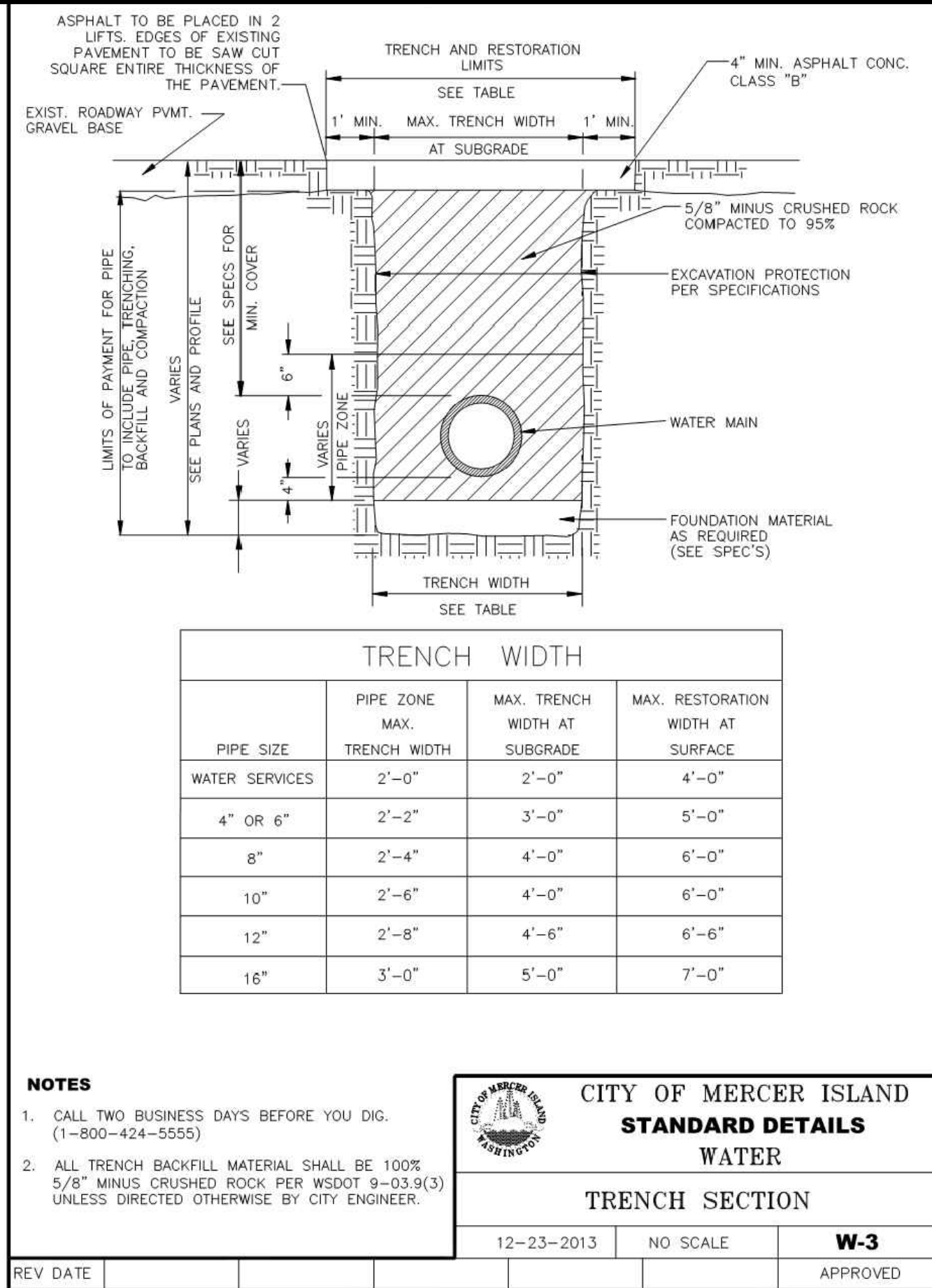
EDWARD WOODRUFF
STATE OF WASHINGTON
5440
REGISTERED
PROFESSIONAL ENGINEER
05/03/18

5236 W MERCER WAY
SINGLE FAMILY RESIDENCE
SANITARY SIDE SEWER DETAILS

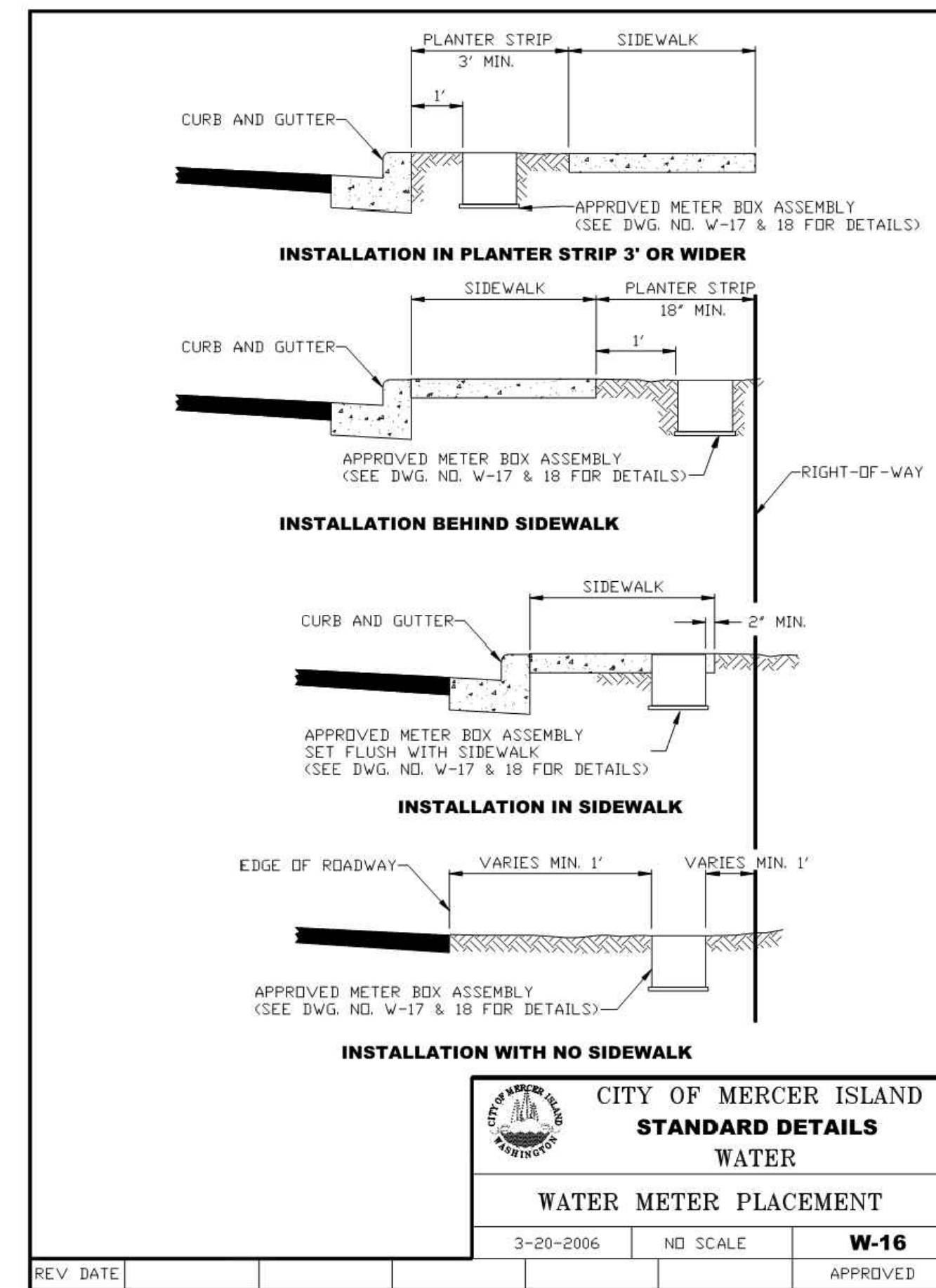
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DESIGNED BY: DW CHECKED BY: JS
JOB NUMBER: 17387
SHEET: C2.3 OF 10

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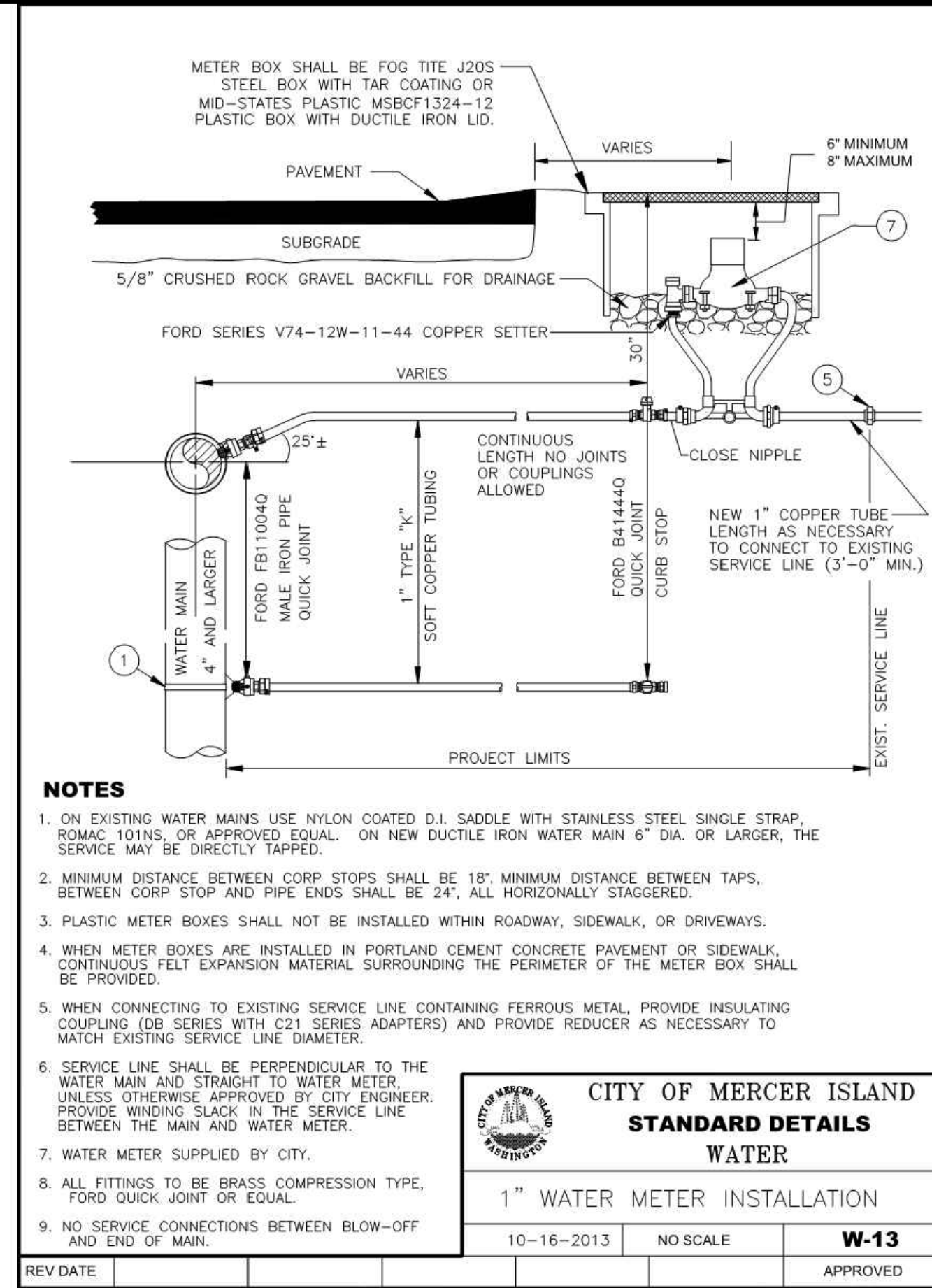
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 USER NAME: MICHAEL PARKER
 XREF FILES: XT17387-TBLOCK.dwg



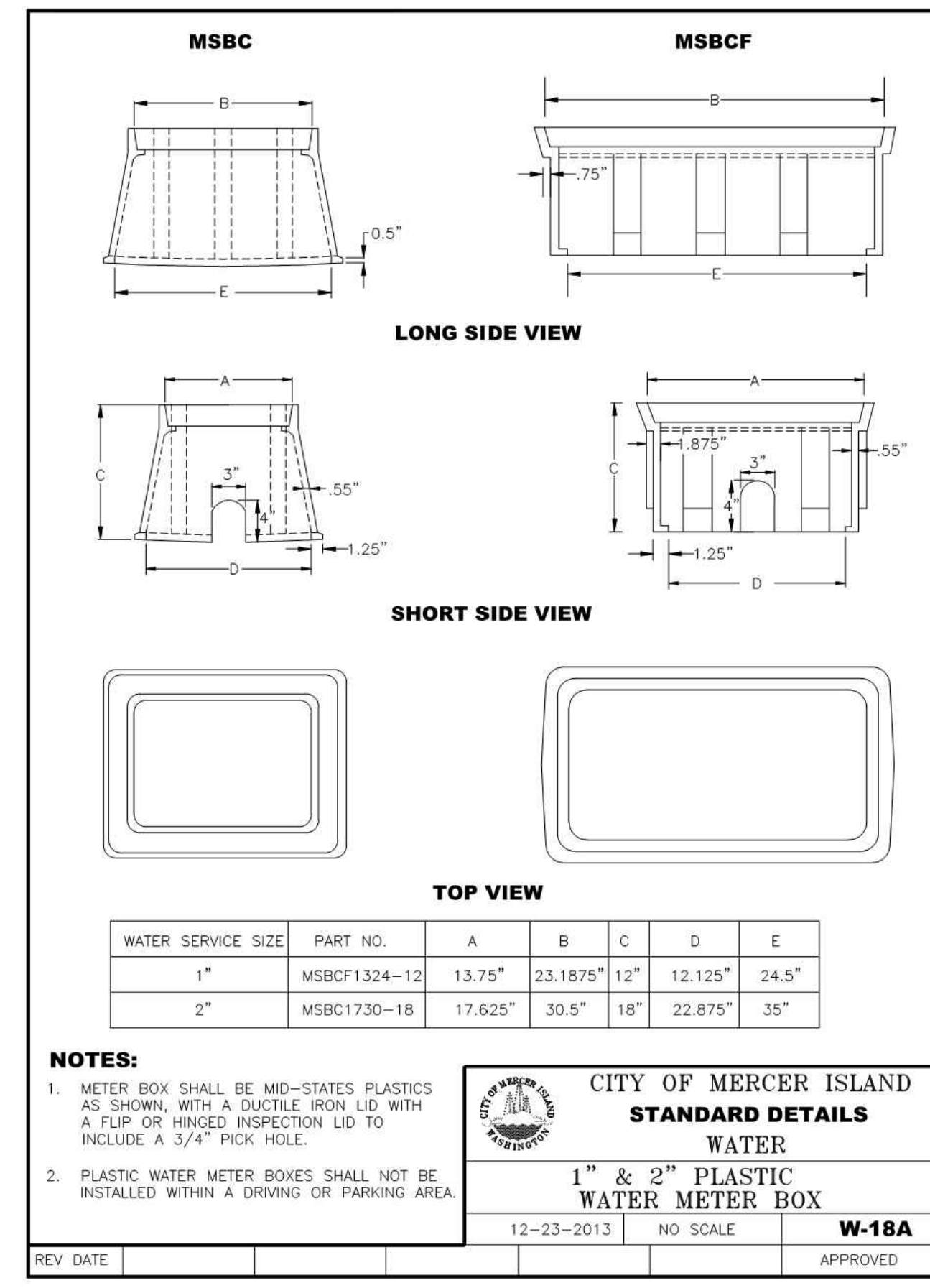
1 TRENCH SECTION
NTS



3 WATER METER PLACEMENT
NTS



2 1" WATER METER INSTALLATION
NTS



4 1" & 2" PLASTIC WATER METER BOX
NTS

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EDWARD WOODWARD
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
54340
05/03/18

5236 W MERCER WAY
SINGLE FAMILY RESIDENCE
WATER DETAILS

SCALE: AS SHOWN	DATE: 05/03/18
DESIGNED BY: DW	CHECKED BY: JS
JOB NUMBER 17387	
SHEET: C2.4	
SHEET 10 OF 10	

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