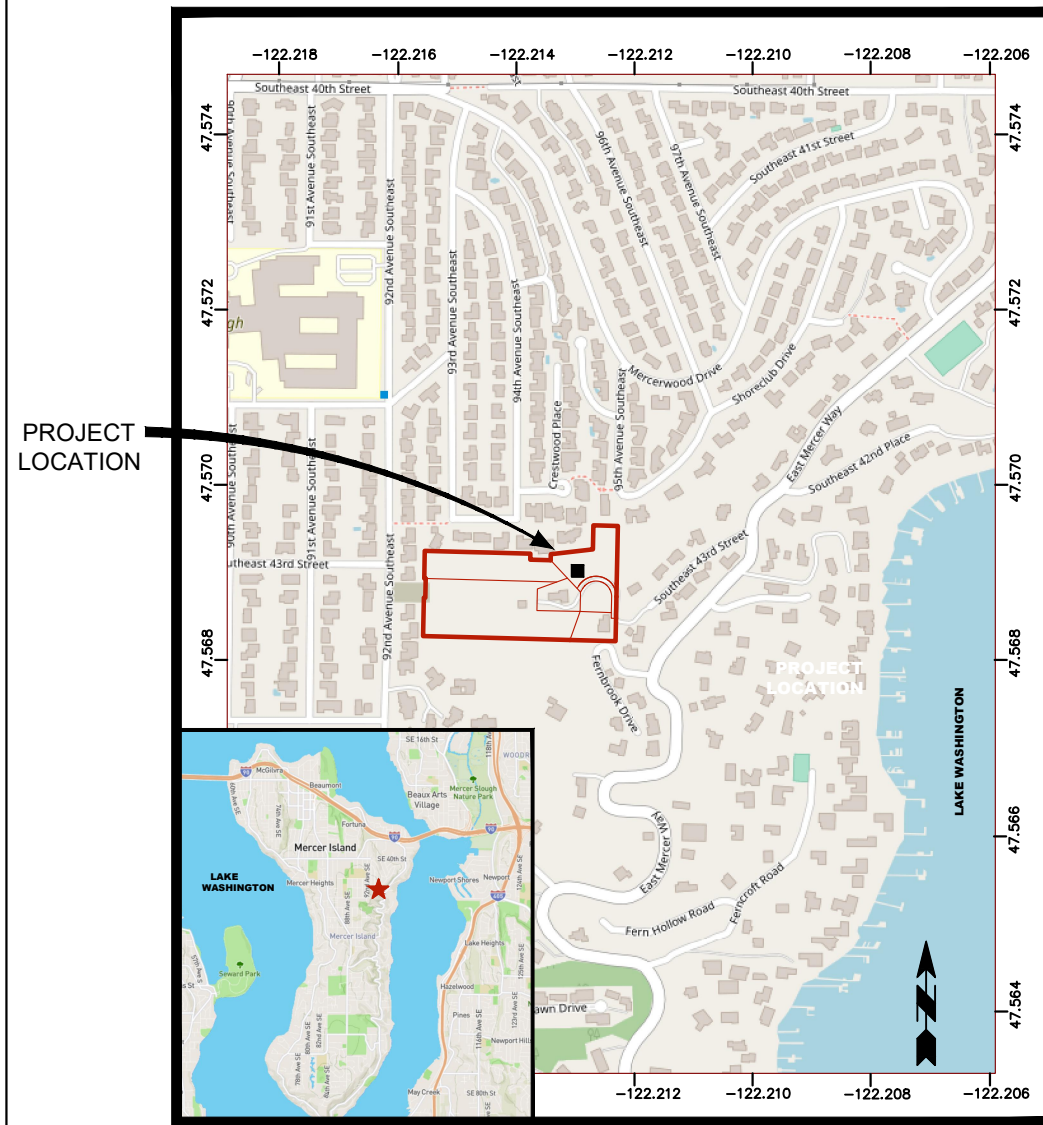


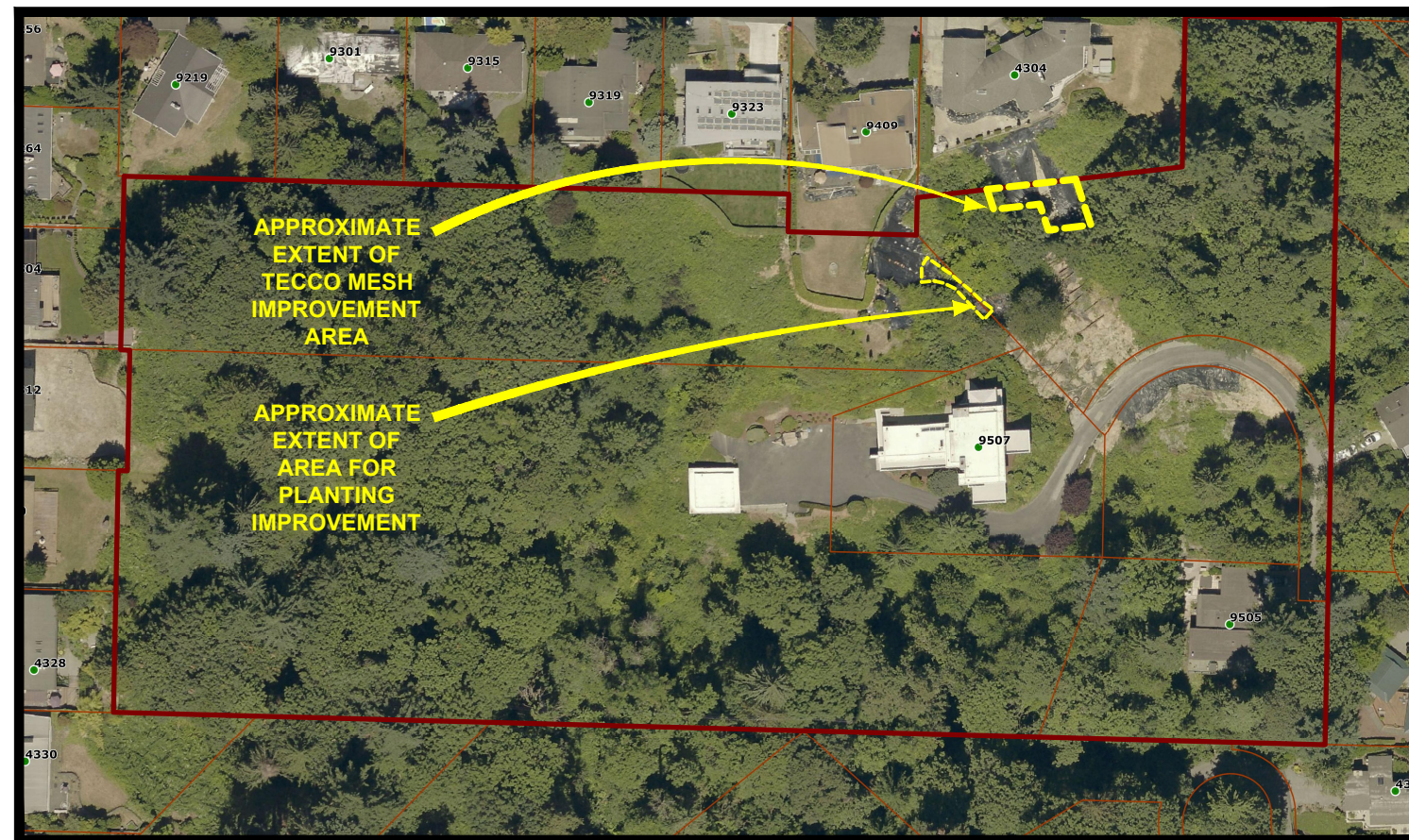
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9507 SE 43RD STREET, MERCER ISLAND, WASHINGTON

SLOPE STABILIZATION PLAN



VICINITY MAP
NOT TO SCALE



LOCATION MAP
SCALE: 1" = 120'



SHEET INDEX

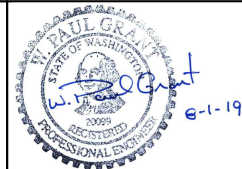
SHEET	DESCRIPTION
1	COVER AND INDEX SHEET
2	SITE PLAN - GROUND ANCHOR LAYOUT
3	NOTES & TECCO G65/3 SYSTEM DRAWING
4	WIRE ROPE ANCHOR DETAILS



Know what's below.
Call before you dig.

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INCORPORATED
3213 Eastlake Ave E Ste B
Seattle, Washington 98102-7127
Tel: 206.262.0370 Fax: 206.262.0374

Geotechnical & Earthquake
Engineering Consultants



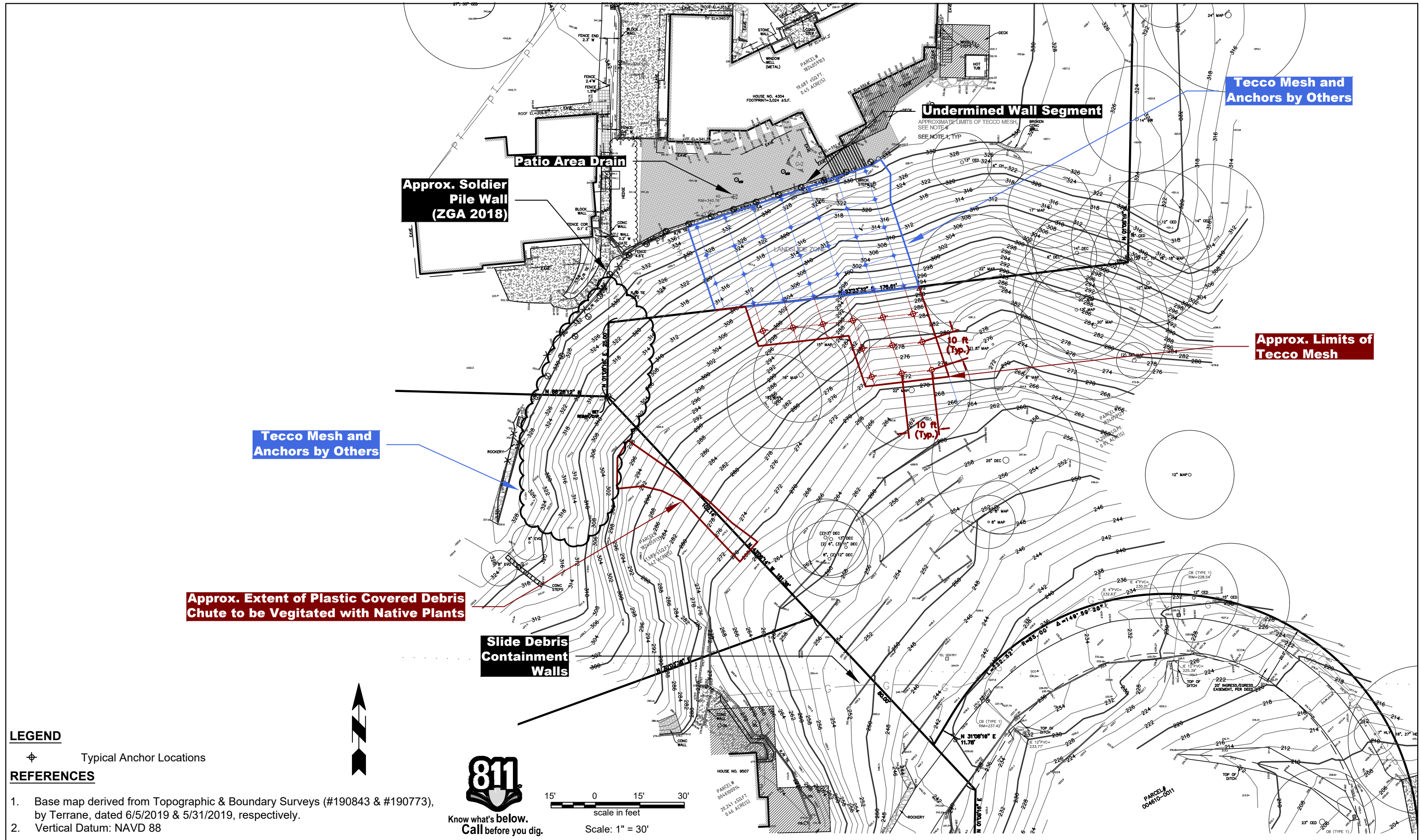
SYM	DESCRIPTION / REVISIONS	DATE	BY	APP'D

9507 SE 43RD STREET
MERCER ISLAND, WASHINGTON

DATE	AUGUST 1, 2019	DESIGNED	AUGUST 1, 2019
SCALE	NOT TO SCALE	DRAWN	AUGUST 1, 2019
DWG FILE	: \07-73 STABILIZATION.DWG	CHECKED	AUGUST 1, 2019

COVER AND INDEX SHEET

PROJECT NO.	07-073
SHEET	1 of 4



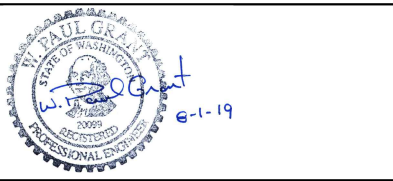
LEGEND
 ⊕ Typical Anchor Locations

- REFERENCES**
1. Base map derived from Topographic & Boundary Surveys (#190843 & #190773), by Terrane, dated 6/5/2019 & 5/31/2019, respectively.
 2. Vertical Datum: NAVD 88

811
 Know what's below.
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15' 0 15' 30'
 scale in feet
 Scale: 1" = 30'

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 Tel: 206.262.0370 Fax: 206.262.0374



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SITE PLAN - GROUND ANCHOR LAYOUT

PROJECT NO.
 07-073

SHEET
 2 of 4

GENERAL NOTES:

1. THE CONTRACTOR SHALL MOBILIZE EQUIPMENT AND MATERIALS AS NECESSARY TO SAFELY PERFORM CONSTRUCTION OF LANDSLIDE STABILITY IMPROVEMENTS MEASURES, INSTALLATION OF GROUND ANCHORS, INSTALLATION OF PERMANENT EROSION CONTROL/TURF REINFORCEMENT MAT, AND INSTALLATION OF TECCO MESH AS ILLUSTRATED ON THE DRAWINGS.
2. THE CONTRACTOR SHALL COMPLY WITH APPLICABLE LOCAL, STATE AND FEDERAL SAFETY CODES AND REGULATIONS AND SPECIFICATIONS FOR THIS CONTRACT.
3. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION FOR CONFLICTS WITH EXISTING UTILITIES OR OTHER ITEMS THAT MIGHT IMPAIR CONSTRUCTION ACTIVITIES. INCONSISTENCIES FOUND SHALL BE REPORTED TO THE PROJECT ENGINEER.
4. THE CONTRACTOR SHALL SUBMIT AND RECEIVE THE ENGINEER'S APPROVAL OF THE CONTRACTOR'S OPERATIONS PLAN. EACH ITEM OF WORK SHALL BE DESCRIBED AND ACCOUNTED FOR IN THE WORK PLAN. SUBMITTALS SHALL INCLUDE WORK PLANS, DESIGN DRAWINGS, CALCULATIONS, PRODUCT DATA, TEST REPORTS, CERTIFICATES, AND MANUFACTURERS' INSTRUCTIONS.
5. EXCAVATED MATERIAL SHALL BE LEFT ON SITE AT A LOCATION APPROVED BY THE OWNER / ENGINEER.
6. ANY DISCREPANCIES BETWEEN THE PLANS AND PHYSICAL CONDITION SHALL BE REPORTED TO THE ENGINEER.
7. GROUND ANCHORS, SLOPE MESH, PERMANENT EROSION CONTROL/TURF REINFORCEMENT MATTING AND DRAINAGE FEATURES SHOULD BE INSTALLED IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS AND THESE DRAWINGS.

14. ALL GROUND ANCHORS SHOULD BE PROOF TESTED TO 1.33 TIMES THE DESIGN LOAD (DL) ACCORDING TO THE PROOF TEST STEPS LISTED AND IN ACCORDANCE WITH PTI DC35.1-14 SECTION C8.0. PROOF TESTING SHOULD BE PERFORMED UNDER OBSERVATION OF THE ENGINEER.
15. AFTER PROOF TESTING, LOCK-OFF ANCHORS AT A LOAD OF 4.5 KIPS.
16. FOR NON-SYMMETRIC LAYOUTS, USE MINIMUM OVERLAP AT WIDEST POINT AND INCREASE OVERLAP AS REQUIRED.
17. MINIMUM OF FOUR WIRE ROPE CLIPS ARE REQUIRED FOR SPLICES ON WIRE ROPE SMALLER THAN 22 MILLIMETERS (APPROXIMATELY 7/8").
18. BOUNDARY ROPES SHALL BE STEEL WIRE ROPE WITH A MINIMUM DIAMETER OF 10MM (APPROXIMATELY 0.4-INCH). BOUNDARY ROPES TO BE INSTALLED JUST OUTSIDE OF TYPICAL GROUND ANCHORS (NOT INCLUDING BOUNDARY ROPE ANCHORS OR STAKES) SUCH THAT THE ANCHOR SPIKE PLATES HOLD THE ROPE IN PLACE. BOUNDARY ROPES SHALL BE CONNECTED TO THE MESH USING PRESS CLAW TYPE 2 CONNECTION CLIPS IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS.
19. P33 SPIKE PLATES TO BE USED WITH TECCO MESH.
20. DOMED HEX NUTS TO BE USED (DOME SIDE DOWN) WITH SPIKE PLATES TO SECURE TECCO MESH.

PROOF TEST STEPS
ALIGNMENT LOAD (AL)
0.25 DESIGN LOAD (DL)
0.50 DESIGN LOAD (DL)
0.75 DESIGN LOAD (DL)
1.00 DESIGN LOAD (DL)
1.20 DESIGN LOAD (DL)
1.33 DESIGN LOAD (DL) - MIN. 10 MINUTE HOLD
AL
ADJUST TO LOCK-OFF LOAD

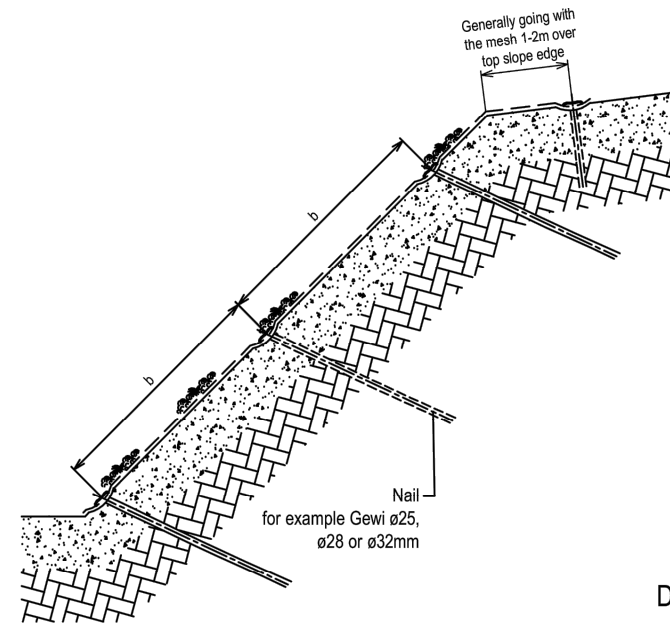
MEASUREMENT AND PAYMENT:

1. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS AND COMPUTE QUANTITIES. MEASUREMENT AND QUANTITIES ARE SUBJECT TO ENGINEER'S REVIEW AND VERIFICATION.
2. IF ACTUAL WORK REQUIRES QUANTITIES GREATER OR LESS THAN THE QUANTITIES INDICATED, THE CONTRACTOR WILL PROVIDE THE REQUIRED QUANTITIES AT THE UNITED PRICES CONTRACTED.
3. FOR EACH PAY ITEM, IT SHALL BE UNDERSTOOD THAT EACH PAY ITEM INCLUDES ALL REQUIRED LABOR, PRODUCTS, TOOLS, EQUIPMENT, MATERIALS, MACHINERY, TRANSPORTATION, SERVICES, INCIDENTALS, OVERHEAD AND PROFIT, SUPPLIES, SUPERVISION, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK DESCRIBED, UNLESS SPECIFICALLY EXCLUDED BY THE PAY ITEM DESCRIPTION.

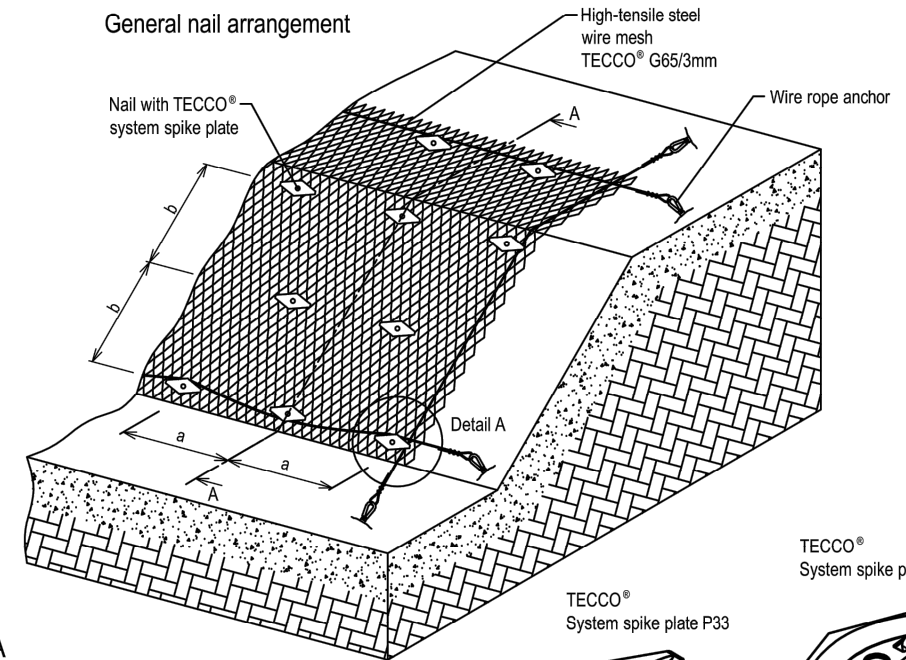
STABILIZATION IMPROVEMENT NOTES:

1. DEBRIS, LOOSE SOIL AND ANY BRUSH OR VEGETATION ON THE FACE OF THE SLOPE SHALL BE REMOVED AND THE SLOPE SHALL BE SMOOTHED TO A STABLE INCLINATION PRIOR TO MESH AND ANCHOR INSTALLATION.
2. ANY AREA ERODED BY PREVIOUS SLOPE FAILURE MAY BE FILLED WITH EXCAVATED MATERIAL TO AVOID ADDITIONAL EXCAVATION OF THE SURROUNDING SLOPE, SO LONG AS IT CAN BE DEMONSTRATED THAT THE MATERIAL WILL REMAIN IN PLACE THROUGHOUT MESH INSTALLATION.
3. SLOPE MESH SHALL BE HIGH TENSILE STRENGTH STEEL WIRE TECCO® G-65/3 MESH MANUFACTURED BY GEOBRUGG AG.
4. TECCO MESH SHALL CONFORM TO THE TOP OF FINISHED SOIL SURFACE AS CLOSELY AS POSSIBLE, PERMANENT EROSION CONTROL/TURF REINFORCEMENT MATTING SHALL BE PLACED IN BETWEEN THE SLOPE SURFACE AND TECCO MESH AND SHALL BE SECURELY ATTACHED TO THE ANCHORS AND MESH.
5. ANCHOR SPACING SHALL NOT EXCEED 10 FEET IN EITHER THE HORIZONTAL OR VERTICAL DIRECTION.
6. ANCHOR AND STAKE LOCATIONS AS WELL AS LIMITS OF TECCO MESH SHOWN ARE APPROXIMATE AND MAY BE ADJUSTED DURING CONSTRUCTION. THE ACTUAL LOCATIONS SHALL BE DETERMINED IN THE FIELD BASED ON THE PRESCRIBED PATTERN AND SITE CONDITIONS AS APPROVED BY THE ENGINEER.
7. MINIMUM TYPICAL ANCHOR LENGTHS SHALL BE 10 FEET, INSTALLED DECLINED 20 DEGREES BELOW HORIZONTAL.
8. MINIMUM BOUNDARY ROPE ANCHOR LENGTHS SHALL BE 6 FEET, INSTALLED APPROXIMATELY NORMAL TO THE GROUND SURFACE.
9. STAKES INSTALLED IN THE SLOPE ARE MEANT TO HOLD THE MESH AND MATTING IN PLACE AND MAY BE SELECTED BY THE CONTRACTOR.
10. DETAILS FOR DRILLED ANCHORS ARE FOR BIDDING PURPOSES. ALTERNATE ANCHOR TYPES MAY BE USED PROVIDED THEY HAVE A MINIMUM LENGTH OF 20 FEET; A MINIMUM PULLOUT CAPACITY (DESIGN LOAD) OF 30 KIPS AND A MINIMUM YIELD SHEAR STRENGTH OF 16 KIPS.
11. GROUDED GROUND ANCHORS, SHALL BE INSTALLED AND GROUDED DURING THE SAME SHIFT THAT THE HOLES ARE DRILLED
12. PLACE CENTRALIZERS STARTING 3 FEET FROM THE BOTTOM OF THE DRILL HOLE AND SPACE NO MORE THAN 5 FEET APART. THE CENTRALIZER CLOSEST TO THE COLLAR OF THE HOLE SHALL BE NO MORE THAN 3 FEET FROM THE STEEL BEARING PLATE.
13. THE GROUND ANCHOR TESTING ASSEMBLY IS TO BE DESIGNED BY THE CONTRACTOR, SUBJECT TO THE APPROVAL BY THE ENGINEER. TESTING ASSEMBLY SHOULD MINIMIZE THE USE OF WOOD CRIBBING.

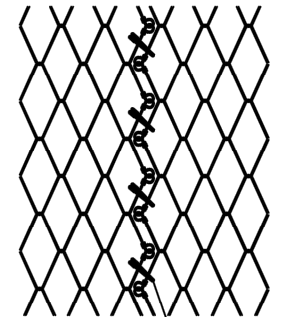
Cross section A-A



General nail arrangement

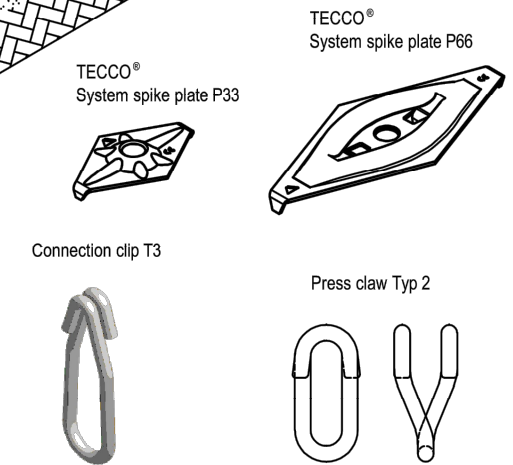
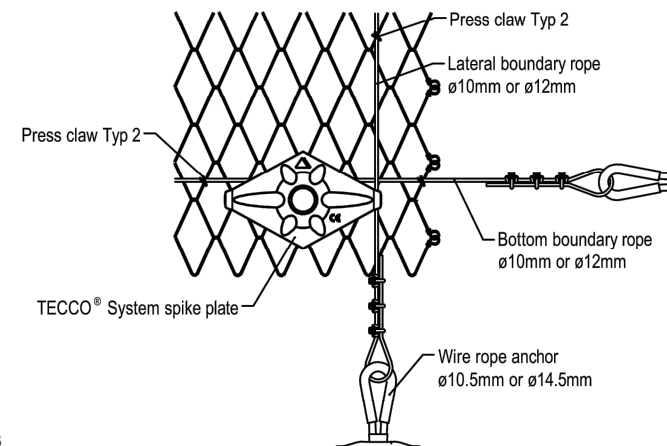


TECCO® mesh connection vertical normally without overlap



Connection clip T3 (1 Clip per mesh)

Detail A



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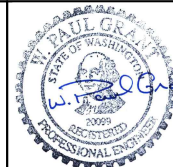
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modification:	M:%	substitute for: GE-1003e ed. 06.12.16
-		replaced by:
TECCO® G65/3 System drawing		drawn 20.06.19 BIH
		checked 20.06.19 BIH
		approved 20.06.19 ROA1
GEOBRUGG AG CH-8590 Romanshorn		GE-1003e



Geotechnical & Earthquake
Engineering Consultants



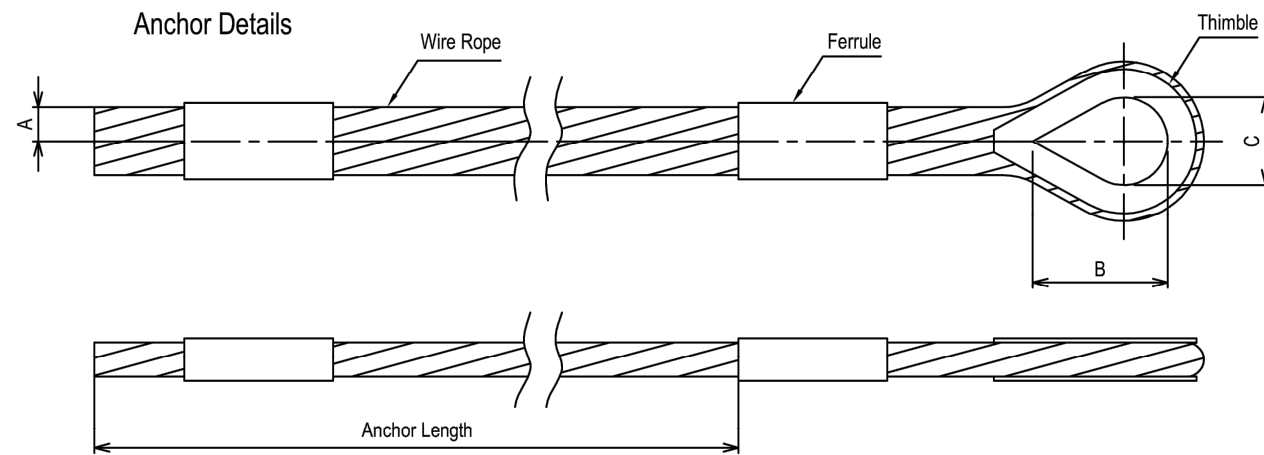
SYM	DESCRIPTION / REVISIONS	DATE	BY	APP'D

9507 SE 43RD STREET
MERCER ISLAND, WASHINGTON

DATE	AUGUST 1, 2019	DESIGNED	AUGUST 1, 2019
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DWG FILE	: \07-73 STABILIZATION.DWG	CHECKED	AUGUST 1, 2019

NOTES & TECCO G65/3 SYSTEM DRAWING

PROJECT NO.	07-073
SHEET	3 of 4



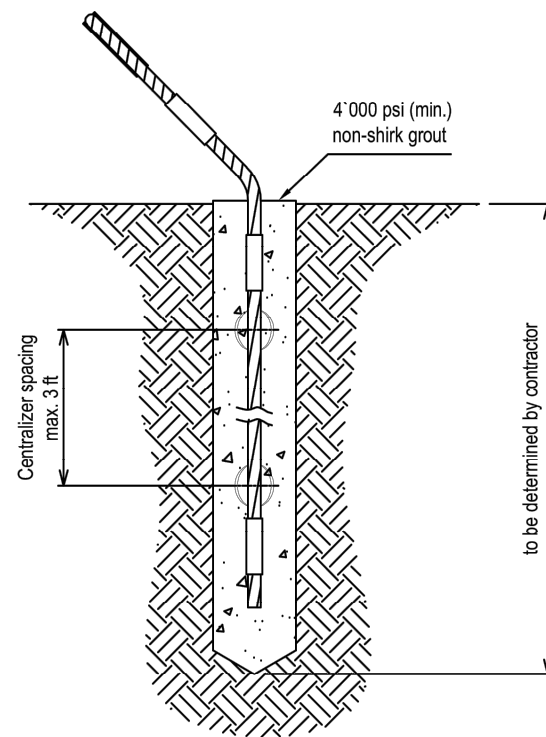
Anchor Size	A [in]	B [in]	C [in]	WL [kips]	
				Double	Single
3/4	3-3/4	2	58.8	29.4	
7/8	4-1/4	2-1/4	79.6	39.8	
1	4-1/2	2-1/2	103.4	51.7	
1-1/8	5-1/8	2-7/8	112.5	56.25	

(1 kN = 0.2248 kips)

Notes:

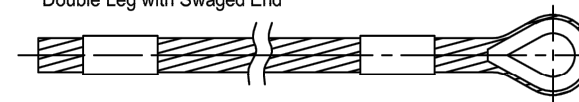
- Drill anchor holes to a diameter and depth (d) determined by the contractor to achieve required pullout strength.
- Anchor hole diameter shall be equal to the rope(s) dia plus 1" (minimum).
- Wire Rope 6x19 IWRC or equivalent, EIPS per ASTM A1023 and Federal specification RR-W-410.
- WL = working load (1/2 breaking strength of the wire rope).
- Thimbles per Federal specification FF-T-276b / ASTM A153.
- Swages Aluminum oval sleeves.

Installed Anchor

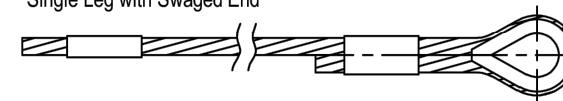


Types of Anchor

Double Leg with Swaged End



Single Leg with Swaged End



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modification:	M:%	substitute for:	
-		replaced by:	
Wire Rope Anchor Details			drawn 17.06.19 BIH
			checked 17.06.19 BIH
			edition 17.06.19 SHT
 Geobrugg North America NM-87001 Algodones			GA-9668 us

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KNOPF RESIDENCE HILLSIDE IMPROVEMENTS Mercer Island, WA.

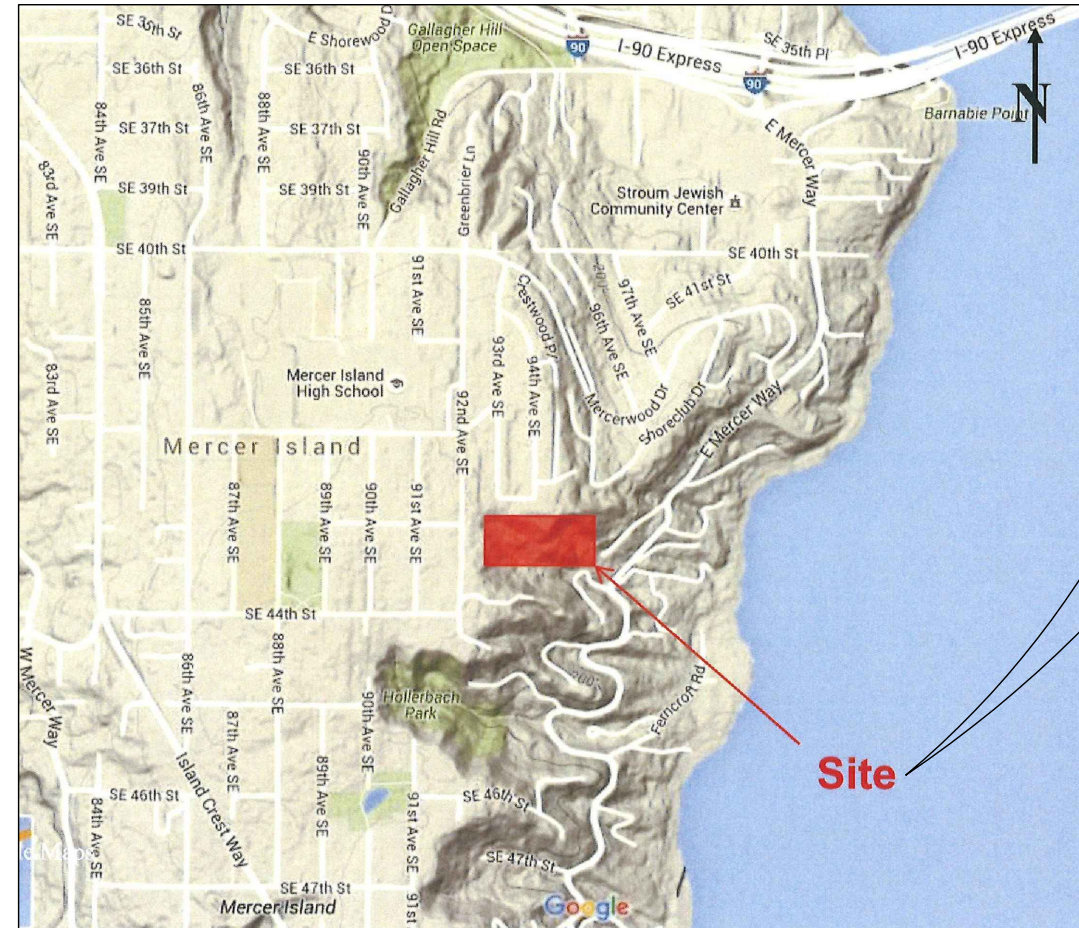
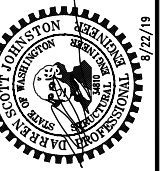
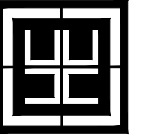
AMENDED PERMIT SET NOVEMBER 21, 2019

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DRW BY:	GF
REF:	

DATE	DESCRIPTION	REVISED
20SEP'19	CITY OF MERCER ISLAND REVIEW COMMENTS	

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SEATTLE, WASHINGTON 98102
PHONE: (206) 709-2397



ADDRESS: 9507 SE 43rd STREET, MERCER ISLAND, WA. 98040

VICINITY MAP
SCALE: NTS



SITE PLAN
SCALE: NTS



LEGAL DESCRIPTION

SW ¼ OF NE QUARTER OF SECTION 18T 24N R 05 E W.M.
PARCEL NO'S: 0046100014, 1824059125, 1824059135,
0046100011 & 004610TRCT

SHEET INDEX:

- G1 COVER SHEET, VICINITY MAP & DRAWING INDEX
- R1 POST-SLIDE REFERENCE TOPOGRAPHIC PLAN
- C1 CIVIL GENERAL NOTES
- C2 TEMPORARY EROSION & SEDIMENT CONTROL NOTES & DETAILS
- C3 TEMPORARY EROSION & SEDIMENT CONTROL PLAN
- S0 GENERAL STRUCTURAL NOTES, ABBREVIATIONS, AND SYMBOLOLOGY
- S1 HILLSIDE IMPROVEMENTS PLAN
- S2 HILLSIDE IMPROVEMENTS DETAILS

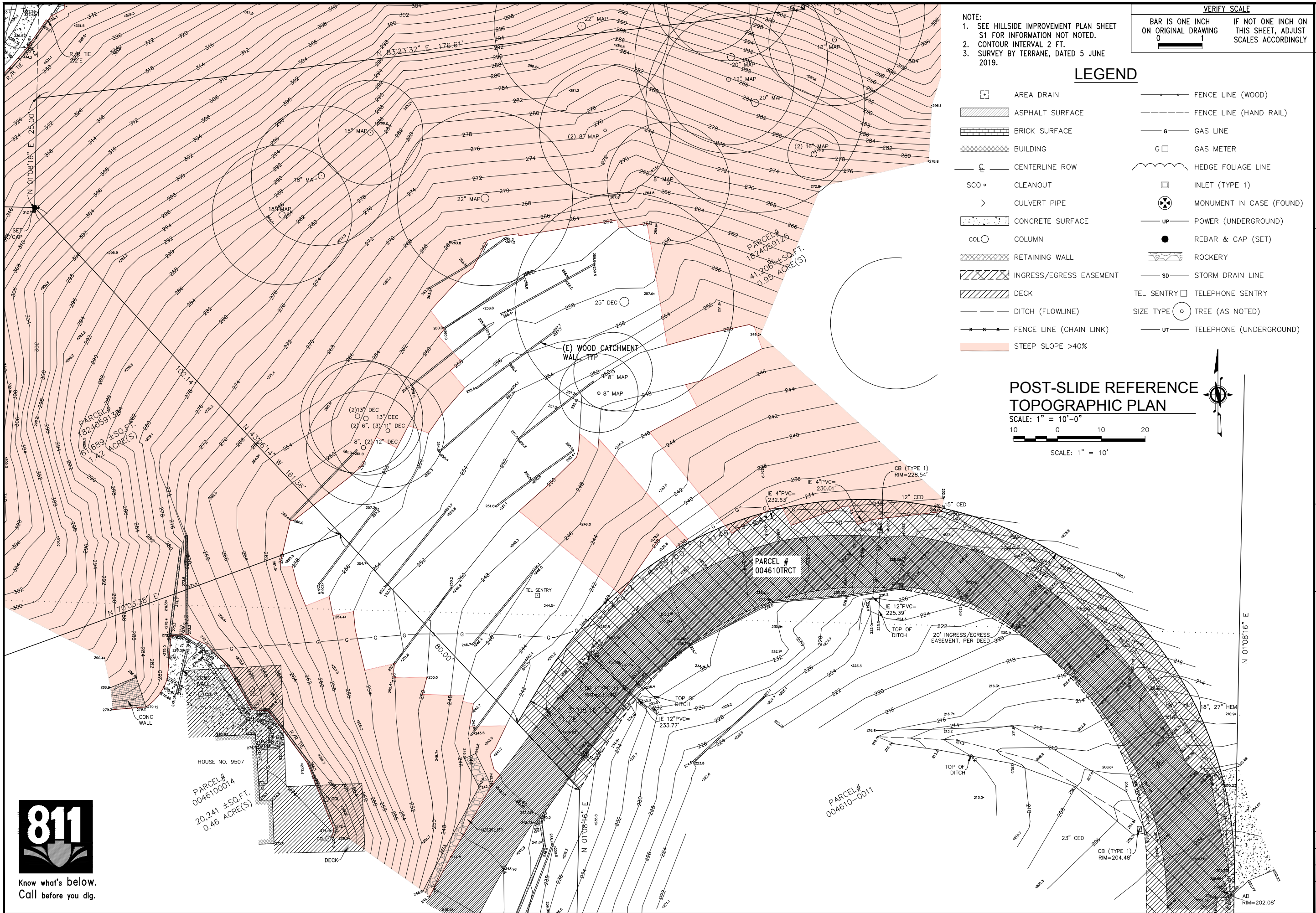


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COVER SHEET,
VICINITY MAP & DRAWING INDEX

JOB NO.	19023.00
DATE:	9.21.19
SHEET:	1 OF 8
DWG.#	G1

PERMIT SET



NOTE:
 1. SEE HILLSIDE IMPROVEMENT PLAN SHEET S1 FOR INFORMATION NOT NOTED.
 2. CONTOUR INTERVAL 2 FT.
 3. SURVEY BY TERRANE, DATED 5 JUNE 2019.

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LEGEND

- ☐ AREA DRAIN
- ▨ ASPHALT SURFACE
- ▨ BRICK SURFACE
- ▨ BUILDING
- +— CENTERLINE ROW
- SCO ° CLEANOUT
- > CULVERT PIPE
- ▨ CONCRETE SURFACE
- COL ○ COLUMN
- ▨ RETAINING WALL
- ▨ INGRESS/EGRESS EASEMENT
- ▨ DECK
- — — DITCH (FLOWLINE)
- *—*— FENCE LINE (CHAIN LINK)
- ▨ STEEP SLOPE >40%
- +— FENCE LINE (WOOD)
- +— FENCE LINE (HAND RAIL)
- G— GAS LINE
- G □ GAS METER
- ~ HEDGE FOLIAGE LINE
- ☐ INLET (TYPE 1)
- ⊗ MONUMENT IN CASE (FOUND)
- UP— POWER (UNDERGROUND)
- REBAR & CAP (SET)
- ▨ ROCKERY
- SD— STORM DRAIN LINE
- TEL SENTRY □ TELEPHONE SENTRY
- SIZE TYPE ○ TREE (AS NOTED)
- UT— TELEPHONE (UNDERGROUND)

POST-SLIDE REFERENCE TOPOGRAPHIC PLAN


SCALE: 1" = 10'-0"
 10 0 10 20
 SCALE: 1" = 10'



HOUSE NO. 9507
 PARCEL # 0046100014
 20,241 ± SQ. FT.
 0.46 ACRE(S)

PARCEL # 004610TRCT

PARCEL # 004610-001

SCALE:	AS NOTED
DATE:	20SEP19
DESCRIPTION:	CITY OF MERCER ISLAND REVIEW COMMENTS
REVISED:	
CHK BY:	DJ
DRW BY:	DJ
GF:	
REF:	
HARBOR CONSULTING ENGINEERS ENGINEERS • PLANNERS • SURVEYORS 3316 FUHRMAN AVENUE EAST, SUITE 250 SEATTLE, WASHINGTON 98102 PHONE: (206) 709-2397	
	
KNOPF RESIDENCE 9507 SE 43rd Street MERCER ISLAND WA, 98040 POST-SLIDE REFERENCE TOPOGRAPHIC PLAN	
JOB NO.	19023.00
DATE:	9.21.19
SHEET:	2 OF 8
DWG.#	R1
PERMIT SET	

CIVIL GENERAL NOTES:

1. SITE ADDRESS: 9507 SE 43rd STREET MERCER ISLAND WA 98040
2. ELEVATIONS ARE IN FEET AND ARE REFERRED TO NAVD88
3. OWNER WILL OBTAIN AND PAY FOR FEDERAL AND LOCAL ENVIRONMENTAL AND CONSTRUCTION PERMITS. ALL OTHER PERMITS WHICH MAY BE REQUIRED SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR, WHO SHALL COMPLY WITH ALL CONDITIONS OF THESE PERMITS.
4. MATERIALS AND INSTALLATION SHALL COMPLY WITH INTERNATIONAL BUILDING CODE, 2015 EDITION, WITH CURRENT LOCAL AMENDMENTS, AND ALL OTHER APPLICABLE CODES, RULES AND REGULATIONS.
5. THE GEOTECHNICAL REPORTS ARE DATED JANUARY 13, 2016, JANUARY 4, 2019 AND AUGUST 1, 2019 BY PANGEO. THE CONTRACTOR SHALL THOROUGHLY FAMILIARIZE ITSELF WITH THE CONTENTS THEREOF.
6. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE SITE AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE STARTING WORK.
7. EXISTING UTILITY LINES IN SERVICE OR OTHER SITE FEATURES WHICH ARE DAMAGED DUE TO THE CONTRACTOR'S ACTIONS SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE AND SHALL BE INSPECTED AND ACCEPTED BY THE ENGINEER.
8. COORDINATE AND ARRANGE FOR ALL UTILITY SERVICE INTERRUPTIONS WITH APPROPRIATE UTILITY AND WITH OWNER.
9. ALL DISTURBED AREAS OTHER THAN SPECIFIED CONTRACT WORK AREAS SHALL BE RETURNED TO THEIR PRECONSTRUCTION CONDITION PRIOR TO CONTRACT COMPLETION AND ACCEPTANCE.
10. THIS PROJECT IS NOT A BALANCED EARTHWORK PROJECT. BOTH IMPORT AND EXPORT OF SOIL AND ROCK MATERIALS WILL BE REQUIRED.
11. CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY EROSION AND SEDIMENT CONTROL FACILITIES AS REQUIRED TO PREVENT EROSION AND TO INSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE NATURAL OR PUBLIC DRAINAGE SYSTEM OR ADJACENT WATERS.
12. SURVEY INFORMATION AND UNDERGROUND UTILITY LOCATIONS USED IN THE PREPARATION OF THESE DRAWINGS WERE FURNISHED BY OTHERS. HARBOR CONSULTING ENGINEERS DOES NOT ASSUME RESPONSIBILITY FOR THEIR COMPLETENESS OR ACCURACY. LOCATIONS OF EXISTING UTILITIES SHOULD BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF THESE LOCATIONS AND TO FURTHER DISCOVER AND AVOID ANY OTHER UTILITIES WHICH MAY BE AFFECTED BY ITS WORK.
13. COPIES OF ALL ENVIRONMENTAL PERMITS WILL BE FURNISHED TO THE CONTRACTOR, WHO SHALL COMPLY WITH ALL CONDITIONS OF THESE PERMITS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF SAFE WORKING CONDITIONS AND SHALL INSTALL AND MAINTAIN SHORING AND BRACING NECESSARY TO PROTECT WORKERS, EXISTING STRUCTURES, UTILITIES AND OTHER IMPROVEMENTS AND EXCAVATIONS AGAINST LOSS OF GROUND OR CAVING EMBANKMENTS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVAL OF SHORING AND BRACING AS REQUIRED.
15. THE OWNER'S PREMISES WILL BE OCCUPIED AND IN SERVICE DURING PROGRESS OF THE WORK. CONTRACTOR SHALL MINIMIZE THE EFFECTS OF ITS WORK ON NORMAL ACTIVITIES ADJACENT TO THE PROJECT SITE AND SHALL COORDINATE ALL SCHEDULES AND WORK WITH THE OWNER.
16. CONSTRUCTION DEBRIS SHALL NOT BE STORED OR BURNED ON SITE. DEBRIS SHALL BE REMOVED DAILY AND SHALL NOT BE ALLOWED TO ENTER THE WATER.
17. ALL APPROVED DEVIATIONS FROM THESE PLANS SHALL BE RECORDED ON A SET OF 'AS-BUILT' DRAWINGS, SUBMITTED TO THE OWNER'S REPRESENTATIVE AS THE PROJECT PROGRESSES AND SHALL BE SUMMARIZED ON ONE FULL-SIZE SET OF AS-BUILT REPRODUCIBLE DRAWINGS PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
18. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

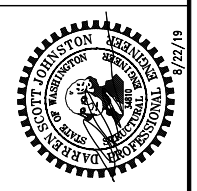
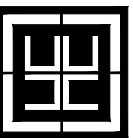
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE:	NYS
CHK BY:	SL
DRW BY:	TL
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SEATTLE WASHINGTON 98102
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KNOPF RESIDENCE
9507 SE 43rd Street
MERCER ISLAND WA, 98040
CIVIL GENERAL NOTES

JOB NO.	19023.00
DATE:	9.21.19
SHEET:	3 OF 8
DWG.#	C1

LEGEND					
(ALL SYMBOLS MAY NOT BE USED ON THE DRAWINGS)					
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
1.	FIRE HYDRANT	18.	INDICATES OBSERVED GROUNDWATER SEEPAGE IN 2017.	32.	30" SD STORM DRAIN LINE WITH SIZE
2.	WATER METER	19.	INDICATES EXISTING CATCH BASIN.	33.	SANITARY SEWER LINE
3.	WATER VALVE W/ VALVE BOX	20.	INDICATES EXISTING CULVERT WITH IDENTIFYING NUMBER BELOW DRIVEWAY.	34.	6" SS SANITARY SEWER LINE WITH SIZE
4.	WATER MANHOLE	21.	INDICATES TECCO MESH INSTALLED ON SLOPES GREATER THAN 60%.	35.	GAS MAIN
5.	MONITORING WELL	22.	EXISTING FEATURES	36.	TREE
6.	ELECTRICAL UTILITY HATCH	23.	PROPOSED FEATURES	37.	EXISTING SPOT ELEVATIONS
7.	POWER VAULT	24.	PROPERTY LINE	38.	PROPOSED SPOT ELEVATIONS
8.	LIGHT POLE	25.	TELEPHONE CONDUIT	39.	SWALE
9.	GUY WIRE AND ANCHOR	26.	BUILDING	40.	INDICATES: C.O.M.I. MAPPED TYPE 2 PERENNIAL WATER COURSE.
10.	CATCH BASIN	27.	FENCE	41.	INDICATES: R.W. THORPE 2006 SURVEYED TYPE 2 PERENNIAL WATER COURSE.
11.	GAS VALVE	28.	FIRE PROTECTION		
12.	GAS METER	29.	WATER MAIN		
13.	TELEPHONE MANHOLE	30.	UNDERGROUND ELECTRICAL LINE		
14.	SIGN POST	31.	STORM DRAIN LINE		
15.	CONTROL POINT				
16.	INDICATES EXISTING ASPHALT PAVING.				
17.	INDICATES PROPERTY LINE BOUNDARY.				

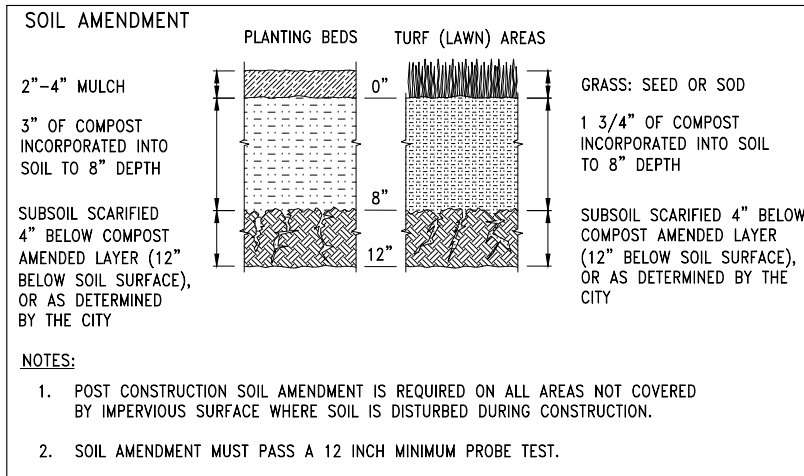


PERMIT SET

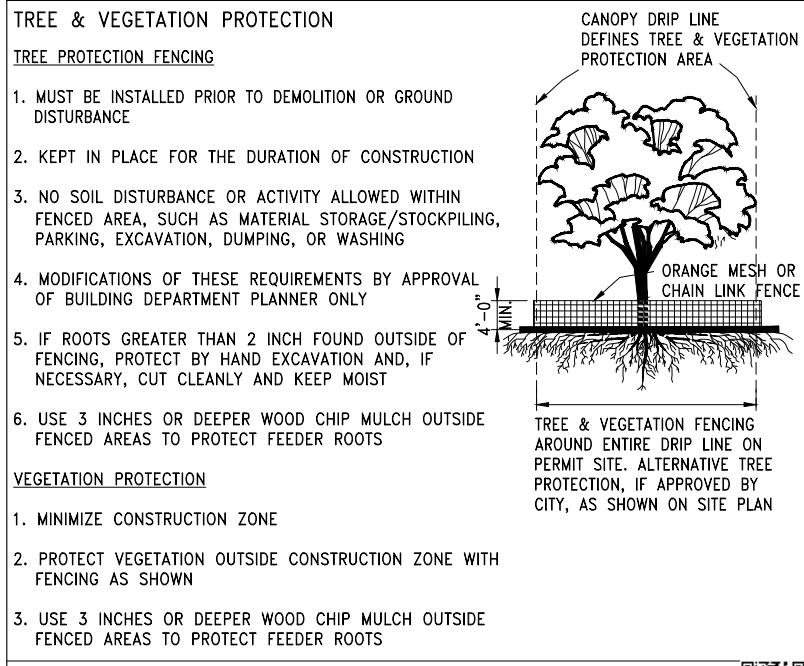
POST CONSTRUCTION SOIL MANAGEMENT PLAN

AT THE END OF PROJECT, ALL AREAS DISTURBED AND NOT COVERED WITH A HARD SURFACE MUST BE AMENDED PER THE SOIL AMENDMENT DETAIL BELOW AND PROBED TO 12-INCHES AT THE SITE FINAL INSPECTION.

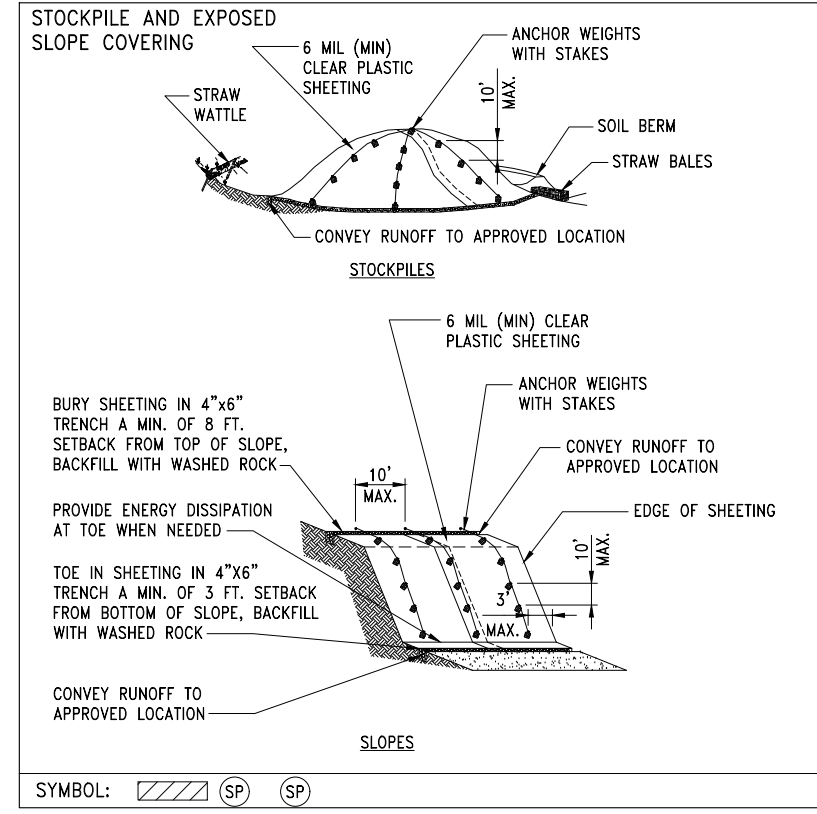
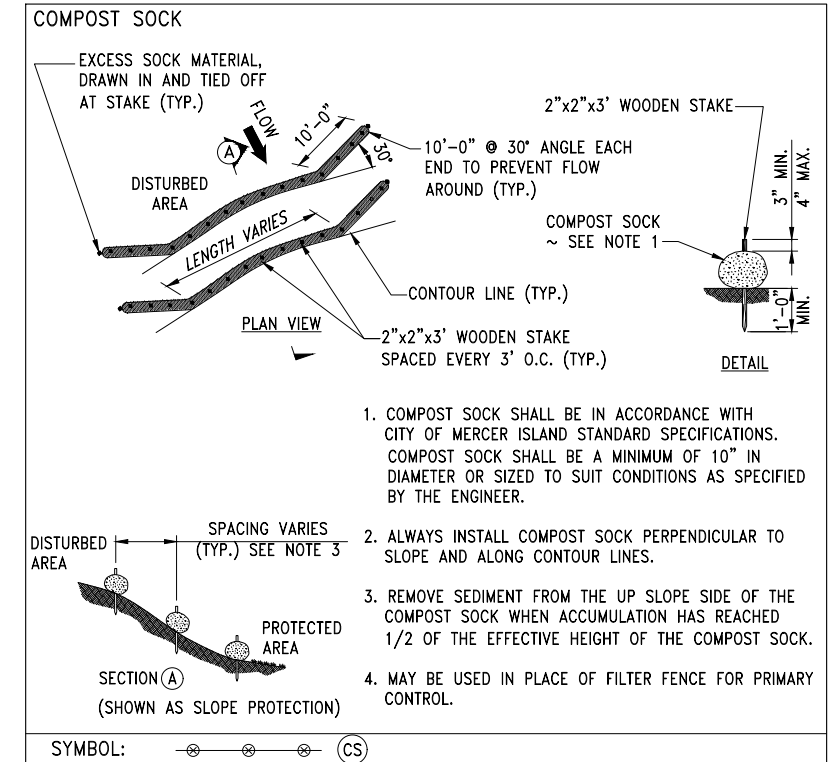
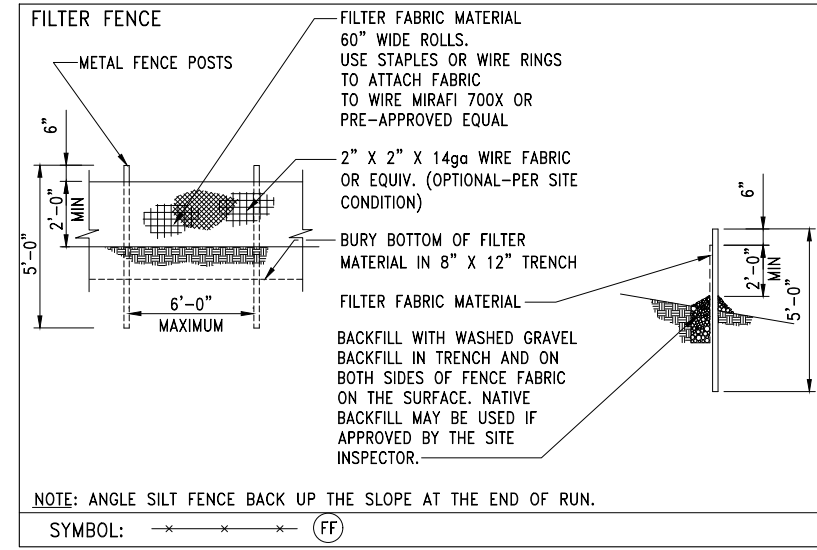
- DEFINITIONS:**
- NON-DISTURBED AREA:** VEGETATED AREAS THAT WILL NOT BE SUBJECT TO LAND DISTURBING ACTIVITY DO NOT REQUIRE SOIL AMENDMENT IF THEY ARE FENCED AND CONTINUOUSLY PROTECTED THROUGHOUT CONSTRUCTION. THE FENCING MUST BE IN PLACE AT THE FIRST GROUND DISTURBANCE INSPECTION. THIS WILL BE MONITORED BY THE BUILDING DEPARTMENT SITE INSPECTOR. NO DISTURBANCE, INCLUDING VEHICLE TRAFFIC OR MATERIAL STORAGE, IS ALLOWED IN THESE AREAS UNTIL FINAL INSPECTION. LABEL THESE AREAS AS (ND) IN THE PLAN VIEW.
 - SOIL AMENDMENT AREA (SA):** VEGETATED OR COMPOST AREAS (TURF AND LANDSCAPE) MUST BE AMENDED PER THE SOIL AMENDMENT DETAIL AND THE SUBSOIL MUST BE LOOSENEED SO IT WILL PROBE TO A DEPTH OF 12 INCHES PRIOR TO SITE FINAL INSPECTION. THIS INCLUDES AREAS IMPACTED BY CLEARING AND GRADING, STOCKPILING, SITE ACCESS, PATHWAYS AND MATERIALS OR EQUIPMENT STORAGE. LABEL THESE AREAS AS (SA) IN THE PLAN VIEW.



SYMBOL: (SA) AREA REQUIRING SOIL AMENDMENT (ND) NON-DISTURBED AREA (SOIL AMENDMENT NOT REQUIRED)



SYMBOL: (VEG) LINK TO MORE TREE PROTECTION INFORMATION:



VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

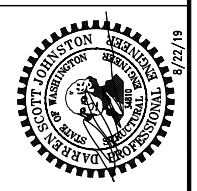
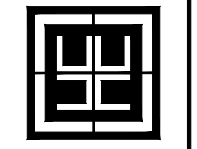
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE:	NYS
CHK BY:	SL
DRW BY:	TL
REF:	

DATE: 20SEP19

DESCRIPTION: CITY OF MERCER ISLAND REVIEW COMMENTS

REVISIONS:



HARBOR CONSULTING ENGINEERS
ENGINEERS • PLANNERS • SURVIVORS
3816 FUHRMAN AVENUE EAST, SUITE 250
SEATTLE, WASHINGTON 98102
PHONE: (206) 709-2397

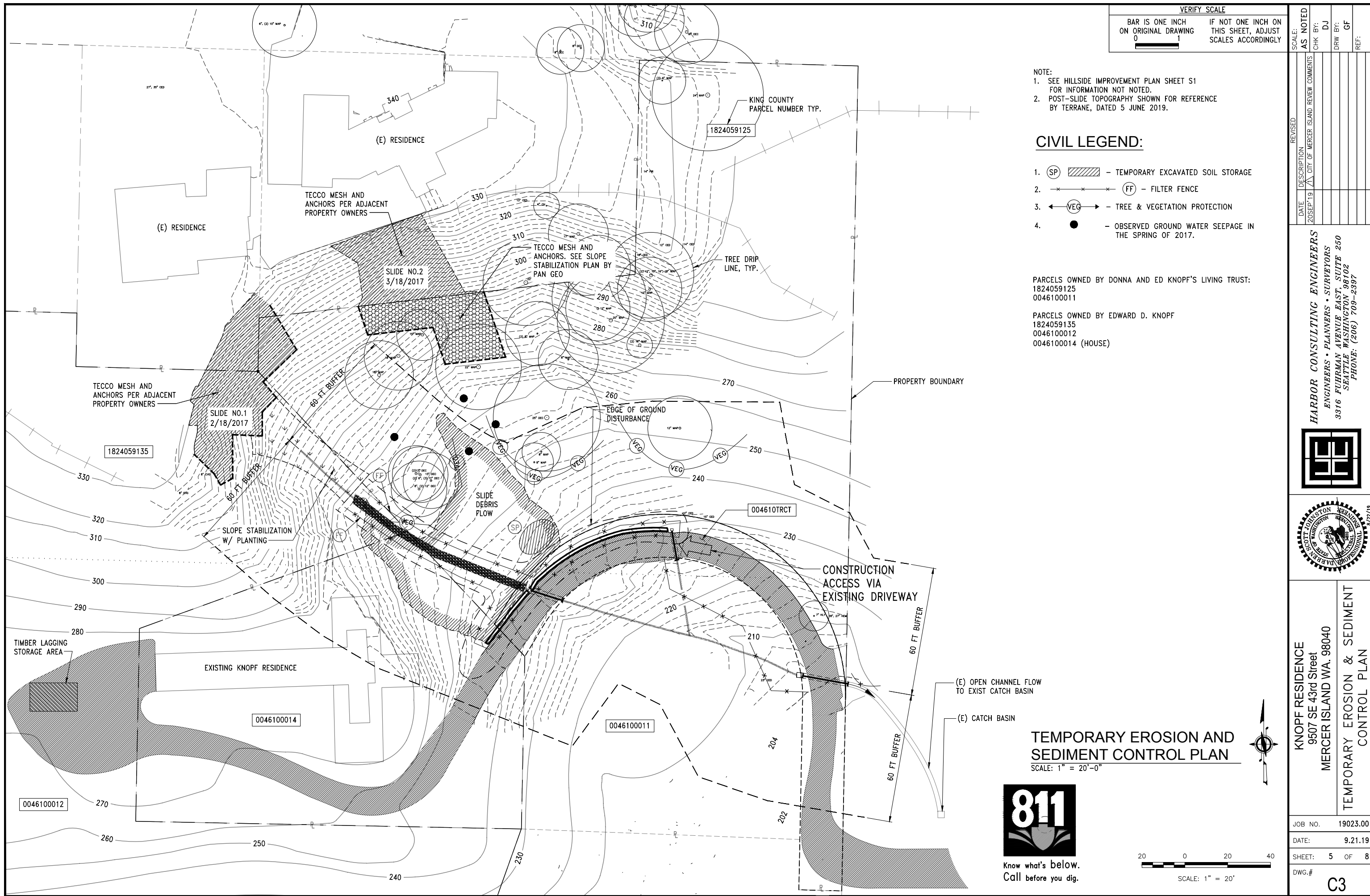
KNOPF RESIDENCE
9507 SE 43rd Street
MERCER ISLAND WA, 98040

TEMPORARY EROSION & SEDIMENT CONTROL NOTES & DETAILS

JOB NO.	19023.00
DATE:	9.21.19
SHEET:	4 OF 8
DWG.#	C2



PERMIT SET



VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

NOTE:
 1. SEE HILLSIDE IMPROVEMENT PLAN SHEET S1 FOR INFORMATION NOT NOTED.
 2. POST-SLIDE TOPOGRAPHY SHOWN FOR REFERENCE BY TERRANE, DATED 5 JUNE 2019.

CIVIL LEGEND:

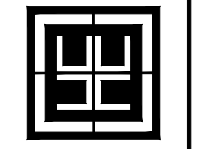
- 1. (SP) [diagonal hatching] - TEMPORARY EXCAVATED SOIL STORAGE
- 2. [cross-hatching] (FF) - FILTER FENCE
- 3. [circle with X] (VEG) - TREE & VEGETATION PROTECTION
- 4. [solid circle] - OBSERVED GROUND WATER SEEPAGE IN THE SPRING OF 2017.

PARCELS OWNED BY DONNA AND ED KNOPF'S LIVING TRUST:
 1824059125
 0046100011

PARCELS OWNED BY EDWARD D. KNOPF
 1824059135
 0046100012
 0046100014 (HOUSE)

DATE	20SEP19	REVISION	AS NOTED
DESCRIPTION	CITY OF MERCER ISLAND REVIEW COMMENTS	CHK BY:	DJ
SCALE:		DRW BY:	GF
		REF:	

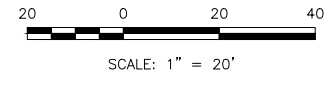
HARBOR CONSULTING ENGINEERS
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 3316 FUHRMAN AVENUE EAST, SUITE 250
 SEATTLE WASHINGTON 98102
 PHONE: (206) 709-2397



KNOPF RESIDENCE
 9507 SE 43rd Street
 MERCER ISLAND WA, 98040

TEMPORARY EROSION & SEDIMENT CONTROL PLAN

JOB NO.	19023.00
DATE:	9.21.19
SHEET:	5 OF 8
DWG.#	C3



PERMIT SET

GENERAL STRUCTURAL NOTES

(THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE PLANS)

ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE DRAWINGS, SPECIFICATIONS, AND THE 2015 INTERNATIONAL BUILDING CODE.

STRUCTURAL DESIGN CRITERIA: (FOR EXISTING RESIDENCE)
ACTUAL DEAD LOADS PLUS THE FOLLOWING DEAD AND LIVE LOADS:
FLOOR LIVE LOAD 40 psf
ROOF SNOW LOAD 25 psf

WIND LOADING: 110 MPH BASIC WIND SPEED, EXPOSURE 'B', $K_z = 1.0$

SEISMIC DESIGN: EQUIVALENT LATERAL FORCE PROCEDURE
 $S_s = 1.50, F_a = 1.0$
 $S_1 = 0.5, F_v = 1.5$
 $R_p = 6.5$ PLYWOOD SHEATHED SHEARWALLS
 $S_{ps} = 1.0$
 $I_e = 1.0$
SITE CLASS = "D"
SEISMIC DESIGN CATEGORY = "D"

FOOTINGS SHALL BEAR ON SOLID UNYIELDING EARTH AT LEAST 12" BELOW LOWEST ADJACENT FINISHED GRADE AT PERIMETER AND EXTERIOR LOCATIONS. ALLOWABLE DESIGN SOIL BEARING PRESSURE= 2000 PSF, ASSUMED ALLOWABLE. MINIMUM FOOTING WIDTH SHALL BE 18 INCHES.

CONCRETE SHALL ATTAIN A 28 DAY STRENGTH OF 2500 PSI, MAXIMUM W/C RATIO = 0.50, MINIMUM 5 1/2 SACKS OF CEMENT PER CUBIC YARD. SUBMIT MIX DESIGN FOR REVIEW AND APPROVAL.

GROUT 5000 PSI MINIMUM 7-DAY CUBE STRENGTH PER ASTM C1157-00. GROUT TO BE PREMIXED NON-SHRINK 'MASTERFLOW 928 GROUT' OR APPROVED EQUAL. USE SPECIFIC GROUT MIX RECOMMENDED BY MANUFACTURER FOR EACH GROUT APPLICATION AND FOLLOW GROUT MANUFACTURER'S INSTRUCTIONS.

REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60. SUBMIT REINFORCING SHOP DRAWINGS WITH DETAILS PER ACI 315 MANUAL OF STANDARD PRACTICE. REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH ACI 318-14. LAP ALL CONTINUOUS REINFORCEMENT 40 BARS DIAMETERS OR 2'-0" MINIMUM. PROVIDE CORNER BARS AT ALL WALL INTERSECTIONS. LAP CORNER BARS 40 BAR DIAMETERS OR 2'-0" MINIMUM. LAP ADJACENT MATS OF WELDED WIRE FABRIC 1 1/2 MESH AT SIDES AND ENDS. NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.

CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
FOOTINGS AND OTHER UNFORMED SURFACES, EARTH FACE ----- 3"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER, #6 BARS AND LARGER ----- 2"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER, #5 BARS AND SMALLER ----- 1 1/2"
WALLS, INTERIOR FACE, THE LARGER OF ONE BAR DIAMETER OR A MINIMUM OF ----- 3/4"

DRILL-IN EXPANSION BOLTS KWIK BOLT III BY HILTI FASTENING SYSTEMS, "RED HEAD WEDGE ANCHOR" BY ITT PHILLIPS OR APPROVED EQUAL. ICC CERTIFICATION REQUIRED. SPECIAL INSPECTION REQUIRED.

DRILL-IN ADHESIVE INSTALLATIONS HILTI HY20 ADHESIVE ANCHOR SYSTEM FOR UNREINFORCED MASONRY OR BRICK WITH CAVITIES, HIT RE 500 SD ADHESIVE ANCHOR SYSTEM BY HILTI FASTENING SYSTEMS OR SET EPOXY ANCHOR SYSTEM BY SIMPSON STRONG TIE ANCHOR SYSTEMS FOR SOLID MASONRY OR CONCRETE, OR APPROVED EQUAL. ICC CERTIFICATION REQUIRED. SPECIAL INSPECTION REQUIRED.

CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SHORING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL THE REQUIRED SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES REQUIRED TO PERFORM HIS WORK.

CONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ONLY ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.

DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION, WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER.

ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERRECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH THE INSTRUCTIONS PREPARED BY THE SUPPLIER.

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

THE STRUCTURAL ENGINEER HAS NO KNOWLEDGE OF, AND IS NOT RESPONSIBLE FOR THE SITE AND SOIL CONDITIONS.

MISCELLANEOUS

REFER TO ARCHITECTURAL DRAWINGS FOR WALL OPENINGS, ARCHITECTURAL TREATMENT AND DIMENSIONS NOT SHOWN. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF DUCT OPENINGS, PIPING, CONDUITS, ETC. NOT SHOWN. VERIFY ALL DIMENSIONS AND CONDITIONS AT THE PROJECT SITE PRIOR TO STARTING WORK AND NOTIFY THE STRUCTURAL ENGINEER IMMEDIATELY OF ANY DISCREPANCIES. REFER TO THE SPECIFICATIONS FOR INFORMATION NOT CONTAINED IN THESE GENERAL NOTES.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH SBC CHAPTER 17 BY A TESTING AGENCY APPROVED BY THE AUTHORITY HAVING JURISDICTION FOR THE FOLLOWING COMPONENTS:

- NONE REQUIRED.

SUBMIT SPECIAL INSPECTION REPORTS TO THE CITY OF MERCER ISLAND BUILDING DEPARTMENT, THE ARCHITECT OF RECORD, AND THE STRUCTURAL ENGINEER OF RECORD.

END OF GENERAL STRUCTURAL NOTES

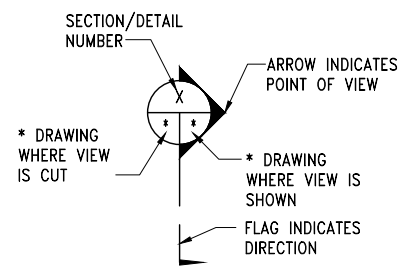
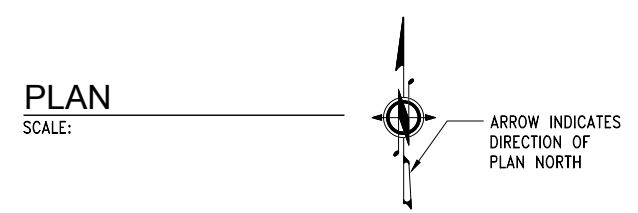
STRUCTURAL ABBREVIATIONS

LISTED ABBREVIATIONS FOR USE WITH STRUCTURAL DRAWINGS ONLY. SOME ABBREVIATIONS MAY NOT BE USED ON THE PLANS.

&	AND	FIG	FIGURE	PC	PRECAST
⊙	AT	FL	FLOOR	PCF	POUNDS PER CUBIC FOOT
#	NUMBER	FT	FOOT, FEET	PL	PLATE
		FTG	FOOTING	PLYWD	PLYWOOD
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	GA	GAGE	PREFAB	PRE-FABRICATED
AB	ANCHOR BOLT	GALV	GALVANIZED	PS	PRESTRESSED
ACI	AMERICAN CONCRETE INSTITUTE	GB	GRADE BEAM	PSF	POUNDS PER SQUARE FOOT
ADDL	ADDITIONAL	GL	GLUED LAMINATED TIMBER	PSI	POUNDS PER SQUARE INCH
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	GR	GUARD RAIL	PT	POST TENSION
ALT	ALTERNATE	GRND	GROUND	PVC	POLYVINYL CHLORIDE
APPROX	APPROXIMATE(LY)	GRTG	GRATING	PVMT	PAVEMENT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS			RAD, R	RADIUS
AWS	AMERICAN WELDING SOCIETY	H	HEIGHT	REF	REFERENCE/REFER
		HDR	HEADER	REINF	REINFORCING, REINFORCEMENT
BLDG	BUILDING	HDWD	HARDWOOD	REQD	REQUIRED
BLK	BLOCK(ING)	HEF	HORIZONTAL EACH FACE	REV	REVISION
BM	BEAM	HGR	HANGER	RM	ROOM
BOT	BOTTOM	HORIZ	HORIZONTAL	S	AMERICAN STANDARD SHAPE
BRG	BEARING	HP	HIGH POINT	SCHED	SCHEDULE
BSMT	BASEMENT	HR	HANDRAIL	SECT	SECTION
BTWN	BETWEEN	HSS	HOLLOW STEEL SHAPE	SHT	SHEET
		ID	INSIDE DIAMETER	SIM	SIMILAR
C	STANDARD CHANNEL	IE	INVERT ELEVATION	SOG	SLAB ON GRADE
CC	CENTER TO CENTER	IF	INSIDE FACE	SP	SPACE(S,ED)
CDF	CONTROLLED DENSITY FILL	IN	INCH	SPEC	SPECIFICATION, SPECIFIED
CIP	CAST IN PLACE	INT	INTERIOR	SQ	SQUARE
CJ	CONSTRUCTION JOINT	INV	INVERT	SS	STAINLESS STEEL
CL	CENTERLINE	JT	JOINT	STD	STANDARD
CLR	CLEAR	KIP, K	1,000 POUNDS	STL	STEEL
CMU	CONCRETE MASONRY UNIT	KSI	KIPS PER SQUARE INCH	STIFF	STIFFENER
COL	COLUMN			STRUCT	STRUCTURAL
CONC	CONCRETE	L	ANGLE	SUPT	SUPPORT
CONN	CONNECTION	LB	POUND	SW	SHEAR WALL
CONST	CONSTRUCTION	LF	LINEAL FEET	SYM	SYMMETRICAL
CONT	CONTINUOUS	LL	LIVE LOAD	T	TOP
CP	COMPLETE PENETRATION WELD -ULTRASONIC TEST CENTER(ED)	LG	LONG	T&B	TOP AND BOTTOM
CTR	CENTER(ED)	LLH	LONG LEG HORIZONTAL	T&G	TONGUE AND GROOVE
D	DEEP, DEPTH	LLV	LONG LEG VERTICAL	TOC	TOP OF CONCRETE
d	PENNY (NAILS)	LONG.A	LONGITUDINAL	TOF	TOP OF FOOTING
DEMO	DEMOLITION	LP	LOW POINT	TOS	TOP OF STEEL
DET	DETAIL	LVL	LEVEL	TOW	TOP OF WALL
DF	DOUGLAS FIR	MAS	MASONRY	TRNSV	TRANSVERSE
DIA, Ø	DIAMETER	MATL	MATERIAL	TYP	TYPICAL
DL	DEAD LOAD	MAX	MAXIMUM	UG	UNDERGROUND
DN	DOWN	MB	MACHINE BOLT	UNO	UNLESS NOTED OTHERWISE
DWG(S)	DRAWING(S)	MECH	MECHANICAL	UT	ULTRASONIC TEST
DWL(S)	DOWEL(S)	MFR	MANUFACTURER	VERT,V	VERTICAL
		MIN	MINIMUM	VIF	VERTICAL INSIDE FACE
		MISC	MISCELLANEOUS	VOF	VERTICAL OUTSIDE FACE
		N	NORTH	W	WIDE FLANGE, WIDE
EA	EACH	NF	NEAR FACE	W/	WITH
EF	EACH FACE	NIC	NOT IN CONTRACT	W/O	WITHOUT
EJ	EXPANSION JOINT	NOM	NOMINAL	WP	WORK POINT
EL, ELEV	ELEVATION	NTS	NOT TO SCALE	WT	WEIGHT, STRUCTURAL TEE
EMBED	EMBEDMENT			WWF	WELDED WIRE FABRIC
EQ	EQUAL(LY)	OC	ON CENTER	X-STR	EXTRA STRONG
EW	EACH WAY	OD	OUTSIDE DIAMETER	XX-STR	DOUBLE EXTRA STRONG
EXP	EXPANSION	O.F.	OUTSIDE FACE	YD	YARD
EXIST	EXISTING	OPNG(S)	OPENING(S)		
		OP	OPPOSITE (HAND)		
FB	FLAT BAR	OWJ	OPEN WEB JOIST		
f'c	CONCRETE COMPRESSIVE STRENGTH				
f'm	MASONRY PRISM STRENGTH				
FDN	FOUNDATION				
FF	FAR FACE				

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

GENERAL SYMBOLOGY



DATE	20SEP19	DESCRIPTION	CITY OF MERCER ISLAND REVIEW COMMENTS	SCALE	NTS
CHK BY		REV		CHK BY	DJ
DRW BY				DRW BY	GF
				REF:	

HARBOR CONSULTING ENGINEERS
ENGINEERS • PLANNERS • SURVIVORS
3816 FUHRMAN AVENUE EAST, SUITE 250
SEATTLE, WASHINGTON 98102
PHONE: (206) 709-2397

KNOPF RESIDENCE
9507 SE 43rd Street
MERCER ISLAND WA, 98040

GENERAL STRUCTURAL NOTES,
ABBREVIATIONS, AND SYMBOLOGY

JOB NO. 19023.00
DATE: 9.21.19
SHEET: 6 OF 8
DWG.# S0

PERMIT SET

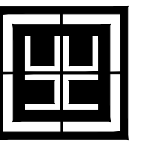


VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE: AS NOTED
 CHK BY: DJ
 DRW BY: GF
 REF:

DATE	DESCRIPTION	REVISED
20SEP19	CITY OF MERCER ISLAND REVIEW COMMENTS	

HARBOR CONSULTING ENGINEERS
 ENGINEERS • PLANNERS • SURVEYORS
 3316 FUHRMAN AVENUE EAST, SUITE 250
 SEATTLE WASHINGTON 98102
 PHONE: (206) 709-2397

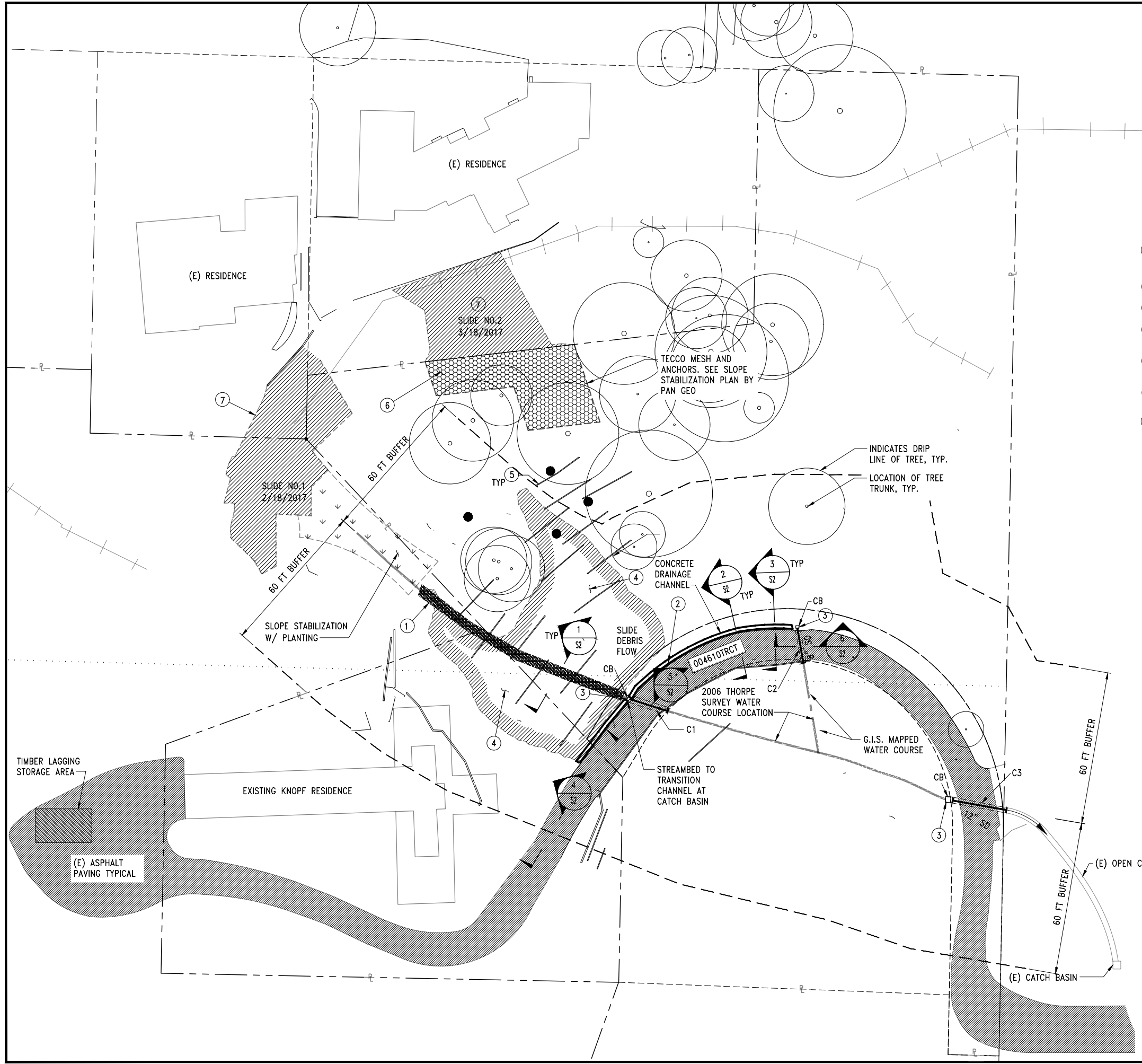


KNOPF RESIDENCE
 9507 SE 43rd Street
 MERCER ISLAND WA, 98040

HILLSIDE IMPROVEMENTS PLAN

JOB NO. 19023.00
 DATE: 9.21.19
 SHEET: 7 OF 8
 DWG.# S1

PERMIT SET



KEY SYMBOLS FOR WORK ITEMS:

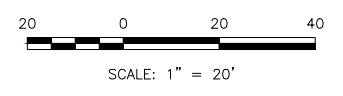
- ① - LINE REESTABLISHED STREAM BED AND EXPOSED EXISTING STREAM BED WITH 2" MINUS MAINTENANCE ROCK/BALLAST SPALLS.
- ② - SITE CAST CONCRETE DRAINAGE CHANNEL.
- ③ - CLEAN CATCH BASINS AND CULVERT; C1, C2, & C3
- ④ - INSTALL LANDSCAPE ROCKERIES AND NATIVE PLANTINGS IN SLIDE AREA. SEE PLANTING PLAN BY NORTHWEST ENVIRONMENTAL CONSULTING.
- ⑤ - REMOVE TEMPORARY EMERGENCY CATCHMENT WALLS, UPSLOPE OF DRIVEWAY. STORE TIMBER LAGGING IN DESIGNATED AREA OR AS DIRECTED BY THE OWNER.
- ⑥ - INSTALL TECCO MESH SLOPE STABILIZATION. SEE SLOPE STABILIZATION PLAN FOR DETAILS
- ⑦ - TECCO MESH SLOPE STABILIZATION PERFORMED BY ADJACENT PROPERTY OWNERS

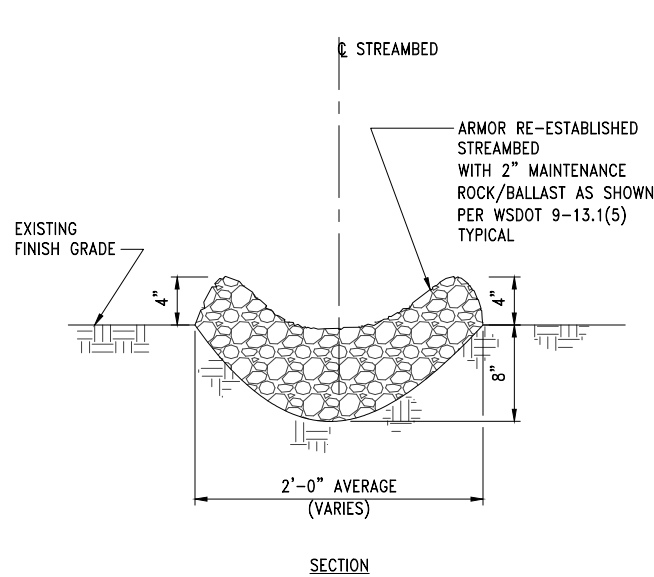
NOTE
 1. TECCO MESH IS MANUFACTURED BY GEOBRUGG
 WWW.GEOBRUGG.COM
 TELEPHONE: 1-505-771-4080

TOPOGRAPHY NOT SHOWN FOR CLARITY. SEE SHEET R1 FOR POST SLIDE TOPOGRAPHY.

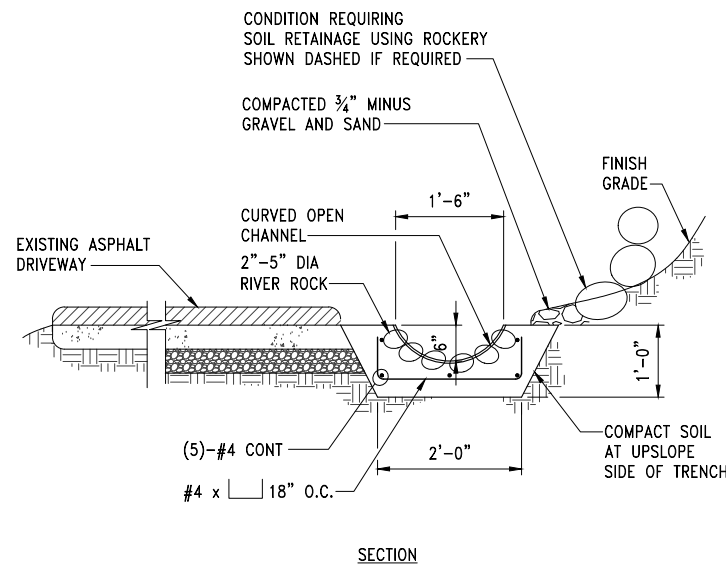
- 2. ● - OBSERVED GROUND WATER SEEPAGE LOCATIONS IN THE SPRING OF 2017.

HILLSIDE IMPROVEMENTS PLAN
 SCALE: 1" = 20'-0"

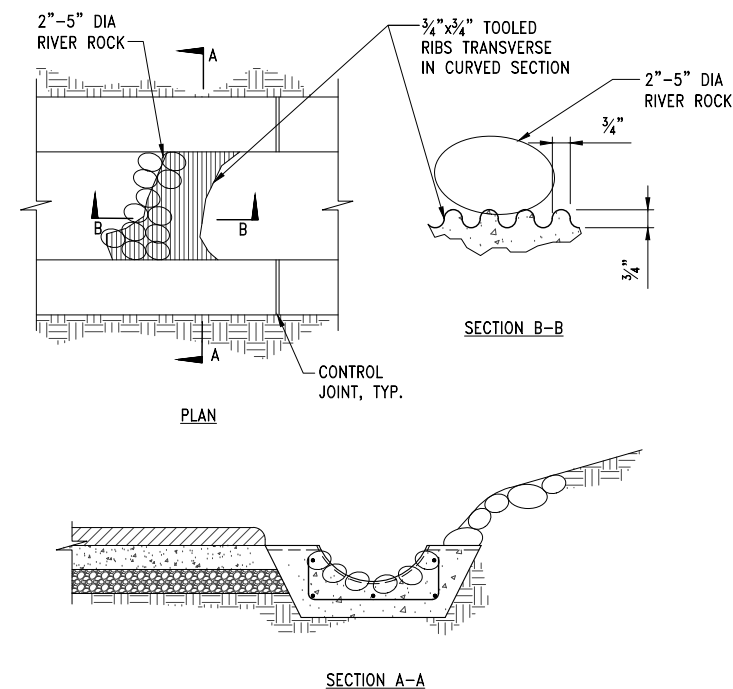




TYP EXISTING STREAMBED ARMORING
SCALE: 1 1/2" = 1'-0"

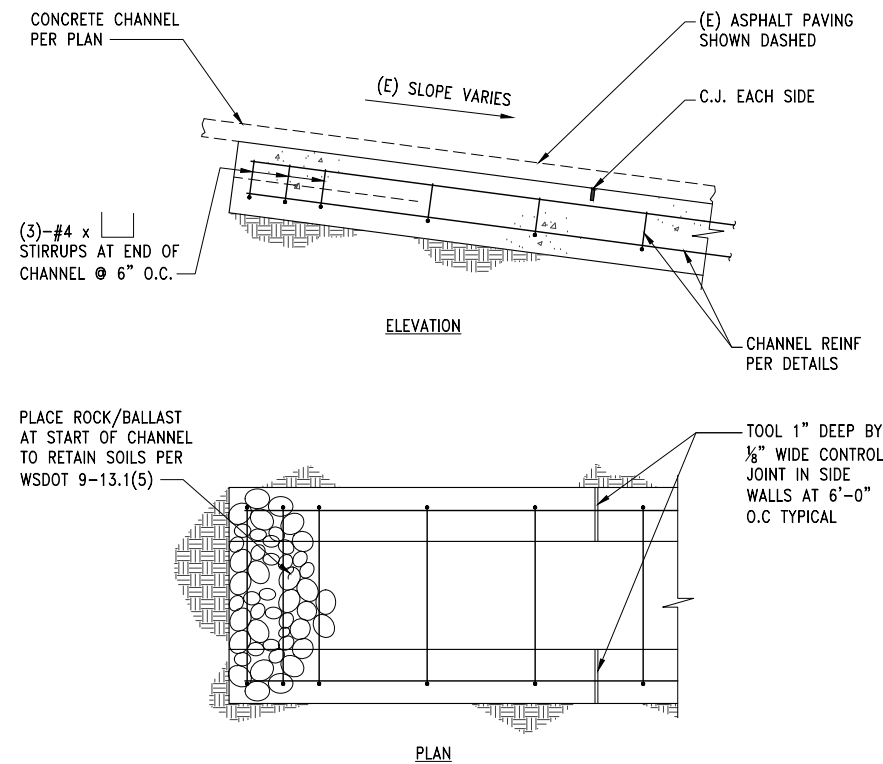


TYP OPEN CHANNEL UP SLOPE OF DRIVEWAY
SCALE: 3/4" = 1'-0"



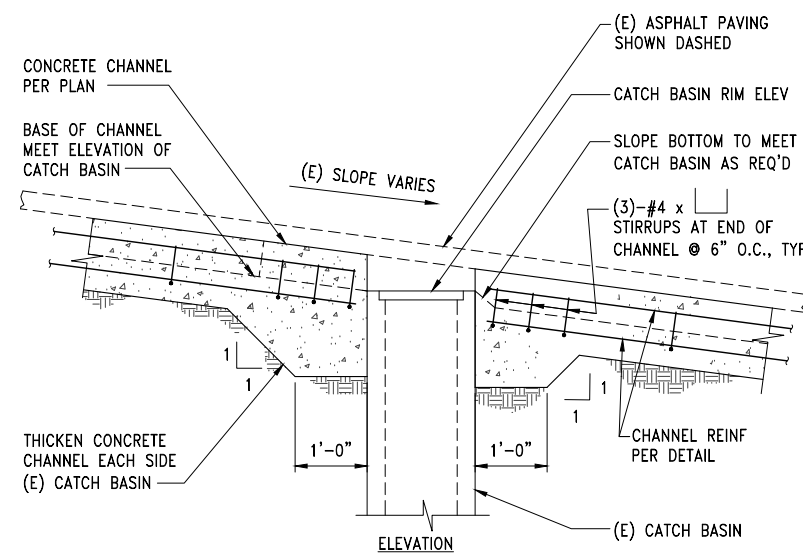
NOTE:
1. FOLLOW CURVATURE AND ELEVATION OF DRIVEWAY SEE SHEET S1.

TYP CHANNEL FINISHING DETAIL
SCALE: 3/4" = 1'-0"

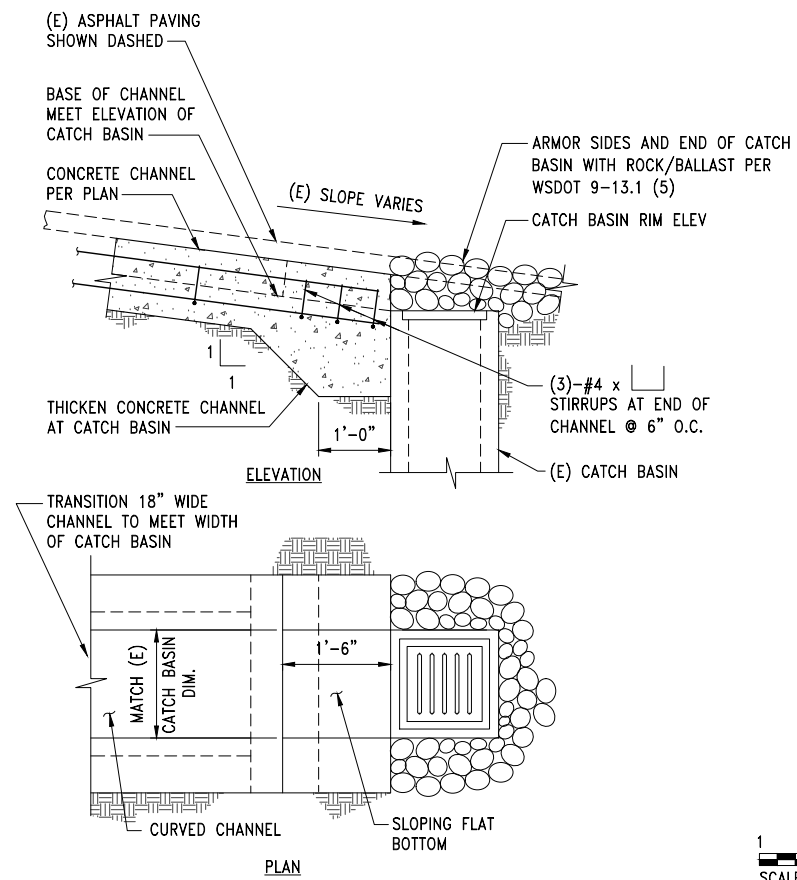


NOTE:
1. FOLLOW CURVATURE AND ELEVATION OF DRIVEWAY, SEE SHEET S1.

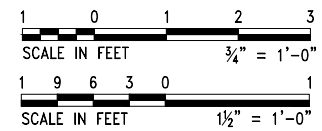
UPSLOPE DRAINAGE CHANNEL
SCALE: 3/4" = 1'-0"



DRAINAGE CHANNEL TO (E) CATCH BASIN
SCALE: 3/4" = 1'-0"



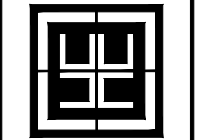
CHANNEL TERMINATION TO (E) CATCH BASIN
SCALE: 3/4" = 1'-0"



VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DATE	DESCRIPTION	REVISED	SCALE	AS NOTED	CHK BY:	DRW BY:	REF:
20SEP19	CITY OF MERCER ISLAND				DJ	TL	

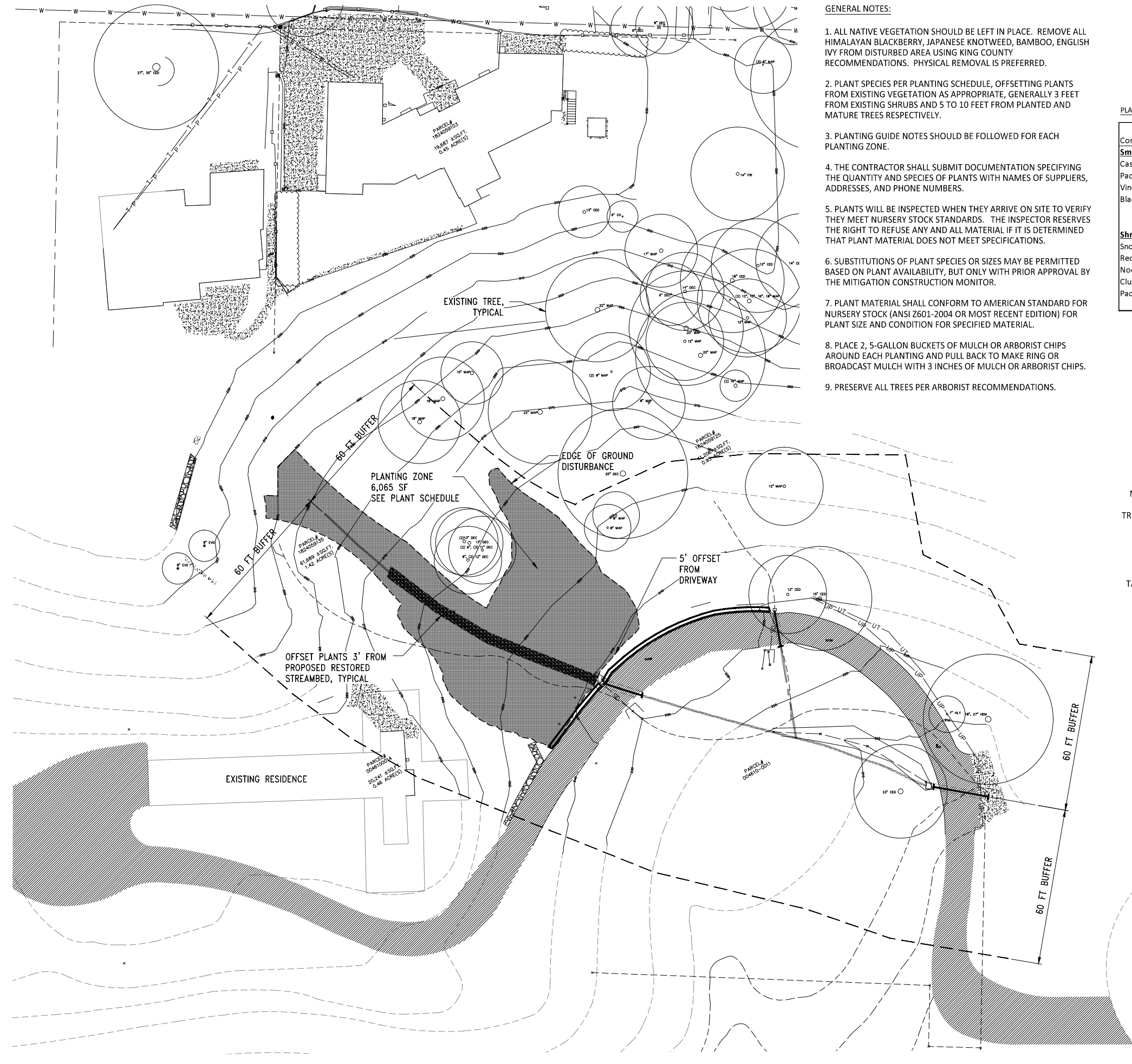
HARBOR CONSULTING ENGINEERS
ENGINEERS • PLANNERS • SURVYORS
3316 FUHRMAN AVENUE EAST, SUITE 250
SEATTLE WASHINGTON 98102
PHONE: (206) 709-2397



KNOPF RESIDENCE
9507 SE 43rd Street
MERCER ISLAND WA, 98040
HILLSIDE IMPROVEMENTS DETAILS

JOB NO.	19023.00
DATE:	9.21.19
SHEET:	8 OF 8
DWG.#	S2

PERMIT SET

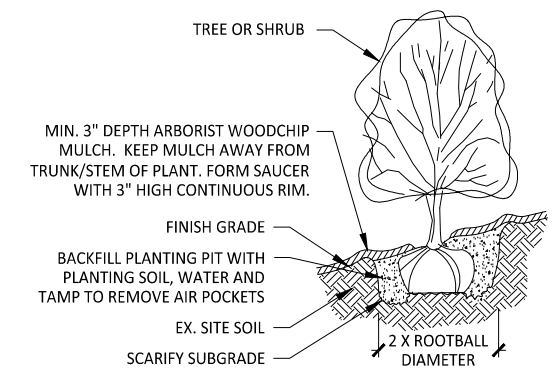


- GENERAL NOTES:**
1. ALL NATIVE VEGETATION SHOULD BE LEFT IN PLACE. REMOVE ALL HIMALAYAN BLACKBERRY, JAPANESE KNOTWEED, BAMBOO, ENGLISH IVY FROM DISTURBED AREA USING KING COUNTY RECOMMENDATIONS. PHYSICAL REMOVAL IS PREFERRED.
 2. PLANT SPECIES PER PLANTING SCHEDULE, OFFSETTING PLANTS FROM EXISTING VEGETATION AS APPROPRIATE, GENERALLY 3 FEET FROM EXISTING SHRUBS AND 5 TO 10 FEET FROM PLANTED AND MATURE TREES RESPECTIVELY.
 3. PLANTING GUIDE NOTES SHOULD BE FOLLOWED FOR EACH PLANTING ZONE.
 4. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION SPECIFYING THE QUANTITY AND SPECIES OF PLANTS WITH NAMES OF SUPPLIERS, ADDRESSES, AND PHONE NUMBERS.
 5. PLANTS WILL BE INSPECTED WHEN THEY ARRIVE ON SITE TO VERIFY THEY MEET NURSERY STOCK STANDARDS. THE INSPECTOR RESERVES THE RIGHT TO REFUSE ANY AND ALL MATERIAL IF IT IS DETERMINED THAT PLANT MATERIAL DOES NOT MEET SPECIFICATIONS.
 6. SUBSTITUTIONS OF PLANT SPECIES OR SIZES MAY BE PERMITTED BASED ON PLANT AVAILABILITY, BUT ONLY WITH PRIOR APPROVAL BY THE MITIGATION CONSTRUCTION MONITOR.
 7. PLANT MATERIAL SHALL CONFORM TO AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z601-2004 OR MOST RECENT EDITION) FOR PLANT SIZE AND CONDITION FOR SPECIFIED MATERIAL.
 8. PLACE 2, 5-GALLON BUCKETS OF MULCH OR ARBORIST CHIPS AROUND EACH PLANTING AND PULL BACK TO MAKE RING OR BROADCAST MULCH WITH 3 INCHES OF MULCH OR ARBORIST CHIPS.
 9. PRESERVE ALL TREES PER ARBORIST RECOMMENDATIONS.

VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING
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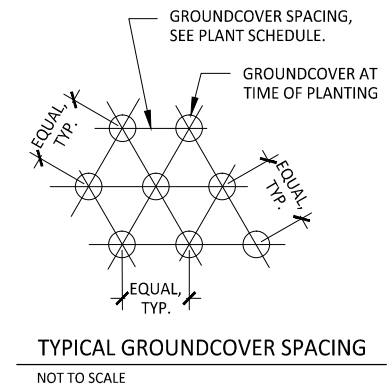
PLANT SCHEDULE - APPROXIMATE

Common Name	Scientific Name	Container size	Minumum Height	Spacing	Quantity	Planting Guide
Small Trees						
Cascara	<i>Rhamnus purshiana</i>	#2	18"	10'	15	drier
Pacific Crabapple	<i>Malus fusca</i>	#2	18"	10'	10	wetter
Vine Maple	<i>Acer circinatum</i>	#2	18"	10'	35	wet to dry
Black Hawthorn	<i>Crataegus douglasii</i>	#2	18"	10'	10	wet to dry
					TOTAL:	70
Shrubs						
Snowberry	<i>Symphoricarpos albus</i>	#2	18"	4'	75	drier
Red Osier Dogwood	<i>Cornus sericea</i>	#2	18"	4'	160	wetter
Nootka Rose	<i>Rosa nutkana</i>	#2	12"	4'	50	wet to dry
Clustered Rose	<i>Rosa pisocarpa</i>	#2	12"	4'	50	wet to dry
Pacific Ninebark	<i>Physocarpus capitatus</i>	#2	12"	4'	100	wet to dry
					TOTAL:	435

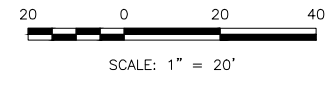


- NOTES:**
- 1) MULCH COMPLETELY BETWEEN ALL PLANTS.
 - 2) STAKE TREES 5' IN HEIGHT OR GREATER.
 - 3) PLANT SO THAT TOP OF ROOT BALL IS EVEN WITH FINISHED GRADE.
 - 4) COMPLETELY REMOVE ALL WIRE AND LOOSEN FABRIC ON BALLED & BURLAPPED PLANTS.
 - 5) SCARIFY SIDES OF PLANTING PITS PRIOR TO BACKFILLING.

TYPICAL TREE OR SHRUB PLANTING
 NOT TO SCALE



TYPICAL GROUNDCOVER SPACING
 NOT TO SCALE



SCALE:	AS NOTED
CHK BY:	DJ
DRW BY:	GF
REF:	
REVISIONS:	
DATE	DESCRIPTION
<p>Northwest Environmental Consulting, LLC 3639 PALATINE AVE N SEATTLE, WA 98103 206-634-9193</p>	
<p>KNOPF RESIDENCE 9507 SE 43rd Street MERCER ISLAND WA, 98040</p>	
<p>MITIGATION PLANTING PLAN AND DETAILS</p>	
JOB NO.	19023.00
DATE:	11.26.19
SHEET:	OF 7
DWG.#	W1

PERMIT SET