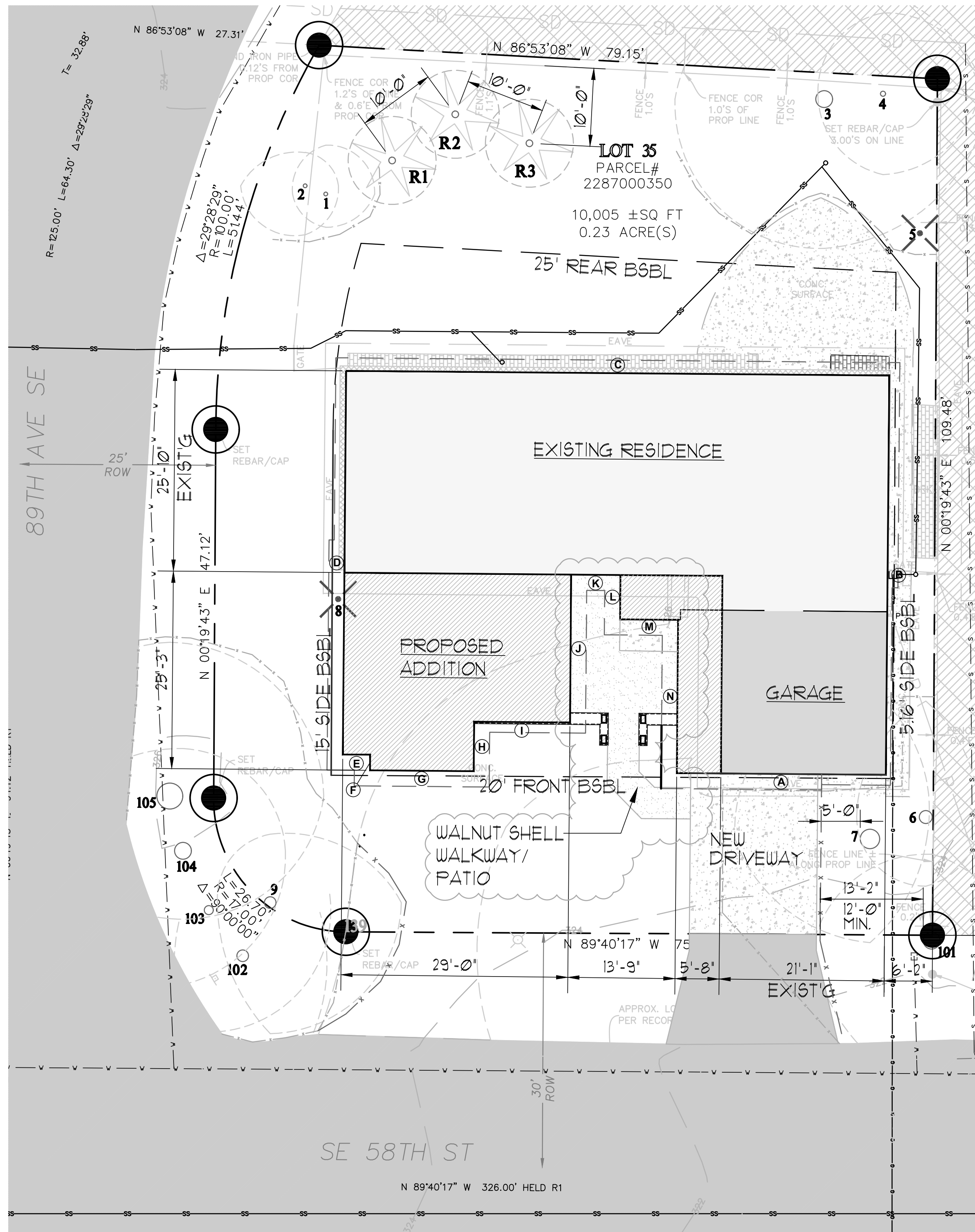


REPLACEMENT TREE IDENT.

TAG	TREE/SPECIES	NATIVE
R1	CHINESE DOGWOOD	YES
R2	CHINESE DOGWOOD	YES
R3	CHINESE DOGWOOD	YES

3/3 NATIVE : 100% NATIVE



TREE IDENTIFICATION

TAG	TREE/SPECIES	SIZE (DBH)	PROPOSED
1.	ZEBRINA CEDAR	7"	RETAIN
2.	CHERRY PLUM	6"	RETAIN
3.	WESTERN HEMLOCK	29"	RETAIN
4.	PORTUGUESE LAUREL	9"	RETAIN
5.	PORTUGUESE LAUREL	8"	REMOVE
6.	DOUGLAS FIR	22"	RETAIN
7.	DOUGLAS FIR	33"	RETAIN
8.	SCOTS PINE	11"	REMOVE
9.	AUSTRIAN PINE	22"	RETAIN

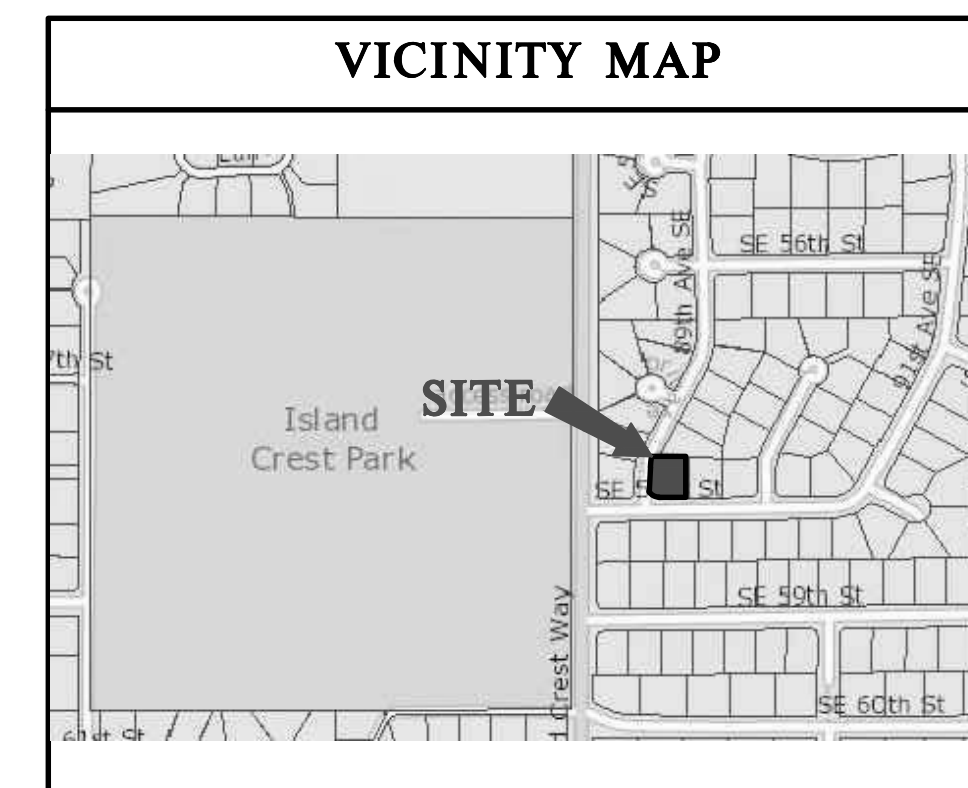
TOTAL DBH = 147"
TOTAL RETAINED = 128/147=87%

OFFSITE TREES

TAG	TREE/SPECIES	SIZE (DBH)	PROPOSED
101	DOUGLAS FIR	36"	PROTECT
102	AUSTRIAN PINE	22"	PROTECT
103	AUSTRIAN PINE	18"	PROTECT
104	DOUGLAS FIR	28"	PROTECT
105	DOUGLAS FIR	40"	PROTECT

NOTE: DBH DOES NOT INCLUDE OFF SITE TREE

- Tree protection fencing (TPF) shall consist of chain link fencing, or other fencing as may be required or approved by the City of Mercer Island, installed at the dripline radius of Tree #2 and Tree #3 and shall be staked into place, as required by the City, Plan Sheet A1.1 details the location of the Tree Protection Fencing.
- Signage shall be installed at intervals of 20' or less along the fence line declaring the fenced area as a "TREE PROTECTION ZONE - NO TOOLS, EQUIPMENT, OR CONSTRUCTION RELATED MATERIALS MAY BE PLACED WITHIN THE TREE PROTECTION ZONE". Signage shall be a minimum of 8.5" by 11.0" and shall be resistant to weather conditions.
- An ISA certified arborist shall verify the location of the fencing. The fencing shall be installed prior to any site clearing or grading and shall remain in place until the construction phase is completed.
- An ISA certified arborist shall be on-site for any excavation in the backyard area or anywhere near these protected trees.
- Any roots that are encountered and in need of removal shall be assessed by the Project Arborist. Severing of encountered roots shall be undertaken as detailed in ANSI Standard A300 (Part 8)-2013, Root Management.
- Any roots that are encountered and severed shall be covered with moist compost or mulch material as soon as is reasonable following the root exposure and severance.
- Protected trees shall be re-assessed after completion of the construction activity.
- The Ivy in Tree #2 and #3 should be removed, as much as possible.



SITE INFO

STREET ADDRESSES:
8904 SE 58th St
PARCEL #:
2287000350
LEGAL DESCRIPTION:
EL DORADO ESTATES ADD

ZONING

ZONING: R-96
SINGLE FAMILY RESIDENTIAL SETBACKS.
FRONT YARD - 20'-0"
REAR YARD - 25'
TOTAL SIDE YARD(S) - 17% OF 92.0' = 15.64' COMBINED
INTERIOR SIDE YARD - 5'-0" OR 33% OF 15.64' = 5.16' MIN.

HEIGHT LIMIT
3' ABOVE AVERAGE BUILDING ELEVATION
35' DOWNHILL HIGHEST PLATE FROM EXISTING GRADE

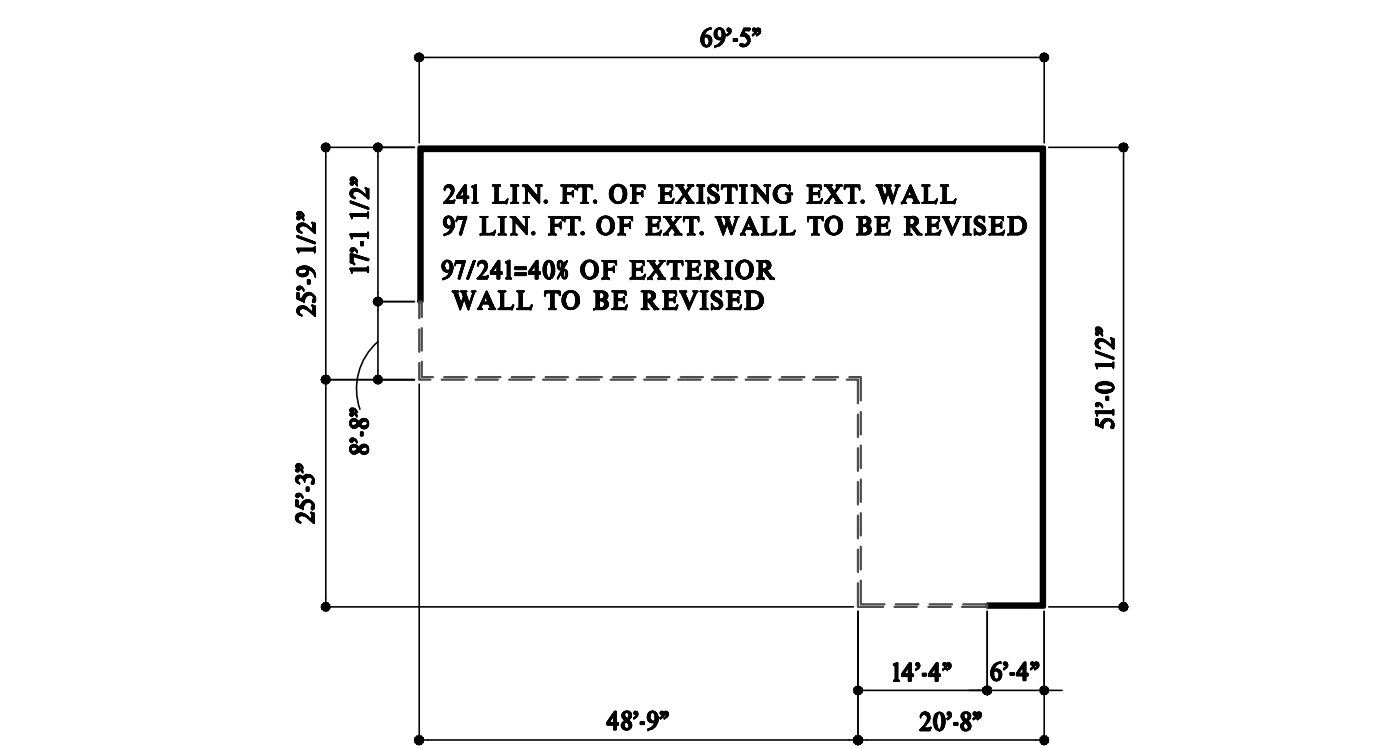
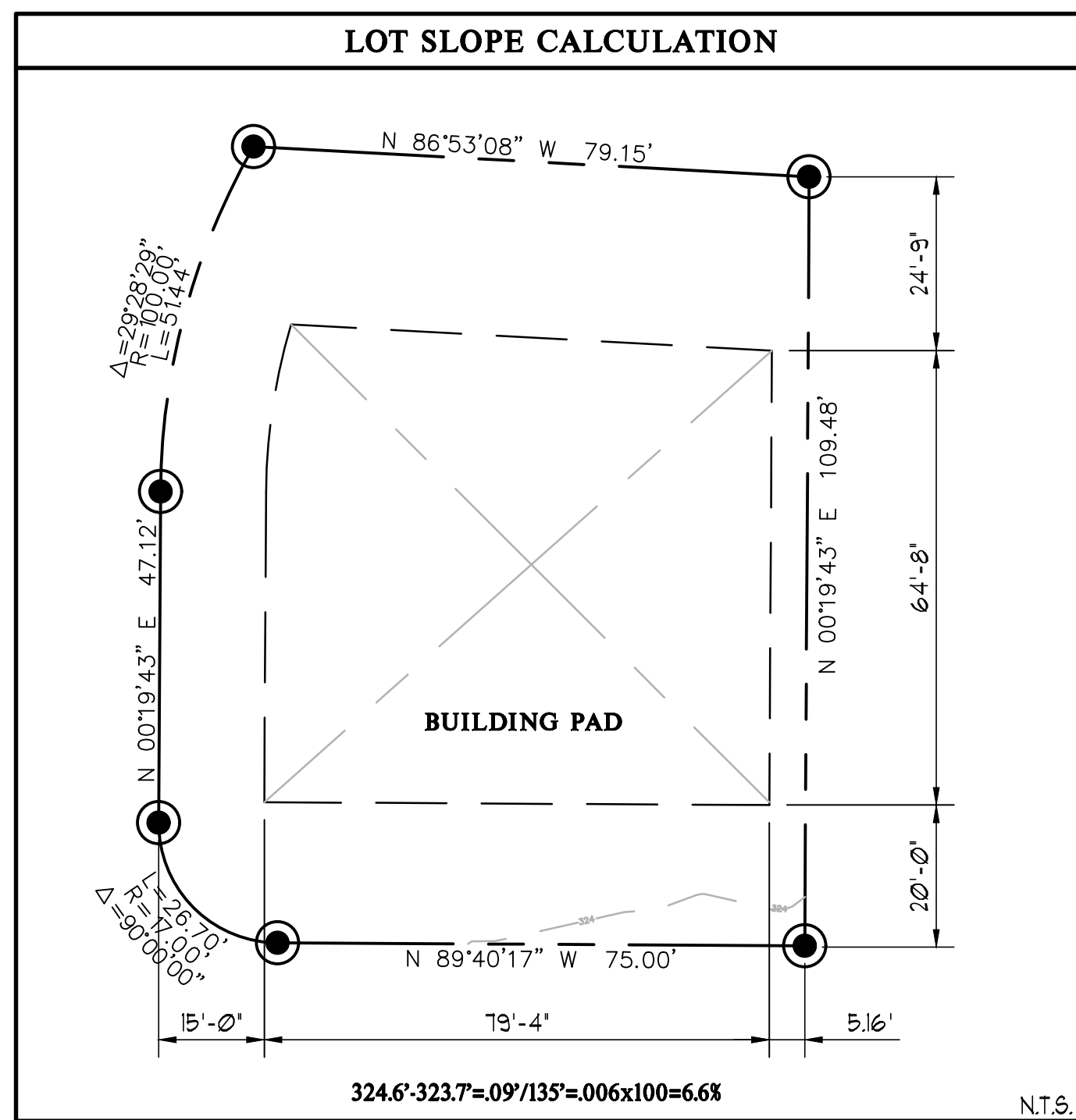
LOT COVERAGE
35% MAX OF GROSS LOT AREA
G.F.A.
40% MAX OF NET LOT AREA

SITE CALCULATIONS

LOT AREA	10,005 SF	GROSS LOT AREA	
G.F.A. CALCULATION	10,005 SF	GROSS LOT AREA	
x 40%	4,002 SF	ALLOWABLE G.F.A.	
2,925 SF	MAIN FLOOR (see G.F.A. calculations this sheet)		
407 SF	GARAGE (see G.F.A. calculations below this sheet)		
3,332.5 SF/33.3%	TOTAL G.F.A.		

LOT COVERAGE CALCULATION	10,005 SF	GROSS LOT AREA	
x 40%	4,002 SF	ALLOWABLE LOT COVERAGE	
3,565.5 SF	STRUCTURE (including eaves)		
302 SF	DRIVEWAY (excluding portion under eaves)		
3,867.5 SF/38.6%	TOTAL LOT COVERAGE		

HARDSCAPE SURFACE CALCULATION	10,005 SF	GROSS LOT AREA	
x 09%	900 SF	ALLOWABLE HARDSCAPE COVERAGE	
11 SF	NEW ENTRY STOOP (excluding portion under deck)		
600 SF	EXISTING REAR PATIO AND WALKWAY (excluding portion of eaves)		
611 SF/6.1%	TOTAL HARDSCAPE SURFACE AREA		



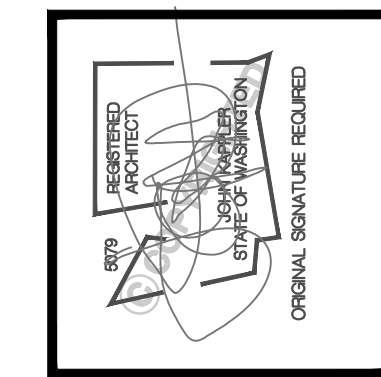
SEE ADDITIONAL STORM & UTILITY PLAN

City of Mercer Island GFA Calculations

Level	Area (N.A.)	Permitted	Less Than
Main Floor	3332.5 (3155-177.5)	AREA +12	LESS THAN 10
	3332.5 / 33.3%		

HEIGHT CALCULATION

Point	Elevation	Height	Notes
A	325.23	26.76	FIN
B	325.50	27.03	FIN
C	325.51	27.04	FIN
D	325.49	27.02	FIN
E	325.27	26.80	FIN
F	325.37	26.90	FIN
G	325.27	26.80	FIN
H	325.24	26.77	FIN
I	325.28	26.81	FIN
J	325.48	27.01	FIN
K	325.45	26.98	FIN
L	325.40	26.93	FIN
M	325.30	26.83	FIN
N	325.30	26.83	FIN
Address	4554.84	291.50	4458.20
		325.41	AVE. GRADE



Date	By	Description
2/2/24	REV	PERMIT SET
12/25	REV	JURISDICTIONAL COMMENTS
3/19/25	REV	SITE REVISIONS (CLOUDED)

Lee Remodel
ARCHITECTURAL INNOVATIONS, P.S.
Forward Thinking Design Solutions For Your Environment
14311 SE 64th St
Bellevue, WA 98007
1-800-888-4517
www.leehomeplans.com

8904 SE 58th St
Mercer Island, WA

LEGEND

- v --- DESIGNATES WATER
- ss --- DESIGNATES SEWER
- s --- s --- DESIGNATES STORY
- --- DESIGNATES EXISTING GRADE
- --- DESIGNATES TREE DRIPLINE
- --- DESIGNATES PHASE I TREE FENCING
- x --- x --- DESIGNATES PHASE II TREE FENCING

TITLE

JOB NO.: 24000.03
STARTING NO.: 24000.22

SHEET

A1.1

LEE RESIDENCE

NW 1/4, SW 1/4, SECTION 19, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M. CITY OF MERCER ISLAND, WASHINGTON

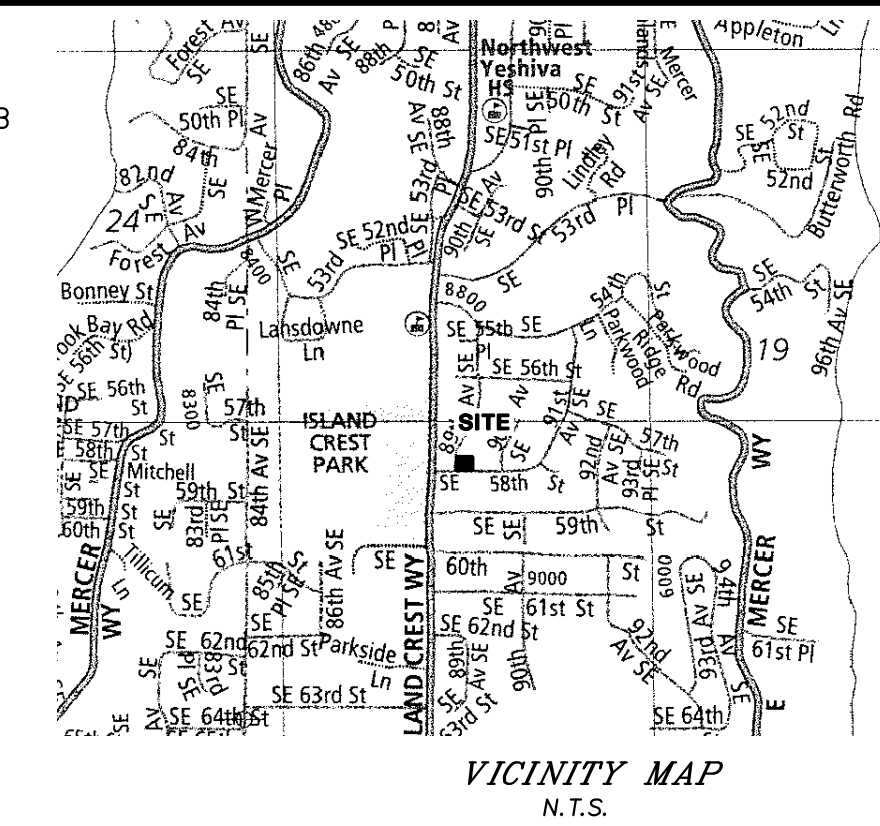
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CONTACT: RON FREDERIKSEN

ARCHITECT: ARCHITECTURAL INNOVATIONS
NAME: ROBERT YOUNG
COMPANY
PH: 425-641-5320

SHEET INDEX

- 1 COVER PAGE
- 2 SEWER WATER STORM PLAN
- 3 GRADING PLAN
- 4 TESC PLAN
- 5 AREAS SHEET
- 6 TOPOGRAPHIC AND BOUNDARY SURVEY
- 7-12 TESC DETAIL
- 13 SEWER WATER TREE STORM DETAILS
- 14 STORM AND WATER DETAILS



LEGAL DESCRIPTION

PER TRUSTEE'S DEED RECORDING # 20231102000233
LOT 35, EL DORADO ESTATES, ACCORDING TO PLAT RECORDED IN VOLUME 62 OF PLATS, PAGE 7, IN KING COUNTY, WASHINGTON.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

SUBJECT TO AND TOGETHER WITH EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS OF RECORD.

SURVEYOR'S NOTES

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ACCEPTED THE BEARING OF N 29°48'12" E BETWEEN MONUMENTS FOUND ALONG THE CENTERLINE OF 89TH AVE SE, PER REFERENCE NO. 1.

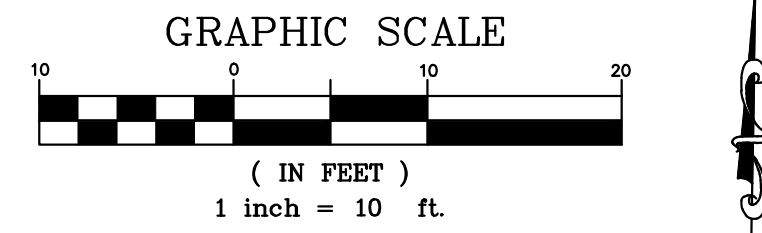
REFERENCES

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VERTICAL DATUM

NAVD 88 PER CITY OF MERCER ISLAND BENCHMARK NO. 1800
DESCRIPTION: CONC. MON W/ TACK IN LEAD
LOCATION: C/L 89TH AVE SE OPP HSE #5639
ELEVATION: 323.242'

SITE TEMP. BENCHMARK
DESCRIPTION: PK NAIL W/ RED WASHER
LOCATION: 67.7'S & 53.8'W FROM THE NW PROPERTY CORNER
ELEVATION: 324.96'

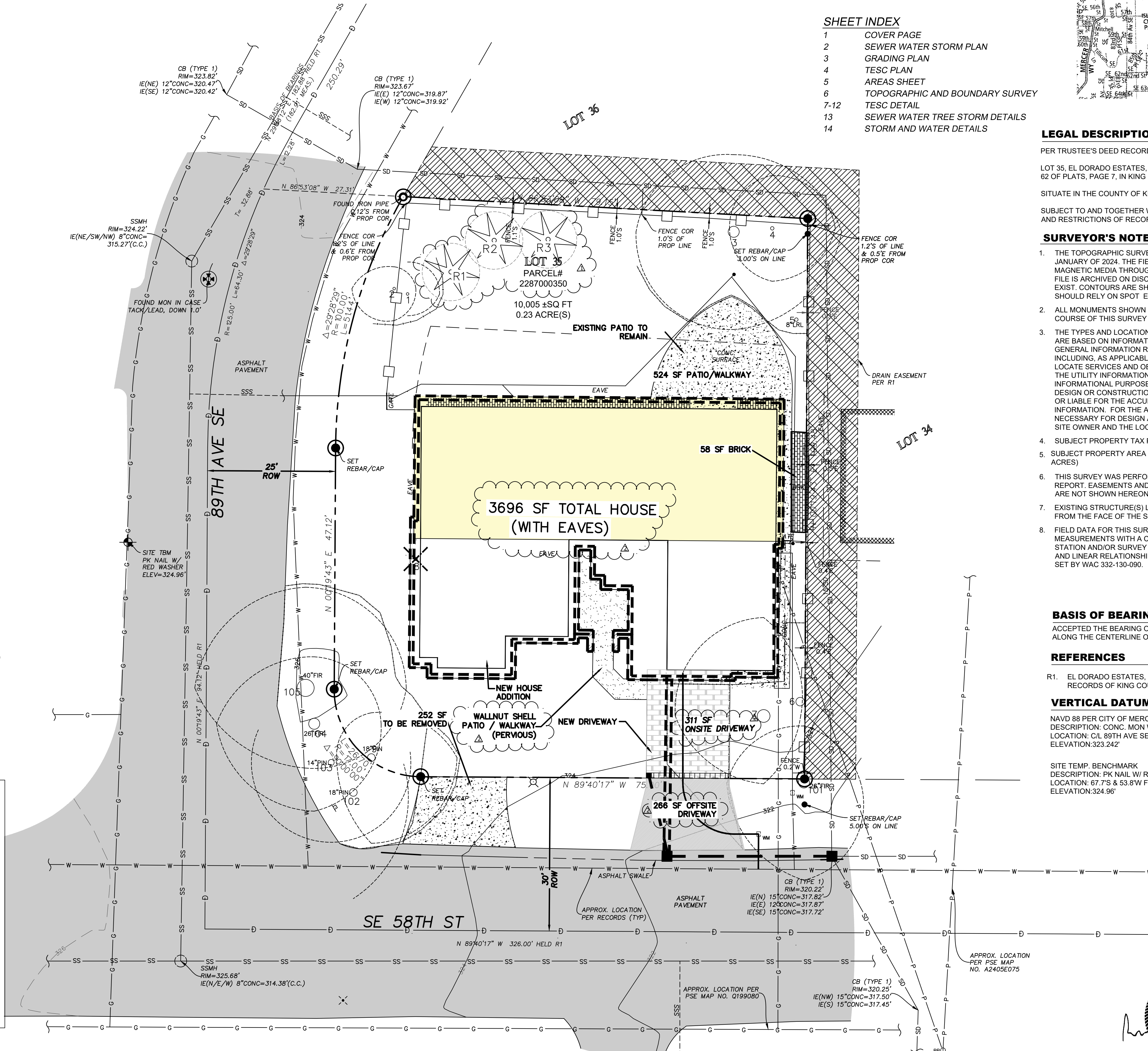


ONSITE IMPERVIOUS SURFACE COVERAGE CAL			
TOTAL IMPERVIOUS COVERAGE ALLOWED (50%): 10,005 SF X 0.500 = 5,003 SF			
	(E) EXISTING AREA	(N) PROPOSED AREA	NET AREA
HOUSE	3,035 SF	3,696 SF (NEW+REMAIN)	+661 SF
CONCRETE PATIO / WALKWAY	435 SF	524 SF (REMAIN+NEW)	+89 SF
BRICK	58 SF	58 SF (REMAIN)	0 SF
DRIVEWAY	908 SF	311 SF (NEW+IMPERVIOUS*)	-617 SF
TOTAL	4,456 SF	4,589 SF (45.2%)	+133*
*NOTE - THE PERVIOUS PAVEMENT CREDIT WAS NOT USED IN THIS CALCULATION. PERVIOUS PAVERS RECOMMENDED FOR TREE WATERING			
**NOTE - NET AREA IS UNDER 500SF THEREFORE DETENTION IS NOT REQUIRED			

OFFSITE IMPERVIOUS SURFACE			
	(E) EXISTING AREA	(N) PROPOSED AREA	NET AREA
DRIVEWAY (OLD)	252 SF	0	-252 SF
DRIVEWAY (NEW)	0 SF	286 SF (NEW)	+286 SF
TOTAL	252 SF	286 SF	+14 SF

LEGEND

BENCHMARK	BRICK SURFACE
BRASS DISC (FOUND)	CONCRETE SURFACE
CENTERLINE ROW	DECK
FENCE LINE (WOOD)	GAS METER
IRON PIPE (FOUND)	GAS LINE
MONUMENT (IN CASE, FOUND)	INLET (TYPE 1)
NAIL AS NOTED	STORM DRAIN LINE
PROPERTY LINES (ADJACENT)	SEWER MANHOLE
PROPERTY LINE (SUBJECT)	SEWER LINE
REBAR & CAP (SET)	POWER METER
RETAINING WALL	POWER POLE
RIGHT-OF-WAY LINES	POWER (OVERHEAD)
BUILDING	YARD LIGHT
SIGN (AS NOTED)	FIRE HYDRANT
TREE (AS NOTED)	WATER METER
SIZE TYPE	WATER LINE
ASPHALT SURFACE	DRAIN EASEMENT PER R1
PHASE 2 TREE PROTECTION	
PHASE 1 TREE PROTECTION	



REVISIONS	BY	DATE
REVISED PER CITY MARKUPS	REH	07/21/25
REVISED PER CLIENT	REH	03/19/25

COVER SHEET

SITE ADDRESS: 8904 SE 58TH ST.

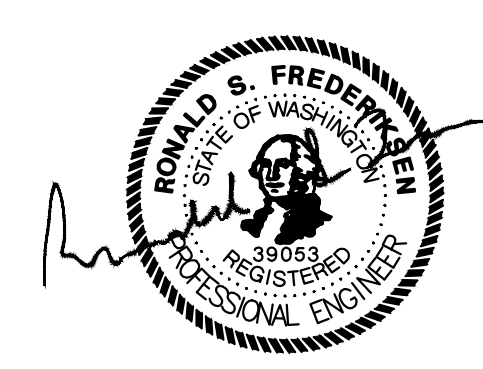
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EASTSIDE CONSULTANTS, INC.

1320 NW MALL ST., SUITE B
ISSAQUAH, WASHINGTON 98027
PH: (425) 392-5351 FAX: 392-4676

JOB NO. 24081
DATE 10/24
SCALE 1"=10'
DESIGNED R.E.H.
DRAWN R.E.H.
CHECKED R.S.F.
APPROVED R.S.F.

SHEET 1 OF 14



03/19/2025

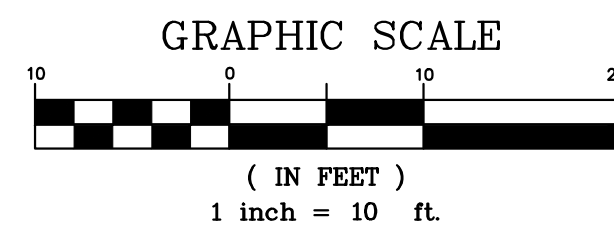
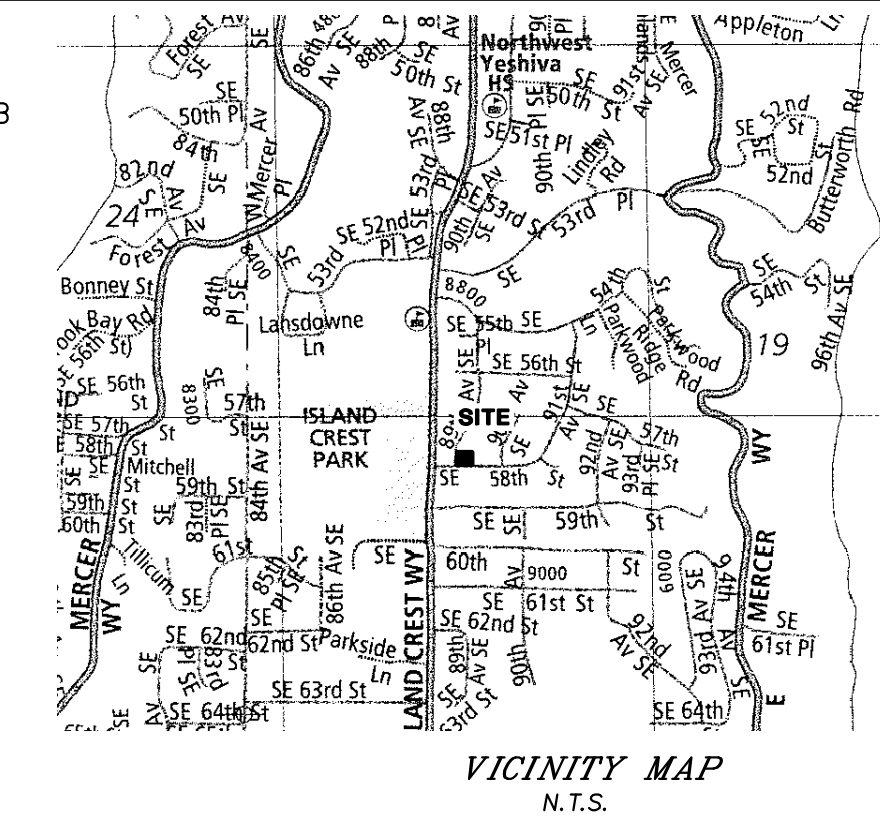
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JENNIE LEE
8904 SE 58TH STREET,
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ARCHITECT: ARCHITECTURAL INNOVATIONS
NAME: ROBERT YOUNG
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ONSITE IMPERVIOUS SURFACE COVERAGE CAL

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TOTAL	4,456 SF	4,589 SF (45.2%)	+133*

*NOTE - THE PERVIOUS PAVEMENT CREDIT WAS NOT USED IN THIS CALCULATION.
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**NOTE - NET AREA IS UNDER 500SF THEREFORE DETENTION IS NOT REQUIRED

OFFSITE IMPERVIOUS SURFACE

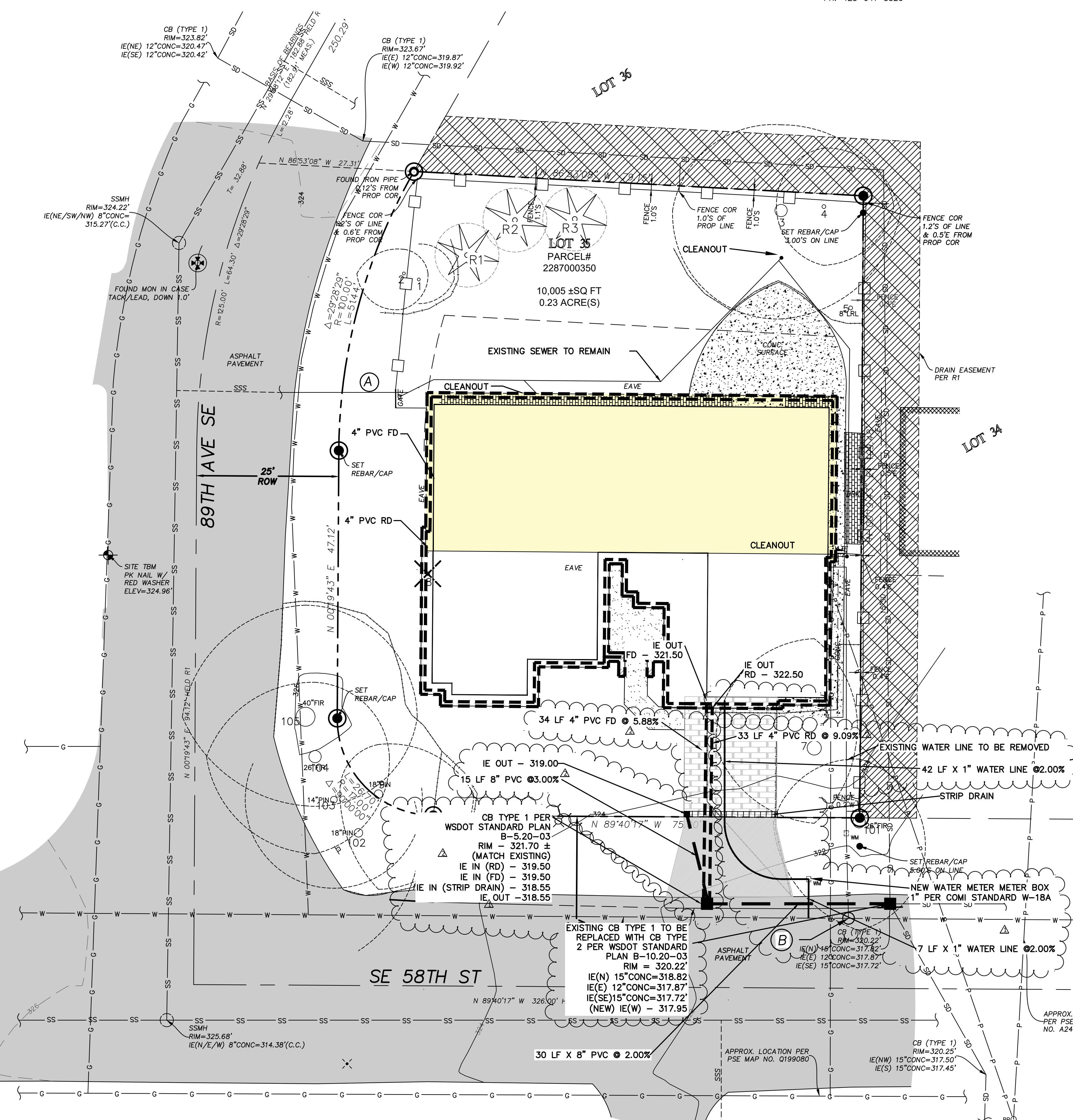
	(EXISTING AREA)	(PROPOSED AREA)	NET AREA
DRIVEWAY (OLD)	252 SF	0	-252 SF
DRIVEWAY (NEW)	0 SF	266 SF (NEW)	+266 SF
TOTAL	252 SF	266 SF	+14 SF

(A) EXISTING SEWER AND STUB TO BE TV'D TO DETERMINE IF IT IS UP TO STANDARDS (CMI STD. # S-17, S-18). IF SEWER AND STUB IS DETERMINED 'NOT UP TO STANDARDS' REPLACE PER CMI STD. # S-17, S-18

(B) EXISTING WATER LINE TO BE ABBANDONED AT WATER MAIN

LEGEND

	BENCHMARK		BRICK SURFACE
	BRASS DISC (FOUND)		CONCRETE SURFACE
	CENTERLINE ROW		DECK
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	SIZE TYPE (AS NOTED)		WATER METER
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SEWER WATER STORM PLAN

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ISSAQUAH, WASHINGTON 98027
PH: (425) 392-5351 FAX: 392-4676



03/19/2025

INDEX LOCATION:
SEC. 30 T. 24 N. 5E. W.M.

JOB NO. 24081
DATE 10/24
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DESIGNED R.E.H.
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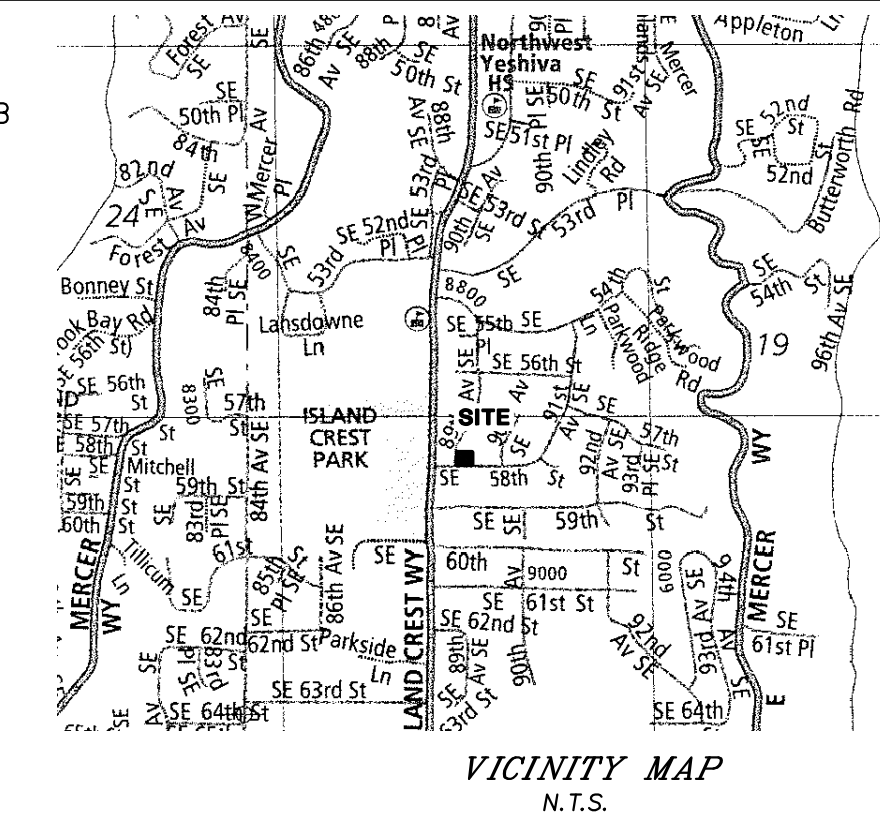
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BASIS OF BEARINGS

ACCEPTED THE BEARING OF N 29°48'12" E BETWEEN MONUMENTS FOUND ALONG THE CENTERLINE OF 89TH AVE SE, PER REFERENCE NO. 1.

REFERENCES

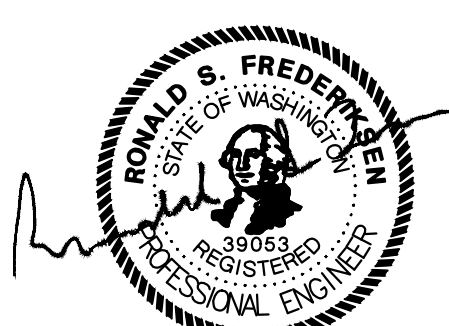
- EL DORADO ESTATES, VOL. 62 OF PLATS, PG. 07, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM

NAVD 88 PER CITY OF MERCER ISLAND BENCHMARK NO. 1800
DESCRIPTION: CONG. MON W/ TACK IN LEAD
LOCATION: C/L 89TH AVE SE OPP HSE #5639
ELEVATION: 323.24'

SITE TEMP. BENCHMARK
DESCRIPTION: PK NAIL W/ RED WASHER
LOCATION: 67.7'S & 53.8'W FROM THE NW PROPERTY CORNER
ELEVATION: 324.96'

INDEX LOCATION:
SEC. 30 T. 24 N. R. 5 E. W.M.



03/19/2025

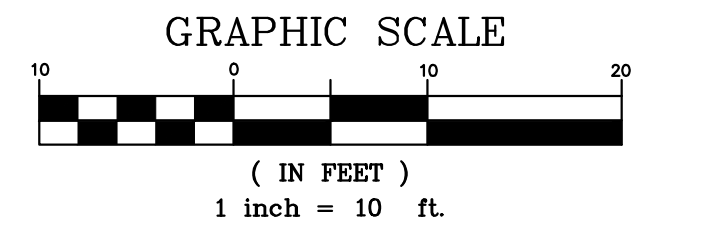
SITE ADDRESS: 8904 SE 58TH ST.

JENNIE LEE
8904 SE 58TH ST.
MERCER ISLAND, WA

ENGINEERS - SURVEYORS
EASTSIDE CONSULTANTS, INC.
1320 NW MALL ST., SUITE B
ISSAQUAH, WASHINGTON 98027
PH: (425) 392-5351 FAX: 392-4676

JOB NO. 24081
DATE 10/24
SCALE 1"=10'
DESIGNED R.E.H.
DRAWN R.E.H.
CHECKED R.S.F.
APPROVED R.S.F.

SHEET 3 OF 14



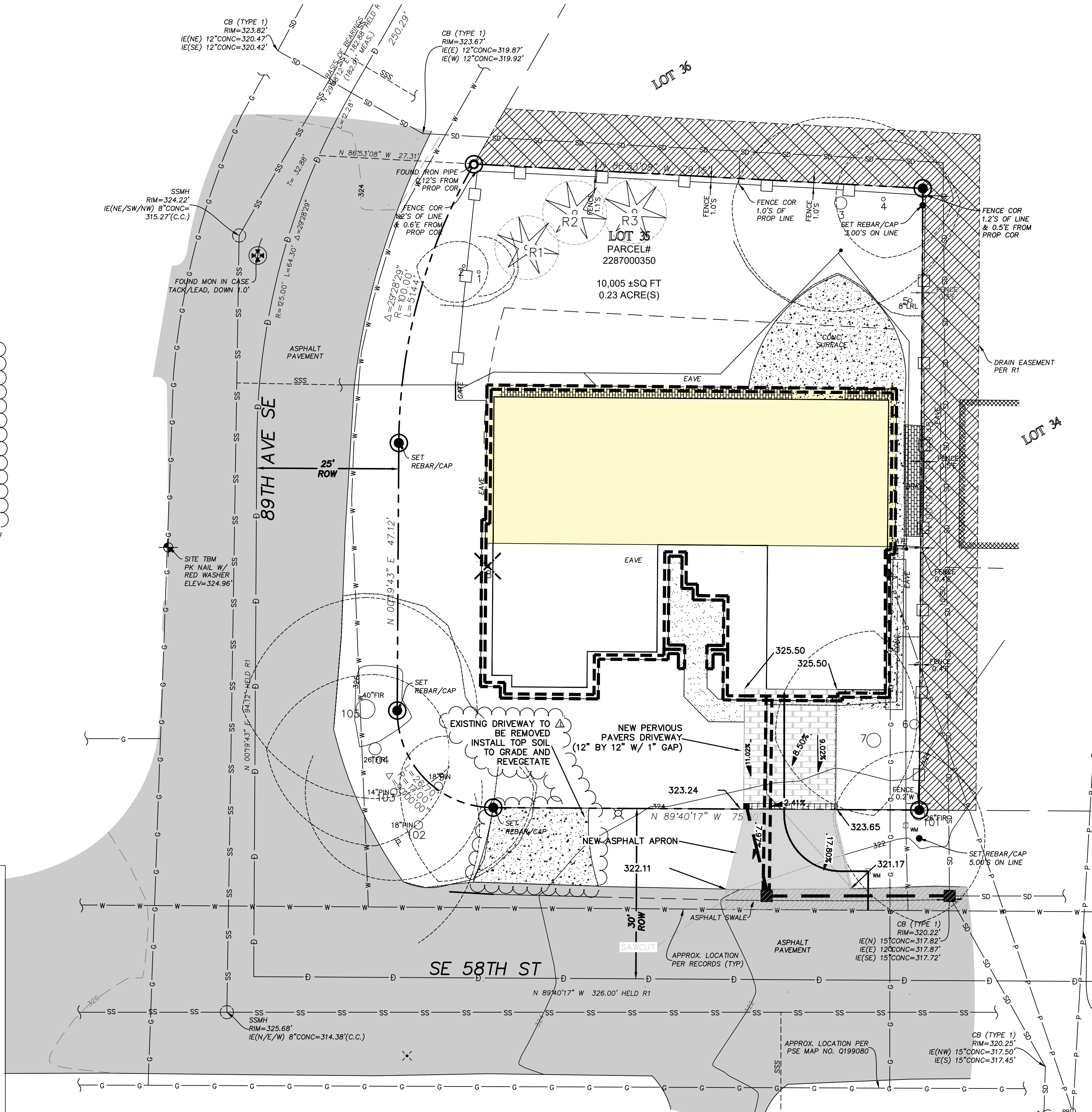
ONSITE IMPERVIOUS SURFACE COVERAGE CAL		
	(EXISTING AREA)	(PROPOSED AREA)
HOUSE	3,035 SF	3,698 SF (REMAIN+NEW)
CONCRETE PATIO / WALKWAY	435 SF	524 SF (REMAIN+NEW)
BRICK	58 SF	58 SF (REMAIN)
DRIVEWAY	928 SF	311 SF (NEW/IMPERVIOUS) - 617 SF
TOTAL	4,456 SF	4,589 SF (45.2%) +133"

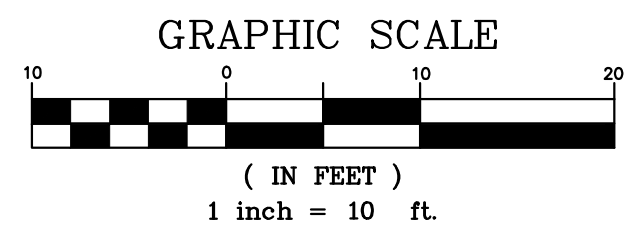
*NOTE - THE IMPERVIOUS SURFACE COVERAGE CREDIT WAS NOT USED IN THIS CALCULATION.
PERVIOUS PAVERS RECOMMENDED FOR TREE WATERING
**NOTE - NET AREA IS UNDER 500SF THEREFORE DETENTION IS NOT REQUIRED

OFFSITE IMPERVIOUS SURFACE		
	(EXISTING AREA)	(PROPOSED AREA)
DRIVEWAY (OLD)	252 SF	0
DRIVEWAY (NEW)	0 SF	286 SF (NEW)
TOTAL	252 SF	286 SF +14 SF

LEGEND

BENCHMARK	BRICK SURFACE
BRASS DISC (FOUND)	CONCRETE SURFACE
CENTERLINE ROW	DECK
FENCE LINE (WOOD)	GAS METER
IRON PIPE (FOUND)	GAS LINE
MONUMENT (IN CASE, FOUND)	INLET (TYPE 1)
NAIL AS NOTED	STORM DRAIN LINE
PROPERTY LINES (ADJACENT)	SEWER MANHOLE
PROPERTY LINE (SUBJECT)	SEWER LINE
REBAR & CAP (SET)	POWER METER
RETAINING WALL	POWER POLE
RIGHT-OF-WAY LINES	POWER (OVERHEAD)
BUILDING	YARD LIGHT
SIGN (AS NOTED)	FIRE HYDRANT
SIZE TYPE (AS NOTED)	WATER METER
ASPHALT SURFACE	WATER LINE
PHASE 2 TREE PROTECTION	DRAIN EASEMENT PER R1
PHASE 1 TREE PROTECTION	





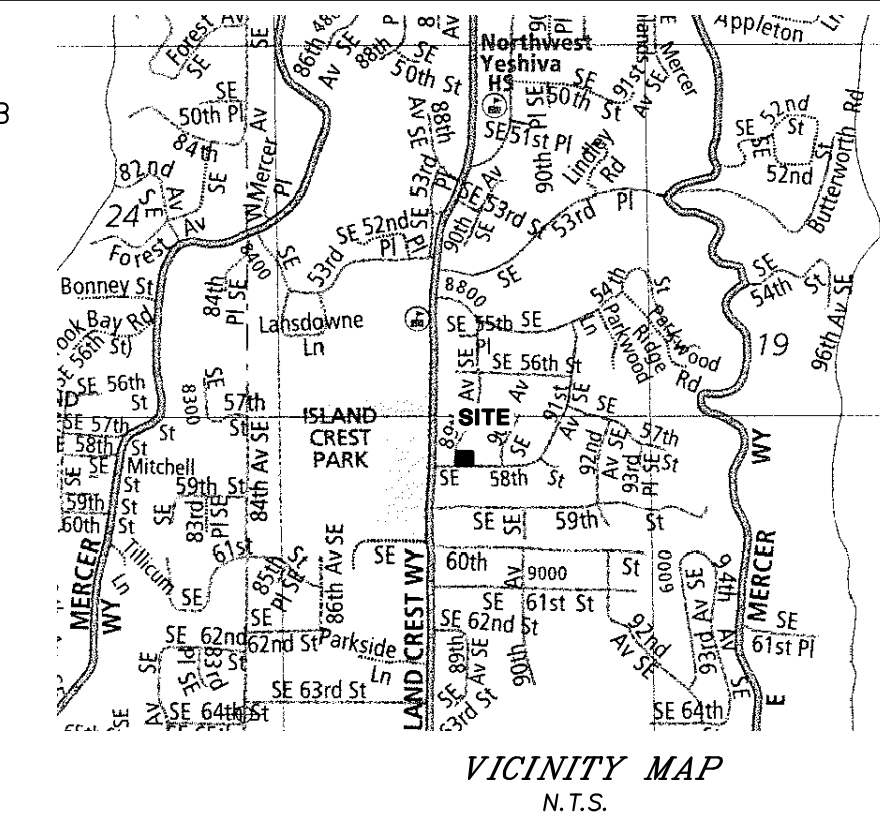
LEE RESIDENCE

NW 1/4, SW 1/4, SECTION 19, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M. CITY OF MERCER ISLAND, WASHINGTON

OWNER:
JENNIE LEE
8904 SE 58TH STREET,
MERCER ISLAND, WA

ARCHITECT: ARCHITECTURAL INNOVATIONS
NAME: ROBERT YOUNG
COMPANY
PH: 425-641-5320

CIVIL ENGINEER:
EASTSIDE CONSULTANTS, INC
1320 NW MALL STREET, STE B
ISSAQUAH, WA 98027
PHONE: 425.392.5351
CONTACT: RON FREDERIKSEN



REVISIONS	BY	DATE
REVISED PER CITY MARKUPS	REH	07/21/25
REVISED PER CLIENT	REH	07/19/25

- IN COMPLIANCE WITH THE SWPPP 13 ELEMENTS
1. PRESERVE VEGETATION/CLEARING LIMITS
USE BMP C101 PRESERVING NATURAL, C103 HIGH-VISIBILITY FENCE VEGETATION, & C233 SILT FENCE
 2. ESTABLISH CONSTRUCTION ACCESS
USE BMP C105 STABILIZED CONSTRUCTION
 3. CONTROL FLOW RATES
USE BMP C235 WATTLES
 4. INSTALL SEDIMENT CONTROLS
USE BMP C233 SILT FENCE & C235 WATTLES
 5. STABILIZE SOILS
USE BMP C121 MULCHING, C120 TEMPORARY AND PERMANENT SEEDING & C123 PLASTIC COVERING
 6. PROTECT SLOPES
USE BMP C121 MULCHING, C120 TEMPORARY AND PERMANENT SEEDING & C123 PLASTIC COVERING
 7. PROTECT DRAIN INLET
USE BMP C20 STORM DRAIN INLET
 8. STABILIZE CHANNELS AND OUTLETS
C122 NETS AND BLANKETS
 9. CONTROL POLLUTANTS
USE BMP C153 MATERIAL, DELIVERY, STORAGE, AND CONTAINMENT
 10. CONTROL DEWATERING
NO DEWATERING EXPECTED, IF NEEDED USE BMP C236 VEGETATIVE FILTRATION
 11. MAINTAIN BMPs
ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL (ESC) SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION AND USE BMP C150 MATERIALS ON HAND
 12. MANAGE THE PROJECT
THE PROJECT WILL BE MANAGED APPROPRIATELY BY THE TESC SUPERVISOR AND USE BMP C150 MATERIALS ON HAND
 13. PROTECT LOW IMPACT DEVELOPMENT (LID) BMPs
USE BMP C233 SILT FENCE AS NECESSARY

1. PRESERVING NATURAL VEGETATION PER BMP C101
2. STABILIZED CONSTRUCTION ACCESS PER BMP C105
3. TEMPORARY AND PERMANENT SEEDING PER BMP C120
4. MULCHING PER BMP C121
5. PLASTIC COVERING PER BMP C123
6. CONCRETE HANDLING PER BMP C151
7. MATERIAL DELIVERY STORAGE AND CONTAINMENT PER BMP C153
8. WATTLES PER BMP C235
9. NETS AND BLANKETS PER BMP C122
10. VEGETATIVE FILTRATION PER BMP C236
11. MATERIALS ON HAND PER BMP C150

ONSITE IMPERVIOUS SURFACE COVERAGE CAL

TOTAL IMPERVIOUS COVERAGE ALLOWED (50%): 10,005 SF X 0.500 = 5,003 SF

HOUSE	(EXISTING AREA)	(PROPOSED AREA)	NET AREA
CONCRETE PATIO / WALKWAY	3,025 SF	3,888 SF (NEW/REMAIN)	+863 SF
BRICK	58 SF	58 SF (REMAIN)	0 SF
DRIVEWAY	928 SF	311 SF (NEW/PERVIOUS)* - 617 SF	-317 SF
TOTAL	4,456 SF	4,889 SF (45.2%)	+133 SF

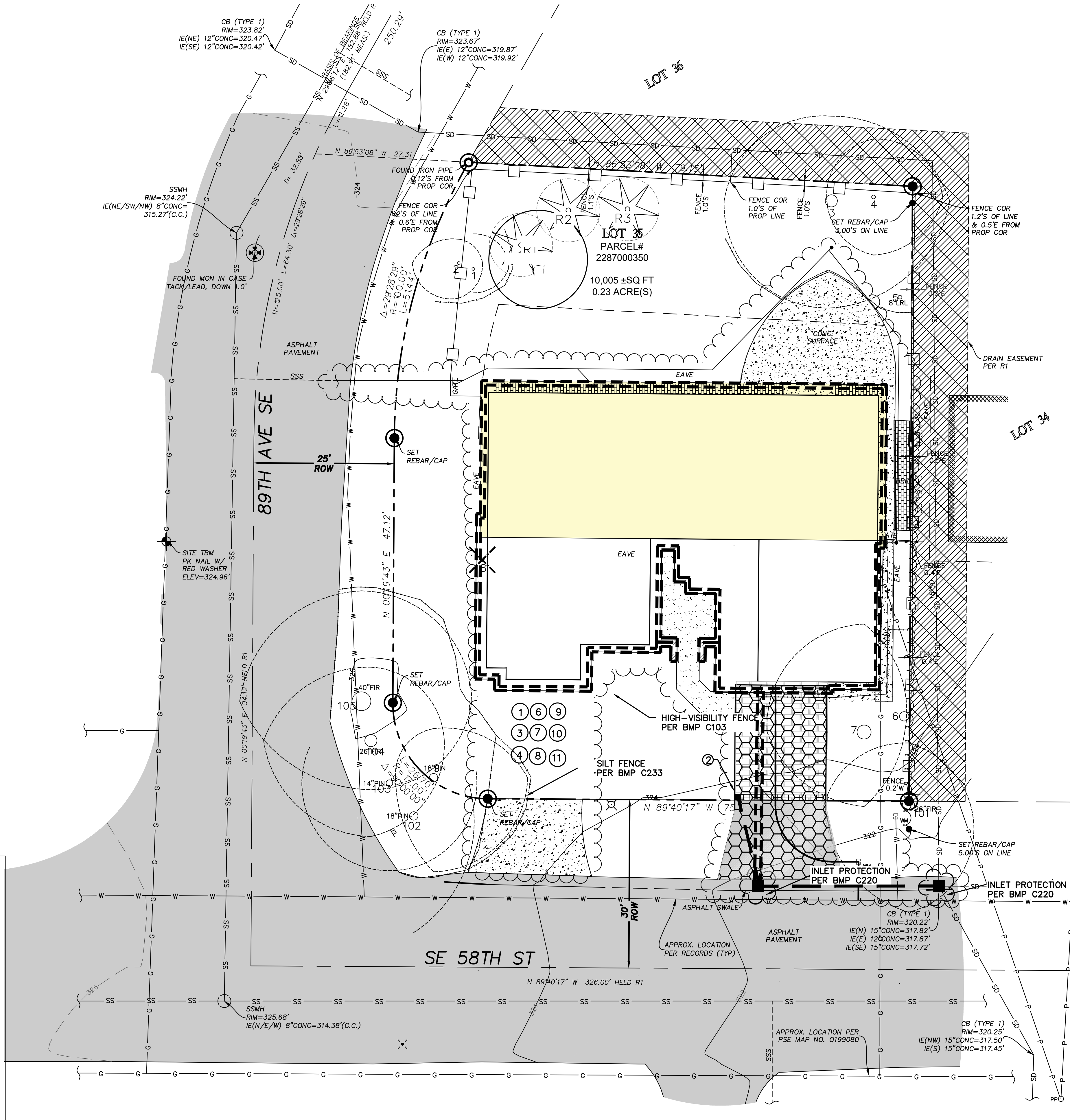
*NOTE - THE PERVIOUS PAVEMENT CREDIT WAS NOT USED IN THIS CALCULATION. PERVIOUS PAVERS RECOMMENDED FOR TREE WATERING
**NOTE - NET AREA IS UNDER 500SF THEREFORE DETENTION IS NOT REQUIRED

OFFSITE IMPERVIOUS SURFACE

DRIVEWAY (OLD)	(EXISTING AREA)	(PROPOSED AREA)	NET AREA
DRIVEWAY (NEW)	0 SF	286 SF (NEW)	+286 SF
TOTAL	252 SF	286 SF	+14 SF

LEGEND

	BENCHMARK		BRICK SURFACE
	BRASS DISC (FOUND)		CONCRETE SURFACE
	CENTERLINE ROW		DECK
	FENCE LINE (WOOD)		GAS METER
	IRON PIPE (FOUND)		GAS LINE
	MONUMENT (IN CASE, FOUND)		INLET (TYPE 1)
	NAIL AS NOTED		STORM DRAIN LINE
	PROPERTY LINES (ADJACENT)		SEWER MANHOLE
	PROPERTY LINE (SUBJECT)		SEWER LINE
	REBAR & CAP (SET)		POWER METER
	RETAINING WALL		POWER POLE
	RIGHT-OF-WAY LINES		POWER (OVERHEAD)
	BUILDING		YARD LIGHT
	SIGN (AS NOTED)		FIRE HYDRANT
	TREE (AS NOTED)		WATER METER
	ASPHALT SURFACE		WATER LINE
	PHASE 2 TREE PROTECTION		DRAIN EASEMENT PER R1
	PHASE 1 TREE PROTECTION		



LEGAL DESCRIPTION

PER TRUSTEE'S DEED RECORDING # 20231102000233
LOT 35, EL DORADO ESTATES, ACCORDING TO PLAT RECORDED IN VOLUME 62 OF PLATS, PAGE 7, IN KING COUNTY, WASHINGTON.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

SUBJECT TO AND TOGETHER WITH EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS OF RECORD.

SURVEYOR'S NOTES

1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN JANUARY OF 2024. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
4. SUBJECT PROPERTY TAX PARCEL NO. 2287000350
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 10,005 ±S.F. (0.23 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
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BASIS OF BEARINGS

ACCEPTED THE BEARING OF N 29°48'12" E BETWEEN MONUMENTS FOUND ALONG THE CENTERLINE OF 89TH AVE SE, PER REFERENCE NO. 1.

REFERENCES

- R1. EL DORADO ESTATES, VOL. 62 OF PLATS, PG. 07, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM

NAVD 88 PER CITY OF MERCER ISLAND BENCHMARK NO. 1800
DESCRIPTION: CONC. MON W/ TACK IN LEAD
LOCATION: CL 89TH AVE SE OPP HSE #5639
ELEVATION: 323.242'

SITE TEMP. BENCHMARK
DESCRIPTION: PK NAIL W/ RED WASHER
LOCATION: 67.7'S & 53.8'W FROM THE NW PROPERTY CORNER
ELEVATION: 324.96'

INDEX LOCATION:
SEC. 30 T. 24 N. 5 E. W.M.



03/19/2025

SITE ADDRESS: 8904 SE 58TH ST.

JENNIE LEE
8904 SE 58TH ST.
MERCER ISLAND, WA

ENGINEERS - SURVEYORS
EASTSIDE CONSULTANTS, INC.
1320 NW MALL ST., SUITE B
ISSAQUAH, WASHINGTON 98027
PH: (425) 392-5351 FAX: 392-4676

JOB NO. 24081
DATE 10/24
SCALE 1"=10'
DESIGNED R.E.H.
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APPROVED R.S.F.

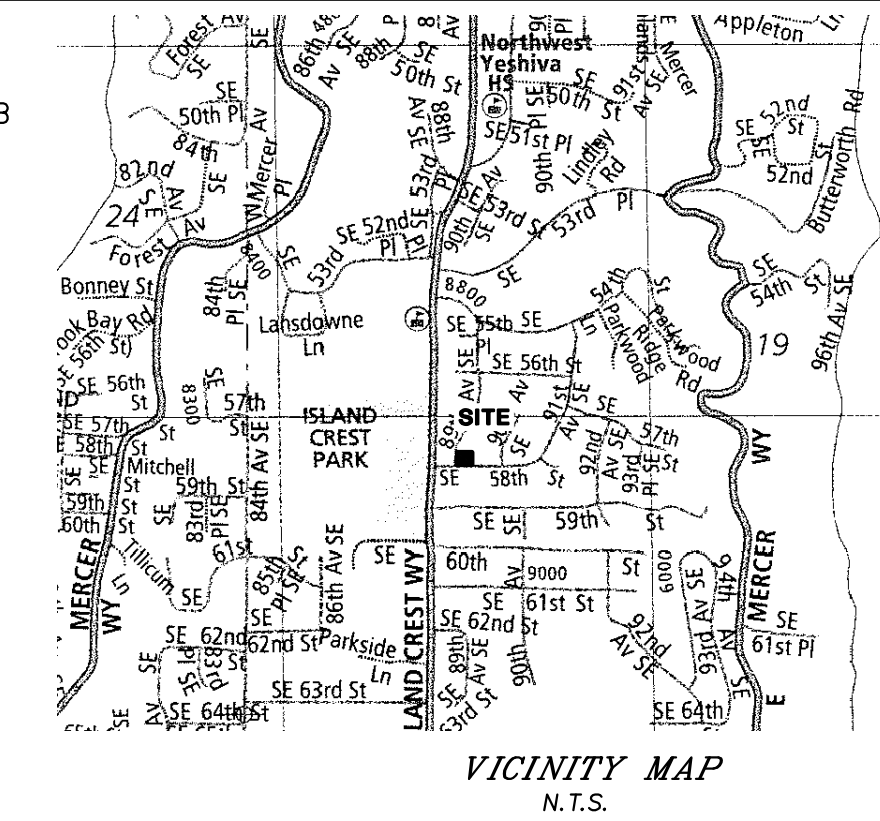
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NW 1/4, SW 1/4, SECTION 19, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M.
CITY OF MERCER ISLAND, WASHINGTON

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NAME: ROBERT YOUNG
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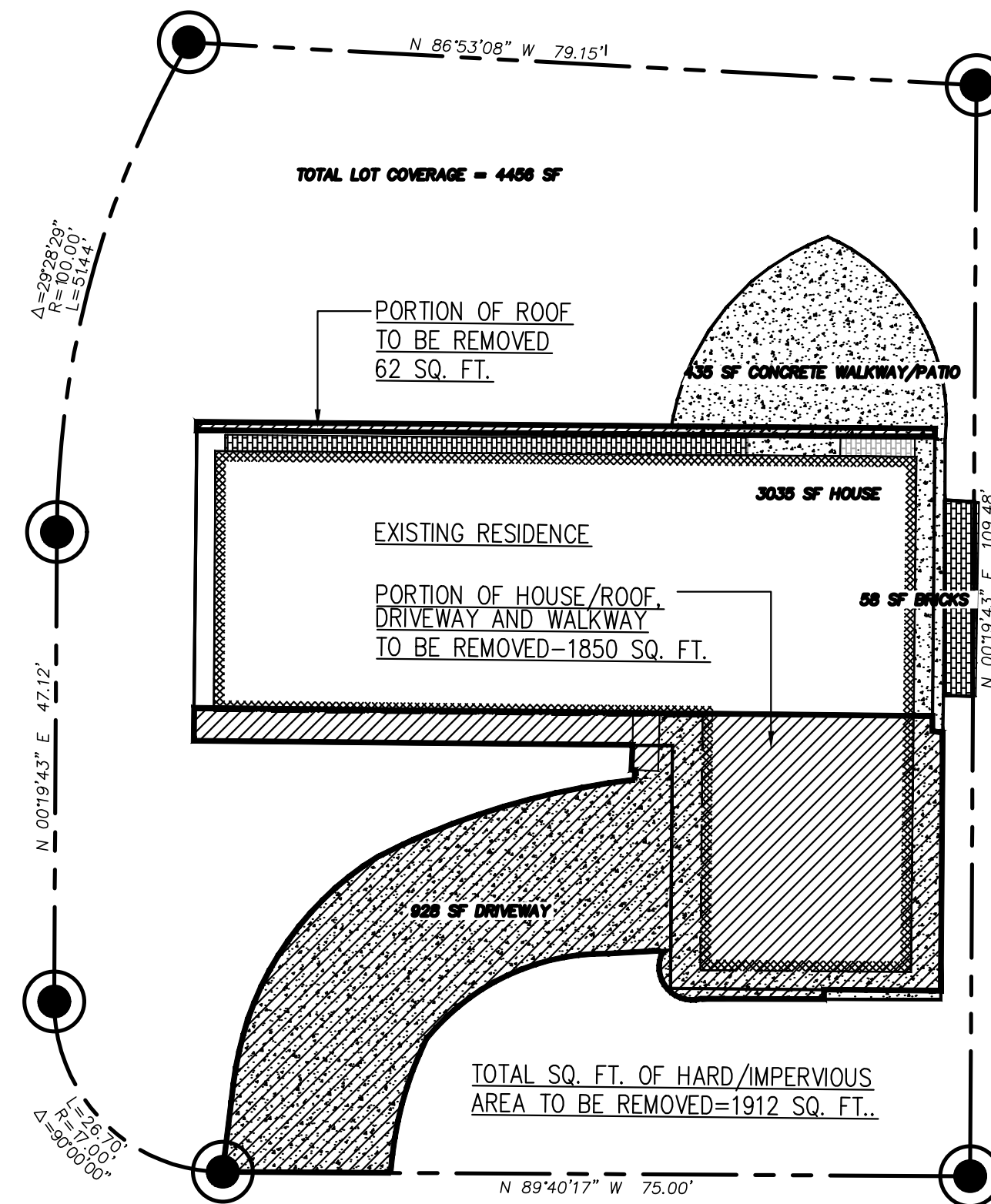
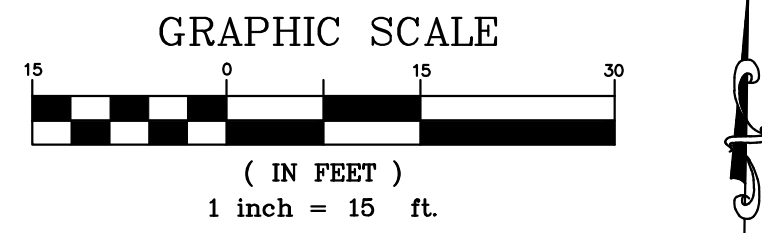
REVISIONS	BY	DATE
REVISED PER CITY MARKUPS	REH	07/21/25
REVISED PER CLIENT	REH	03/19/25

AREAS SHEET

SITE ADDRESS: 8904 SE 58TH ST.

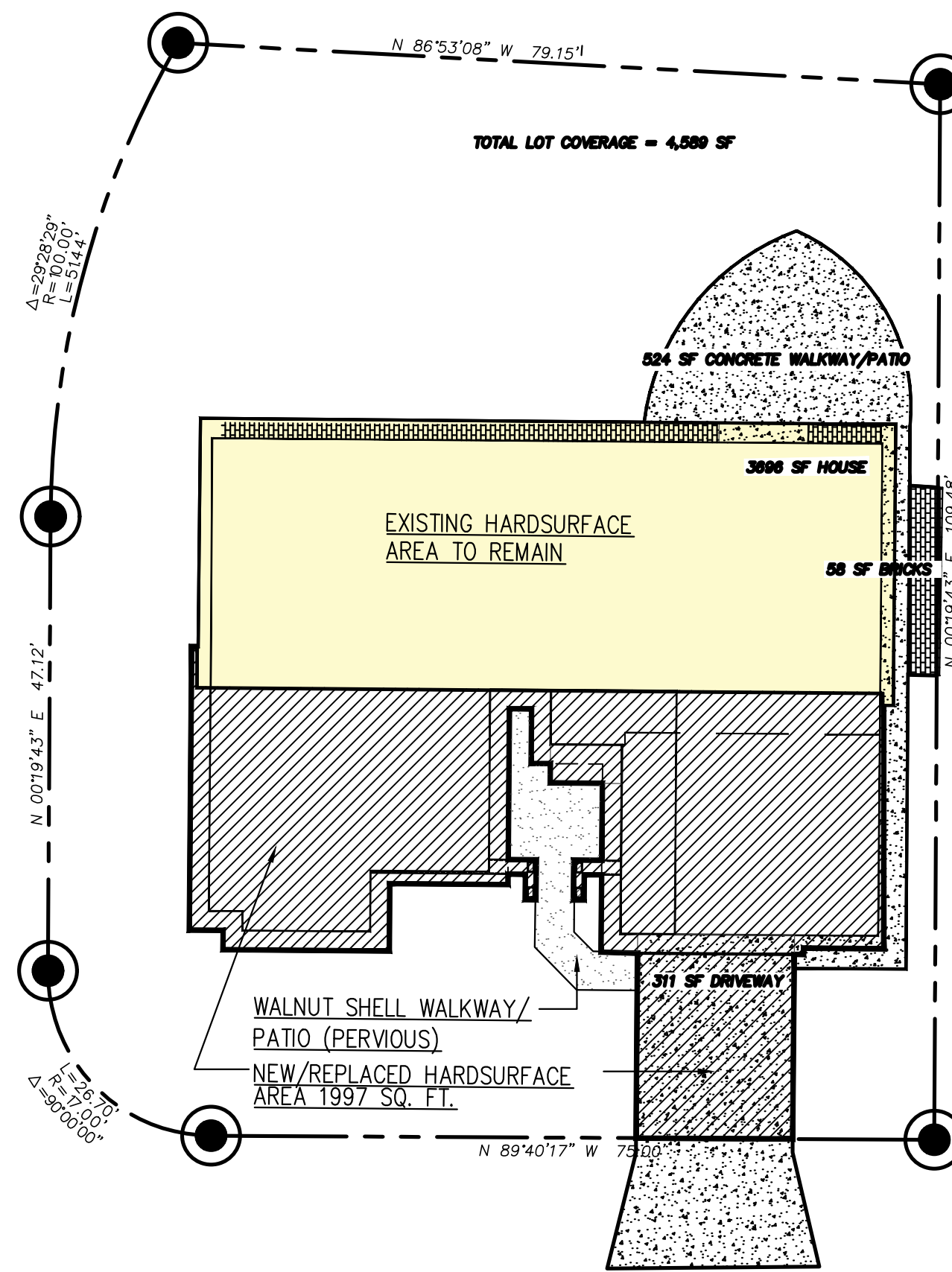
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PH: (253) 392-5351 FAX: 392-4676



ONSITE IMPERVIOUS SURFACE TO BE REMOVED		
ROOF	AREA (SF)	
HOUSE/DRIVEWAY/WALKWAY	1850 SF	
TOTAL	-1,912 SF	
ONSITE IMPERVIOUS SURFACE NEW/REPLACED		
HOUSE/DRIVEWAY	AREA (SF)	
TOTAL	+1997 SF < 2,000 SF*	
NET CHANGE REMOVED VERSUS NEW/REPLACED SURFACE		
NET AREA (SF)		
TOTAL	+85 SF < 500 SF**	
ONSITE IMPERVIOUS SURFACE REMAIN		
PATIO	AREA (SF)	
BRICK	435 SF	
HOUSE	2070 SF	
TOTAL	2505 SF	
TOTAL ONSITE IMPERVIOUS SURFACE		
AREA (SF)		
TOTAL	4589 SF	
NET SURFACE COVERAGE		
EXISTING (SF)	PROPOSED (SF)	NET (SF)
TOTAL	4,456 SF	4,589 SF
		+133 SF**

**NOTE: PROPOSED NEW AND REPLACED IMPERVIOUS IS UNDER 2,000 SF, THEREFORE NO DETENTION SYSTEM REQUIRED.
**NOTE - NET AREA CHANGE <500 SF THEREFORE NO DETENTION SYSTEM NEEDED.
SEE SHEET 1 AS WELL



LEGAL DESCRIPTION

PER TRUSTEE'S DEED RECORDING # 20231102000233

LOT 35, EL DORADO ESTATES, ACCORDING TO PLAT RECORDED IN VOLUME 62 OF PLATS, PAGE 7, IN KING COUNTY, WASHINGTON.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

SUBJECT TO AND TOGETHER WITH EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS OF RECORD.

SURVEYOR'S NOTES

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- SUBJECT PROPERTY AREA PER THIS SURVEY IS 10,005 ±S.F. (0.23 ACRES)
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BASIS OF BEARINGS

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VERTICAL DATUM

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DESCRIPTION: CONG. MON W/ TACK IN LEAD
LOCATION: C/L 89TH AVE SE OPP HSE #5639
ELEVATION: 323.242'

SITE TEMP. BENCHMARK
DESCRIPTION: PK NAIL W/ RED WASHER
LOCATION: 67.7'S & 53.8'W FROM THE NW PROPERTY CORNER
ELEVATION: 324.96'

LEGEND

BENCHMARK	BRICK SURFACE
BRASS DISC (FOUND)	CONCRETE SURFACE
CENTERLINE ROW	DECK
FENCE LINE (WOOD)	GAS METER
IRON PIPE (FOUND)	GAS LINE
MONUMENT (IN CASE, FOUND)	INLET (TYPE 1)
NAIL AS NOTED	STORM DRAIN LINE
PROPERTY LINES (ADJACENT)	SEWER MANHOLE
PROPERTY LINE (SUBJECT)	SEWER LINE
REBAR & CAP (SET)	POWER METER
RETAINING WALL	POWER POLE
RIGHT-OF-WAY LINES	POWER (OVERHEAD)
BUILDING	YARD LIGHT
SIGN (AS NOTED)	FIRE HYDRANT
TREE (AS NOTED)	WATER METER
ASPHALT SURFACE	WATER LINE
PHASE 2 TREE PROTECTION	DRAIN EASEMENT PER R1
PHASE 1 TREE PROTECTION	



03/19/2025

INDEX LOCATION:
SEC. 30 T. 24N. R. 5E. W.M.

30

JOB NO. 24081
DATE 10/24
SCALE 1"=10'
DESIGNED R.E.H.
DRAWN R.E.H.
CHECKED R.S.F.
APPROVED R.S.F.

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

PER TRUSTEE'S DEED RECORDING # 20231102000233

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SITE TEMP. BENCHMARK DESCRIPTION: PK NAIL W/ RED WASHER LOCATION: 67.7'S & 53.8'W FROM THE NW PROPERTY CORNER ELEVATION: 324.96'

SURVEYOR'S NOTES

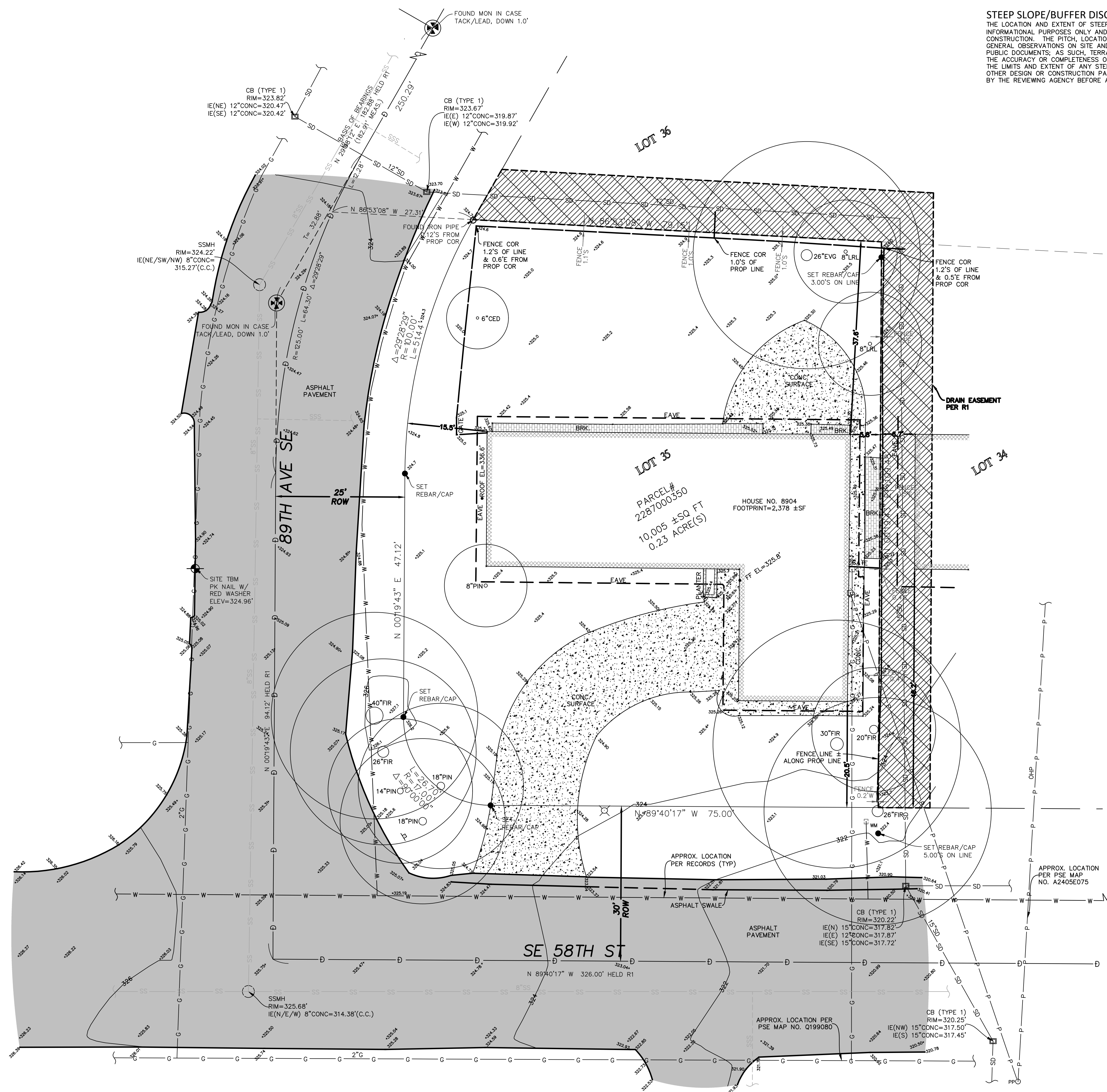
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LEGEND

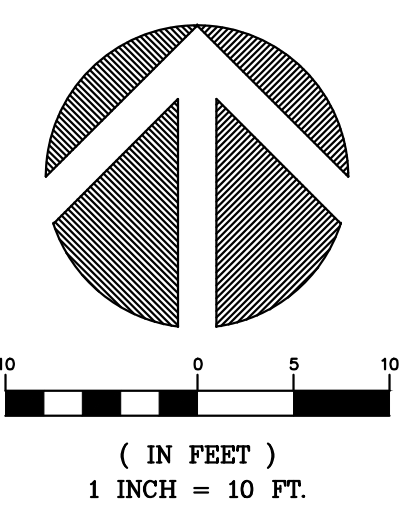
	BENCHMARK		BRICK SURFACE
	BRASS DISC (FOUND)		CONCRETE SURFACE
	CENTERLINE ROW		DECK
	FENCE LINE (WOOD)		GAS METER
	IRON PIPE (FOUND)		GAS LINE
	MONUMENT (IN CASE, FOUND)		INLET (TYPE 1)
	NAIL AS NOTED		STORM DRAIN LINE
	PROPERTY LINES (ADJACENT)		SEWER MANHOLE
	PROPERTY LINE (SUBJECT)		SEWER LINE
	REBAR & CAP (SET)		POWER METER
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	SIGN (AS NOTED)		FIRE HYDRANT
	TREE (AS NOTED)		WATER METER
	ASPHALT SURFACE		WATER LINE
	DRAIN EASEMENT PER R1		

VICINITY MAP N.T.S.

VMAP.png



STEEP SLOPE/BUFFER DISCLAIMER:
 THE LOCATION AND EXTENT OF STEEP SLOPES SHOWN ON THIS DRAWING ARE FOR INFORMATIONAL PURPOSES ONLY AND CANNOT BE RELIED ON FOR DESIGN AND/OR CONSTRUCTION. THE PITCH, LOCATION, AND EXTENT ARE BASED SOLELY ON OUR GENERAL OBSERVATIONS ON SITE AND OUR CURSORY REVIEW OF READILY AVAILABLE PUBLIC DOCUMENTS. AS SUCH, TERRANE CANNOT BE LIABLE OR RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY STEEP SLOPE INFORMATION. ULTIMATELY, THE LIMITS AND EXTENT OF ANY STEEP SLOPES ASSOCIATED WITH ANY SETBACKS OR OTHER DESIGN OR CONSTRUCTION PARAMETERS MUST BE DISCUSSED AND APPROVED BY THE REVIEWING AGENCY BEFORE ANY CONSTRUCTION CAN OCCUR.



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TOPOGRAPHIC & BOUNDARY SURVEY
 PARCEL NO. 2287000350
 JENNIE LEE RESIDENCE
 8904 SOUTHEAST 58TH STREET
 MERCER ISLAND, WA 98040

T-LOGO.jpg

JOB NUMBER: 232300
 DATE: 01/19/24
 DRAFTED BY: CAS
 CHECKED BY: JGM / WMS
 SCALE: 1" = 10'

REVISION HISTORY

NO.	DATE	DESCRIPTION

INDEXING INFORMATION

NE 1/4 SW 1/4
SECTION: 19
TOWNSHIP: 24N
RANGE: 05E, W.M.
COUNTY: KING

LEE RESIDENCE

NW 1/4, SW 1/4, SECTION 19, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M.

CITY OF MERCER ISLAND, WASHINGTON

OWNER:
JENNIE LEE
8904 SE 58TH STREET,
MERCER ISLAND, WA

ARCHITECT: ARCHITECTURAL INNOVATIONS
NAME: ROBERT YOUNG
COMPANY
PH: 425-641-5320

CIVIL ENGINEER:
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1320 NW MALL STREET, STE B
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CONTACT: RON FREDERIKSEN

REVISIONS	BY	DATE
REVISED PER CITY MARKUPS	REH	07/21/25
REVISED PER CLIENT	REH	03/19/25

TESC DETAILS

SITE ADDRESS: 8904 SE 58TH ST.
JENNIE LEE
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JOB NO. 24081
DATE 10/24
SCALE 1"=10'
DESIGNED R.E.H.
DRAWN R.E.H.
CHECKED R.S.F.
APPROVED R.S.F.

SHEET 8 OF 14

BMP C120: Temporary and Permanent Seeding

Purpose

Seeding reduces erosion by stabilizing exposed soils. A well-established vegetative cover is one of the most effective methods of reducing erosion.

Conditions of Use

Use seeding throughout the project on disturbed areas that have reached final grade or that will remain unworked for more than 30 days.

The optimum seeding windows for western Washington are April 1 through June 30 and September 1 through October 1.

Between July 1 and August 30 seeding requires irrigation until 75 percent grass cover is established.

Between October 1 and March 30 seeding requires a cover of mulch or an erosion control blanket until 75 percent grass cover is established.

Review all disturbed areas in late August to early September and complete all seeding by the end of September. Otherwise, vegetation will not establish itself enough to provide more than average protection.

Mulch is required at all times for seeding because it protects seeds from heat, moisture loss, and transport due to runoff. Mulch can be applied on top of the seed or simultaneously by hydroseeding. See [BMP C121: Mulching](#) for specifications.

Seed and mulch all disturbed areas not otherwise vegetated at final site stabilization. Final stabilization means the completion of all soil disturbing activities at the site and the establishment of a permanent vegetative cover, or equivalent permanent stabilization measures (such as pavement, riprap, gabions, or geotextiles) which will prevent erosion. See [BMP T5.13: Post-Construction Soil Quality and Depth](#).

Design and Installation Specifications

General

- Install channels intended for vegetation before starting major earthwork and hydroseed with a Bonded Fiber Matrix. For vegetated channels that will have high flows, install erosion control blankets over the top of hydroseed. Before allowing water to flow in vegetated channels, establish 75 percent vegetation cover. If vegetated channels cannot be established by seed

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before water flow, install sod in the channel bottom — over top of hydromulch and erosion control blankets.

- Confirm the installation of all required surface water control measures to prevent seed from washing away.
- Hydroseed applications shall include a minimum of 1,500 pounds per acre of mulch with 3 percent tackifier. See [BMP C121: Mulching](#) for specifications.
- Areas that will have seeding only and not landscaping may need compost or meal-based mulch included in the hydroseed in order to establish vegetation. Re-install native topsoil on the disturbed soil surface before application. See [BMP T5.13: Post-Construction Soil Quality and Depth](#).

- When installing seed via hydroseeding operations, only about 1/3 of the seed actually ends up in contact with the soil surface. This reduces the ability to establish a good stand of grass quickly. To overcome this, consider increasing seed quantities by up to 50 percent.

- Enhance vegetation establishment by dividing the hydromulch operation into two phases:
 - Phase 1- Install all seed and fertilizer with 25-30 percent mulch and tackifier onto soil in the first lift.
 - Phase 2- Install the rest of the mulch and tackifier over the first lift.

- Or, enhance vegetation by:
 - Installing the mulch, seed, fertilizer, and tackifier in one lift.
 - Spread or blow straw over the top of the hydromulch at a rate of 800-1000 pounds per acre.
 - Hold straw in place with a standard tackifier.

Both of these approaches will increase cost moderately but will greatly improve and enhance vegetative establishment. The increased cost may be offset by the reduced need for:

- Irrigation.
- Reapplication of mulch.
- Repair of failed slope surfaces.

This technique works with standard hydromulch (1,500 pounds per acre minimum) and Bonded Fiber Matrix/ Mechanically Bonded Fiber Matrix (BFM/MBFMs) (3,000 pounds per acre minimum).

- Seed may be installed by hand if:
 - Temporary and covered by straw, mulch, or topsoil.
 - Permanent in small areas (usually less than 1 acre) and covered with mulch, topsoil, or erosion blankets.

- The seed mixes listed in [Table II-3.4: Temporary and Permanent Seed Mixes](#) include

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recommended mixes for both temporary and permanent seeding.

- Apply these mixes, with the exception of the wet area seed mix, at a rate of 120 pounds per acre. This rate can be reduced if soil amendments or slow-release fertilizers are used. Apply the wet area seed mix at a rate of 60 pounds per acre.

- Consult the local suppliers or the local conservation district for their recommendations. The appropriate mix depends on a variety of factors, including location, exposure, soil type, slope, and expected foot traffic. Alternative seed mixes approved by the local authority may be used, depending on the soil type and hydrology of the area.

Table II-3.4: Temporary and Permanent Seed Mixes

Common Name	Latin Name	% Weight	% Purity	% Germination
Temporary Erosion Control Seed Mix				
A standard mix for areas requiring a temporary vegetative cover.				
Chewings or annual blue grass	<i>Festuca rubra</i> var. <i>commutata</i> or <i>Poa annua</i>	40	98	90
Perennial rye	<i>Lolium perenne</i>	50	98	90
Redtop or colonial bentgrass	<i>Agrostis alba</i> or <i>Agrostis tenuis</i>	5	92	85
White dutch clover	<i>Trifolium repens</i>	5	98	90
Landscaping Seed Mix				
A recommended mix for landscaping seed.				
Perennial rye blend	<i>Lolium perenne</i>	70	98	90
Chewings and red fescue blend	<i>Festuca rubra</i> var. <i>commutata</i> or <i>Festuca rubra</i>	30	98	90
Low-Growing Turf Seed Mix				
A turf seed mix for dry situations where there is no need for watering. This mix requires very little maintenance.				
Dwarf tall fescue (several varieties)	<i>Festuca arundinacea</i> var.	45	98	90
Dwarf perennial rye (Barclay)	<i>Lolium perenne</i> var. <i>barclay</i>	30	98	90
Red fescue	<i>Festuca rubra</i>	20	98	90
Colonial bentgrass	<i>Agrostis tenuis</i>	5	98	90
Bioswale Seed Mix				
A seed mix for bioswales and other intermittently wet areas.				
Tall or meadow fescue	<i>Festuca arundinacea</i>	75-80	98	90

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- compost;
- or blends of these.

Tackifier shall be plant-based, such as guar or alpha plantago, or chemical-based such as polyacrylamide or polymers.

Generally, mulches come in 40-50 pound bags. Seed and fertilizer are added at time of application.

Recycled cellulose may contain polychlorinated biphenyl (PCBs). Ecology recommends that products should be evaluated for PCBs prior to use.

Refer to [BMP C126: Polyacrylamide \(PAM\) for Soil Erosion Protection](#) for conditions of use. PAM shall not be directly applied to water or allowed to enter a water body.

Any mulch or tackifier product used shall be installed per the manufacturer's instructions.

Design and Installation Specifications

For mulch materials, application rates, and specifications, see [Table II-3.6: Mulch Standards and Guidelines](#). Consult with the local supplier or the local conservation district for their recommendations. Increase the application rate until the ground is 95% covered (i.e. not visible under the mulch layer). Note: Thickness may be increased for disturbed areas in or near sensitive areas or other areas highly susceptible to erosion.

Where the option of "Compost" is selected, it should be a coarse compost that meets the size gradations listed in [Table II-3.5: Size Gradations of Compost as Mulch Material](#) when tested in accordance with Test Method 02.02-B found in *Test Methods for the Examination of Composting and Compost* (Thompson, 2001).

Table II-3.5: Size Gradations of Compost as Mulch Material

Sieve Size	Percent Passing
3"	100%
1"	90% - 100%
3/4"	70% - 100%
1/4"	40% - 100%

Mulch used within the ordinary high-water mark of surface waters should be selected to minimize potential flotation of organic matter. Composted organic materials have higher specific gravities (densities) than straw, wood, or chipped material. Consult the Hydraulic Permit Authority (HPA) for mulch mixes if applicable.

Maintenance Standards

The thickness of the mulch cover must be maintained.

Any areas that experience erosion shall be remulched and/or protected with a net or blanket. If the erosion problem is drainage related, then the problem shall be fixed and the eroded area remulched.



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Table II-3.6: Mulch Standards and Guidelines

Mulch Material	Guideline	Description
Straw	Quality Standards	Air-dried; free from undesirable seed and coarse material.
	Application Rates	2"-3" thick; 5 bales per 1,000 sf or 2-3 tons per acre
	Remarks	Cost-effective protection when applied with adequate thickness. Hand-application generally requires greater thickness than blown straw. The thickness of straw may be reduced by half when used in conjunction with seeding. In windy areas straw must be held in place by crimping, using a tackifier, or covering with netting. Blown straw always has to be held in place with a tackifier as even light winds will blow it away. Straw, however, has several deficiencies that should be considered when selecting mulch materials. It often introduces and/or encourages the propagation of weed species and it has no significant long-term benefits. It should also not be used within the ordinary high-water elevation of surface waters (due to flotation).
Hydromulch	Quality Standards	No growth inhibiting factors.
	Application Rates	Approx. 35-45 lbs per 1,000 sf or 1,500 - 2,000 lbs per acre
	Remarks	Shall be applied with hydromulcher. Shall not be used without seed and tackifier unless the application rate is at least doubled. Fibers longer than about 3/4 - 1 inch clog hydromulch equipment. Fibers should be kept to less than 3/4 inch.
Compost	Quality Standards	No visible water or dust during handling. Must be produced per WAC 173-350 , Solid Waste Handling Standards, but may have up to 35% biosolids.
	Application Rates	2" thick min.; approx. 100 tons per acre (approx. 750 lbs per cubic yard)
	Remarks	More effective control can be obtained by increasing thickness to 3". Excellent mulch for protecting final grades until landscaping because it can be directly seeded or tilled into soil as an amendment. Compost used for mulch has a coarser size gradation than compost used for BMP C125: Topsoiling / Composting or BMP T5.13: Post-Construction Soil Quality and Depth . It is more stable and practical to use in wet areas and during rainy weather conditions. Do not use near wetlands or near phosphorus impaired water bodies.
Chipped Site Vegetation	Quality Standards	Gradations from fines to 6 inches in length for texture, variation, and interlocking properties. Include a mix of various sizes so that the average size is between 2- and 4- inches.
	Application Rates	2" thick min.

permanent areas shall use soil amendments to achieve organic matter and permeability performance defined in engineered soil/landscape systems. For systems that are deeper than 8 inches complete the rototilling process in multiple lifts, or prepare the engineered soil system per specifications and place to achieve the specified depth.

Fertilizers

- Conducting soil tests to determine the exact type and quantity of fertilizer is recommended. This will prevent the over-application of fertilizer.
- Organic matter is the most appropriate form of fertilizer because it provides nutrients (including nitrogen, phosphorus, and potassium) in the least water-soluble form.
- In general, use 10-4-6 N-P-K (nitrogen-phosphorus-potassium) fertilizer at a rate of 90 pounds per acre. Always use slow-release fertilizers because they are more efficient and have fewer environmental impacts. Do not add fertilizer to the hydromulch machine, or agitate, more than 20 minutes before use. Too much agitation destroys the slow-release coating.
- There are numerous products available that take the place of chemical fertilizers. These include several with seaweed extracts that are beneficial to soil microbes and organisms. If 100 percent cottonseed meal is used as the mulch in hydroseed, chemical fertilizer may not be necessary. Cottonseed meal provides a good source of long-term, slow-release, available nitrogen.

Bonded Fiber Matrix and Mechanically Bonded Fiber Matrix

- On steep slopes use Bonded Fiber Matrix (BFM) or Mechanically Bonded Fiber Matrix (MBFM) products. Apply BFM/MBFM products at a minimum rate of 3,000 pounds per acre with approximately 10 percent tackifier. Achieve a minimum of 95 percent soil coverage during application. Numerous products are available commercially. Most products require 24-36 hours to cure before rainfall and cannot be installed on wet or saturated soils. Generally, products come in 40-50 pound bags and include all necessary ingredients except for seed and fertilizer.
- Install products per manufacturer's instructions.
- BFMs and MBFMs provide good alternatives to blankets in most areas requiring vegetation establishment. Advantages over blankets include:
 - BFM and MBFMs do not require surface preparation.
 - Helicopters can assist in installing BFM and MBFMs in remote areas.
 - On slopes steeper than 2.5H:1V, blanket installers may require ropes and harnesses for safety.
 - Installing BFM and MBFMs can save at least \$1,000 per acre compared to blankets.

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Maintenance Standards

Reseed any seeded areas that fail to establish at least 75 percent cover (100 percent cover for areas that receive sheet or concentrated flows). If reseeding is ineffective, use an alternate method such as sodding, mulching, nets, or blankets.

- Reseed and protect by mulch any areas that experience erosion after achieving adequate cover. Reseed and protect by mulch any eroded area.
- Supply seeded areas with adequate moisture, but do not water to the extent that it causes runoff.

Approved as Functionally Equivalent

Ecology has approved products as able to meet the requirements of this BMP. The products did not pass through the Technology Assessment Protocol - Ecology (TAPE) process. Local jurisdictions may choose not to accept these products, or may require additional testing prior to consideration for local use. Products that Ecology has approved as functionally equivalent are available for review on Ecology's website at:

<https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permitte-e-guidance-resources/Emerging-stormwater-treatment-technologies>

BMP C121: Mulching

Purpose

Mulching soils provides immediate temporary protection from erosion. Mulch also enhances plant establishment by conserving moisture, holding fertilizer, seed, and topsoil in place, and moderating soil temperatures. There are a variety of mulches that can be used. This section discusses only the most common types of mulch.

Conditions of Use

As a temporary cover measure, mulch should be used:

- For less than 30 days on disturbed areas that require cover.
- At all times for seeded areas, especially during the wet season and during the hot summer months.
- During the wet season on slopes steeper than 3H:1V with more than 10 feet of vertical relief.

Mulch may be applied at any time of the year and must be refreshed periodically.

For seeded areas, mulch may be made up of 100 percent:

- cottonseed meal;
- fibers made of wood, recycled cellulose, hemp, or kenaf;

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LEE RESIDENCE

NW 1/4, SW 1/4, SECTION 19, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M.
CITY OF MERCER ISLAND, WASHINGTON

OWNER:
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ARCHITECT: ARCHITECTURAL INNOVATIONS
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Table II-3.6: Mulch Standards and Guidelines (continued)

Mulch Material	Guideline	Description
	Remarks	This is a cost-effective way to dispose of debris from clearing and grubbing, and it eliminates the problems associated with burning. Generally, it should not be used on slopes above approx. 10% because of its tendency to be transported by runoff. It is not recommended within 200 feet of surface waters. If permanent seeding or planting is expected shortly after mulch, the decomposition of the chipped vegetation may tie up nutrients important to grass establishment. Note: thick application of this material over existing grass, herbaceous species, and some groundcovers could smother and kill vegetation.
Wood-Based Mulch	Quality Standards	No visible water or dust during handling. Must be purchased from a supplier with a Solid Waste Handling Permit or one exempt from solid waste regulations.
	Application Rates	2" thick min.; approx. 100 tons per acre (approx. 750 lbs. per cubic yard)
	Remarks	This material is often called "wood straw" or "hog fuel". The use of mulch ultimately improves the organic matter in the soil. Special caution is advised regarding the source and composition of wood-based mulches. Its preparation typically does not provide any weed seed control, so evidence of residual vegetation in its composition or known inclusion of weed plants or seeds should be monitored and prevented (or minimized).
Wood Strand Mulch	Quality Standards	A blend of loose, long, thin wood pieces derived from native conifer or deciduous trees with high length-to-width ratio.
	Application Rates	2" thick min.
	Remarks	Cost-effective protection when applied with adequate thickness. A minimum of 95-percent of the wood strand shall have lengths between 2 and 10-inches, with a width and thickness between 1/16 and 1/2-inches. The mulch shall not contain resin, tannin, or other compounds in quantities that would be detrimental to plant life. Sawdust or wood shavings shall not be used as mulch. [Specification 9-14.4(4) from the <i>Standard Specifications for Road, Bridge, and Municipal Construction (WSDOT, 2016)</i>]

BMP C123: Plastic Covering

Purpose

Plastic covering provides immediate, short-term erosion protection to slopes and disturbed areas.

Conditions of Use

Plastic covering may be used on disturbed areas that require cover measures for less than 30 days, except as stated below.

- Plastic is particularly useful for protecting cut and fill slopes and stockpiles. However, the relatively rapid breakdown of most polyethylene sheeting makes it unsuitable for applications greater than six months.
- Due to rapid runoff caused by plastic covering, do not use this method upslope of areas that might be adversely impacted by concentrated runoff. Such areas include steep and/or unstable slopes.
- Plastic sheeting may result in increased runoff volumes and velocities, requiring additional on-site measures to counteract the increases. Creating a trough with wattles or other material can convey clean water away from these areas.
- To prevent undercutting, trench and backfill rolled plastic covering products.
- Although the plastic material is inexpensive to purchase, the cost of installation, maintenance, removal, and disposal add to the total costs of this BMP.
- Whenever plastic is used to protect slopes, install water collection measures at the base of the slope. These measures include plastic-covered berms, channels, and pipes used to convey clean rainwater away from bare soil and disturbed areas. Do not mix clean runoff from a plastic covered slope with dirty runoff from a project.
- Other uses for plastic include:
 - Temporary ditch liner.
 - Pond liner in temporary sediment pond.
 - Liner for bermed temporary fuel storage area if plastic is not reactive to the type of fuel being stored.
 - Emergency slope protection during heavy rains.
 - Temporary drainpipe ("elephant trunk") used to direct water.

Design and Installation Specifications

- Plastic slope cover must be installed as follows:
 - Run plastic up and down the slope, not across the slope.
 - Plastic may be installed perpendicular to a slope if the slope length is less than 10 feet.

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- Provide a minimum of 8-inch overlap at the seams.
- On long or wide slopes, or slopes subject to wind, tape all seams.
- Place plastic into a small (12-inch wide by 6-inch deep) slot trench at the top of the slope and backfill with soil to keep water from flowing underneath.
- Place sand filled burlap or geotextile bags every 3 to 6 feet along seams and tie them together with twine to hold them in place.
- Inspect plastic for rips, tears, and open seams regularly and repair immediately. This prevents high velocity runoff from contacting bare soil, which causes extreme erosion.
- Sand bags may be lowered into place tied to ropes. However, all sandbags must be staked in place.

- Plastic sheeting shall have a minimum thickness of 0.06 millimeters.
- If erosion at the toe of a slope is likely, a gravel berm, riprap, or other suitable protection shall be installed at the toe of the slope in order to reduce the velocity of runoff.

Maintenance Standards

- Torn sheets must be replaced and open seams repaired.
- Completely remove and replace the plastic if it begins to deteriorate due to ultraviolet radiation.
- Completely remove plastic when no longer needed.
- Dispose of old tires used to weight down plastic sheeting appropriately.

Approved as Functionally Equivalent

Ecology has approved products as able to meet the requirements of this BMP. The products did not pass through the Technology Assessment Protocol - Ecology (TAPE) process. Local jurisdictions may choose not to accept these products, or may require additional testing prior to consideration for local use. Products that Ecology has approved as functionally equivalent are available for review on Ecology's website at:

<https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies>

BMP C151: Concrete Handling

Purpose

Concrete work can generate process water and slurry that contain fine particles and high pH, both of which can violate water quality standards in the receiving water. Concrete spillage or concrete discharge to waters of the State is prohibited. Use this BMP to minimize and eliminate concrete, concrete process water, and concrete slurry from entering waters of the State.

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- 1-Water Resistant Nylon Bag
- 3-Oil Absorbent Socks 3"x4'
- 2-Oil Absorbent Socks 3"x10'
- 12-Oil Absorbent Pads 17"x19"
- 1-Pair Splash Resistant Goggles
- 3-Pair Nitrile Gloves
- 10-Disposable Bags with Ties
- Instructions

Maintenance Standards

- Secondary containment facilities shall be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills shall be collected and placed into drums. These liquids shall be handled as hazardous waste unless testing determines them to be non-hazardous.
- Re-stock spill kit materials as needed.

Conditions of Use

Any time concrete is used, utilize these management practices. Concrete construction project components include, but are not limited to:

- Curbs
- Sidewalks
- Roads
- Bridges
- Foundations
- Floors
- Runways

Disposal options for concrete, in order of preference are:

- Off-site disposal
- Concrete wash-out areas (see [BMP C154: Concrete Washout Area](#))
- De minimus washout to formed areas awaiting concrete

Design and Installation Specifications

- Wash concrete truck drums at an approved off-site location or in designated concrete washout areas only. Do not wash out concrete trucks onto the ground (including formed areas awaiting concrete), or into storm drains, open ditches, streets, or streams. Refer to [BMP C154: Concrete Washout Area](#) for information on concrete washout areas.
 - Return unused concrete remaining in the truck and pump to the originating batch plant for recycling. Do not dump excess concrete on site, except in designated concrete washout areas as allowed in [BMP C154: Concrete Washout Area](#).
- Wash small concrete handling equipment (e.g. hand tools, screeds, shovels, rakes, floats, trowels, and wheelbarrows) into designated concrete washout areas or into formed areas awaiting concrete pour.
- At no time shall concrete be washed off into the footprint of an area where an infiltration feature will be installed.
- Wash equipment difficult to move, such as concrete paving machines, in areas that do not directly drain to natural or constructed stormwater conveyance or potential infiltration areas.
- Do not allow washwater from areas, such as concrete aggregate driveways, to drain directly (without detention or treatment) to natural or constructed stormwater conveyances.
- Contain washwater and leftover product in a lined container when no designated concrete washout areas (or formed areas, allowed as described above) are available. Dispose of contained concrete and concrete washwater (process water) properly.

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- Always use forms or solid barriers for concrete pours, such as pilings, within 15-feet of surface waters.
- Refer to [BMP C252: Treating and Disposing of High pH Water](#) for pH adjustment requirements.
- Refer to the Construction Stormwater General Permit (CSWGP) for pH monitoring requirements if the project involves one of the following activities:
 - Significant concrete work (as defined in the CSWGP).
 - The use of soils amended with (but not limited to) Portland cement-treated base, cement kiln dust or fly ash.
 - Discharging stormwater to segments of water bodies on the 303(d) list (Category 5) for high pH.

Maintenance Standards

Check containers for holes in the liner daily during concrete pours and repair the same day.

BMP C153: Material Delivery, Storage, and Containment

Purpose

Prevent, reduce, or eliminate the discharge of pollutants to the stormwater system or watercourses from material delivery and storage. Minimize the storage of hazardous materials on-site, store materials in a designated area, and install secondary containment.

Conditions of Use

Use at construction sites with delivery and storage of the following materials:

- Petroleum products such as fuel, oil and grease
- Soil stabilizers and binders (e.g., Polyacrylamide)
- Fertilizers, pesticides and herbicides
- Detergents
- Asphalt and concrete compounds

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- Hazardous chemicals such as acids, lime, adhesives, paints, solvents, and curing compounds
- Any other material that may be detrimental if released to the environment

Design and Installation Specifications

- The temporary storage area should be located away from vehicular traffic, near the construction entrance(s), and away from waterways or storm drains.
- Safety Data Sheets (SDS) should be supplied for all materials stored. Chemicals should be kept in their original labeled containers.
- Hazardous material storage on-site should be minimized.
- Hazardous materials should be handled as infrequently as possible.
- During the wet weather season (Oct 1 - April 30), consider storing materials in a covered area.
- Materials should be stored in secondary containments, such as an earthen dike, horse trough, or even a children's wading pool for non-reactive materials such as detergents, oil, grease, and paints. Small amounts of material may be secondarily contained in "bus boy" trays or concrete mixing trays.
- Do not store chemicals, drums, or bagged materials directly on the ground. Place these items on a pallet and, when possible, within secondary containment.
- If drums must be kept uncovered, store them at a slight angle to reduce ponding of rainwater on the lids to reduce corrosion. Domed plastic covers are inexpensive and snap to the top of drums, preventing water from collecting.
- Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 shall be stored in approved containers and drums and shall not be overfilled. Containers and drums shall be stored in temporary secondary containment facilities.
- Temporary secondary containment facilities shall provide for a spill containment volume able to contain 10% of the total enclosed container volume of all containers, or 110% of the capacity of the largest container within its boundary, whichever is greater.
- Secondary containment facilities shall be impervious to the materials stored therein for a minimum contact time of 72 hours.
- Sufficient separation should be provided between stored containers to allow for spill cleanup and emergency response access.
- During the wet weather season (Oct 1 - April 30), each secondary containment facility shall be covered during non-working days, prior to and during rain events.
- Keep material storage areas clean, organized and equipped with an ample supply of appropriate spill clean-up material (spill kit).
- The spill kit should include, at a minimum:
 - 1-Water Resistant Nylon Bag
 - 3-Oil Absorbent Socks 3"x4'
 - 2-Oil Absorbent Socks 3"x10'
 - 12-Oil Absorbent Pads 17"x19"
 - 1-Pair Splash Resistant Goggles
 - 3-Pair Nitrile Gloves
 - 10-Disposable Bags with Ties
 - Instructions

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03/19/2025

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REVISIONS	BY	DATE
REVISED PER CITY MARKUPS	REH	07/21/25
REVISED PER CLIENT	REH	03/19/25

**TESC
DETAILS**

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JOB NO. 24081
DATE 10/24
SCALE 1"=10'
DESIGNED R.E.H.
DRAWN R.E.H.
CHECKED R.S.F.
APPROVED R.S.F.

SHEET 9 OF 14

LEE RESIDENCE

NW 1/4, SW 1/4, SECTION 19, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M.
CITY OF MERCER ISLAND, WASHINGTON

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Table II-3.10: Storm Drain Inlet Protection

Type of Inlet Protection	Emergency Overflow	Applicable for Paved/ Earthen Surfaces	Conditions of Use
Drop Inlet Protection			
Excavated drop inlet protection	Yes, temporary flooding may occur	Earthen	Applicable for heavy flows. Easy to maintain. Large area requirement: 30x30'/acre
Block and gravel drop inlet protection	Yes	Paved or Earthen	Applicable for heavy concentrated flows. Will not pond.
Gravel and wire drop inlet protection	No	Paved or Earthen	Applicable for heavy concentrated flows. Will pond. Can withstand traffic.
Catch basin filters	Yes	Paved or Earthen	Frequent maintenance required.
Curb Inlet Protection			
Curb inlet protection with wooden weir	Small capacity overflow	Paved	Used for sturdy, more compact installation.
Block and gravel curb inlet protection	Yes	Paved	Sturdy, but limited filtration.
Culvert Inlet Protection			
Culvert inlet sediment trap	N/A	N/A	18 month expected life.

Design and Installation Specifications

Excavated Drop Inlet Protection

Excavated drop inlet protection consists of an excavated impoundment around the storm drain inlet. Sediment settles out of the stormwater prior to entering the storm drain. Design and installation specifications for excavated drop inlet protection include:

- Provide a depth of 1-2 ft as measured from the crest of the inlet structure.
- Slope sides of excavation should be no steeper than 2H:1V.
- Minimum volume of excavation is 35 cubic yards.
- Shape the excavation to fit the site, with the longest dimension oriented toward the longest inflow area.
- Install provisions for draining to prevent standing water.
- Clear the area of all debris.

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- Grade the approach to the inlet uniformly.
- Drill weep holes into the side of the inlet.
- Protect weep holes with screen wire and washed aggregate.
- Seal weep holes when removing structure and stabilizing area.
- Build a temporary dike, if necessary, to the down slope side of the structure to prevent bypass flow.

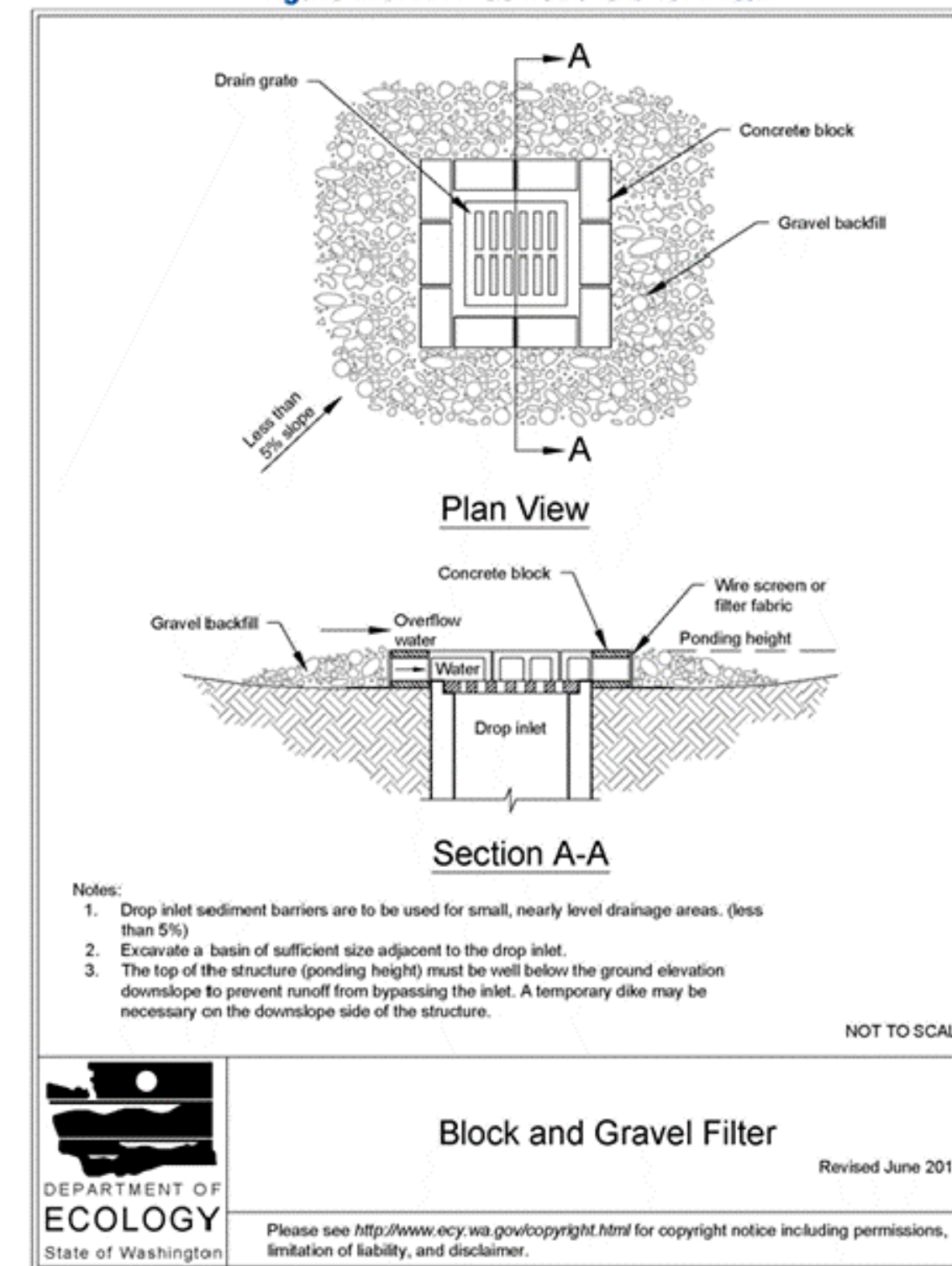
Block and Gravel Filter

A block and gravel filter is a barrier formed around the inlet with standard concrete blocks and gravel. See Figure II-3.17: Block and Gravel Filter. Design and installation specifications for block gravel filters include:

- Provide a height of 1 to 2 feet above the inlet.
- Recess the first row of blocks 2-inches into the ground for stability.
- Support subsequent courses by placing a pressure treated wood 2x4 through the block opening.
- Do not use mortar.
- Lay some blocks in the bottom row on their side to allow for dewatering the pool.
- Place hardware cloth or comparable wire mesh with 1/2-inch openings over all block openings.
- Place gravel to just below the top of blocks on slopes of 2H:1V or flatter.
- An alternative design is a gravel berm surrounding the inlet, as follows:
 - Provide a slope of 3H:1V on the upstream side of the berm.
 - Provide a slope of 2H:1V on the downstream side of the berm.
 - Provide a 1-foot wide level stone area between the gravel berm and the inlet.
 - Use stones 3 inches in diameter or larger on the upstream slope of the berm.
 - Use gravel 1/2- to 3/4-inch at a minimum thickness of 1-foot on the downstream slope of the berm.

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Figure II-3.17: Block and Gravel Filter



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Maintenance Standards

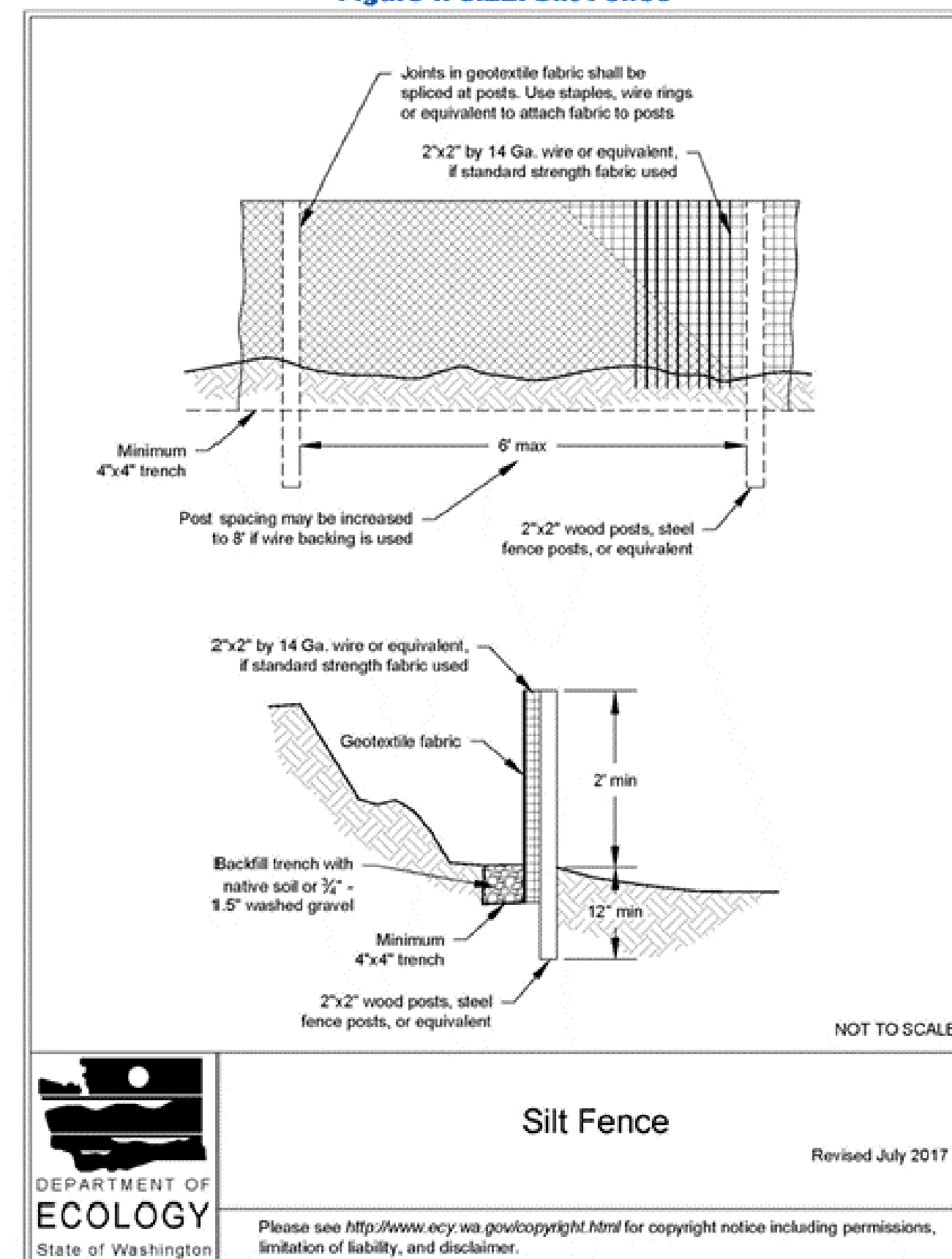
- Inspect all forms of inlet protection frequently, especially after storm events. Clean and replace clogged catch basin filters. For rock and gravel filters, pull away the rocks from the inlet and clean or replace. An alternative approach would be to use the clogged rock as fill and put fresh rock around the inlet.
- Do not wash sediment into storm drains while cleaning. Spread all excavated material evenly over the surrounding land area or stockpile and stabilize as appropriate.

Approved as Functionally Equivalent

Ecology has approved products as able to meet the requirements of this BMP. The products did not pass through the Technology Assessment Protocol – Ecology (TAPE) process. Local jurisdictions may choose not to accept these products, or may require additional testing prior to consideration for local use. Products that Ecology has approved as functionally equivalent are available for review on Ecology's website at:

<https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies>

Figure II-3.22: Silt Fence



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Maintenance Standards

- Repair any damage immediately.
- Intercept and convey all evident concentrated flows uphill of the silt fence to a sediment trapping BMP.
- Check the uphill side of the silt fence for signs of the fence clogging and acting as a barrier to flow and then causing channelization of flows parallel to the fence. If this occurs, replace the fence and remove the trapped sediment.
- Remove sediment deposits when the deposit reaches approximately one-third the height of the silt fence, or install a second silt fence.
- Replace geotextile fabric that has deteriorated due to ultraviolet breakdown.

BMP C233: Silt Fence

Purpose

Silt fence reduces the transport of coarse sediment from a construction site by providing a temporary physical barrier to sediment and reducing the runoff velocities of overland flow.

Conditions of Use

Silt fence may be used downslope of all disturbed areas.

- Silt fence shall prevent sediment carried by runoff from going beneath, through, or over the top of the silt fence, but shall allow the water to pass through the fence.
- Silt fence is not intended to treat concentrated flows, nor is it intended to treat substantial amounts of overland flow. Convey any concentrated flows through the drainage system to a sediment trapping BMP.
- Do not construct silt fences in streams or use in V-shaped ditches. Silt fences do not provide an adequate method of silt control for anything deeper than sheet or overland flow.



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Table II-3.6: Mulch Standards and Guidelines (continued)

Mulch Material	Guideline	Description
	Remarks	This is a cost-effective way to dispose of debris from clearing and grubbing, and it eliminates the problems associated with burning. Generally, it should not be used on slopes above approx. 10% because of its tendency to be transported by runoff. It is not recommended within 200 feet of surface waters. If permanent seeding or planting is expected shortly after mulch, the decomposition of the chipped vegetation may tie up nutrients important to grass establishment. Note: thick application of this material over existing grass, herbaceous species, and some groundcovers could smother and kill vegetation.
Wood-Based Mulch	Quality Standards	No visible water or dust during handling. Must be purchased from a supplier with a Solid Waste Handling Permit or one exempt from solid waste regulations.
	Application Rates	2" thick min., approx. 100 tons per acre (approx. 750 lbs. per cubic yard)
	Remarks	This material is often called "wood straw" or "hog fuel". The use of mulch ultimately improves the organic matter in the soil. Special caution is advised regarding the source and composition of wood-based mulches. Its preparation typically does not provide any weed seed control, so evidence of residual vegetation in its composition or known inclusion of weed plants or seeds should be monitored and prevented (or minimized).
Wood Strand Mulch	Quality Standards	A blend of loose, long, thin wood pieces derived from native conifer or deciduous trees with high length-to-width ratio.
	Application Rates	2" thick min.
	Remarks	Cost-effective protection when applied with adequate thickness. A minimum of 95-percent of the wood strand shall have lengths between 2 and 10-inches, with a width and thickness between 1/16 and 1/2-inches. The mulch shall not contain resin, tannin, or other compounds in quantities that would be detrimental to plant life. Sawdust or wood shavings shall not be used as mulch. [Specification 9-14.4(4) from the <i>Standard Specifications for Road, Bridge, and Municipal Construction (WSDOT, 2016)</i>]

BMP C122: Nets and Blankets

Purpose

Erosion control nets and blankets are intended to prevent erosion and hold seed and mulch in place on steep slopes and in channels so that vegetation can become well established. In addition, some nets and blankets can be used to permanently reinforce turf to protect drainage ways during high flows.

Nets (commonly called matting) are strands of material woven into an open, but high-tensile strength net (for example, coconut fiber matting). Blankets are strands of material that are not tightly woven, but instead form a layer of interlocking fibers, typically held together by a biodegradable or photodegradable netting (for example, excelsior or straw blankets). They generally have lower tensile strength than nets, but cover the ground more completely. Coir (coconut fiber) fabric comes as both nets and blankets.

Conditions of Use

Erosion control netting and blankets shall be made of natural plant fibers unaltered by synthetic materials.

Erosion control nets and blankets should be used:

- To aid permanent vegetated stabilization of slopes 2H:1V or greater and with more than 10 feet of vertical relief.
- For drainage ditches and swales (highly recommended). The application of appropriate netting or blanket to drainage ditches and swales can protect bare soil from channelized runoff while vegetation is established. Nets and blankets also can capture a great deal of sediment due to their open, porous structure. Nets and blankets can be used to permanently stabilize channels and may provide a cost-effective, environmentally preferable alternative to riprap.

Disadvantages of nets and blankets include:

- Surface preparation is required.
- On slopes steeper than 2.5H:1V, net and blanket installers may need to be roped and harnessed for safety.
- They cost at least \$4,000-6,000 per acre installed.

Advantages of nets and blankets include:

- Installation without mobilizing special equipment.
- Installation by anyone with minimal training.
- Installation in stages or phases as the project progresses.
- Installers can hand place seed and fertilizer as they progress down the slope.
- Installation in any weather.
- There are numerous types of nets and blankets that can be designed with various parameters in mind. Those parameters include: fiber blend, mesh strength, longevity, biodegradability, cost, and availability.

An alternative to nets and blankets in some limited conditions is [BMP C202: Riprap Channel Lining](#). Ensure that [BMP C202: Riprap Channel Lining](#) is appropriate before using it as a substitute for nets and blankets.

Design and Installation Specifications

- See [Figure II-3.3: Channel Installation \(Clackamas County et al., 2008\)](#) and [Figure II-3.4: Slope Installation](#) for typical orientation and installation of nets and blankets used in channels and as slope protection. Note: these are typical only, all nets and blankets must be installed per manufacturer's installation instructions.
- Installation is critical to the effectiveness of these products. If good ground contact is not achieved, runoff can concentrate under the product, resulting in significant erosion.
- Installation of nets and blankets on slopes:
 - Complete final grade and track walk up and down the slope.
 - Install hydromulch with seed and fertilizer.
 - Dig a small trench, approximately 12 inches wide by 6 inches deep along the top of the slope.
 - Install the leading edge of the net/blanket into the small trench and staple approximately every 18 inches. NOTE: Staples are metal, "U"-shaped, and a minimum of 6 inches long. Longer staples are used in sandy soils. Biodegradable stakes are also available.
 - Roll the net/blanket slowly down the slope as the installer walks backward. NOTE: The net/blanket rests against the installer's legs. Staples are installed as the net/blanket is unrolled. It is critical that the proper staple pattern is used for the net/blanket being installed. The net/blanket is not to be allowed to roll down the slope on its own as this stretches the net/blanket, making it impossible to maintain soil contact. In addition, no one is allowed to walk on the net/blanket after it is in place.
 - If the net/blanket is not long enough to cover the entire slope length, the trailing edge of the upper net/blanket should overlap the leading edge of the lower net/blanket and be stapled. On steeper slopes, this overlap should be installed in a small trench, stapled, and covered with soil.
- With the variety of products available, it is impossible to cover all the details of appropriate use and installation. Therefore, it is critical that the designer consult the manufacturer's information and that a site visit takes place in order to ensure that the product specified is appropriate. Information is also available in WSDOT's *Standard Specifications for Road, Bridge, and Municipal Construction Division 8-01 and Division 9-14 (WSDOT, 2016)*.
- Use jute matting in conjunction with mulch ([BMP C121: Mulching](#)). Excelsior, woven straw blankets and coir (coconut fiber) blankets may be installed without mulch. There are many other types of erosion control nets and blankets on the market that may be appropriate in certain circumstances.
- In general, most nets (e.g., jute matting) require mulch in order to prevent erosion because they have a fairly open structure. Blankets typically do not require mulch because they usually provide complete protection of the surface.
- Extremely steep, unstable, wet, or rocky slopes are often appropriate candidates for use of synthetic blankets, as are riverbanks, beaches and other high-energy environments. If

synthetic blankets are used, the soil should be hydromulched first.

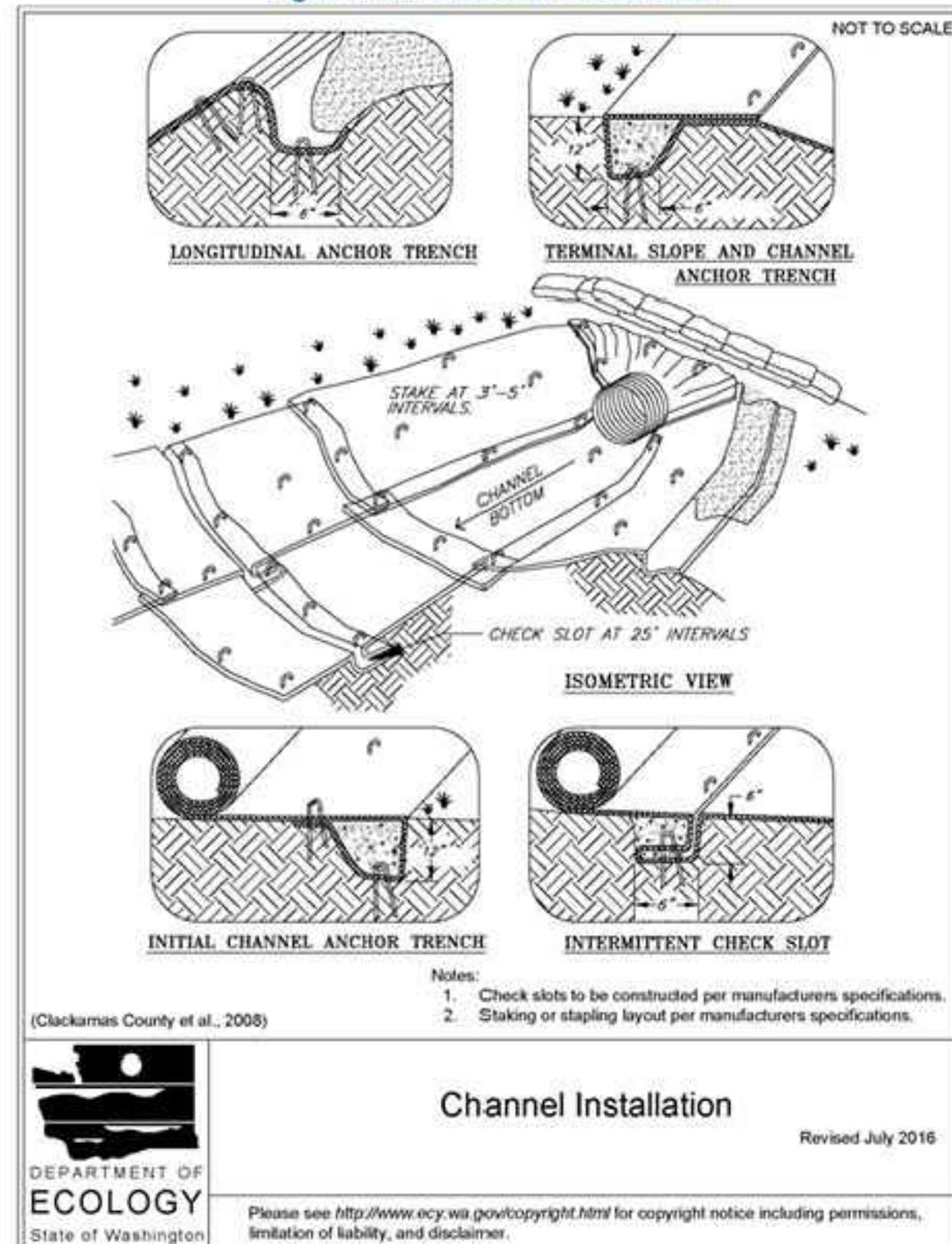
- 100-percent biodegradable blankets are available for use in sensitive areas. These organic blankets are usually held together with a paper or fiber mesh and stitching which may last up to a year.
- Most netting used with blankets is photodegradable, meaning it breaks down under sunlight (not UV stabilized). However, this process can take months or years even under bright sun. Once vegetation is established, sunlight does not reach the mesh. It is not uncommon to find non-degraded netting still in place several years after installation. This can be a problem if maintenance requires the use of mowers or ditch cleaning equipment. In addition, birds and small animals can become trapped in the netting.

Maintenance Standards

- Maintain good contact with the ground. Erosion must not occur beneath the net or blanket.
- Repair and staple any areas of the net or blanket that are damaged or not in close contact with the ground.
- Fix and protect eroded areas if erosion occurs due to poorly controlled drainage.

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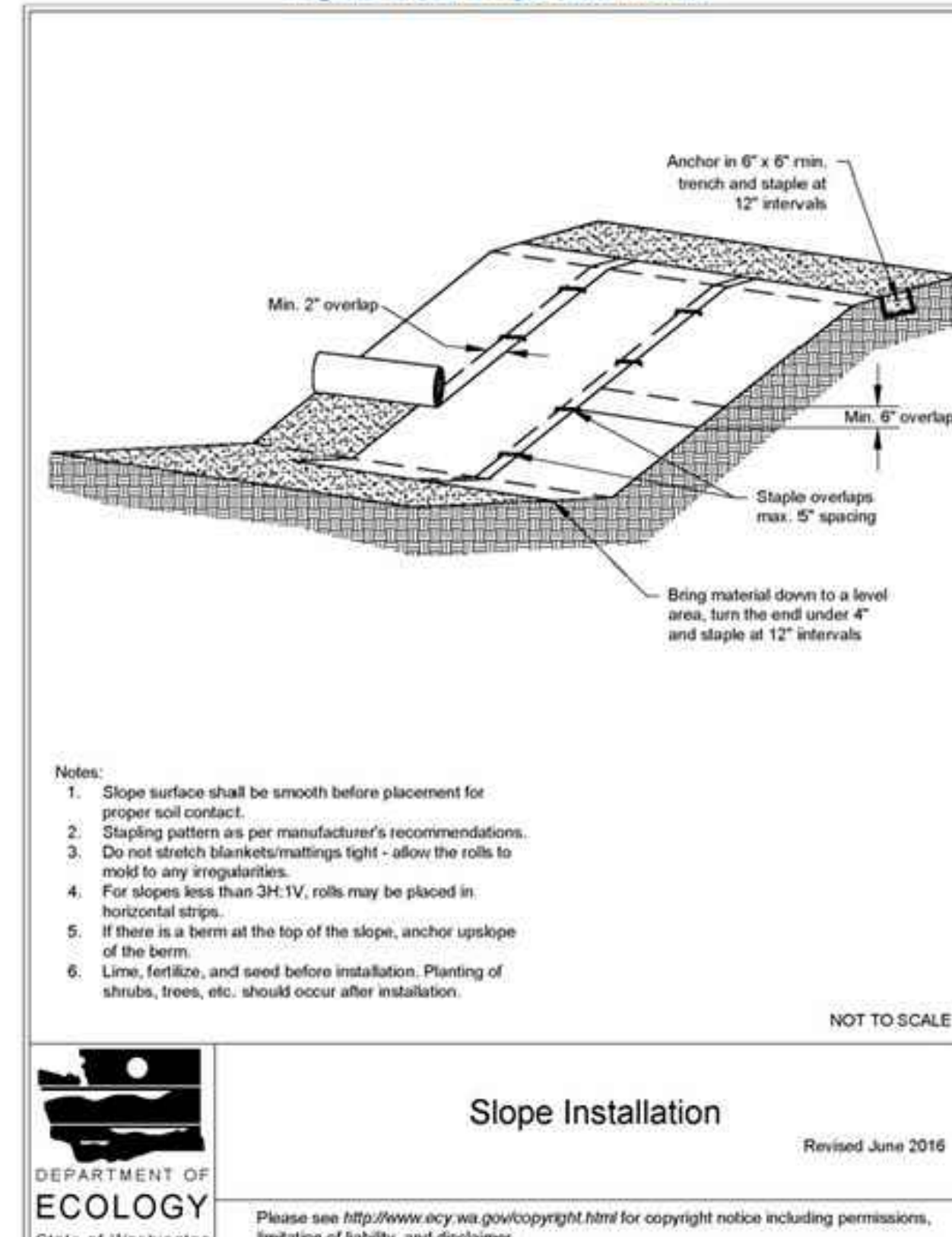
Figure II-3.3: Channel Installation



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Figure II-3.4: Slope Installation



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compliance with this BMP.

- Use vacuum street sweepers.
- Remove mud and other dirt promptly so it does not dry and then turn into dust.
- Techniques that can be used for unpaved roads and lots include:
 - Lower speed limits. High vehicle speed increases the amount of dust stirred up from unpaved roads and lots.
 - Upgrade the road surface strength by improving particle size, shape, and mineral types that make up the surface and base materials.
 - Add surface gravel to reduce the source of dust emission. Limit the amount of fine particles (those smaller than .075 mm) to 10 to 20 percent.
 - Use geotextile fabrics to increase the strength of new roads or roads undergoing reconstruction.
 - Encourage the use of alternate, paved routes, if available.
 - Apply chemical dust suppressants using the admix method, blending the product with the top few inches of surface material. Suppressants may also be applied as surface treatments.
 - Limit dust-causing work on windy days.
 - Pave unpaved permanent roads and other trafficked areas.

Maintenance Standards

Respray area as necessary to keep dust to a minimum.

BMP C150: Materials on Hand

Purpose

Keep quantities of erosion prevention and sediment control materials on the project site at all times to be used for regular maintenance and emergency situations such as unexpected heavy rains. Having these materials on-site reduces the time needed to replace existing or implement new BMPs when inspections indicate that existing BMPs are not meeting the Construction SWPPP requirements. In addition, contractors can save money by buying some materials in bulk and storing them at their office or yard.

Conditions of Use

- Construction projects of any size or type can benefit from having materials on hand. A small commercial development project could have a roll of plastic and some gravel available for immediate protection of bare soil and temporary berm construction. A large earthwork project, such as highway construction, might have several tons of straw, several rolls of plastic, flexible

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pipe, sandbags, geotextile fabric and steel "T" posts.

- Materials should be stockpiled and readily available before any site clearing, grubbing, or earthwork begins. A large contractor or project proponent could keep a stockpile of materials that are available for use on several projects.
- If storage space at the project site is at a premium, the contractor could maintain the materials at their office or yard. The office or yard must be less than an hour from the project site.

Design and Installation Specifications

Depending on project type, size, complexity, and length, materials and quantities will vary. A good minimum list of items that will cover numerous situations includes:

- Clear Plastic, 6 mil
- Drainpipe, 6 or 8 inch diameter
- Sandbags, filled
- Straw Bales for mulching
- Quarry Spalls
- Washed Gravel
- Geotextile Fabric
- Catch Basin Inserts
- Steel "T" Posts
- Silt fence material
- Straw Wattles

Maintenance Standards

- All materials with the exception of the quarry spalls, steel "T" posts, and gravel should be kept covered and out of both sun and rain.
- Re-stock materials as needed.

BMP C151: Concrete Handling

Purpose

Concrete work can generate process water and slurry that contain fine particles and high pH, both of which can violate water quality standards in the receiving water. Concrete spillage or concrete discharge to waters of the State is prohibited. Use this BMP to minimize and eliminate concrete, concrete process water, and concrete slurry from entering waters of the State.

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Design and Installation Specifications

- The vegetated strip shall consist of a continuous strip of dense vegetation with topsoil for a minimum of a 25-foot length along the flowpath. Grass-covered, landscaped areas are generally not adequate because the volume of sediment overwhelms the grass. Ideally, vegetated strips shall consist of undisturbed native growth with a well-developed soil that allows for infiltration of runoff.
- The slope within the vegetated strip shall not exceed 4H:1V.
- The uphill boundary of the vegetated strip shall be delineated with clearing limits.

Maintenance Standards

- Any areas damaged by erosion or construction activity shall be seeded immediately and protected by mulch.
- If more than 5 feet of the original vegetated strip width has had vegetation removed or is being eroded, sod must be installed.
- If there are indications that concentrated flows are traveling across the vegetated strip, stormwater runoff controls must be installed to reduce the flows entering the vegetated strip, or additional perimeter protection must be installed.

BMP C235: Wattles

Purpose

Wattles are temporary erosion and sediment control barriers consisting of straw, compost, or other material that is wrapped in netting made of natural plant fiber or similar encasing material. They reduce the velocity and can spread the flow of fill and sheet runoff, and can capture and retain sediment.

Conditions of Use

- Wattles shall consist of cylinders of plant material such as weed-free straw, coir, wood chips, excelsior, or wood fiber or shavings encased within netting made of natural plant fibers unaltered by synthetic materials.
- Use wattles:
 - In disturbed areas that require immediate erosion protection.
 - On exposed soils during the period of short construction delays, or over winter months.
 - On slopes requiring stabilization until permanent vegetation can be established.
- The material used dictates the effectiveness period of the wattle. Generally, wattles are effective for one to two seasons.

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- On large projects that phase the clearing of the site, areas retained with native vegetation may be used as a temporary vegetative filtration area.

Design Criteria

- Find land adjacent to the project site that has a vegetated field, preferably a farm field, or wooded area.
- If the site does not contain enough vegetated field area consider obtaining permission from adjacent landowners (especially for farm fields).
- Install a pump and downstream distribution manifold depending on the project size. Generally, the main distribution line should reach 100 to 200-feet long (large projects, or projects on tight soil, will require systems that reach several thousand feet long with numerous branch lines off of the main distribution line).
- The manifold should have several valves, allowing for control over the distribution area in the field.
- Install several branches of 4-inch diameter schedule 20 polyvinyl chloride (PVC), swaged-fit common septic tight-lined sewer line, or 6-inch diameter fire hose, which can convey the turbid water out to various sections of the field. See Figure II-3.25: Manifold and Branches in a Wooded, Vegetated Spray Field.
- Determine the branch length based on the field area geography and number of branches. Typically, branches stretch from 200-feet to several thousand feet. Lay the branches on contour with the slope.
- On uneven ground, sprinklers perform well. Space sprinkler heads so that spray patterns do not overlap.
- On relatively even surfaces, a level spreader using 4-inch perforated pipe may be used as an alternative option to the sprinkler head setup. Install drain pipe at the highest point on the field and at various lower elevations to ensure full coverage of the filtration area. Place the pipe with the holes up to allow for gentle weeping evenly out all holes. Leveling the pipe by staking and using sandbags may be required.
- To prevent over saturating of the vegetative filtration area, rotate the use of branches or spray heads. Repeat as needed based on monitoring the spray field.

Table II-3.13: Flowpath Guidelines for Vegetative Filtration

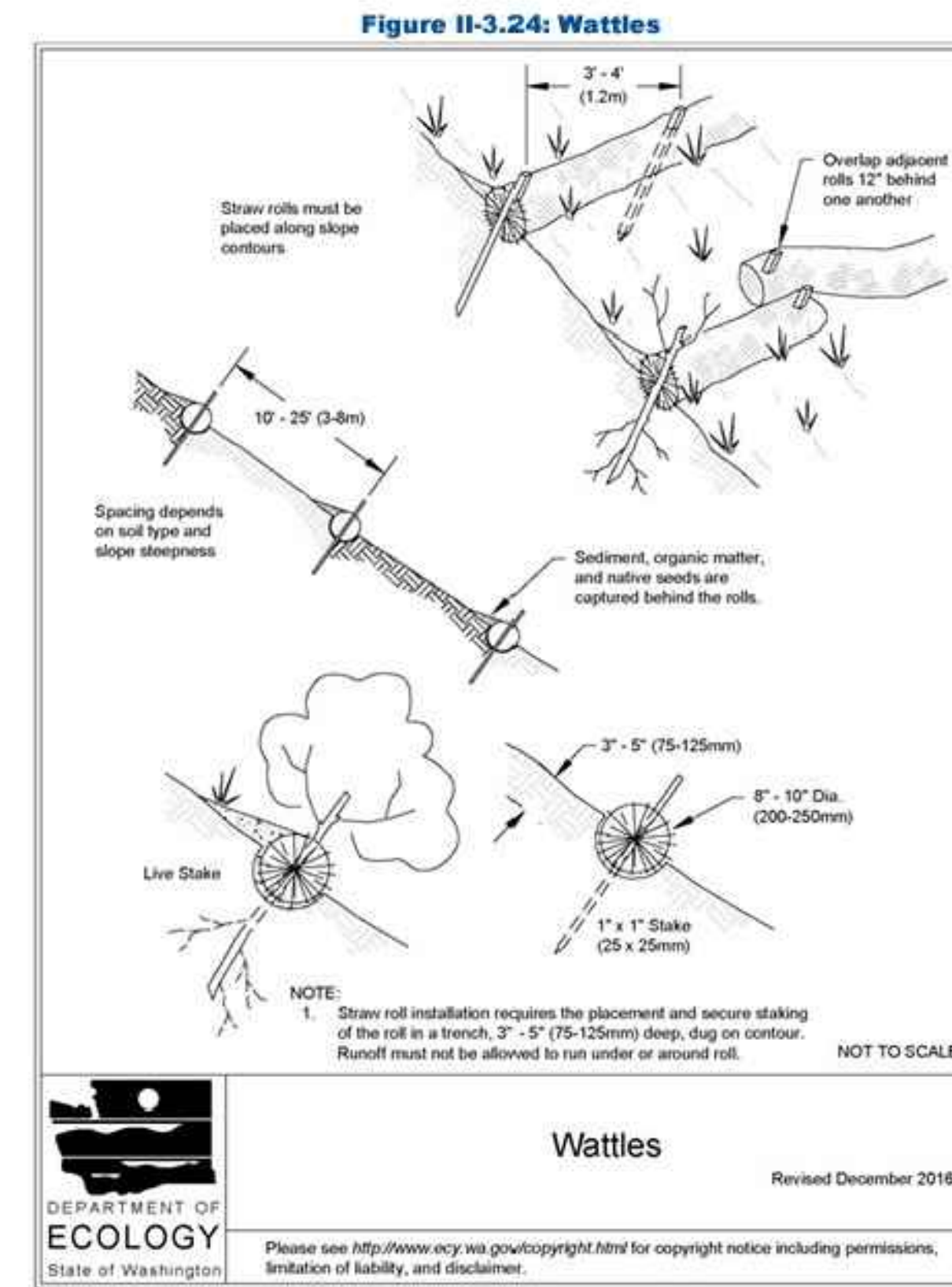
Average Slope	Average Area % Slope	Estimated Flowpath Length (ft)
1.5H:1V	67%	250
2H:1V	50%	200
4H:1V	25%	150
6H:1V	16.7%	115
10H:1V	10%	100

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- Prevent rilling beneath wattles by entrenching and overlapping wattles to prevent water from passing between them.

Design Criteria

- See Figure II-3.24: Wattles for typical construction details.
- Wattles are typically 8 to 10 inches in diameter and 25 to 30 feet in length.
- Install wattles perpendicular to the flow direction and parallel to the slope contour.
- Place wattles in shallow trenches, staked along the contour of disturbed or newly constructed slopes. Dig narrow trenches across the slope (on contour) to a depth of 3- to 5-inches on clay soils and soils with gradual slopes. On loose soils, steep slopes, and areas with high rainfall, the trenches should be dug to a depth of 5- to 7- inches, or 1/2 to 2/3 of the thickness of the wattle.
- Start building trenches and installing wattles from the base of the slope and work up. Spread excavated material evenly along the uphill slope and compact it using hand tamping or other methods.
- Construct trenches at intervals of 10- to 25-feet depending on the steepness of the slope, soil type, and rainfall. The steeper the slope the closer together the trenches.
- Install the wattles snugly into the trenches and overlap the ends of adjacent wattles 12 inches behind one another.
- Install stakes at each end of the wattle, and at 4-foot centers along entire length of wattle.
- If required, install pilot holes for the stakes using a straight bar to drive holes through the wattle and into the soil.
- Wooden stakes should be approximately 0.75 x 0.75 x 24 inches min. Willow cuttings or 3/8-inch rebar can also be used for stakes.
- Stakes should be driven through the middle of the wattle, leaving 2 to 3 inches of the stake protruding above the wattle.



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Figure II-3.25: Manifold and Branches in a Wooded, Vegetated Spray Field



Manifold and Branches in a Wooded, Vegetated Spray Field

Revised June 2016

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Maintenance Standards

- Monitor the spray field on a daily basis to ensure that over saturation of any portion of the field doesn't occur at any time. The presence of standing puddles of water or creation of concentrated flows visually signify that over saturation of the field has occurred.
- Monitor the vegetated spray field all the way down to the nearest surface water, or farthest spray area, to ensure that the water has not caused overland or concentrated flows, and has not created erosion around the spray nozzle(s).
- Do not exceed water quality standards for turbidity.
- Ecology recommends that a separate inspection log be developed, maintained and kept with the existing site logbook to aid the operator conducting inspections. This separate "Field Filtration Logbook" can also aid in demonstrating compliance with permit conditions.
- Inspect the spray nozzles daily, at a minimum, for leaks and plugging from sediment particles.
- If erosion, concentrated flows, or over saturation of the field occurs, rotate the use of branches or spray heads or move the branches to a new field location.
- Check all branches and the manifold for unintended leaks.

BMP C240: Sediment Trap

Purpose

A sediment trap is a small temporary ponding area with a gravel outlet used to collect and store sediment from sites during construction. Sediment traps, along with other perimeter controls, shall be installed before any land disturbance takes place in the drainage area.

Conditions of Use

- Sediment traps are intended for use on sites where the tributary drainage area is less than 3 acres, with no unusual drainage features, and a projected build-out time of six months or less. The sediment trap is a temporary measure (with a design life of approximately 6 months) and shall be maintained until the tributary area is permanently protected against erosion by vegetation and/or structures.
- Sediment traps are only effective in removing sediment down to about the medium silt size fraction. Runoff with sediment of finer grades (fine silt and clay) will pass through untreated, emphasizing the need to control erosion to the maximum extent first.
- Projects that are constructing permanent Flow Control BMPs, or Runoff Treatment BMPs that use ponding for treatment, may use the rough-graded or final-graded permanent BMP footprint for the temporary sediment trap. When permanent BMP footprints are used as temporary sediment traps, the surface area requirement of the sediment trap must be met. If the surface area requirement of the sediment trap is larger than the surface area of the permanent BMP, then the sediment trap shall be enlarged beyond the permanent BMP footprint to comply with the surface area requirement.

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Maintenance Standards

- Wattles may require maintenance to ensure they are in contact with soil and thoroughly entrenched, especially after significant rainfall on steep sandy soils.
- Inspect the slope after significant storms and repair any areas where wattles are not tightly abutted or water has scoured beneath the wattles.

Approved as Functionally Equivalent

Ecology has approved products as able to meet the requirements of this BMP. The products did not pass through the Technology Assessment Protocol - Ecology (TAPE) process. Local jurisdictions may choose not to accept these products, or may require additional testing prior to consideration for local use. Products that Ecology has approved as functionally equivalent are available for review on Ecology's website at:

<https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies>

BMP C236: Vegetative Filtration

Purpose

Vegetative filtration as a BMP is used in conjunction with detention storage in the form of portable tanks or BMP C241: Sediment Pond (Temporary), BMP C206: Level Spreader, and a pumping system with surface intake. Vegetative filtration improves turbidity levels of stormwater discharges by filtering runoff through existing vegetation where undisturbed forest floor duff layer or established lawn with thatch layer are present. Vegetative filtration can also be used to infiltrate dewatering waste from foundations, vaults, and trenches as long as runoff does not occur.

Conditions of Use

- For every five acres of disturbed soil use one acre of grass field, farm pasture, or wooded area. Reduce or increase this area depending on project size, ground water table height, and other site conditions.
- Wetlands shall not be used for vegetative filtration.
- Do not use this BMP in areas with a high ground water table, or in areas that will have a high seasonal ground water table during the use of this BMP.
- This BMP may be less effective on soils that prevent the infiltration of the water, such as hard till.
- Using other effective source control measures throughout a construction site will prevent the generation of additional highly turbid water and may reduce the time period or area need for this BMP.
- Stop distributing water into the vegetated filtration area if standing water or erosion results.

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03/19/2025

REVISIONS	BY	DATE
REVISED PER CITY MARKUPS	REH	07/21/25
REVISED PER CLIENT	REH	03/19/25

TESC DETAILS

SITE ADDRESS: 8904 SE 58TH ST.

JENNIE LEE
8904 SE 58TH ST.
MERCER ISLAND, WA

ENGINEERS - SURVEYORS
EASTSIDE CONSULTANTS, INC.
1320 NW MALL STREET, SUITE B
ISSAQUAH, WASHINGTON 98027
PH: (425) 392-5351 FAX: 392-4676

JOB NO. 24081
DATE 10/24
SCALE 1"=10'
DESIGNED R.E.H.
DRAWN R.E.H.
CHECKED R.S.F.
APPROVED R.S.F.

LEE RESIDENCE

NW 1/4, SW 1/4, SECTION 19, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M.
CITY OF MERCER ISLAND, WASHINGTON

OWNER:
JENNIE LEE
8904 SE 58TH STREET,
MERCER ISLAND, WA

ARCHITECT: ARCHITECTURAL INNOVATIONS
NAME: ROBERT YOUNG
COMPANY
PH: 425-641-5320

CIVIL ENGINEER:
EASTSIDE CONSULTANTS, INC
1320 NW MALL STREET, STE B
ISSAQUAH, WA 98027
PHONE: 425.392.5351
CONTACT: RON FREDERIKSEN

REVISIONS	BY	DATE
REVISED PER CITY MARKUPS	REH	07/21/23
REVISED PER CLIENT	REH	03/19/25

STORM AND WATER DETAILS

JENNIE LEE
8904 SE 58TH ST.
MERCER ISLAND, WA

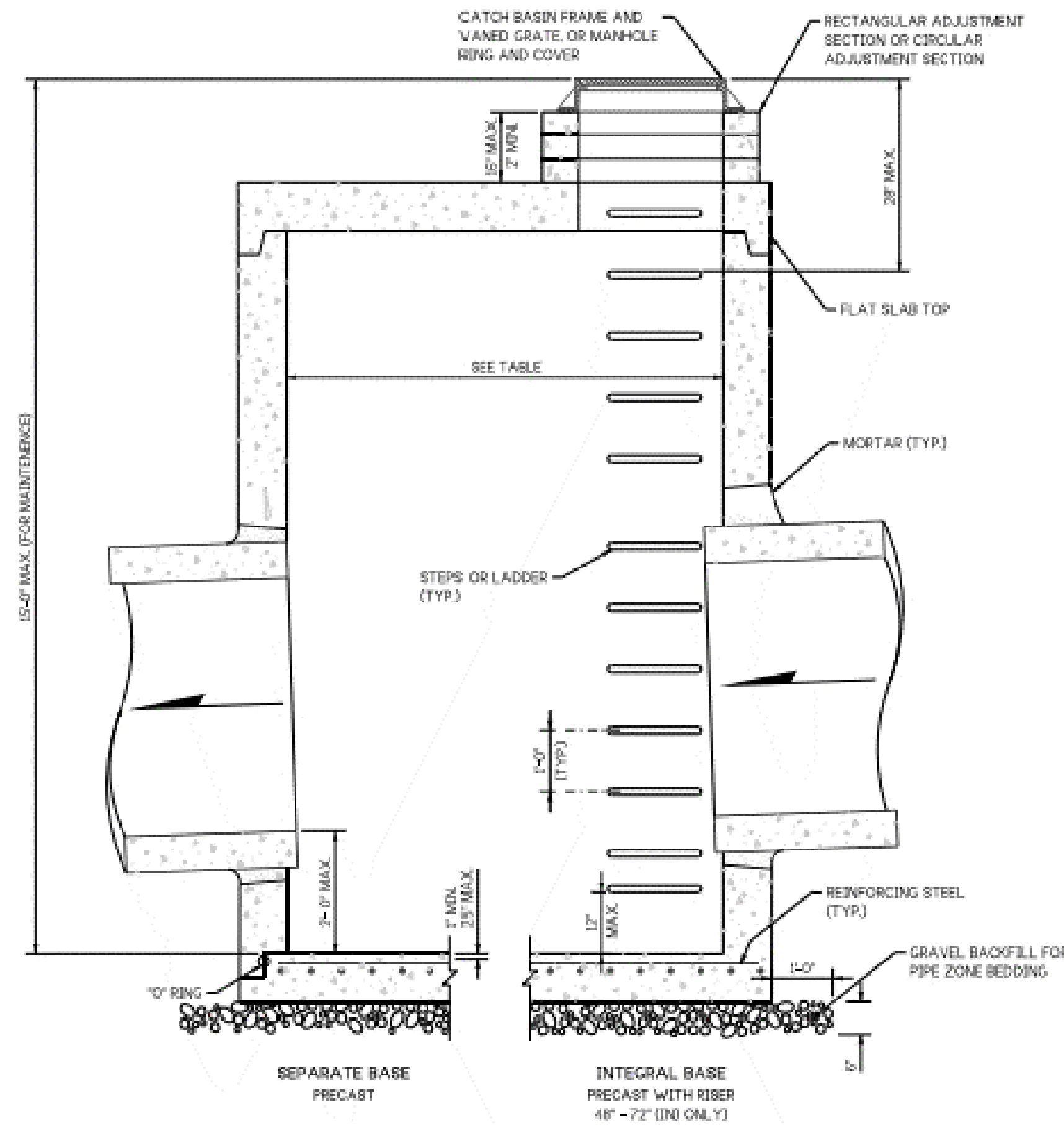
ENGINEERS - SURVEYORS EASTSIDE CONSULTANTS, INC.

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ISSAQUAH, WASHINGTON 98027
PH: (425) 392-5351 FAX: 392-4676

JOB NO. 24081
DATE 10/24
SCALE 1"=10'
DESIGNED R.E.H.
DRAWN R.E.H.
CHECKED R.S.F.
APPROVED R.S.F.

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" (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.
- Pipe allowances will vary depending on the pipe material used. Contact the Region Hydraulics Engineer for assistance.



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"	6"	42"	8"
60"	5"	6"	48"	8"
72"	6"	6"	60"	12"
84"	6"	12"	72"	12"
96"	6"	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	CPSP ¹ PP ²	SOLID WALL PVC ³	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 (See Standard Specification Section 9-05.20)
- ² (See Standard Specification Section 9-05.12(1))
- ³ (See Standard Specification Section 9-05.12(2))
- ⁴ Polypropylene Pipe (See Standard Specification Section 9-05.24)



Aug 23, 2023

CATCH BASIN TYPE 2

STANDARD PLAN B-10.20-03

SHEET 1 OF 1 SHEET

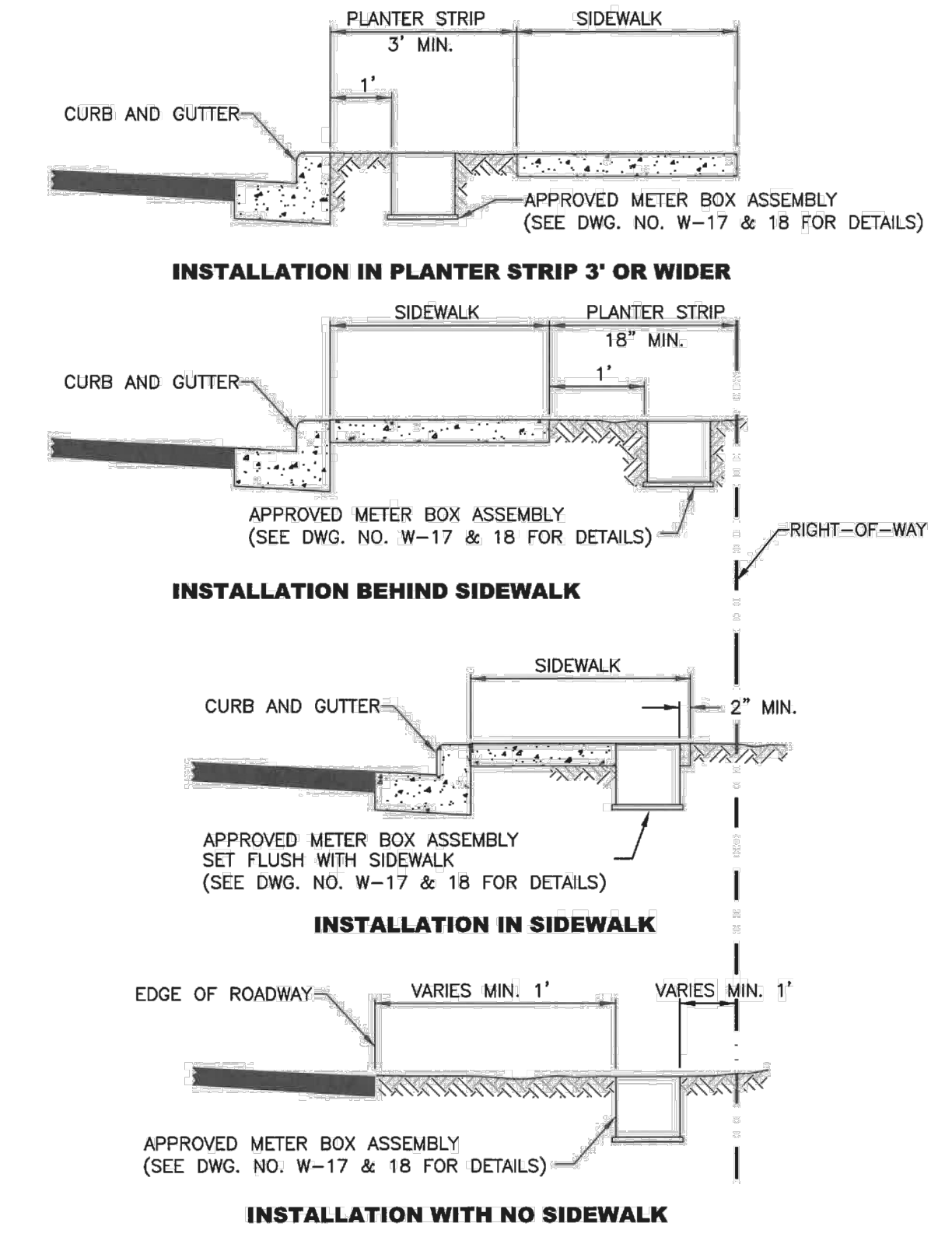
APPROVED FOR PUBLICATION

Mark A. Davis Aug 23, 2023

Washington State Department of Transportation STATE DESIGN ENGINEER



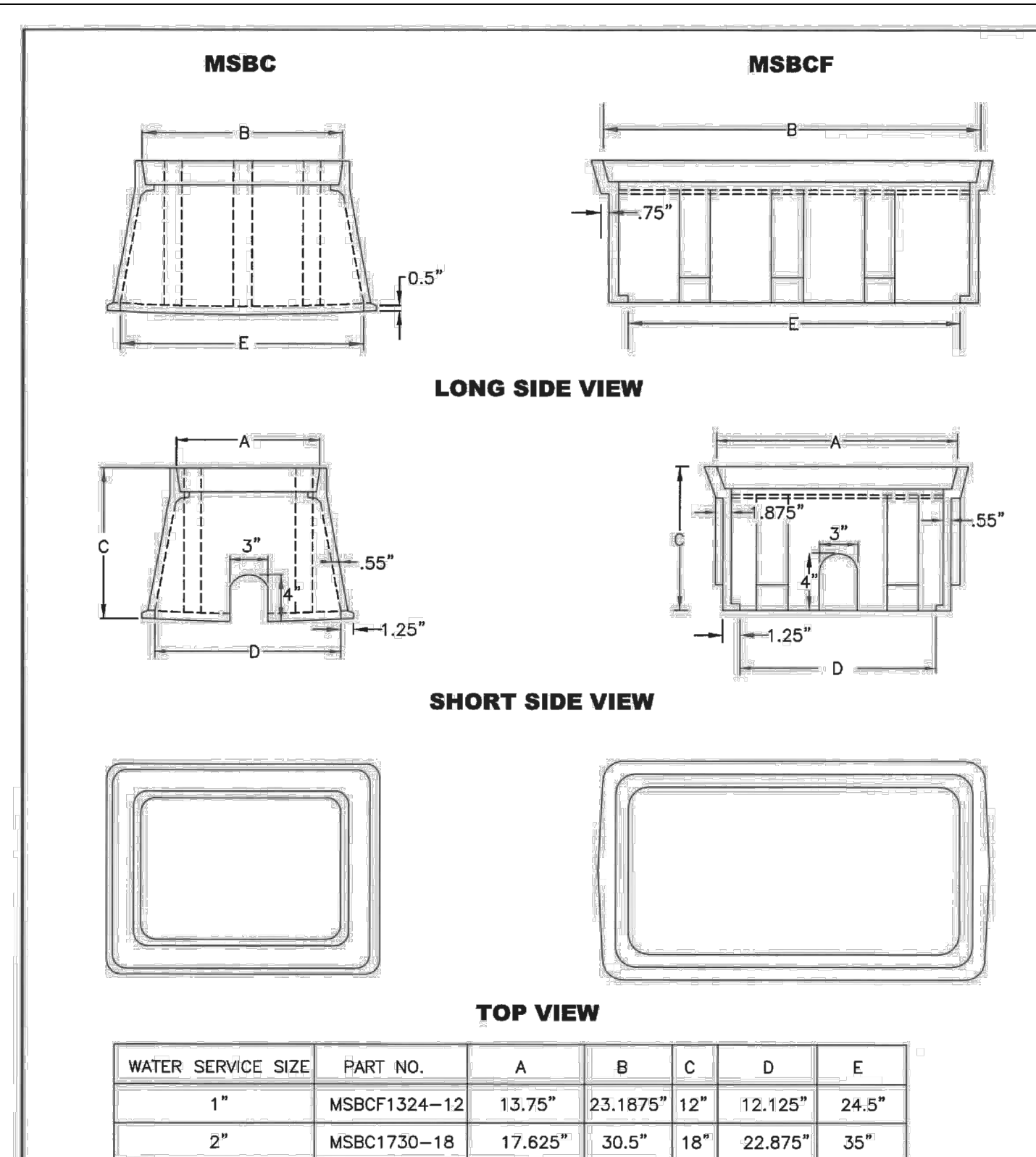
03/19/2025



CITY OF MERCER ISLAND
STANDARD DETAILS
WATER

WATER METER PLACEMENT

3-20-2006 NO SCALE **W-16**



CITY OF MERCER ISLAND
STANDARD DETAILS
WATER

1" & 2" PLASTIC
WATER METER BOX

12-23-2013 NO SCALE **W-18A**

- NOTES:**
- METER BOX SHALL BE MID-STATES PLASTICS AS SHOWN, WITH A DUCTILE IRON LID WITH A FLIP OR HINGED INSPECTION LID TO INCLUDE A 3/4" PICK HOLE.
 - PLASTIC WATER METER BOXES SHALL NOT BE INSTALLED WITHIN A DRIVING OR PARKING AREA.

REV DATE | APPROVED