LBH RESIDENCE

7450 North Mercer Way
Mercer Island, Washington

PERMIT REVISION SET
October 1, 2019

ARCHITECTURAL

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A-1.3	Zoning Diagrams
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A-2.2	Floor Plan Main Level
A-2.5	Floor Plan Pool Terrace
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A-3.2	Exterior Elevations East & West
A-5.1	Exterior Door & Window Schedule & Diagrams

STRUCTURAL

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S-2.2	Main Floor Framing Plan
S-2.3	Upper Floor Framing Plan
S-3.1	Concrete Details
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S-4.2	Wood Framing Details
C-1 of 2	Site Improvement Plan
C-2 of 2	TESC & SWPP Plan

W1	Shoreline Mitigation Plan
W2	Shoreline Planting Plan & Schedule
W3	Shoreline Mitigation Details & Notes

STILLWELL HANSON ARCHITECTS
46 ETRURIA STREET, SUITE 200
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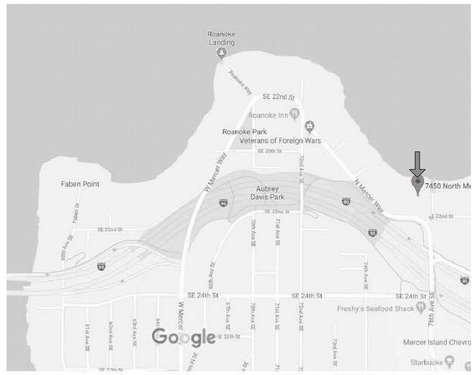
stillwellhanson.com

VICINITY MAP



Not to Scale

PROJECT DATA

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PROPERTY DATA

PROJECT ADDRESS
7450 North Mercer Way
Mercer Island, Washington 98040

ZONING DESIGNATION
R-15

HEIGHT LIMIT
30'-0"

SETBACKS

Front (South)		20'-0"
Side - Structural (West)	Variable	10'-0"
Side - Structural (East)	Variable	7'-6"
Side - Terrace (Combined 10'-0")		5'-0"
Rear (North) from OHW Line		25'-0"

LOT AREA
30,945 sq ft (per Survey)

ASSESSOR'S TAX NUMBER
531510-0125

LEGAL DESCRIPTION
MC GILVRAS ISLAND ADD ALL 9 & POR OF 10 WLY OF RDLG LN- BEG AT PT ON S LN BLK 2 DIST 1094.18 FT W FRM SE COR OF SD BLK TH N 10 DEG 57 MIN 20 SEC E 91.90 FT TH N 03 DEG 09 MIN 00 SEC E 9.30 FT TH N 04 DEG 36 MIN 00 SEC E 65.20 FT TH N 09 DEG 06 MIN 00 SEC E 38 FT TH N 25 DEG 10 MIN 30 SEC E 60.81 FT TH N 01 DEG 45 MIN 36 SEC E 118 FT M/L TO SH LN OF LK WASH & 2ND CL SH LDS ADJ

CONSTRUCTION DATA

SCOPE OF WORK
Lower level covered porch expansion, revised driveway configuration and new in-ground swimming pool & spa with terrace. No new conditioned space.

AREA SUMMARY
Conditioned Space

Existing Lower Level	1,736 sq ft
Existing Main Level	4,302 sq ft
Existing Upper Level	3,082 sq ft
New Upper Level-under Permit #1812-083	33 sq ft
Total	**9,153 sq ft**

AVERAGE BUILDING ELEVATION (ABE) DETERMINATION
Refer to Detail 1, Sheet A-01.2

GROSS FLOOR AREA (GFA) DIAGRAMS & SUMMARY
Refer to Detail 2, Sheet A-01.2

LOT COVERAGE & IMPERVIOUS SURFACES DIAGRAM
Refer to Detail 2, Sheet A-01.3

SHORELAND DEVELOPMENT STANDARDS DIAGRAM
Refer to Detail 1, Sheet A-01.3

ENERGY DATA

ENERGY CREDIT

All work to comply with 2015 Washington State Energy Code (WSEC)

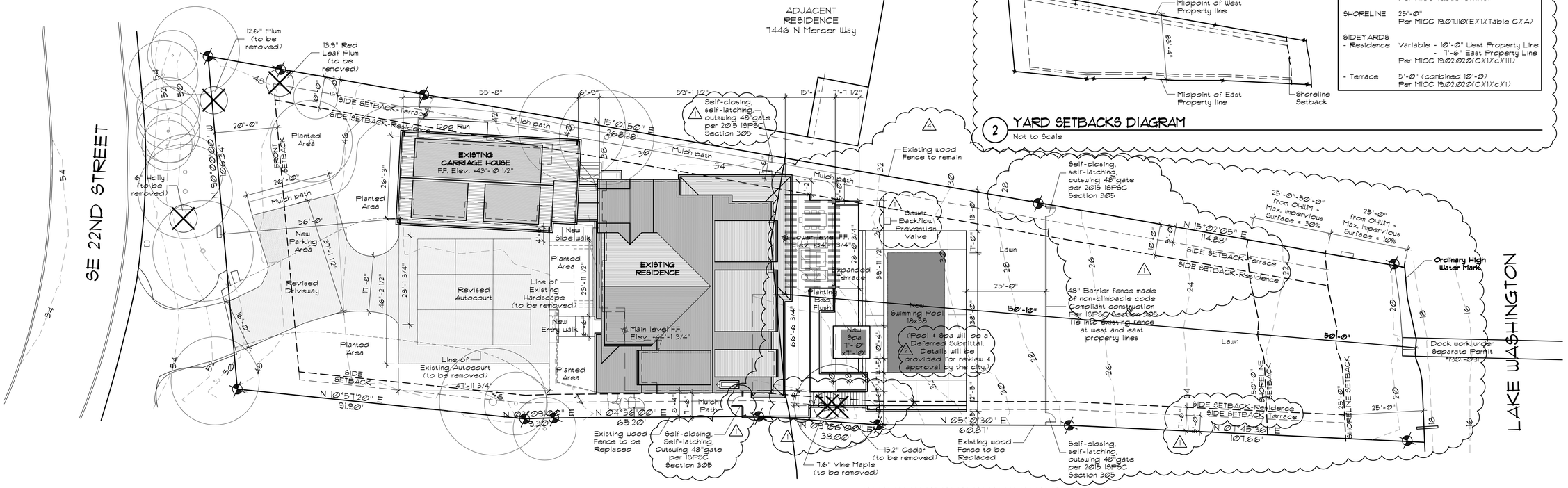
- Climate Zone: 4C (Marine)
- Compliance Path: Mandatory & Prescriptive

ENERGY CODE DATA SHEET

Refer to Table R402.1.1 and General Notes, Sheet A-01, for building envelope requirements.

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

Per 2015 WSEC R406.2.2 Additional Energy efficiency requirements, no increase in conditioned space, thus no required energy efficiency requirements.



1 SITE PLAN
Scale 1/16" = 1'-0"

YARD SETBACKS

FRONT	20'-0" Per MICC 19.02.020(C)(1)(a)
SHORELINE	25'-0" Per MICC 19.07.110(E)(1)(Table C)(A)
SIDEYARDS - Residence	Variable - 10'-0" West Property Line - 7'-6" East Property Line Per MICC 19.02.020(C)(1)(c)(iii)
- Terrace	5'-0" (combined 10'-0") Per MICC 19.02.020(C)(1)(c)(i)

2 YARD SETBACKS DIAGRAM
Not to Scale

LEGEND

SYMBOL	DESCRIPTION
— — —	CONTOUR - EXISTING
———	CONTOUR - PROPOSED
- - - - - -	HARDSCAPE - HARDSCAPE (to be removed)

TREE INFORMATION
Site Plan shows trees proposed for removal (total of 5). Refer to Landscape Plan (LS-2.0 & LS-2.1), Planting Schedule & Notes (LS-2.2), Tree Inventory, Protection & Removal Plan (LS-1.0), and Survey for more details.

LANDSCAPING
Refer to Landscape Plan (LS-2.0 & LS-2.1) and Planting Schedule & Notes (LS-2.2) for details on planted areas, planters, & pathways

SHORELINE
Refer to Shoreline Mitigation Plan (W1 & W2) and Shoreline Planting Plan & Schedule (W3) for details on beach area.

PLAN NORTH

DRAWN BY

DESIGN BY

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DATE
April 1, 2019

REVISIONS
1 June 15, 2019
2 August 20, 2019

REVISION #1
3 October 1, 2019
5 December 5, 2019

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SITE PLAN PROJECT INFORMATION

A-1.1

AVERAGE BUILDING ELEVATION (ABE) CALCULATIONS & HEIGHT LIMIT SUMMARY

MICC 19.02 E. 4.
Average building elevation (ABE) equals:

(Mid-point Elevation of Individual Wall Segments) x (Length of Individual Wall Segment)
/ (Total Length of Wall Segments)

Mark	Elevation at Mid-Point		Length of Wall Segment		Product
A	41.6'	x	40.25	=	1674.40 sq ft
B	42.2	x	0.75	=	31.65 sq ft
C	42.8	x	26.3	=	1125.64 sq ft
D	42.8	x	40.7	=	1741.96 sq ft
E	40.9	x	31.4	=	1284.26 sq ft
F	39.5	x	10.35	=	408.83 sq ft
G	34.0	x	36.0	=	1224.0 sq ft
H	33.9	x	59.1	=	2003.49 sq ft
J	40.1	x	23.25	=	932.32 sq ft
K	42.3	x	55.75	=	2358.22 sq ft
L	44.3	x	26.25	=	1162.87 sq ft
M	43.2	x	48.1	=	2077.92 sq ft
N	42.4	x	3.0	=	127.20 sq ft
P	42.3	x	7.5	=	317.25 sq ft
Q	42.0	x	7.9	=	331.80 sq ft
R	40.2	x	7.5	=	301.50 sq ft
Totals:			**403.3**		**17,103.31 sq ft**

Average Building Elevation
17,103.31 sq ft / 424.1' = 40.33'

Average Building Elevation (ABE): 40'-4"

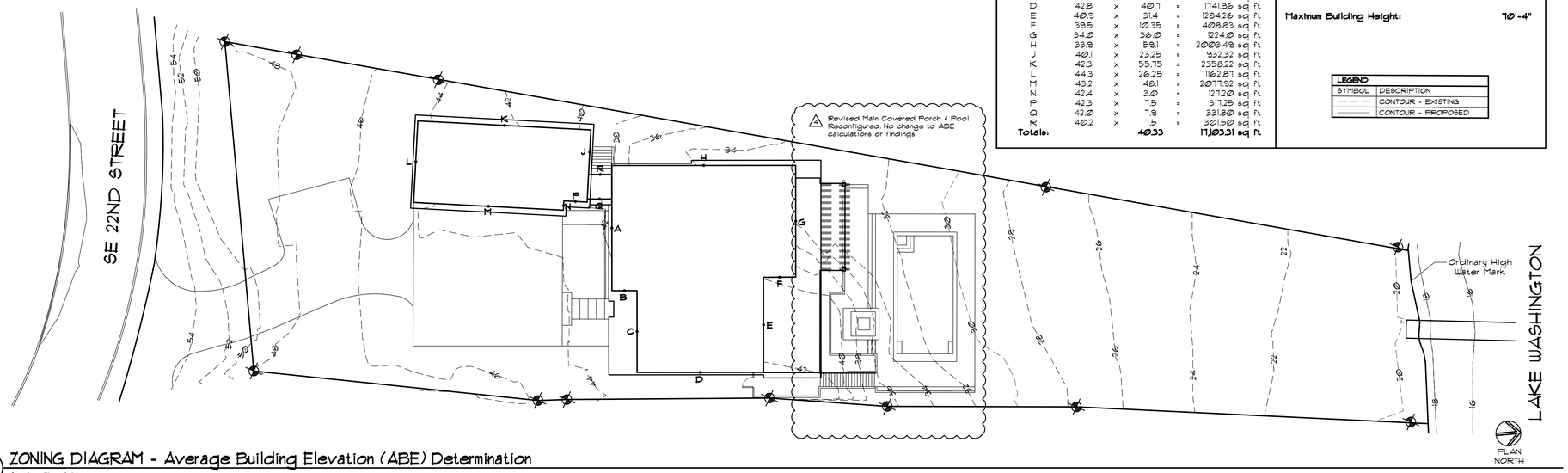
BUILDING HEIGHT LIMIT SUMMARY

MIMC 19.02 E.1 Maximum building height shall not exceed 30 ft in height above the average building elevation (ABE).

Maximum Building Height
30 ft + 40.33' (ABE) = 70.33'

Maximum Building Height: 70'-4"

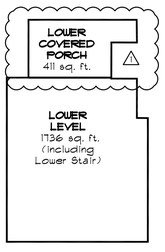
LEGEND	
SYMBOL	DESCRIPTION
	CONTOUR - EXISTING
	CONTOUR - PROPOSED



1 ZONING DIAGRAM - Average Building Elevation (ABE) Determination
Scale 1" = 20'

LOWER LEVEL

Lower Level Finish Ceiling Height: 8'-10 1/2"

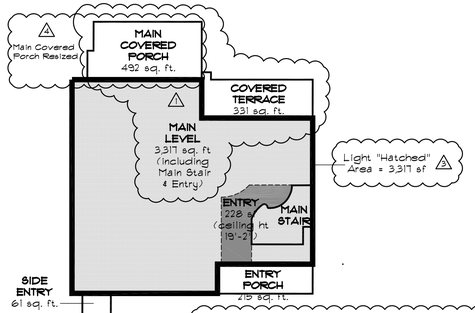


LOWER LEVEL AREA CALCULATION

Lower Level	1,736 sq ft
Net Lower Level Area:	**1,736 sq ft**

MAIN LEVEL

Main Level Finish Ceiling Height: 9'-8 1/2"



Main Covered Porch resized. Totals & SDW have been updated accordingly.

NET MAIN FLOOR AREA

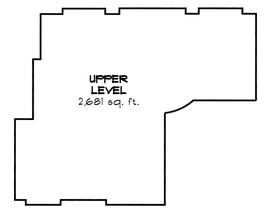
Main Level (light "hatched" area)	3,317 sq ft
Main Covered Porch	492 sq ft
Covered Terrace	331 sq ft
Entry Porch	215 sq ft
Side Entry	61 sq ft
Total Main Level (shown on SDW as Main Level-#1)	**4,416 sq ft**
Garage (shown on SDW as Garage/Carport-#2	1,441 sq ft
Gross Main Level Area:	**5,844 sq ft**

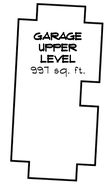
Main Level + "Entry" Area GFA Modifier (200%) = Net Main Level
5,851 sf + 228 sf (shown on SDW as 200% GFA Mod-#3) = 6,085 sf

Net Main Level Area: 6,085 sq ft

UPPER LEVEL

Upper Level Finish Ceiling Height: 7'-11 1/2"





NET UPPER FLOOR AREA

Upper Level	2,681 sq ft
Upper Level (garage)	987 sq ft
Net Upper Level Area:	**3,678 sq ft**

2 ZONING DIAGRAM - Gross Floor Area (GFA) Diagrams & Summary
Scale 1" = 20'

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April 1, 2019

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1 CORRECTION #1 - July 10, 2019
2 CORRECTION #2 - August 5, 2019
3 CORRECTION #3 - September 14, 2019
4 REVISION #1 - October 1, 2019

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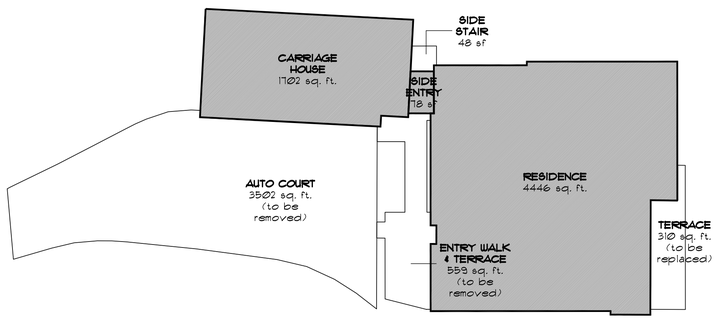
ZONING DIAGRAMS

A-1.2



⌀ ZONING DIAGRAM - EXISTING Lot Coverage & Hardscape

Scale 1" = 20'

EXISTING LOT & HARDSCAPE COVERAGE

EXISTING LOT & HARDSCAPE COVERAGE

Lot Coverage

Residence	4,446 sq ft
Side Entry	78 sq ft
Carriage House	1,702 sq ft
Auto Court	3,502 sq ft
Total	**9,728 sq ft**

TOTAL EXISTING LOT COVERAGE
9,728 sq. ft. / 30,945 sq. ft. = 31.4%

Hardscape Coverage

Side Stair	559 sq ft
Entry Walk & Terrace	147 sq ft
Terrace	310 sq ft
Total	**1,016 sq ft**

TOTAL EXISTING HARDSCAPE COVERAGE
1,016 sq. ft. / 30,945 sq. ft. = 3.3%

TOTAL EXISTING COMBINED COVERAGE
(Lot Coverage + Hardscape Coverage)

9,728 sq. ft. + 1,016 sq. ft. = 10,744 sq. ft.	10,744 sq. ft.
10,744 sq. ft. / 30,945 sq. ft. =	34.7%

SHORELINE DEVELOPMENT STANDARDS

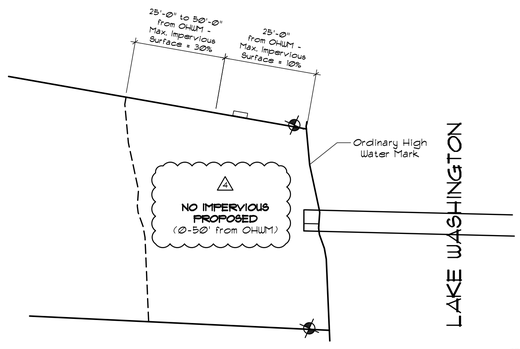
MICC 19.07 1. E. Shoreline Development Standards.
Waterfront lot - impervious surface limitations.

0' to 25' Shoreline Setback
Total Area = 1,462 sq. ft.
Impervious Surface Limitation: 10% x 1,462 sq ft — 146.2 sq ft

Impervious Surface Proposed: — 0 sq ft
Total Impervious Surface Proposed: — **0 sq ft**

25' to 50' Shoreline Setback
Total Area = 1,453 sq. ft.
Impervious Surface Limitation: 30% x 1,453 sq ft — 435.9 sq ft

Impervious Surface Proposed: — 0 sq ft
Total Impervious Surface Proposed: — **0 sq ft**



1 ZONING DIAGRAM - PROPOSED Shoreline Development

Not to Scale

PROPOSED LOT COVERAGE & HARDSCAPE CALCULATIONS

MICC 19.02.020 F. 3. a. Lot Coverage - Landscaping Required. Minimum area required for single family dwelling shall provide the minimum landscaping area based on the net lot area and lot slope.

LOT COVERAGE (Building & Driving Areas)

Lot Slope:	8 %
Maximum Lot Coverage:	40 %
Landscaping Area Required:	60 %
Gross Lot Area:	30,945 sq ft
Net Lot Area:	30,945 sq ft

Maximum Lot Coverage
40 % x 30,945 sq ft — 12,378 sq ft

Required Landscaping Area
60 % x 30,945 sq ft — 18,567 sq ft

HARDSCAPE COVERAGE

Lot Slope:	8 %
Maximum Lot Coverage:	9 %
Net Lot Area:	30,945 sq ft
9 % x 30,945 sq ft:	2,785 sq ft

TOTAL COMBINED COVERAGE ALLOWED
(Lot Coverage + Hardscape Coverage)
12,378 sq. ft. + 2,785 sq. ft. = 15,163 sq. ft.
15,163 sq. ft / 30,945 sq. ft. = 49%

PROPOSED LOT & HARDSCAPE COVERAGE

Lot Coverage

Residence	4,249 sq ft
Main Covered Porch	400 sq ft
Main Terrace	254 sq ft
Side Entry	78 sq ft
Carriage House	1,702 sq ft
Auto Court	2,069 sq ft
Driveway & Parking	1,508 sq ft
Total	**10,260 sq ft**

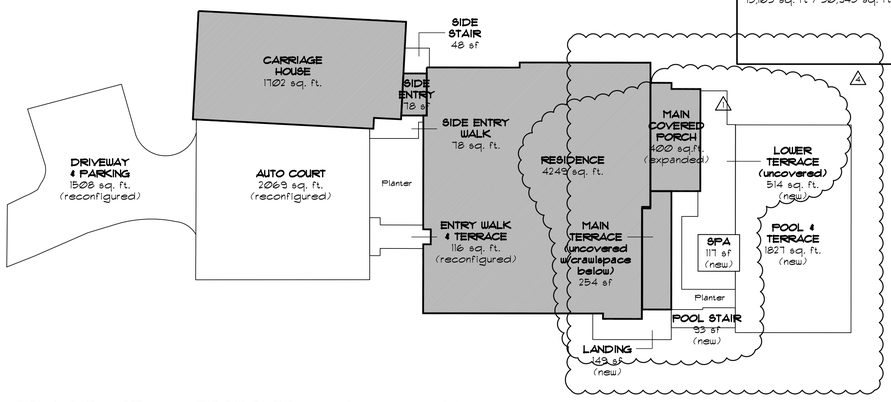
TOTAL PROPOSED LOT COVERAGE
10,260 sq. ft. / 30,945 sq. ft. = 33.2%

Hardscape Coverage

Pool & Terrace	1,827 sq ft
Lower Terrace	514 sq ft
Spa	117 sq ft
Pool Stair	93 sq ft
Landing	149 sq ft
Side Entry Walk	78 sq ft
Side Stair	48 sq ft
Entry Walk	116 sq ft
Total	**2,942 sq ft**

TOTAL PROPOSED HARDSCAPE COVERAGE
2,942 sq. ft. / 30,945 sq. ft. = 9.5%

TOTAL PROPOSED COMBINED COVERAGE
(Lot Coverage + Hardscape Coverage)
10,260 sq. ft. + 2,942 sq. ft. = 13,202 sq. ft.
13,202 sq. ft. / 30,945 sq. ft. = 42.7%



2 ZONING DIAGRAM - PROPOSED Lot Coverage & Hardscape

Scale 1" = 20'

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DATE
September 1, 2019

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CORRECTION #2 (2) August 5, 2019
REVISION #1 (3) October 1, 2019

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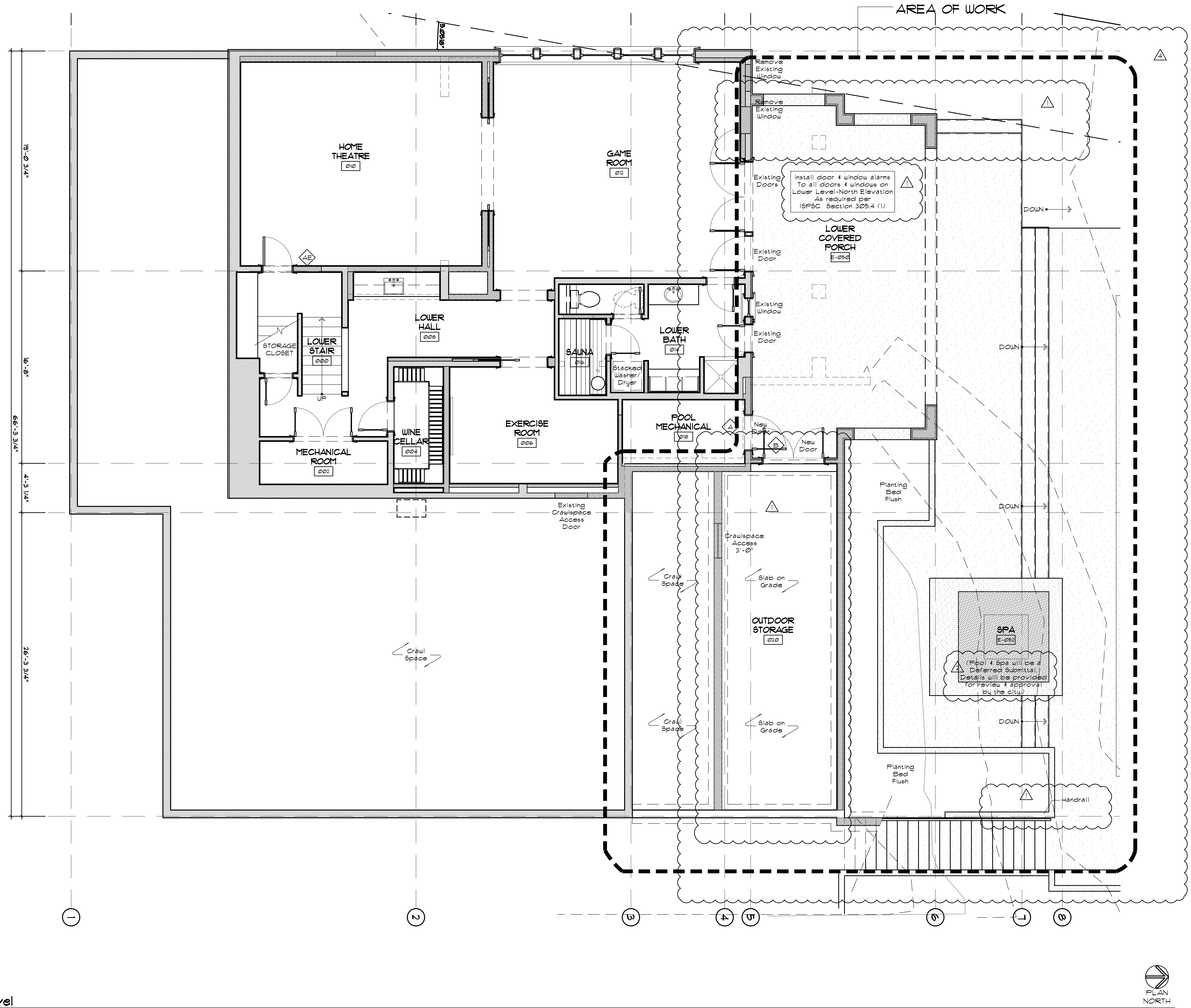
ZONING DIAGRAMS

A-1.3



FLOOR PLAN LEGEND

SYMBOL	DESCRIPTION
	New Walls to be Constructed
	Existing Walls to Remain
	Existing Walls to be Demolished

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DATE
April 1, 2019

REVISIONS
1 CORRECTIONS #1 July 10, 2019
2 CORRECTIONS #2 August 20, 2019
4 REVISION #1 October 1, 2019

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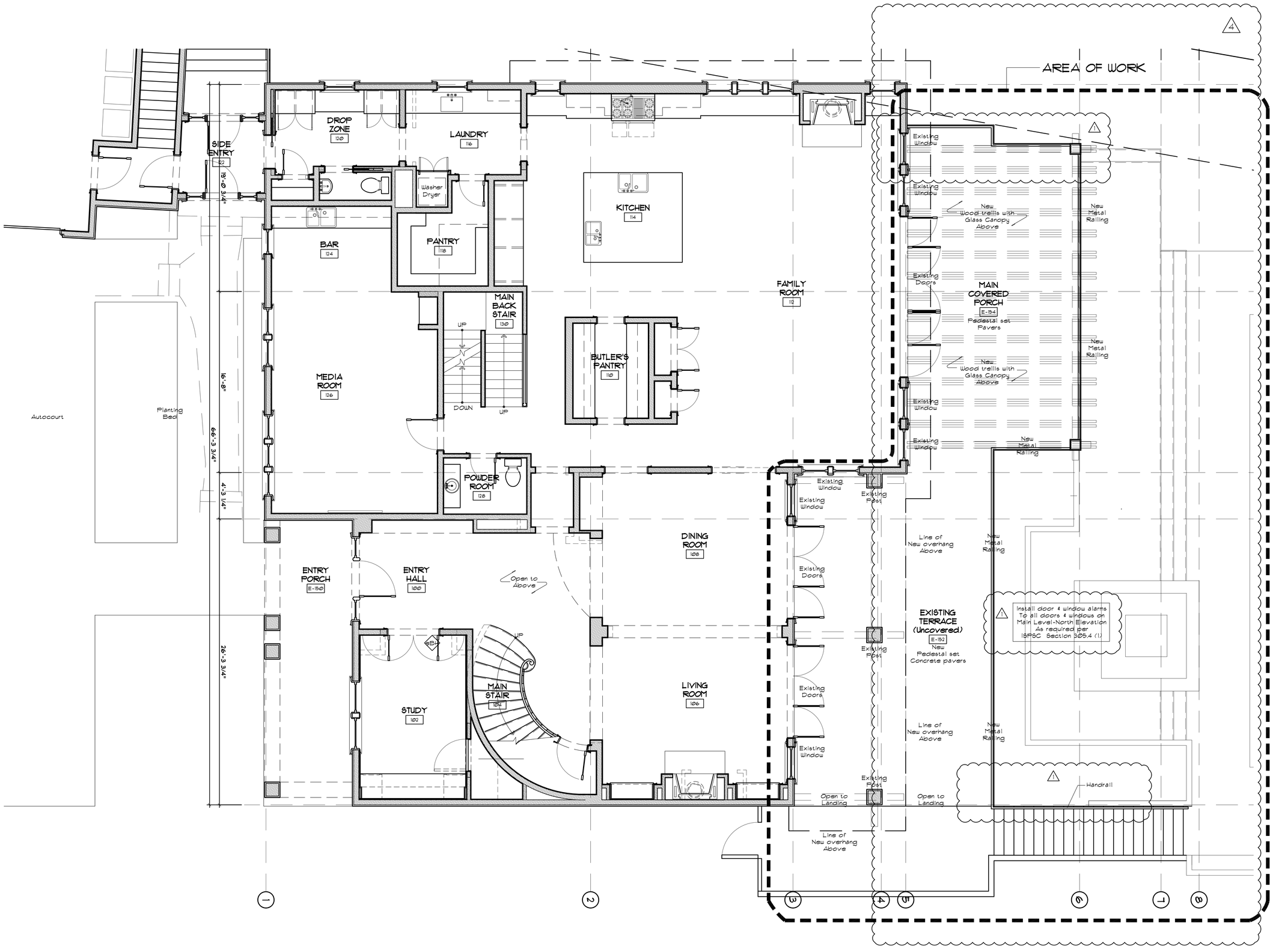
CRAIG L. STILLWELL
STATE OF WASHINGTON

FLOOR PLAN LOWER LEVEL

A-2.1

1 FLOOR PLAN - Lower Level
Scale 1/4" = 1'-0"



1 FLOOR PLAN - Main Level
Scale 1/4" = 1'-0"

FLOOR PLAN LEGEND

SYMBOL	DESCRIPTION
	New Walls to be Constructed
	Existing Walls to Remain
	Existing Walls to be Demolished

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1 CORRECTIONS #1
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MERCER ISLAND, WASHINGTON

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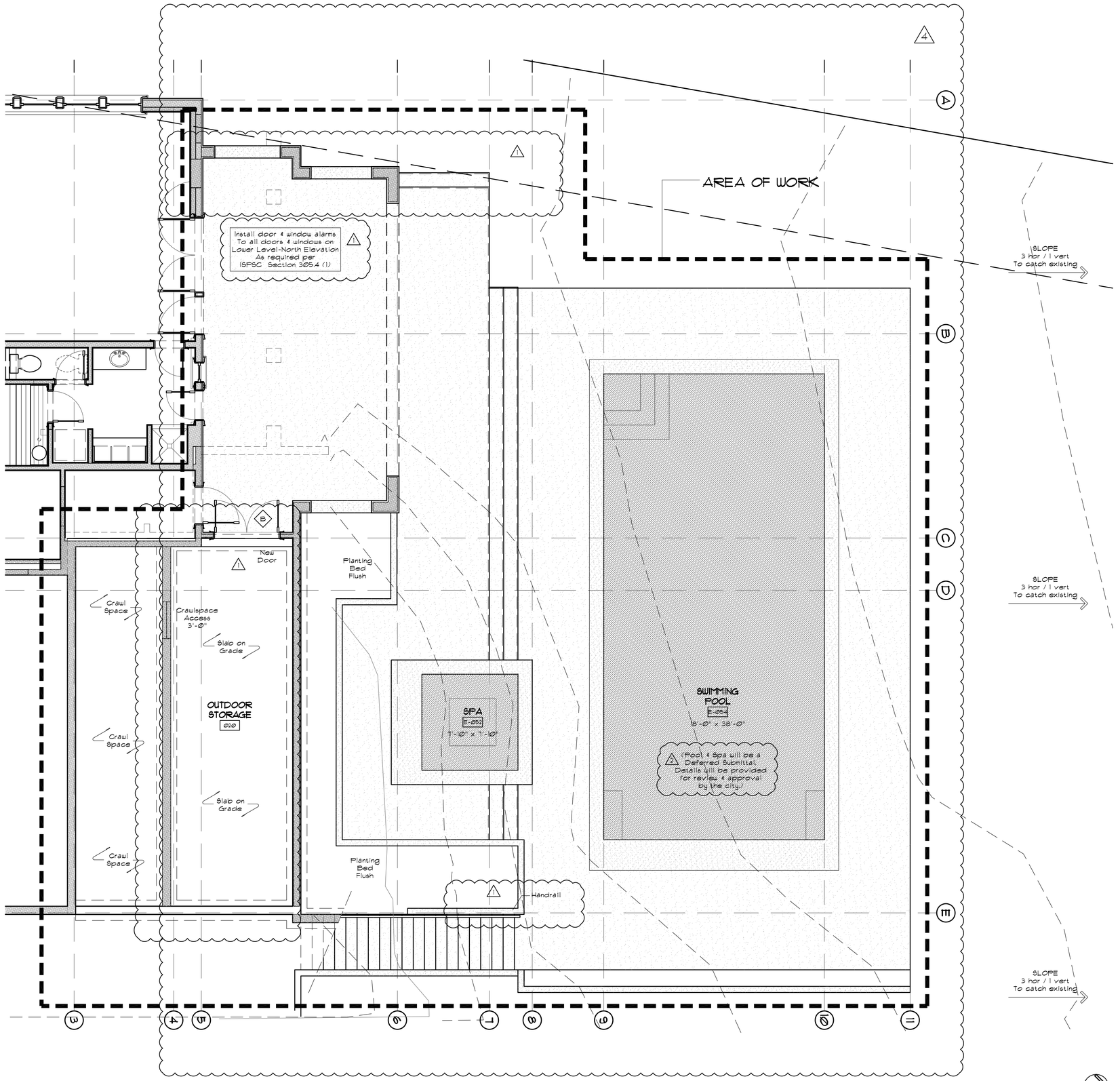
FLOOR PLAN MAIN LEVEL

A-2.2



1 FLOOR PLAN - Lower Level (Pool)
Scale 1/4" = 1'-Ø"

FLOOR PLAN LEGEND

SYMBOL	DESCRIPTION
	New Walls to be Constructed
	Existing Walls to Remain
	Existing Walls to be Demolished

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DESIGN BY

CHECKED BY

APPROVED BY

DATE
April 1, 2019

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1 CORRECTIONS #1 July 10, 2019
2 CORRECTIONS #2 August 20, 2019
4 REVISION #1 October 1, 2019

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JAMES C. STILLWELL
STATE OF WASHINGTON

FLOOR PLAN
POOL TERRACE

A-2.5

1 EXTERIOR ELEVATION - North
Scale 1/4" = 1'-0"

2 EXTERIOR ELEVATION - South
Scale 1/4" = 1'-0"

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April 1, 2019

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CORRECTION #1
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October 1, 2019

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7392 REGISTERED ARCHITECT CRAIG A. STILLWELL STATE OF WASHINGTON

EXTERIOR
ELEVATIONS

A-3.1

1 EXTERIOR ELEVATION - West

Scale 1/4" = 1'-0"

2 EXTERIOR ELEVATION - East

Scale 1/4" = 1'-0"

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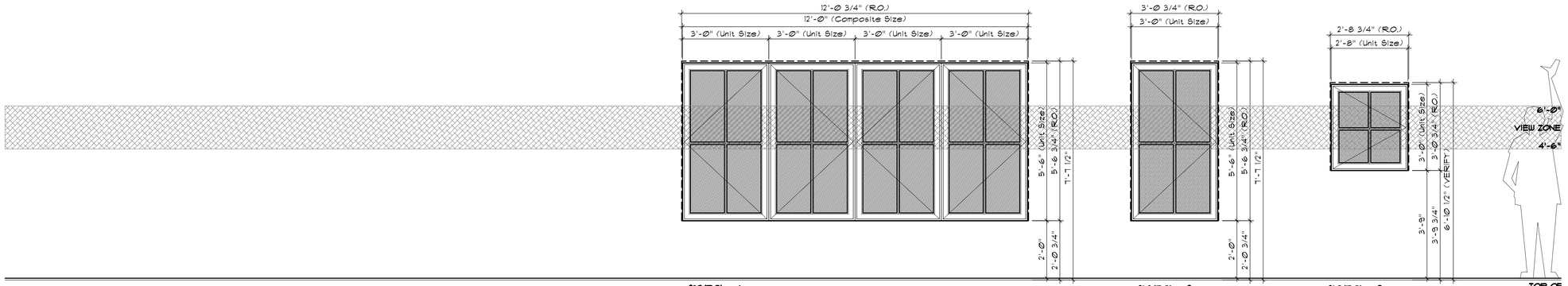
EXTERIOR ELEVATIONS

A-3.2

WINDOW SCHEDULE - Upper Level

SYM	LOCATION	ROOM	DIAGRAM	TYPE	SIZE	AREA	FINISH (Int/Ext)	U	REMARKS
1	Master Bedroom	212	1 below	Case/Case/Case/Case	See diagram	NA	Painted / Clad	.28	
2	Master Bath	210	2 below	Case	See diagram	NA	Painted / Clad	.28	Tempered glass
3	Bedroom Two	214	3 below	Case	See diagram	NA	Painted / Clad	.28	



SYMBOL 1
LOCATION Master Bedroom

1 WINDOW DIAGRAM
Scale: 1/2" = 1'-Ø"

SYMBOL 2
LOCATION Master Bath

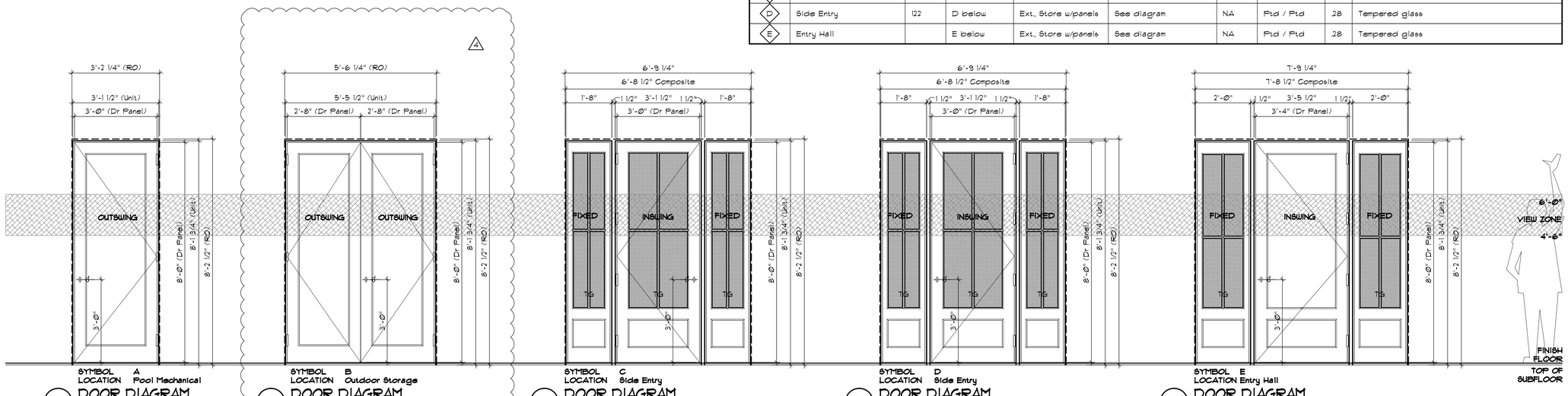
2 WINDOW DIAGRAM
Scale: 1/2" = 1'-Ø"

SYMBOL 3
LOCATION Bedroom Two

3 WINDOW DIAGRAM
Scale: 1/2" = 1'-Ø"

EXTERIOR DOOR SCHEDULE

SYMBOL	LOCATION	ROOM	DIAGRAM	TYPE	SIZE	AREA	FINISH	U	REMARKS
A	Pool Mechanical	Ø16	A below	Ext.	See diagram	NA	Ptd / Ptd	NA	
B	Outdoor Storage	Ø2Ø	B below	Ext.,	See diagram	NA	Ptd / Ptd	NA	
C	Side Entry	122	C below	Ext., Store w/panels	See diagram	NA	Ptd / Ptd	.28	Tempered glass
D	Side Entry	122	D below	Ext., Store w/panels	See diagram	NA	Ptd / Ptd	.28	Tempered glass
E	Entry Hall		E below	Ext., Store w/panels	See diagram	NA	Ptd / Ptd	.28	Tempered glass



SYMBOL A
LOCATION Pool Mechanical

A DOOR DIAGRAM
Scale 1/2" = 1'-Ø"

SYMBOL B
LOCATION Outdoor Storage

B DOOR DIAGRAM
Scale 1/2" = 1'-Ø"

SYMBOL C
LOCATION Side Entry

C DOOR DIAGRAM
Scale 1/2" = 1'-Ø"

SYMBOL D
LOCATION Side Entry

D DOOR DIAGRAM
Scale 1/2" = 1'-Ø"

SYMBOL E
LOCATION Entry Hall

E DOOR DIAGRAM
Scale 1/2" = 1'-Ø"

DOOR DIAGRAM NOTES

1. Exterior doors are shown from the exterior side.

2. General Contractor to confirm all rough opening requirements and installation requirements with manufacturer.

3. Manufacturer to review installation locations and confirm safety glazing requirements.

4. Manufacturer to review installation locations and confirm designated units meet egress requirements.

5. Install units per all manufacturer's recommendations.

6. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY ARCHITECT PRIOR TO FABRICATION.

WINDOW & DOOR SPEC

MANUFACTURER & MODEL:
Pella or approved equal

EXTERIOR & INTERIOR COLOR:
Match "Standard White" (verify)

GLASS:
Low E

HARDWARE
TBD

DIVIDED LITE:
Match existing size & profile

LEGEND

TG	Tempered Glass
B	Door Butt
RC	Roller Catch

DRAWN BY

DESIGN BY

CHECKED BY

APPROVED BY

DATE
September 1, 2019

REVISIONS
REVISION #1
4 October 1, 2019

STILLWELL HANSON ARCHITECTS

46 ETRURIA STREET, SUITE 200
SEATTLE, WASHINGTON 98109
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LBH
RESIDENCE

7450 NORTH MERCER WAY
MERCER ISLAND, WASHINGTON

EXTERIOR WINDOW & DOOR SCHEDULES

A-5.1

General Structural Notes

THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

CRITERIA

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (2015 EDITION).

2. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, THE INTERNATIONAL BUILDING CODE (2015 EDITION). THIS STRUCTURE DOES NOT CONFORM TO PRESENT EARTHQUAKE CODE REQUIREMENTS. IT HAS BEEN ANALYZED AND REINFORCED FOR MINIMUM MAINTENANCE IN ACCORDANCE WITH INTERNATIONAL EXISTING BUILDING CODE, AND IS WITHIN THE CURRENT PRACTICE FOR THE RENOVATION OF EXISTING BUILDINGS OF THIS AGE AND TYPE OF CONSTRUCTION.

3. DESIGN LOADING CRITERIA:
   RESIDENTIAL - ONE AND TWO-FAMILY DWELLINGS
   FLOOR LIVE LOAD . . . . 40 PSF
   DECKS . . . . 1.5 x AREA SERVED
   DEFLECTION CRITERIA
   LIVE LOAD DEFLECTION L/360
   TOTAL LOAD DEFLECTION L/240
   ENVIRONMENTAL LOADS
   SNOW . . . . Ce=1.0, Is=1.0, Ct=1.1, Pg=25 PSF, Pf=20 PSF
   WIND . . . . GCpi=0.18, 110 MPH, RISK CATEGORY II, EXPOSURE "B"
   EARTHQUAKE . ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
   LATERAL SYSTEM: LIGHT FRAMED SHEAR WALLS,
   SITE CLASS=D, Ss=136, Sds=91, S1=53, SD1=53, Cs=0.140
   SDC D, Ie=1.0, R=6.5

4. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, THE SPECIFICATION, THESE GENERAL NOTES AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE GENERAL CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE GENERAL CONTRACTOR'S RISK.

5. PRIMARY STRUCTURAL ELEMENTS NOT DIMENSIONED ON THE STRUCTURAL PLANS AND DETAILS SHALL BE LOCATED BY THE ARCHITECTURAL PLANS AND DETAILS. VERTICAL DIMENSION CONTROL IS DEFINED BY THE ARCHITECTURAL WALL SECTIONS, BUILDING SECTION, AND PLANS. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE DIMENSIONAL INFORMATION CONTAINED IN BOTH ARCHITECTURAL AND STRUCTURAL DRAWINGS.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTORS WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES TO THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.

7. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. CONFORM TO ASCE 37-14 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION".

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

9. 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 ARCHITECT AND THE STRUCTURAL ENGINEER. ALL TYPICAL NOTES AND DETAILS SHOWN ON DRAWINGS SHALL APPLY, UNLESS NOTED OTHERWISE. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED ON THE PLANS BUT SHALL STILL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS. WHERE TYPICAL DETAILS ARE NOTED ON THE PLANS, THE SPECIFIED TYPICAL DETAIL SHALL BE USED. WHERE NO TYPICAL DETAIL IS NOTED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE TYPICAL DETAIL FROM THOSE PROVIDED OR REQUEST ADDITIONAL INFORMATION. THE CONTRACTOR SHALL SUBMIT ALL PROPOSED ALTERNATE TYPICAL DETAILS TO THOSE PROVIDED WITH RELATED CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO SHOP DRAWING PRODUCTION AND FIELD USE.

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

GEOTECHNICAL

11. FOUNDATION NOTES: ALLOWABLE SOIL PRESSURE AND LATERAL EARTH PRESSURE ARE ASSUMED AND THEREFORE MUST BE VERIFIED BY A QUALIFIED SOILS ENGINEER OR APPROVED BY THE BUILDING OFFICIAL. IF SOILS ARE FOUND TO BE OTHER THAN ASSUMED, NOTIFY THE STRUCTURAL ENGINEER FOR POSSIBLE FOUNDATION REDESIGN.

    FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED EARTH AT LEAST 18" BELOW ADJACENT FINISHED GRADE. UNLESS OTHERWISE NOTED, FOOTINGS SHALL BE CENTERED BELOW COLUMNS OR WALLS ABOVE.

    BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING, GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE.

    ALLOWABLE SOIL PRESSURE. . . . . 2000 PSF
    LATERAL EARTH PRESSURE (RESTRAINED/UNRESTRAINED) . . . . .55 PCF/35 PCF
    ALLOWABLE PASSIVE EARTH PRESSURE (FS OF 1.5 INCLUDED). . . . . . . 300 PCF
    COEFFICIENT OF FRICTION (FS OF 1.5 INCLUDED). 0.3
    TRAFFIC SURCHARGE PRESSURE (UNIFORM LOAD) . . . . 75 PSF
    SEISMIC SURCHARGE PRESSURE (UNIFORM LOAD) . . . . 7H PSF

RENOVATION

12. DEMOLITION: CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS BEFORE COMMENCING ANY DEMOLITION. SHORING SHALL BE INSTALLED TO SUPPORT EXISTING CONSTRUCTION AS REQUIRED AND IN A MANNER SUITABLE TO THE WORK SEQUENCES. DEMOLITION DEBRIS SHALL NOT BE ALLOWED TO DAMAGE OR OVERLOAD THE EXISTING STRUCTURE. LIMIT CONSTRUCTION LOADING (INCLUDING DEMOLITION DEBRIS) ON EXISTING FLOOR SYSTEMS TO 40 PSF.

13. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES, AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER IF EXISTING CONDITIONS DETERMINED DURING WORK VARY FROM THE EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS.

14. CONTRACTOR SHALL CHECK FOR DRY ROT AT ALL AREAS OF NEW WORK. ALL ROT SHALL BE REMOVED AND DAMAGED MEMBERS SHALL BE REPLACED OR REPAIRED AS DIRECTED BY THE STRUCTURAL ENGINEER OR ARCHITECT.

CONCRETE

15. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 301, INCLUDING TESTING PROCEDURES. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF f'c = 3,000 PSI AND MIX SHALL CONTAIN NOT LESS THAN 5-1/2 SACKS OF CEMENT PER CUBIC YARD AND SHALL BE PROPORTIONED TO PRODUCE A SLUMP OF 5" OR LESS. REQUIRED CONCRETE STRENGTH IS BASED ON THE DURABILITY REQUIREMENTS OF SECTION 1904 OF THE IBC. DESIGN STRENGTH IS f'c = 2,500 PSI.

16. ALL CONCRETE WITH SURFACES EXPOSED TO WEATHER OR STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260, C494, AND C618. TOTAL AIR CONTENT FOR FROST-RESISTANT CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318, TABLE 19.3.2.1 MODERATE EXPOSURE, F1.

17. DETAILING OF REINFORCING STEEL (INCLUDING HOOKS AND BENDS) SHALL BE IN ACCORDANCE WITH ACI 315-99 AND 318-11. LAP ALL CONTINUOUS REINFORCEMENT #5 AND SMALLER 40 BAR DIAMETERS OR 2'-0" MINIMUM. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS #5 AND SMALLER 40 BAR DIAMETERS OR 2'-0" MINIMUM. LAPS OF LARGER BARS SHALL BE MADE IN ACCORDANCE WITH ACI 318-11, CLASS B. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" 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.

18. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

    FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . . . . 3"
    FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#6 BARS OR LARGER) . . . . 2"
    FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#5 BARS OR SMALLER). . 1-1/2"
    COLUMN TIES OR SPIRALS AND BEAM STIRRUPS . . . . 1-1/2"
    SLABS AND WALLS (INT. FACE). . . GREATER OF BAR DIAMETER PLUS 1/8" OR 3/4"

19. CONCRETE WALL REINFORCING--PROVIDE THE FOLLOWING UNLESS DETAILED OTHERWISE:

6" WALLS	#4 @ 16 HORIZ.	#4 @ 18 VERTICAL	1 CURTAIN
8" WALLS	#4 @ 12 HORIZ.	#4 @ 18 VERTICAL	1 CURTAIN
10" WALLS	#4 @ 18 HORIZ.	#4 @ 18 VERTICAL	2 CURTAIN
12" WALLS	#4 @ 16 HORIZ.	#4 @ 18 VERTICAL	2 CURTAIN

4

20. CAST-IN-PLACE CONCRETE: SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF DOOR AND WINDOW OPENINGS IN ALL CONCRETE WALLS. SEE MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF MISCELLANEOUS MECHANICAL OPENINGS THROUGH CONCRETE WALLS. SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE, AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES, BOTH CAST-IN-PLACE AND PRECAST.

21. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (3000 PSI MINIMUM).

ANCHORAGE

22. EXPANSION BOLTS INTO CONCRETE SHALL BE "STRONG-BOLT 2" WEDGE ANCHORS AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY AND INSTALLED IN STRICT CONFORMANCE TO ICC-ES REPORT NUMBER ESR-3037, INCLUDING MINIMUM EMBEDMENT REQUIREMENTS. BOLTS INTO CONCRETE MASONRY OR BRICK MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. PERIODIC SPECIAL INSPECTION IS REQUIRED TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, ANCHOR LOCATION, TIGHTENING TORQUE, HOLE DIMENSIONS, ANCHOR EMBEDMENT, AND ADHERENCE TO THE INSTALLATION INSTRUCTIONS.

23. EPOXY-GROUTED ITEMS (THREADED RODS OR REINFORCING BAR) SPECIFIED ON THE DRAWINGS SHALL BE INSTALLED USING "SET-XP" HIGH STRENGTH EPOXY AS MANUFACTURED BY THE SIMPSON STRONG, TIE COMPANY. INSTALL IN STRICT ACCORDANCE WITH ICC-ES REPORT NO. ESR-2508. MINIMUM BASE MATERIAL TEMPERATURE IS 50 DEGREES, F. RODS SHALL BE ASTM A-36 UNLESS OTHERWISE NOTED. PERIODIC SPECIAL INSPECTION OF INSTALLATION IS REQUIRED TO VERIFY ANCHOR OR EMBEDED BAR TYPE AND DIMENSIONS, LOCATION, ADHESIVE IDENTIFICATION AND EXPIRATION, HOLE DIMENSIONS, HOLE CLEANING PROCEDURE, ANCHOR EMBEDMENT, AND ADHERENCE TO THE INSTALLATION INSTRUCTIONS. CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR HORIZONTAL AND OVERHEAD INSTALLATIONS.

24. CONCRETE SCREW ANCHORS INTO CONCRETE AND CONCRETE MASONRY UNITS SHALL BE "TITEN HD" HEAVY DUTY SCREW ANCHOR AS MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY, INSTALLED IN STRICT ACCORDANCE WITH ICC-ES REPORT NO. ESR-2713 (CONCRETE), NO. ESR-1056 (CMU), INCLUDING MINIMUM EMBEDMENT REQUIREMENTS. SCREW ANCHORS INTO CONCRETE MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. SPECIAL INSPECTION IS REQUIRED.

STEEL

25. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON:

    A. AISC 360 AND SECTION 2205.2 OF THE INTERNATIONAL BUILDING CODE.
    B. APRIL 14, 2010 AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AMENDED AS FOLLOWS: AS NOTED IN THE CONTRACT DOCUMENTS, BY THE DELETION OF PARAGRAPH 4.4.1, AND REVISE REFERENCE FROM "STRUCTURAL DESIGN DRAWINGS" TO "CONTRACT DOCUMENTS" IN PARAGRAPH 3.1.
    C. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.

26. WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992, FY = 50 KSI. OTHER ROLLED SHAPES INCLUDING PLATES, SHALL CONFORM TO ASTM A36, FY = 36 KSI. STEEL PIPE SHALL CONFORM TO ASTM A-53, TYPE E OR S, GRADE B, Fy = 35 KSI. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B, FY = 42 KSI (ROUND), FY = 46 KSI (SQUARE AND RECTANGULAR). CONNECTION BOLTS SHALL CONFORM TO ASTM A307.

27. ALL STEEL EXPOSED TO THE WEATHER OR IN CONTACT WITH GROUND SHALL BE CORROSION PROTECTED BY GALVANIZATION OR PROVIDED WITH EXTERIOR PAINT SYSTEM, UNLESS OTHERWISE NOTED.

28. SHOP PRIME ALL STEEL EXCEPT:

    A. STEEL ENCASED IN CONCRETE.
    B. SURFACES TO BE WELDED.
    C. CONTACT SURFACES AT HIGH-STRENGTH BOLTS.
    D. MEMBERS TO BE GALVANIZED.
    E. MEMBERS WHICH WILL BE CONCEALED BY INTERIOR FINISHES.
    F. SURFACES TO RECEIVE SPRAYED FIREPROOFING.
    G. SURFACES TO RECEIVE OTHER SPECIAL SHOP PRIMERS.

29. ALL ANCHORS EMBEDDED IN MASONRY OR CONCRETE SHALL BE A307 HEADED BOLTS OR A36 THREADED ROD WITH AN ASTM 563 HEAVY HEX NUT TACK WELDED ON THE EMBEDDED END.

30. ALL WELDING SHALL BE IN CONFORMANCE WITH AISC AND AWS STANDARDS AND SHALL BE PERFORMED BY WABO CERTIFIED WELDERS USING E70XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY AWS) SHALL BE USED. ALL COMPLETE JOINT PENETRATION GROOVE WELDS SHALL BE MADE WITH A FILLER MATERIAL THAT HAS A MINIMUM CVN TOUGHNESS OF 20 FT-LBS AT -20 DEGREES F AND 40 FT - LBS AT 70 DEGREES F, AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER CERTIFICATION.

WOOD

31. FRAMING LUMBER SHALL BE S-DRY, KD, OR MC-19, AND GRADED AND MARKED IN CONFORMANCE WITH WCLIB STANDARD "GRADING RULES FOR WEST COAST LUMBER NO. 17", OR WWPA STANDARD, "WESTERN LUMBER GRADING RULES 2011". FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

JOISTS AND BEAMS	(2X & 3X MEMBERS)	HEM-FIR NO. 2 MINIMUM BASE VALUE, Fb = 850 PSI
	(4X MEMBERS)	DOUGLAS FIR-LARCH NO. 1 MINIMUM BASE VALUE, Fb = 1000 PSI
BEAMS	(INCL. 6X AND LARGER)	DOUGLAS FIR-LARCH NO. 1 MINIMUM BASE VALUE, Fb = 1350 PSI
POSTS	(4X MEMBERS)	DOUGLAS FIR-LARCH NO. 2 MINIMUM BASE VALUE, Fc = 1350 PSI
	(6X AND LARGER)	DOUGLAS FIR-LARCH NO. 1 MINIMUM BASE VALUE, Fc = 1000 PSI
STUDS, PLATES & MISC. FRAMING:		DOUGLAS-FIR-LARCH OR HEM-FIR NO. 2

32. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND ANSI/AITC STANDARDS. EACH MEMBER SHALL BEAR AN AITC OR APA-EWS IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN AITC OR APA-EWS CERTIFICATE OF CONFORMANCE. ALL SIMPLE SPAN BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V4, Fb = 2,400 PSI, Fv =265 PSI. ALL CANTILEVERED BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V8, Fb = 2400 PSI, Fv = 265 PSI.

33. MANUFACTURED LUMBER, PSL, LVL, AND LSL SHOWN ON PLAN ARE BASED PRODUCTS MANUFACTURED BY THE WEYERHAEUSER CORPORATION IN ACCORDANCE WITH ICC-ES REPORT ESR-1387. MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PSL (2.0E)	Fb = 2900 PSI,	E = 2000 KSI,	Fv = 290 PSI
LVL (2.0E)	Fb = 2600 PSI,	E = 2000 KSI,	Fv = 285 PSI
LSL (1.55E)	Fb = 2325 PSI,	E = 1550 KSI,	Fv = 310 PSI

    ALTERNATE MANUFACTURED LUMBER MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE MANUFACTURER'S PRODUCTS SHALL BE COMPATIBLE WITH THE JOIST HANGERS AND OTHER HARDWARE SPECIFIED ON PLANS, OR ALTERNATE HANGERS AND HARDWARE SHALL SUBMITTED FOR REVIEW AND APPROVAL. SUBSTITUTED ITEMS SHALL HAVE ICC-ES REPORT APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES.

    MANUFACTURED LUMBER PRODUCTS SHALL BE INSTALLED WITH A MOISTURE CONTENT OF 12% OR LESS. THE CONTRACTOR SHALL MAKE PROVISIONS DURING CONSTRUCTION TO PREVENT THE MOISTURE CONTENT OF INSTALLED BEAMS FROM EXCEEDING 12%. EXCESSIVE DEFLECTIONS MAY OCCUR IF MOISTURE CONTENT EXCEEDS THIS VALUE.

34. PLYWOOD SHEATHING SHALL BE GRADE C-D, EXTERIOR GLUE OR STRUCTURAL II, EXTERIOR GLUE IN CONFORMANCE WITH DOC PS 1 OR PS 2. ORIENTED STRAND BOARD OF EQUIVALENT THICKNESS, EXPOSURE RATING AND PANEL INDEX MAY BE USED IN LIEU OF PLYWOOD.

    ROOF SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING 32/16.

    FLOOR SHEATHING SHALL BE 3/4" (NOMINAL) WITH SPAN RATING 48/24.

    WALL SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING 24/0.

    PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED T&G JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING.

    REFER TO WOOD FRAMING NOTES BELOW FOR TYPICAL NAILING REQUIREMENTS.

35. ALL WOOD IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED WITH AN APPROVED PRESERVATIVE OR (2) LAYERS OF ASPHALT IMPREGNATED BUILDING PAPER SHALL BE PROVIDED BETWEEN UNTREATED WOOD AND CONCRETE OR MASONRY.

36. PRESERVATIVE TREATED WOOD SHALL BE TREATED PER AWPA STANDARD U1 TO THE USE CATEGORY EQUAL TO OR HIGHER THAN THE INTENDED APPLICATION. TREATED WOOD FOR ABOVE GROUND USE SHALL BE TREATED TO AWPA UC3B. WOOD IN CONTINUOUS CONTACT WITH FRESH WATER OR SOIL SHALL BE TREATED TO AWPA UC4A. WOOD FOR USE IN PERMANENT FOUNDATIONS SHALL BE TREATED TO AWPA UC4B.

37. FASTENERS AND TIMBER CONNECTORS USED WITH TREATED WOOD SHALL HAVE CORROSION RESISTANCE AS INDICATED IN THE FOLLOWING TABLE, UNLESS OTHERWISE NOTED.

WOOD TREATMENT	CONDITION	PROTECTION
HAS NO AMMONIA CARRIER	INTERIOR DRY	G90 GALVANIZED
CONTAINS AMMONIA CARRIER	INTERIOR DRY	G185 OR A185 HOT DIPPED OR CONTINUOUS HOT-GALVANIZED PER ASTM A653
CONTAINS AMMONIA CARRIER	INTERIOR WET	TYPE 304 OR 316 STAINLESS
CONTAINS AMMONIA CARRIER	EXTERIOR	TYPE 304 OR 316 STAINLESS
AZCA	ANY	TYPE 304 OR 316 STAINLESS

    INTERIOR DRY CONDITIONS SHALL HAVE WOOD MOISTURE CONTENT LESS THAN 19%. WOOD MOISTURE CONTENT IN OTHER CONDITIONS (INTERIOR WET, EXTERIOR WET, AND EXTERIOR DRY) IS EXPECTED TO EXCEED 19%. CONNECTORS AND THEIR FASTENERS SHALL BE THE SAME MATERIAL. COMPLY WITH THE TREATMENT MANUFACTURERS RECOMMENDATIONS FOR PROTECTION OF METAL.

38. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NUMBER C-2015. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE ICC-ES APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER FOR MAXIMUM LOAD CARRYING CAPACITY. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

    ALL 2X JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "LUS" SERIES JOIST HANGERS. ALL TJI JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "ITS" SERIES JOIST HANGERS. ALL DOUBLE-JOIST BEAMS SHALL BE CONNECTED TO FLUSH BEAMS WITH "MIT" SERIES JOIST HANGERS.

    WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE ONE-HALF OF THE NAILS OR BOLTS IN EACH MEMBER.

    ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM)AS MEMBERS CONNECTED.

39. WOOD FASTENERS

    A. NAIL SIZES SPECIFIED ON DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	LENGTH	DIAMETER
6d	2"	0.113"
8d	2-1/2"	0.131"
10d	3"	0.148"
12d	3-1/4"	0.148"
16d BOX	3-1/2"	0.135"

    IF CONTRACTOR PROPOSES THE USE OF ALTERNATE NAILS, THEY SHALL SUBMIT NAIL SPECIFICATIONS TO THE STRUCTURAL ENGINEER (PRIOR TO CONSTRUCTION) FOR REVIEW AND APPROVAL.

    NAILS - PLYWOOD (APA RATED SHEATHING) FASTENERS TO FRAMING SHALL BE DRIVEN FLUSH TO FACE OF SHEATHING WITH NO COUNTERSINKING PERMITTED. TOE-NAILS SHALL BE DRIVEN AT AN ANGLE OF 30 DIGRESS WITH THE MEMBER AND STARTED 1/3 THE LENGTH OF THE NAIL FROM THE MEMBER END.

    B. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG BOLTS BEARING ON WOOD. INSTALLATION OF LAG BOLTS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION WITH A LEAD BORE HOLE OF 60 TO 70 PERCENT OF THE SHANK DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8" AND SMALLER LAG SCREWS.

40. NOTCHES AND HOLES IN WOOD FRAMING:

    A. NOTCHES ON THE ENDS OF SOLID SAWN JOISTS AND RAFTERS SHALL NOT EXCEED ONE-FOURTH THE JOIST DEPTH. NOTCHES IN THE TOP OR BOTTOM OF SOLID SAWN JOISTS SHALL NOT EXCEED ONE-SIXTH THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE THIRD OF THE SPAN. HOLES BORED IN SOLID SAWN JOISTS AND RAFTERS SHALL NOT BE WITHIN 2 INCHES OF THE TOP OR BOTTOM OF THE JOIST, AND THE DIAMETER OF ANY SUCH HOLE SHALL NOT EXCEED ONE-THIRD THE DEPTH OF THE JOIST.

    B. IN EXTERIOR WALLS AND BEARING PARTITIONS, ANY WOOD STUD IS PERMITTED TO BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS WIDTH. A HOLE NOT GREATER IN DIAMETER THAN 40 PERCENT OF THE STUD WIDTH IS PERMITTED TO BE BORED IN ANY WOOD STUD. IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8 INCH TO THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A CUT OR NOTCH.

    C. NOTCHES AND HOLES IN MANUFACTURED LUMBER AND PREFABRICATED PLYWOOD WEB JOISTS SHALL BE PER THE MANUFACTURERS RECOMMENDATIONS UNLESS OTHERWISE NOTED.

41. WOOD FRAMING NOTES--THE FOLLOWING APPLY UNLESS OTHERWISE SHOWN ON THE PLANS:

    A. ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE INTERNATIONAL BUILDING CODE, THE AITC "TIMBER CONSTRUCTION MANUAL" AND THE AF&PA "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION". MINIMUM NAILING, UNLESS OTHERWISE NOTED, SHALL CONFORM TO IBC TABLE 2304.10.1. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS.

    B. WALL FRAMING: REFER ARCHITECTURAL DRAWINGS FOR THE SIZE OF ALL WALLS. ALL STUDS SHALL BE SPACED AT 16" O.C. UNO. TWO STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS, AND AT BEAM OR HEADER BEARING LOCATIONS. TWO 2x8 HEADERS SHALL BE PROVIDED OVER ALL OPENINGS NOT OTHERWISE NOTED. SOLID BLOCKING FOR WOOD COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORTS BELOW. PROVIDE CONTINUOUS SOLID BLOCKING AT MID-HEIGHT OF ALL STUD WALLS OVER 10'-0" IN HEIGHT.

    ALL WALLS SHALL HAVE A SINGLE BOTTOM PLATE AND A DOUBLE TOP PLATE. END NAIL TOP PLATE TO EACH STUD WITH TWO 16d NAILS, AND TOENAIL OR END NAIL EACH STUD TO BOTTOM PLATE WITH TWO 16d NAILS. FACE NAIL DOUBLE TOP PLATE WITH 16d @ 12" O.C. AND LAP MINIMUM 4'-0" AT JOINTS AND PROVIDE EIGHT 16d NAILS @ 4" O.C. EACH SIDE JOINT.

    ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH TWO ROWS OF 16d NAILS @ 12" ON-CENTER, OR ATTACHED TO CONCRETE BELOW WITH 5/8" DIAMETER ANCHOR BOLTS @ 4'-0" ON-CENTER EMBEDDED 7" MINIMUM, UNLESS INDICATED OTHERWISE. INDIVIDUAL MEMBERS OF BUILT-UP POSTS SHALL BE NAILED TO EACH OTHER WITH TWO ROWS OF 16d @12" ON-CENTER. UNLESS OTHERWISE NOTED, GYPSUM WALLBOARD SHALL BE FASTENED TO THE INTERIOR SURFACE OF ALL STUDS AND PLATES WITH NO. 6 X 1-1/4" TYPE S OR W SCREWS @ 8" ON-CENTER. UNLESS INDICATED OTHERWISE, 1/2" (NOMINAL)APA RATED SHEATHING (SPAN RATING 24/0) SHALL BE NAILED TO ALL EXTERIOR SURFACES WITH 8d NAILS @ 6" ON-CENTER AT PANEL EDGES AND TOP AND BOTTOM PLATES (BLOCK UN-SUPPORTED EDGES)AND TO ALL INTERMEDIATE STUDS AND BLOCKING WITH 8d NAILS @ 12" ON-CENTER ALLOW 1/8" SPACING AT ALL PANEL EDGES AND PANEL ENDS.

    C. FLOOR AND ROOF FRAMING: PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS UNLESS OTHERWISE NOTED. PROVIDE SOLID BLOCKING AT ALL BEARING POINTS. TOE-NAIL JOISTS TO SUPPORTS WITH TWO 16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI JOIST BEAMS TOGETHER WITH TWO ROWS 16d @ 12" ON-CENTER.

    UNLESS OTHERWISE NOTED ON THE PLANS, PLYWOOD ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS AND NAILED AT 6" ON-CENTER WITH 8d NAILS TO FRAMED PANEL EDGES, STRUTS AND OVER STUD WALLS AS SHOWN ON PLANS AND @ 12" ON-CENTER TO INTERMEDIATE SUPPORTS. PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED T&G JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 16d @ 12" ON-CENTER UNLESS OTHERWISE NOTED.

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DRAWN: RJ
DESIGN: KWW
CHECKED: KMR
APPROVED: DJS

REVISIONS:

1	Corrections	Feb. 19, 2019
2	Corrections	Mar. 21, 2019
3	Corrections	July 12, 2019
4	Revision #1	Oct. 1, 2019

DPD:

PROJECT TITLE:
LBH Residence
7450 North Mercer Way
Mercer Island, WA

ARCHITECT:
Stillwell Hanson Architects
46 Etruria Street, Suite 200
Seattle, WA 98109
PH 206 297 1504

ISSUE: Permit

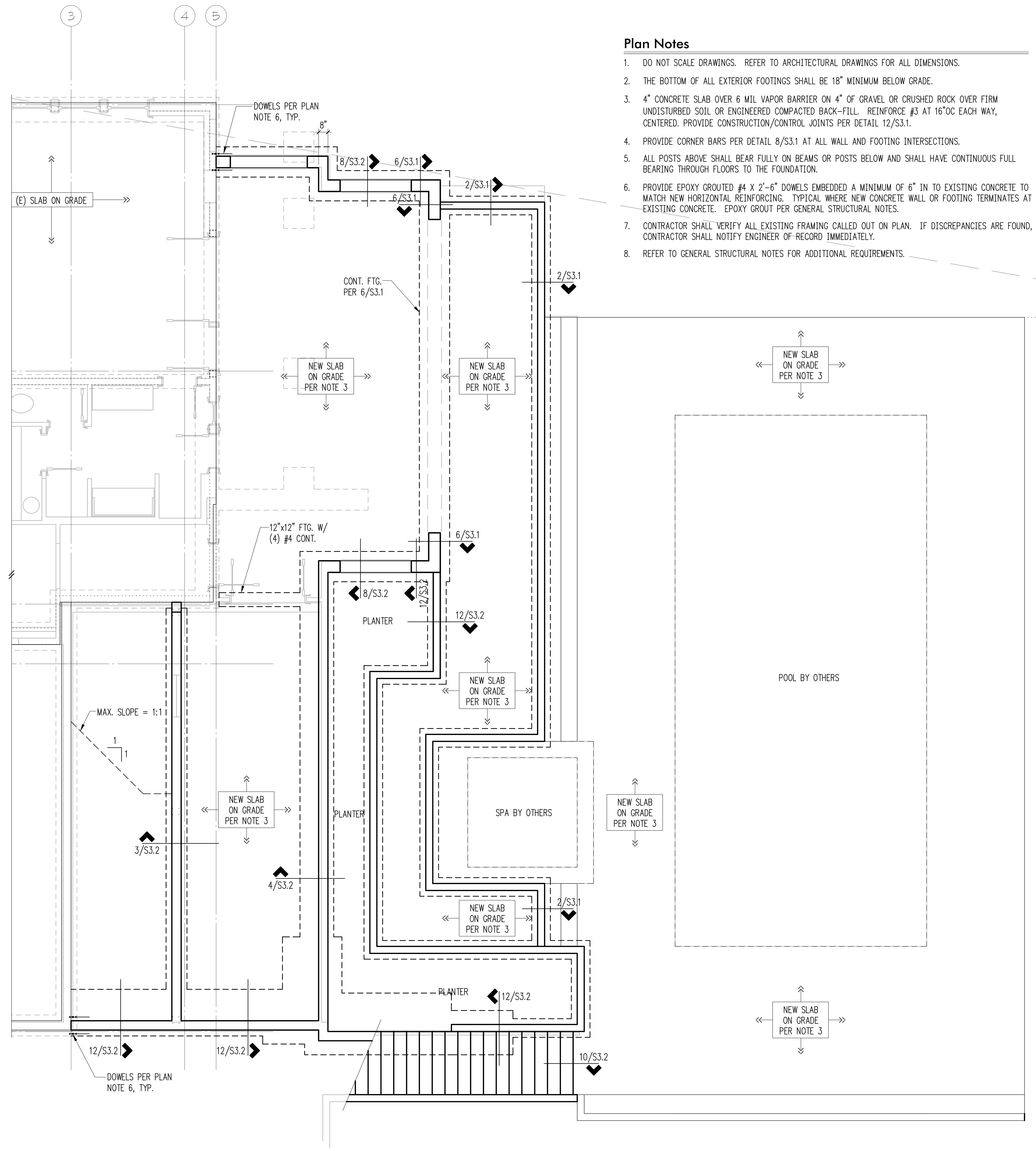
SHEET TITLE: General Structural Notes

SCALE:

DATE: November 30, 2018

PROJECT NO: 00834-2018-08

SHEET NO: S1.1



Plan Notes

1. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
2. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 18" MINIMUM BELOW GRADE.
3. 4" CONCRETE SLAB OVER 6 MIL VAPOR BARRIER ON 4" OF GRAVEL OR CRUSHED ROCK OVER FIRM UNDISTURBED SOIL OR ENGINEERED COMPACTED BACK-FILL. REINFORCE #3 AT 16"OC EACH WAY, CENTERED. PROVIDE CONSTRUCTION/CONTROL JOINTS PER DETAIL 12/S3.1.
4. PROVIDE CORNER BARS PER DETAIL 8/S3.1 AT ALL WALL AND FOOTING INTERSECTIONS.
5. ALL POSTS ABOVE SHALL BEAR FULLY ON BEAMS OR POSTS BELOW AND SHALL HAVE CONTINUOUS FULL BEARING THROUGH FLOORS TO THE FOUNDATION.
6. PROVIDE EPOXY GROUTED #4 X 2'-6" DOWELS EMBEDDED A MINIMUM OF 6" IN TO EXISTING CONCRETE TO MATCH NEW HORIZONTAL REINFORCING. TYPICAL WHERE NEW CONCRETE WALL OR FOOTING TERMINATES AT EXISTING CONCRETE. EPOXY GROUT PER GENERAL STRUCTURAL NOTES.
7. CONTRACTOR SHALL VERIFY ALL EXISTING FRAMING CALLED OUT ON PLAN. IF DISCREPANCIES ARE FOUND, CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD IMMEDIATELY.
8. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

Foundation Plan

Scale: 1/4" = 1'–0"

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SHEET TITLE:

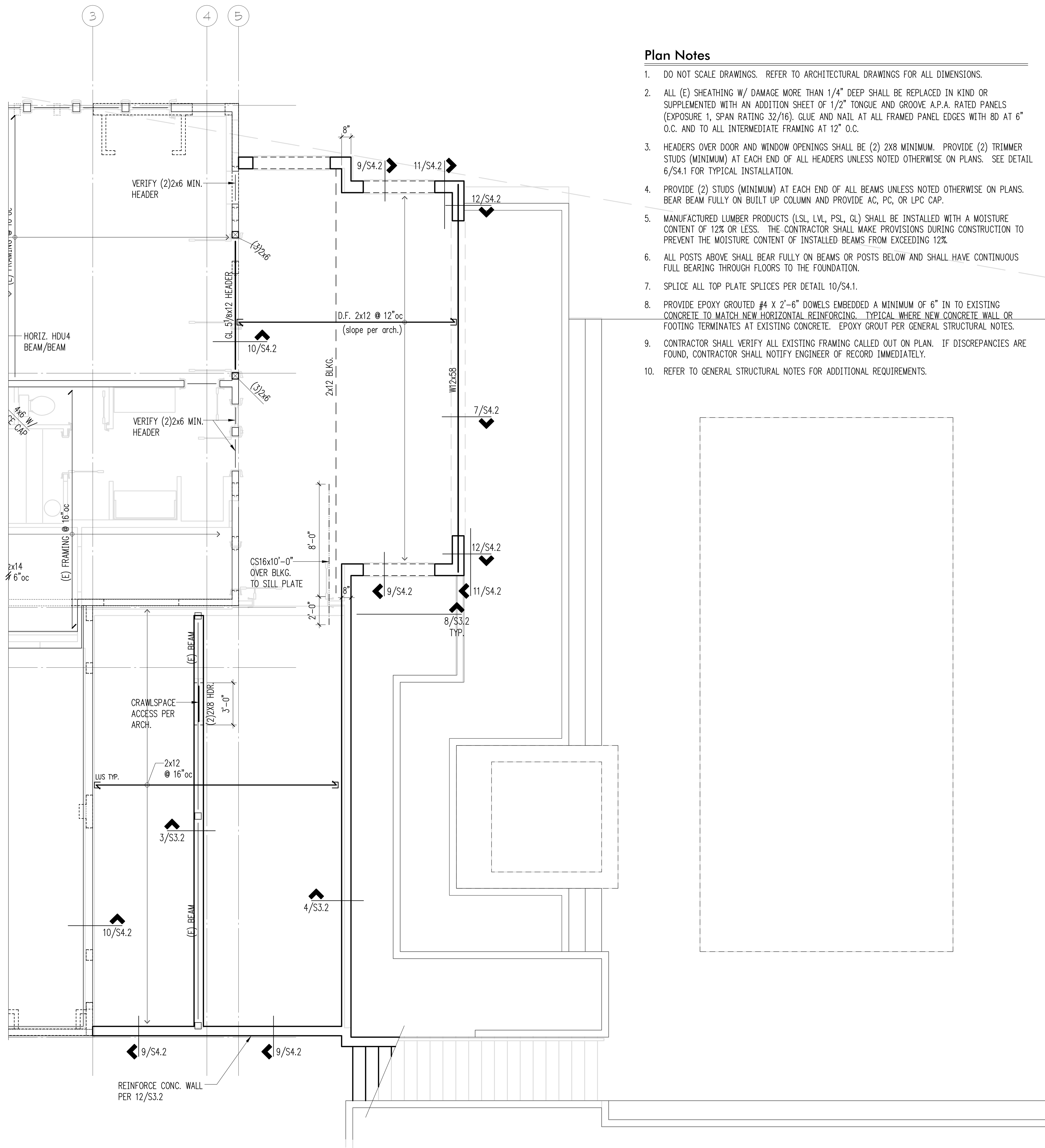
Foundation Plan

SCALE: 1/4" = 1'-0"

DATE: November 30, 2018

PROJECT NO: 00834-2018-08

SHEET NO: S2.1 3 4



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3. HEADERS OVER DOOR AND WINDOW OPENINGS SHALL BE (2) 2X8 MINIMUM. PROVIDE (2) TRIMMER STUDS (MINIMUM) AT EACH END OF ALL HEADERS UNLESS NOTED OTHERWISE ON PLANS. SEE DETAIL 6/S4.1 FOR TYPICAL INSTALLATION.
4. PROVIDE (2) STUDS (MINIMUM) AT EACH END OF ALL BEAMS UNLESS NOTED OTHERWISE ON PLANS. BEAR BEAM FULLY ON BUILT UP COLUMN AND PROVIDE AC, PC, OR LPC CAP.
5. MANUFACTURED LUMBER PRODUCTS (LSL, LVL, PSL, GL) SHALL BE INSTALLED WITH A MOISTURE CONTENT OF 12% OR LESS. THE CONTRACTOR SHALL MAKE PROVISIONS DURING CONSTRUCTION TO PREVENT THE MOISTURE CONTENT OF INSTALLED BEAMS FROM EXCEEDING 12%.
6. ALL POSTS ABOVE SHALL BEAR FULLY ON BEAMS OR POSTS BELOW AND SHALL HAVE CONTINUOUS FULL BEARING THROUGH FLOORS TO THE FOUNDATION.
7. SPLICE ALL TOP PLATE SPLICES PER DETAIL 10/S4.1.
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Main Floor Framing Plan

Scale: 1/4" = 1'-0"

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APPROVED:	DJS

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ISSUE:

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SHEET TITLE:

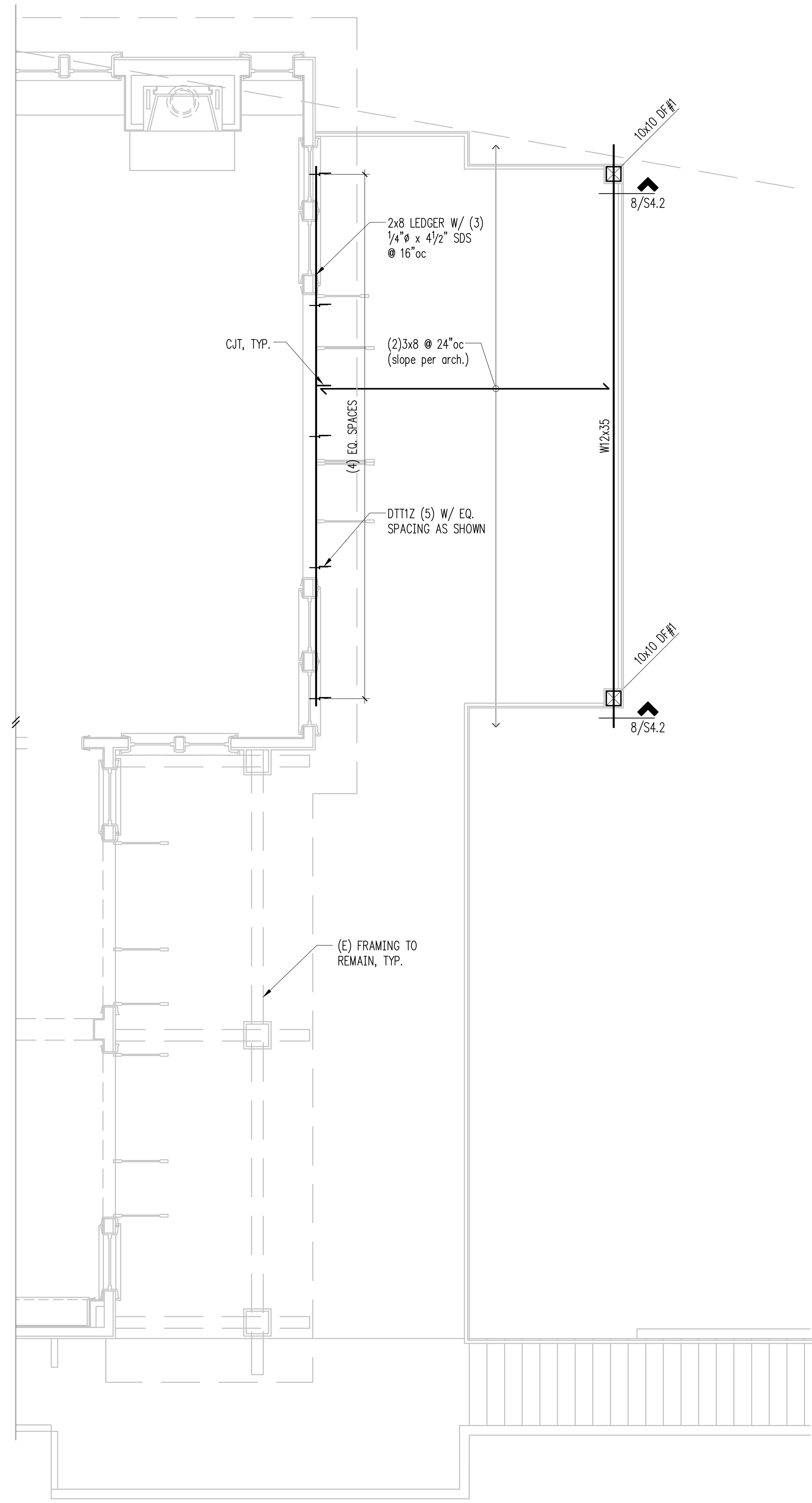
Main Floor Framing Plan

SCALE: 1/4" = 1'-0"

DATE: November 30, 2018

PROJECT NO: 00834-2018-08

SHEET NO: **S2.2** (3) (4)



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Upper Floor Framing Plan
Scale: 1/4" = 1'–0"

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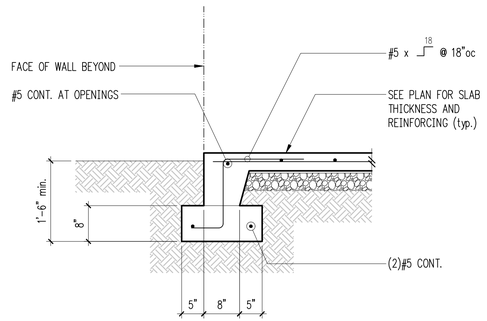
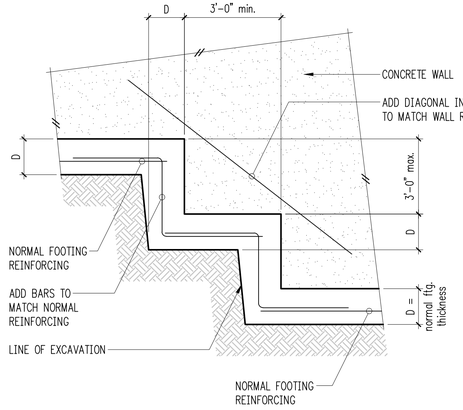
SHEET TITLE:
Upper Floor Framing Plan

SCALE: 1/4" = 1'-0"
DATE: November 30, 2018
PROJECT NO: 00834-2018-08
SHEET NO: S2.3 4

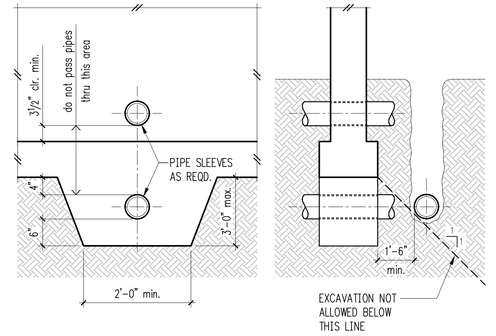
1



Typical Turned-Down Slab Edge 2



Typical Stepped Footing 3



Pipe and Trench Locations 4

3
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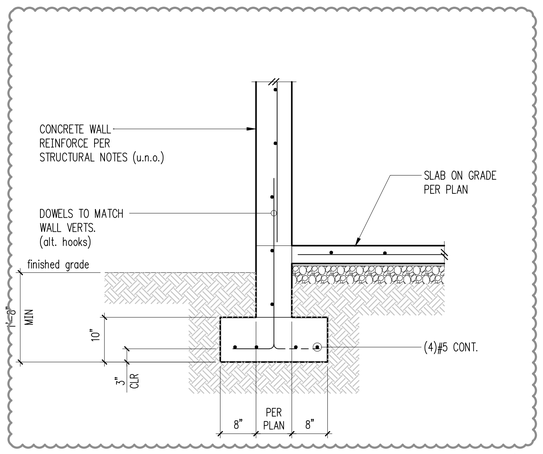

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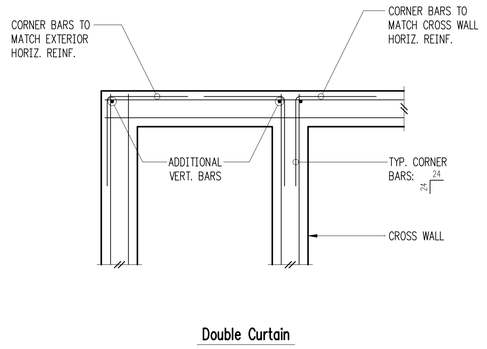
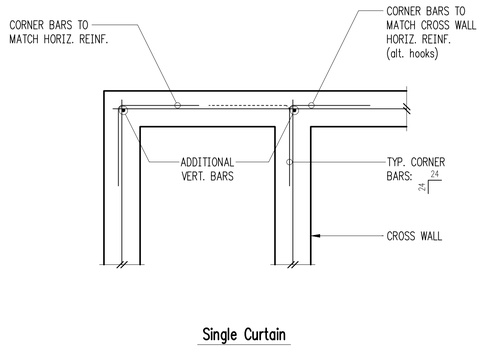
Typical Exterior Concrete Wall Footing 6



Double Curtain



Single Curtain

Typical Corner Bars at Concrete Walls and Footings 8

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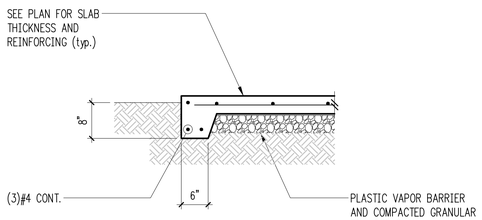
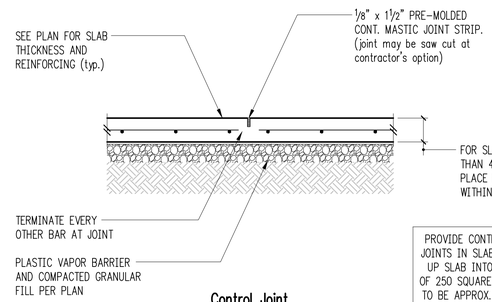
9

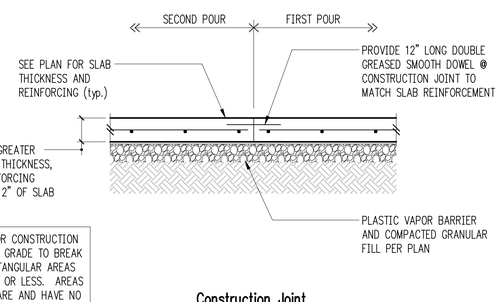
Typical Slab Edge 10





Control Joint

PROVIDE CONTROL OR CONSTRUCTION JOINTS IN SLABS ON GRADE TO BREAK UP SLAB INTO RECTANGULAR AREAS OF 250 SQUARE FEET OR LESS. AREAS TO BE APPROX. SQUARE AND HAVE NO ACUTE ANGLES. JOINT LOCATIONS TO BE APPROVED BY THE ARCHITECT.



Construction Joint

Typical Slab Joints 12

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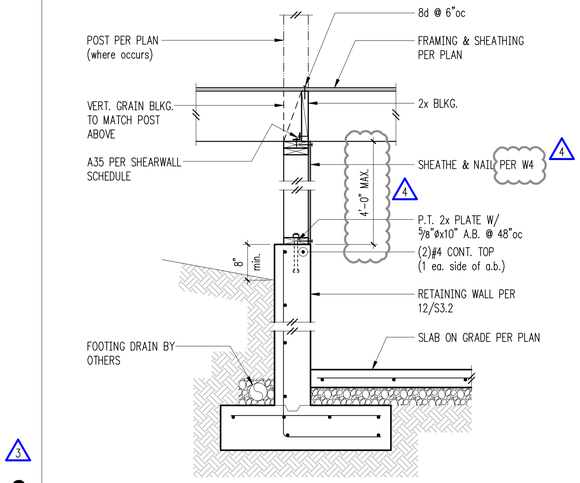
ISSUE: Permit

SHEET TITLE: Typical Concrete Details

SCALE: 3/4" = 1'-0" U.N.O.
DATE: November 30, 2018
PROJECT NO: 00834-2018-08
SHEET NO: S3.1



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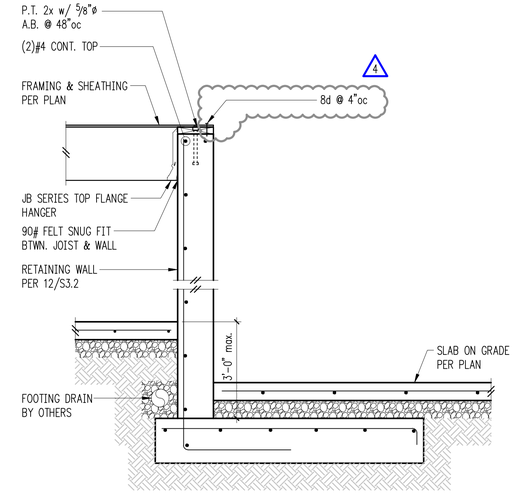

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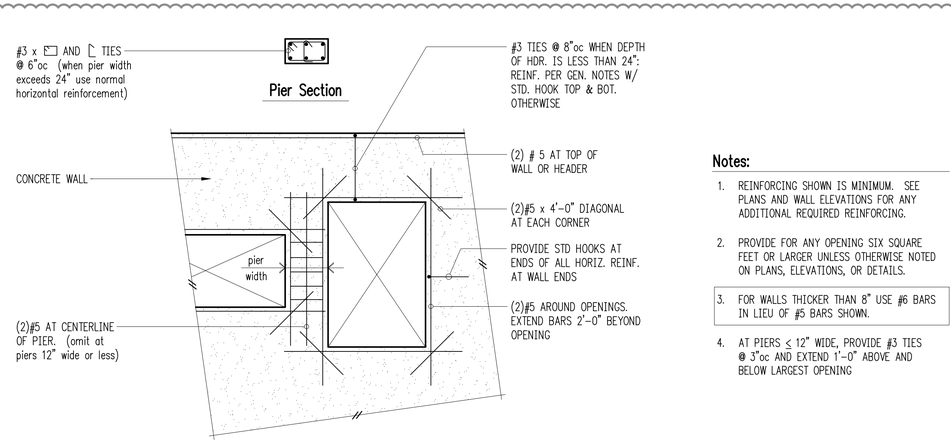
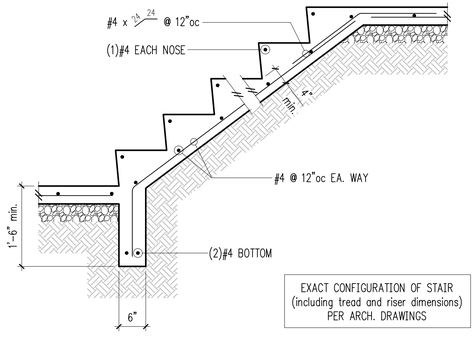


Notes:

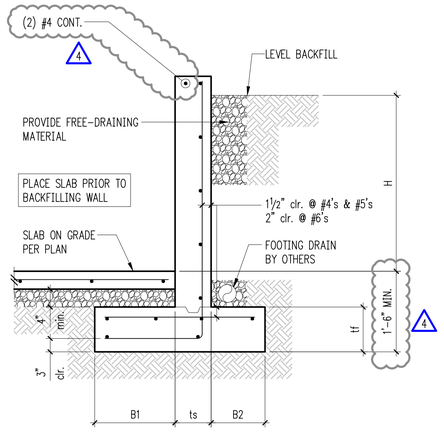
1. REINFORCING SHOWN IS MINIMUM. SEE PLANS AND WALL ELEVATIONS FOR ANY ADDITIONAL REQUIRED REINFORCING.
2. PROVIDE FOR ANY OPENING SIX SQUARE FEET OR LARGER UNLESS OTHERWISE NOTED ON PLANS, ELEVATIONS, OR DETAILS.
3. FOR WALLS THICKER THAN 8" USE #6 BARS IN LIEU OF #5 BARS SHOWN.
4. AT PIERS ≤ 12" WIDE, PROVIDE #3 TIES @ 3"oc AND EXTEND 1'-0" ABOVE AND BELOW LARGEST OPENING

4

Typical Opening Reinforcing at Concrete Walls 8



Typical Stair On Grade 10



Retaining Wall Schedule W/ Slab

H (ft.)	B1	ts	B2	tf	Stem Reinforcing		Footing Reinforcing	
					Vert.	Horiz.	Top	Longit.
3'-0"	5"	8"	5"	8"	#4 @ 18"oc	#4 @ 12"oc	–	(2)#4
4'-0"	1'-0"	8"	5"	8"	#4 @ 18"oc	#4 @ 12"oc	–	(2)#4
6'-0"	2'-3"	8"	5"	10"	#4 @ 12"oc	#4 @ 12"oc	–	(4)#4
8'-0"	2'-9"	8"	1'-0"	12"	#5 @ 12"oc	#4 @ 12"oc	#4 @ 18"oc	(6)#5
10'-0"	3'-9"	8"	1'-6"	18"	#7 @ 12"oc	#4 @ 12"oc	#4 @ 18"oc	(8)#5

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1

2

3

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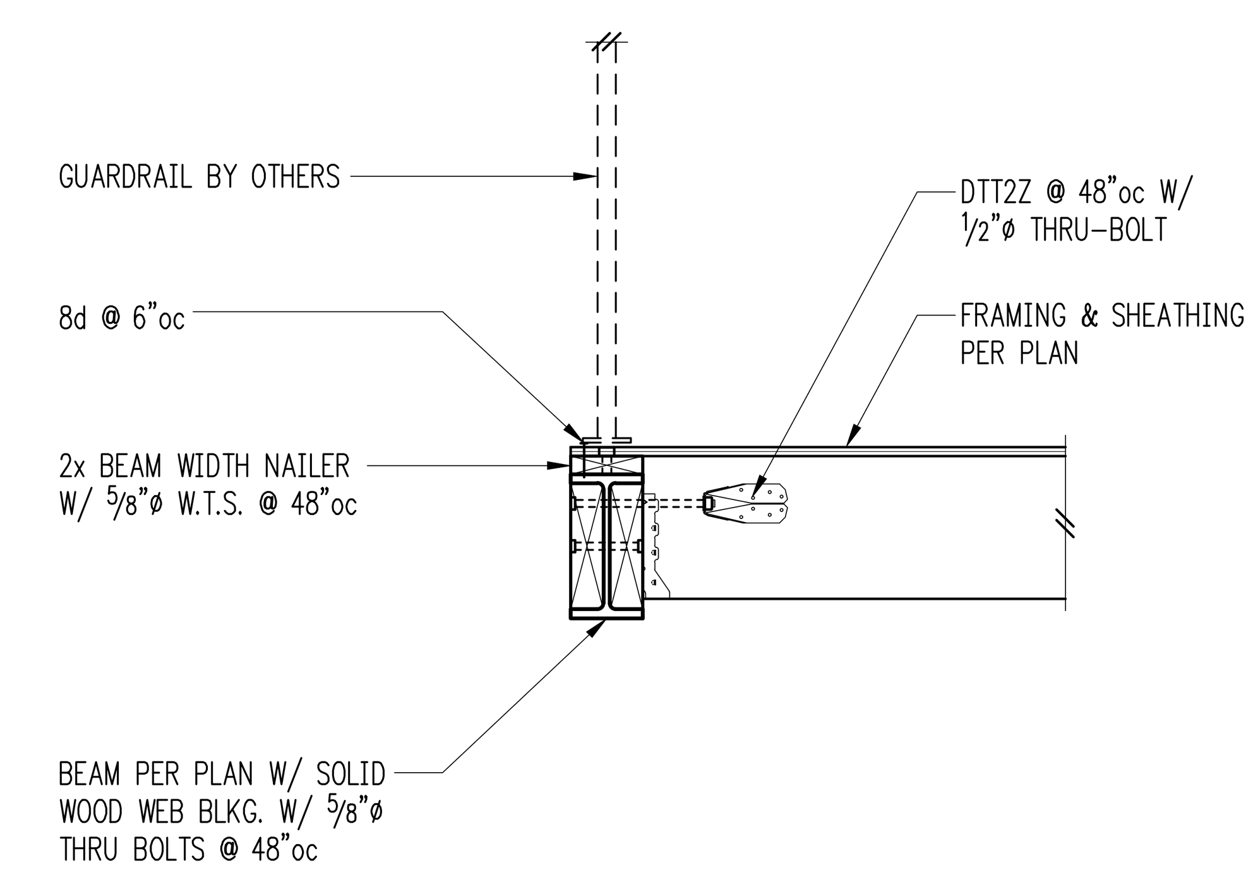

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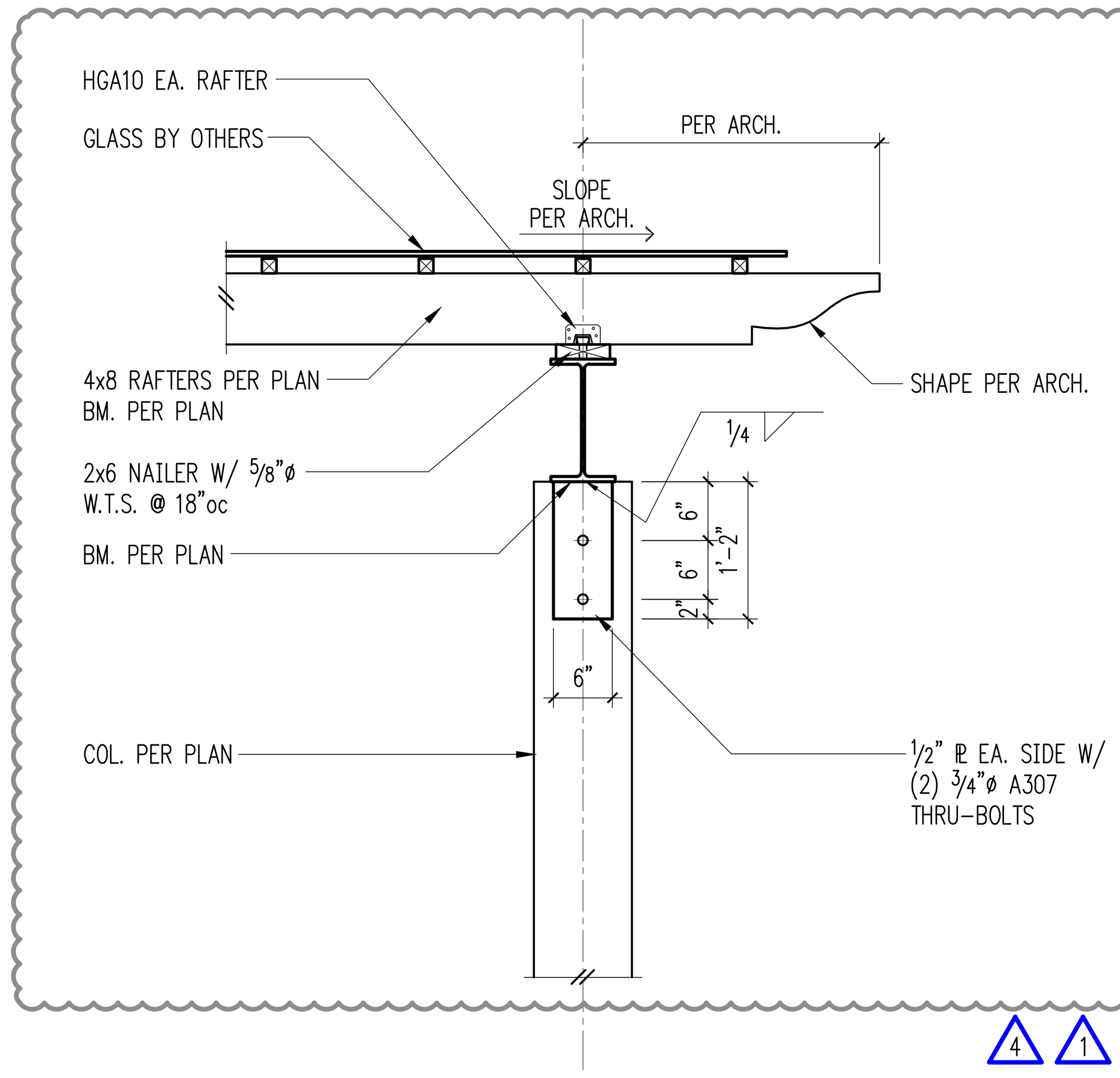

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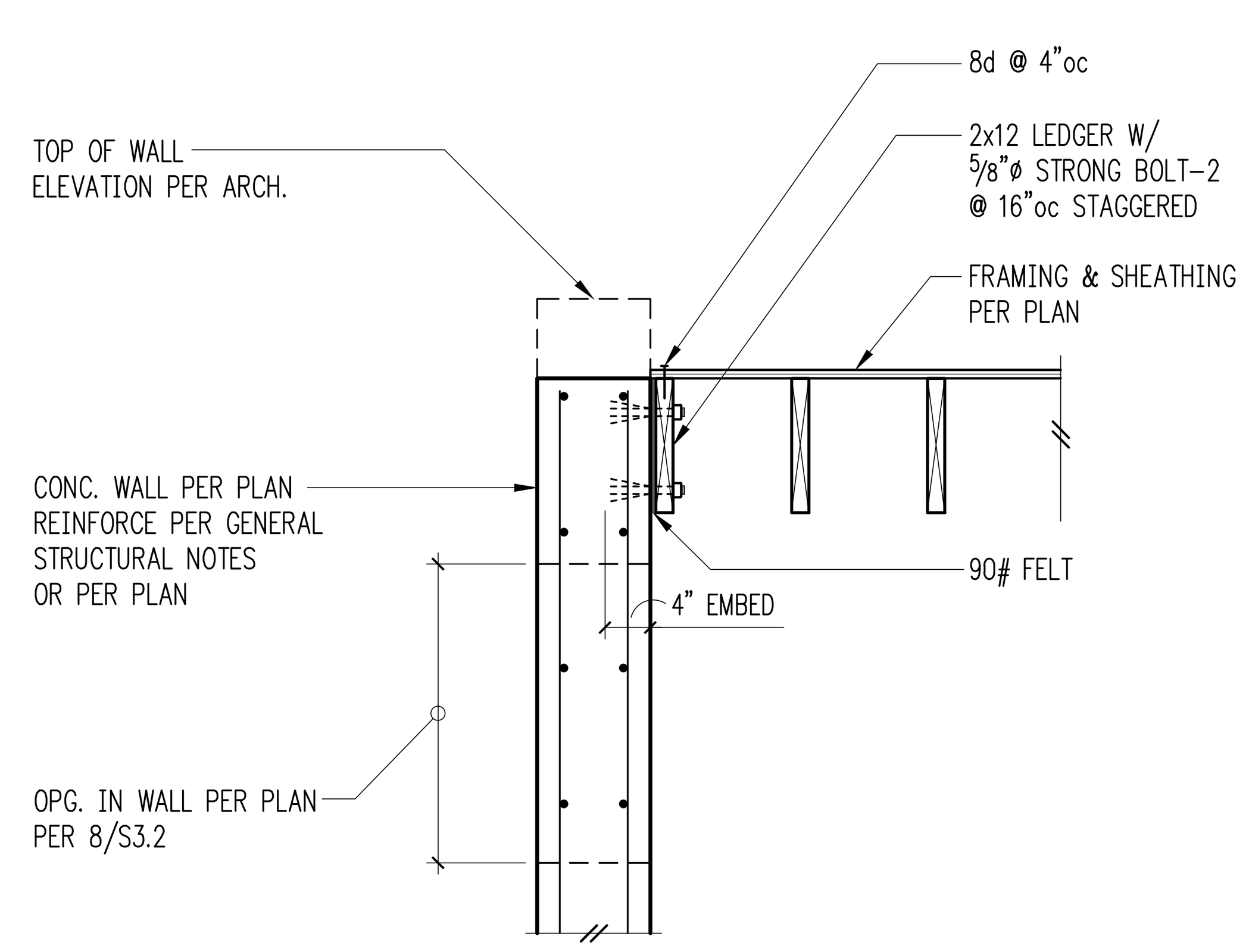

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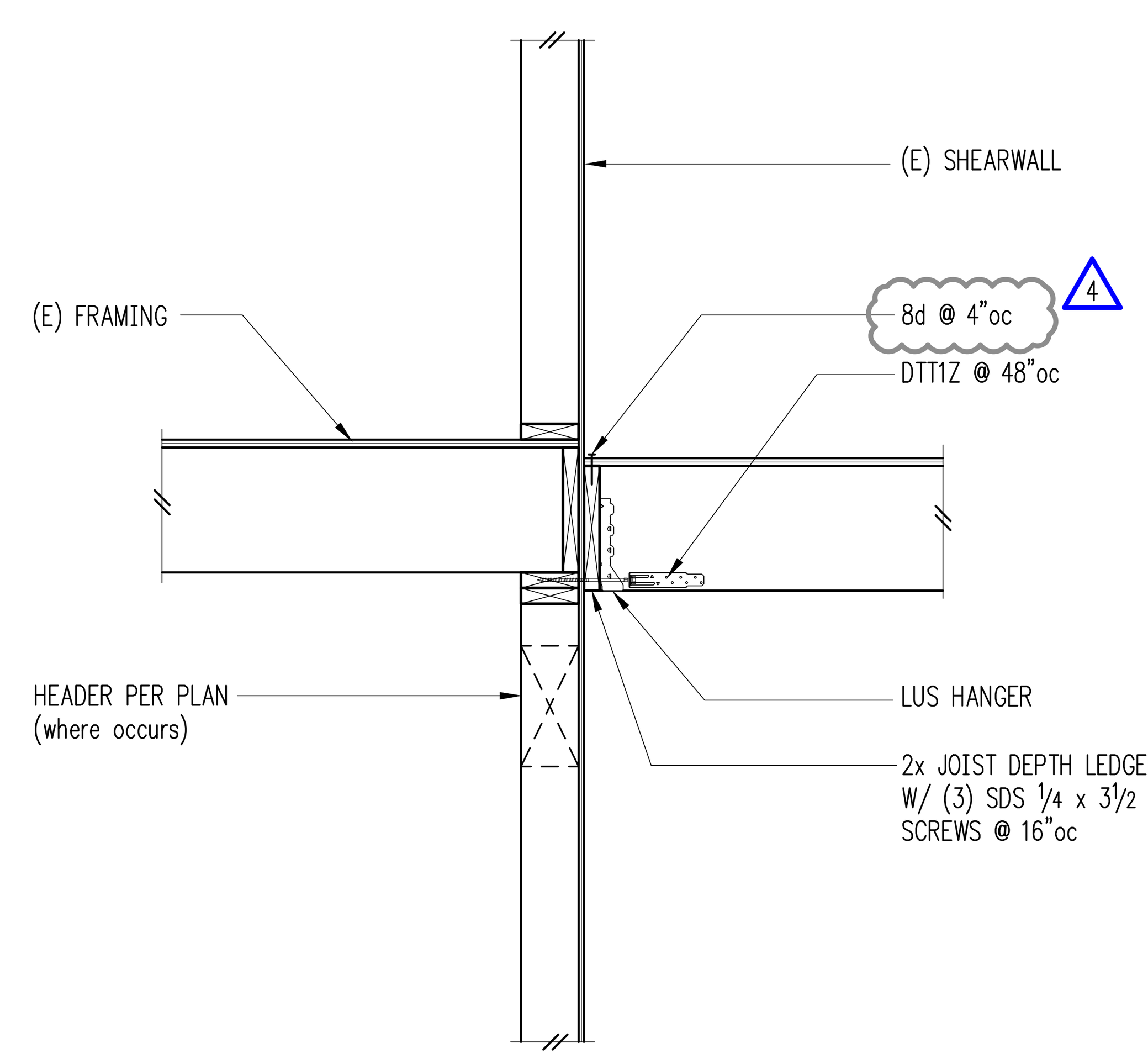

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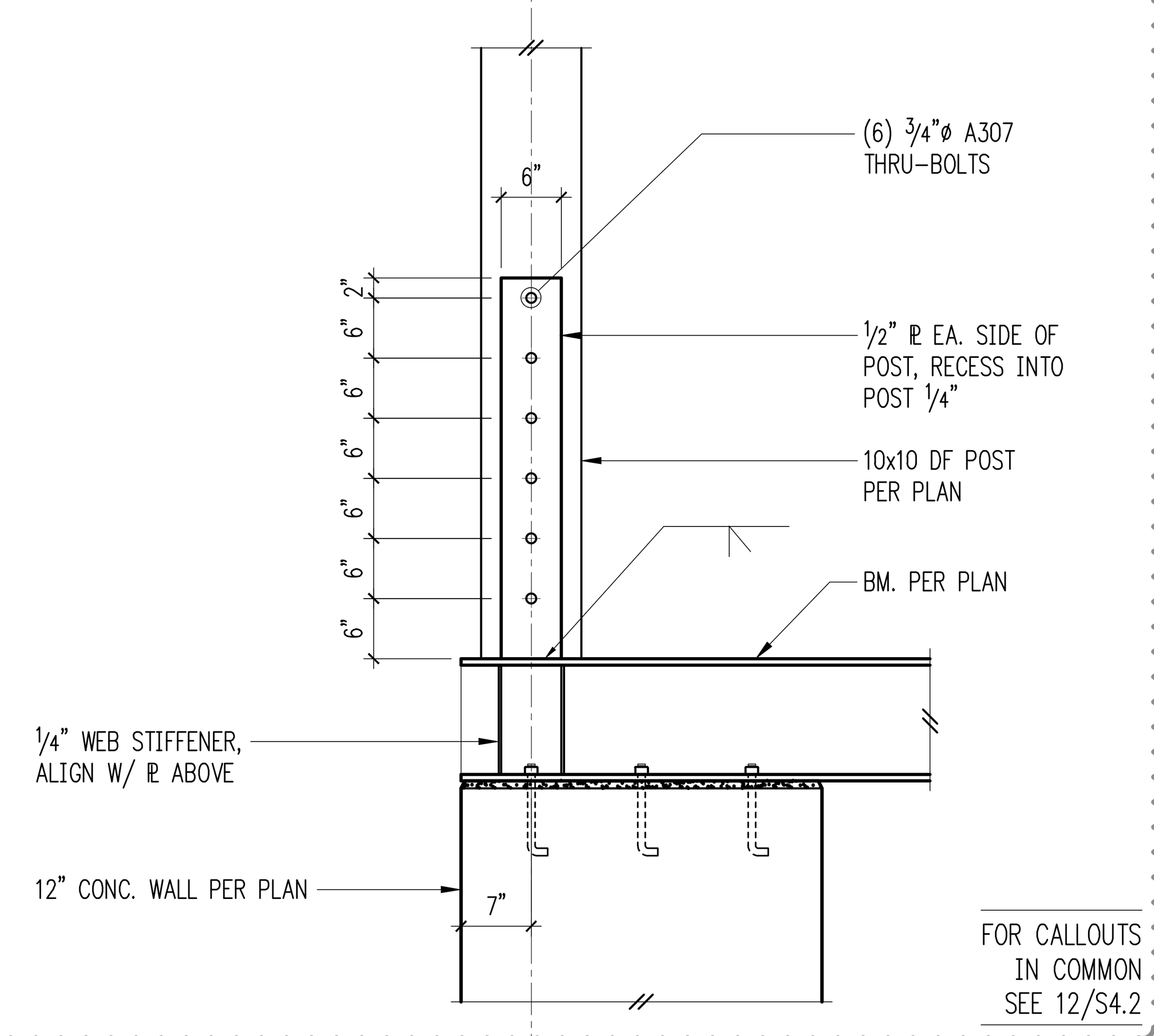

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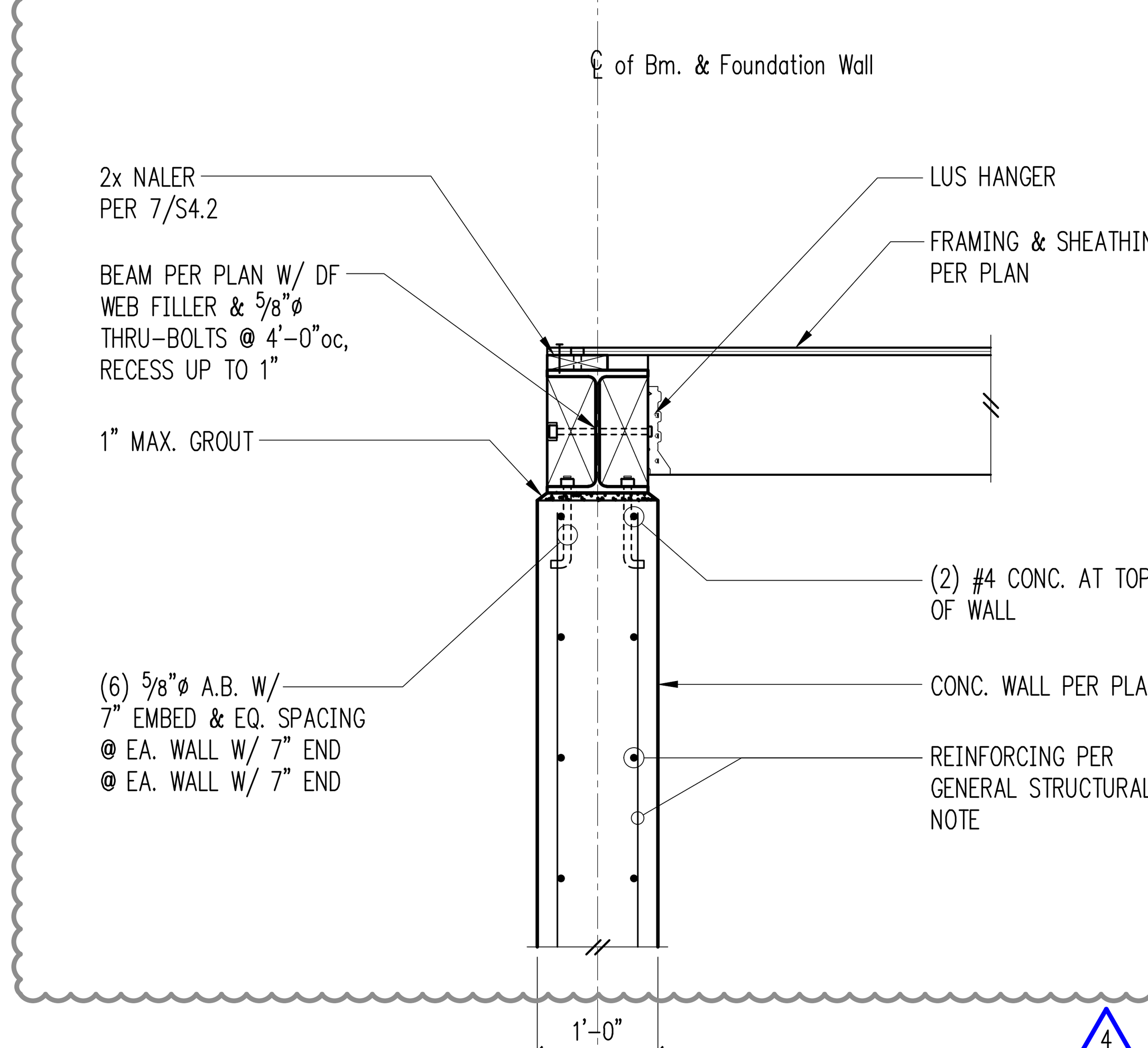


12

SSF STRUCTURAL ENGINEERING

2124 Third Avenue - Suite 100 - Seattle, WA 98121
p: 206.443.6212 ssfengineers.com

934 Broadway - Tacoma, WA 98402
p: 253.284.9470 ssfengineers.com

DAN J. SAY — PROFESSIONAL ENGINEER

DRAWN:	RJ
DESIGN:	KWW
CHECKED:	KMR
APPROVED:	DJS

REVISIONS:

1	Corrections	Feb. 19, 2019
2	Corrections	Mar. 21, 2019
3	Corrections	July 12, 2019
4	Revision #1	Oct. 1, 2019

DPD:

PROJECT TITLE:

LBH Residence

7450 North Mercer Way
Mercer Island, WA

ARCHITECT:
Stillwell Hanson Architects
46 Etruria Street, Suite 200
Seattle, WA 98109
PH 206 297 1504

ISSUE:
Permit

SHEET TITLE:
Wood Framing Details

SCALE: 3/4" = 1'-0" U.N.O.

DATE: November 30, 2018

PROJECT NO: 00834-2018-08

SHEET NO:
S4.2

SE 1/4 OF SW 1/4 SEC. 1, TWN. 24N, RGE. 4E, W.M.

GENERAL NOTES

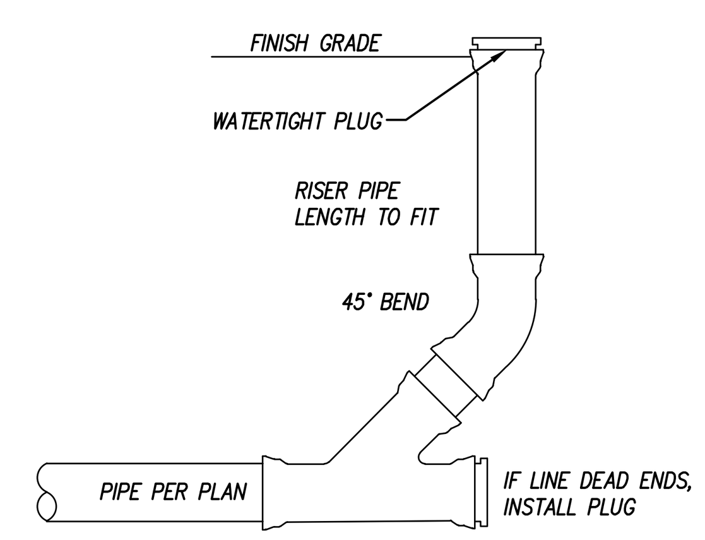
1. A PRE–CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
2. SPECIAL INSPECTIONS BY CITY INSPECTOR MAY BE REQUIRED DURING CONSTRUCTION. GENERAL CONTRACTOR TO COORDINATE.
3. IF/WHEN APPLICABLE ALL ROADWAY WORK AND MATERIAL SHALL BE IN ACCORDANCE WITH THE CURRENT APWA AND CITY OF MERCER ISLAND STANDARDS AND SPECIFICATIONS.
4. A COPY OF THE APPROVED CONSTRUCTION PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
5. ALL TRENCH BACKFILL SHALL BE COMPACTED TO 95 PERCENT DENSITY IN ROADWAYS, ROADWAY SHOULDERS, ROADWAY PRISM AND DRIVEWAYS, AND 85 PERCENT DENSITY IN UNPAVED AREAS. ALL PIPE ZONE COMPACTION SHALL BE 95 PERCENT..
6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADEQUATE TEMPORARY TRAFFIC CONTROL TO ENSURE TRAFFIC SAFETY DURING CONSTRUCTION ACTIVITIES. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
7. MEASURES SHALL BE TAKEN BY THE DEVELOPER TO PROVIDE GROUND COVER IN AREAS WITHIN THE RIGHT–OF–WAY WHICH HAVE BEEN STRIPPED OF NATURAL VEGETATION OR HAVE A POTENTIAL FOR EROSION.
8. ANY EXISTING PUBLIC IMPROVEMENTS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED PRIOR TO FINAL INSPECTION.
9. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL PUBLIC STREETS FREE FROM MUD AND DEBRIS AT ALL TIMES.
10. ALL EXISTING ON–SITE STRUCTURES AND ASSOCIATED UTILITIES TO BE DEMOLISHED, REMOVED, AND/OR ABANDONED PER APPLICABLE JURISDICTIONAL REQUIREMENTS.
11. DEFICIENCIES, WHETHER CAUSED BY CONTRACTOR OPERATIONS OR NOT CAUSED BY THE CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED IMMEDIATELY.
12. THE CONTRACTOR SHALL MAINTAIN ROADS AND STREETS ADJACENT TO THE PROJECT LIMITS WHEN AFFECTED BY THE CONTRACTOR'S OPERATIONS. THE CONTRACTOR SHALL REMOVE OR REPAIR ANY CONDITION RESULTING FROM THE WORK THAT MIGHT IMPEDE TRAFFIC OR CREATE A HAZARD. PUBLIC ROADWAYS SHALL BE BROOMED CLEAN AT THE END OF EACH WORK DAY.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF THE WORK COVERED BY THE CONTRACT.
14. ROCKERIES AND/OR RETAINING WALLS TO BE CONSTRUCTED PER GEOTECHNICAL AND/OR STRUCTURAL ENGINEER'S PLANS & SPECIFICATIONS.

ARCHITECTURAL, STRUCTURAL & GEOTECHNICAL NOTES

1. SPECIAL INSPECTIONS FOR GEOTECHNICAL AND/OR STRUCTURAL ASPECTS OF OF THE PROJECT MAY BE REQUIRED DURING VARIOUS STAGES OF THE PROECT. CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION AND OBTAINING INSPECTIONS WHEN AND WHERE NECESSARY.
2. IF/WHEN APPLICABLE SEE ARCHITECTURAL PLANS FOR BUILDING SECTIONS AND ALL LOCATIONAL/DIMENSIONAL ASPECTS OF BUILDINGS.
3. COORDINATE ALL SITE CIVIL CONSTRUCTION WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL/PLUMBING AND LANDSCAPE PLANS AND IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.

GRADING NOTES:

1. ALL CUT MATERIAL GENERATED DURING THE PROJECT THAT IS NOT ACCEPTABLE FOR USE AS COMPACTED FILL MATERIAL AT ANOTHER LOCATION ON–SITE MUST BE HAULED TO AN APPROVED LOCATION OFF–SITE.
2. THE ON–SITE TOPOGRAPHICAL MAPPING WAS PROVIDED BY TERRANE.
3. ALL TEMPORARY OR PERMANENT SLOPES SHALL NOT EXCEED 2H:1V UNLESS APPROVED BY A GEOTECHNICAL ENGINEER.
4. FILL MATERIAL PLACED UNDER BUILDING FOUNDATIONS OR PAVEMENT SHALL BE CRUSHED BASE ROCK OR COMPACTED STRUCTURAL FILL IN ACCORDANCE TO WSDOT STANDARD SPECIFICATIONS.
5. ROCKERY AND/OR RETAINING WALLS GREATER THAN FOUR (4) FEET IN HEIGHT REQUIRES A BUILDING PERMIT.



CLEANOUT DETAIL

N.T.S.

BUILDING STAKING NOTE:

CONTRACTOR TO USE ARCHITECTURAL PLANS FOR ACCURATE LOCATION & CONSTRUCTION STAKING OF ALL SITE IMPROVEMENTS.

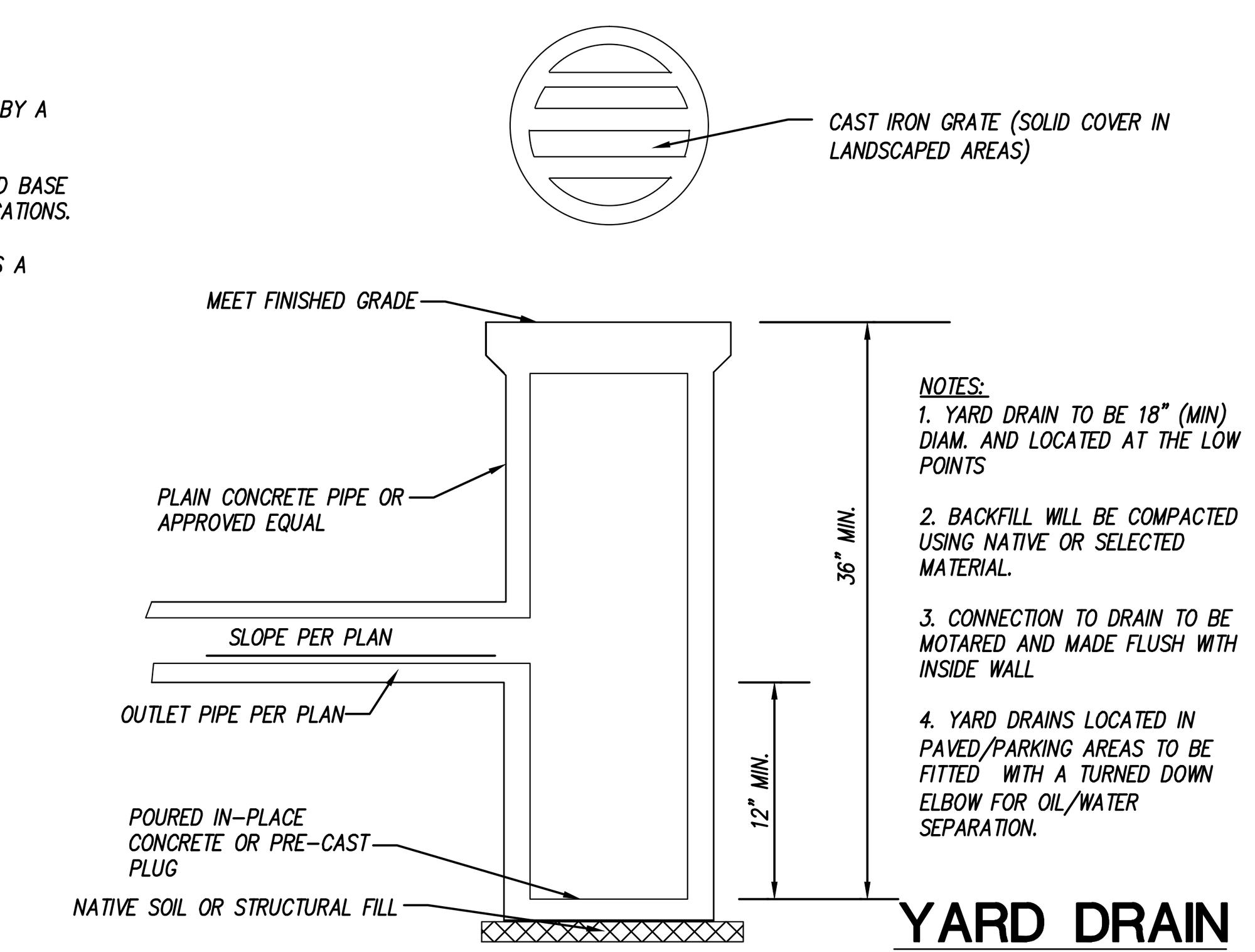
EXISTING UTILITY NOTE:

LOCATION OF EXISTING UTILITIES SHOWN, IF ANY, IS APPROXIMATE AND MAY NOT BE ACCURATE OR ALL INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION. AGENCIES INVOLVED SHALL BE NOTIFIED WITHIN A REASONABLE TIME PRIOR TO THE START OF CONSTRUCTION.

ESTIMATED EARTHWORK NOTE:

CUT: 225± CY
FILL: 0± CY

EXCESS CUT MATERIAL TO BE REMOVED FROM SITE TO AN APPROVED OFFSITE LOCATION (TBD).



CAST IRON GRATE (SOLID COVER IN LANDSCAPED AREAS)
MEET FINISHED GRADE
PLAIN CONCRETE PIPE OR APPROVED EQUAL
SLOPE PER PLAN
OUTLET PIPE PER PLAN
POURED IN–PLACE CONCRETE OR PRE–CAST PLUG
NATIVE SOIL OR STRUCTURAL FILL
36" MIN.
12" MIN.
NOTES:
1. YARD DRAIN TO BE 18" (MIN) DIAM. AND LOCATED AT THE LOW POINTS
2. BACKFILL WILL BE COMPACTED USING NATIVE OR SELECTED MATERIAL.
3. CONNECTION TO DRAIN TO BE MOTARED AND MADE FLUSH WITH INSIDE WALL
4. YARD DRAINS LOCATED IN PAVED/PARKING AREAS TO BE FITTED WITH A TURNED DOWN ELBOW FOR OIL/WATER SEPARATION.

YARD DRAIN

N.T.S.

SURVEY NOTE:

EXISTING SURVEY FEATURES, BOUNDARY AND TOPOGRAPHIC DATA SHOWN ON THESE DRAWINGS HAS BEEN PREPARED, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, LITCHFIELD ENGINEERING CANNOT ENSURE THE ACCURACY AND THUS IS NOT RESPONSIBLE FOR THE ACCURACY OF DATA/INFORMATION PROVIDED BY OTHERS, OR FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.

BASIS OF BEARINGS:

HELD BEARING OF N 00°03'00" W ALONG N–S LINE OF SEC. 1, T.24N., R.4.E., W.M. AS SHOWN HEREON AND PER MERCER ISLAND LOT LINE REVISION NO. MI 96–1381 IN VOL. 116 OF SURVEYS, PG 34

LEGAL DESCRIPTION:

LOT 9, BLOCK 2, MCGILVRA'S ISLAND ADDITION ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 16 OF PLATS, PAGE 58, IN KING COUNTY, WASHINGTON, THE EASTERLY BOUNDARY LINE OF WHICH IS ESTABLISHED BY JUDGMENT AND DECREE IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON, CASE NUMBER 582636, DATED AUGUST 8, 1962, SAID BOUNDARY LINE BEING DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTH LINE, BLOCK 2, MCGILVRA'S ISLAND ADDITION, SAID POINT BEING WEST A DISTANCE OF 104.13 FEET FROM THE SOUTHEAST CORNER OF SAID BLOCK, THENCE NORTH 10°57'20" EAST 91.90 FEET, THENCE NORTH 3°09'00" EAST 9.30 FEET, THENCE NORTH 4°36'00" EAST 65.20 FEET, THENCE NORTH 9°06'00" EAST 38.00 FEET; THENCE NORTH 5°10'30" EAST 60.87 FEET, THENCE NORTH 7°45'36" EAST 118 FEET, MORE OR LESS, TO THE SHORE LINE OF LAKE WASHINGTON,

TOGETHER WITH SECOND CLASS SHORELANDS ADJOINING

SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

VICINITY MAP

NOT TO SCALE

LEGEND

- FOUND PIPE
- SET HUB
- SET PK NAIL
- FOUND NAIL
- GAS METER
- GAS VALVE
- SOIL LOG/TEST PIT
- SANITARY SEWER MANHOLE
- CATCH BASIN
- WATER METER
- WETLAND FLAG
- POWER METER
- AREA LIGHT
- POWER POLE

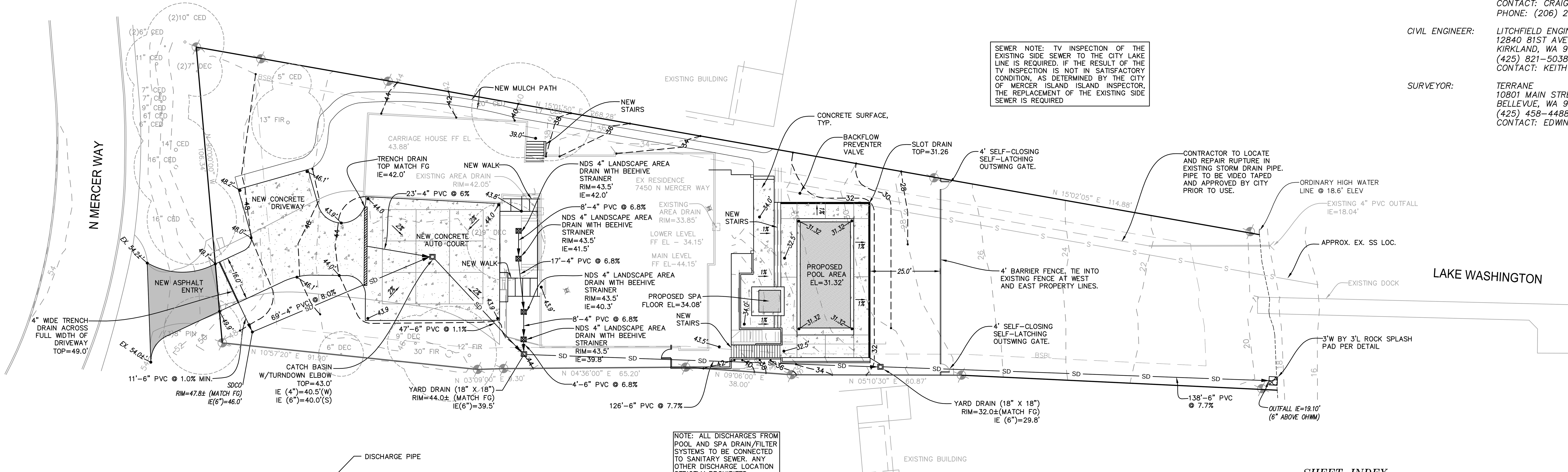
PROJECT DATA

PROPERTY ADDRESS:	7450 NORTH MERCER WAY MERCER ISLAND, WASHINGTON 98040
TAX LOT NUMBER:	531510–0125
SITE AREA:	30,941 SF (0.71 ACRES)
ZONING	R–15 = RESIDENTIAL 15

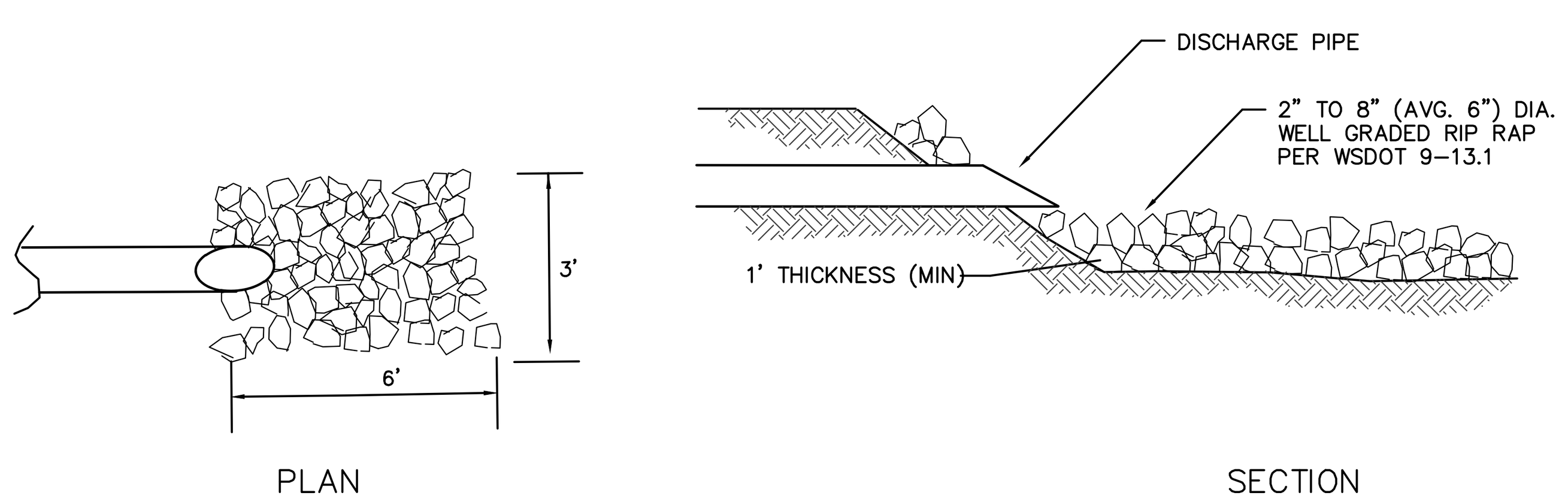
PROJECT TEAM

OWNER/ DEVELOPER	SEAN & LORI KELL 14033 SE 92ND STREET NEWCASTLE, WA 98059 CONTACT: SEAN KELL PHONE: (206) 954–3004
ARCHITECT:	STILLWELL HANSON ARCHITECTS 46 ETRURIA STREET, SUITE 200 SEATTLE, WASHINGTON 98109 CONTACT: CRAIG STILLWELL PHONE: (206) 297–1504
CIVIL ENGINEER:	LITCHFIELD ENGINEERING 12840 81ST AVE NE KIRKLAND, WA 98034 (425) 821–5038 CONTACT: KEITH LITCHFIELD, PE
SURVEYOR:	TERRANE 10801 MAIN STREET, STE 102 BELLEVUE, WA 98004 (425) 458–4488 CONTACT: EDWIN J. GREEN JR.

SEWER NOTE: TV INSPECTION OF THE EXISTING SIDE SEWER TO THE CITY LAKE LINE IS REQUIRED. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED



N MERCER WAY
NEW ASPHALT ENTRY
4" WIDE TRENCH DRAIN ACROSS FULL WIDTH OF DRIVEWAY TOP=49.0'
NEW CONCRETE DRIVEWAY
NEW CONCRETE AUTO COURT
CARRIAGE HOUSE FF EL 43.86'
TRENCH DRAIN TOP MATCH FG IE=42.0'
NEW WALK
NEW MULCH PATH
NEW STAIRS
EX RESIDENCE 7450 N MERCER WAY
EXISTING BUILDING
CONCRETE SURFACE, TYP.
BACKFLOW PREVENTER VALVE
SLOT DRAIN TOP=31.26
4' SELF–CLOSING SELF–LATCHING OUTSWING GATE.
PROPOSED POOL AREA EL=31.32'
PROPOSED SPA FLOOR EL=34.08'
4' BARRIER FENCE, TIE INTO EXISTING FENCE AT WEST AND EAST PROPERTY LINES.
CONTRACTOR TO LOCATE AND REPAIR RUPTURE IN EXISTING STORM DRAIN PIPE. PIPE TO BE VIDEO TAPED AND APPROVED BY CITY PRIOR TO USE.
ORDINARY HIGH WATER LINE @ 18.6' ELEV
EXISTING 4" PVC OUTFALL IE=18.04'
APPROX. EX. SS LOC.
LAKE WASHINGTON
EXISTING DOCK
3'W BY 3'L ROCK SPLASH PAD PER DETAIL
OUTFALL IE=19.10' (6" ABOVE OHWM)
138'–6" PVC @ 7.7%
YARD DRAIN (18" X 18") RIM=32.0±(MATCH FG) IE (6")=29.8'
126'–6" PVC @ 7.7%
CATCH BASIN W/TURNDOWN ELBOW TOP=43.0' IE (4")=40.5'(W) IE (6")=40.0'(S)
YARD DRAIN (18" X 18") RIM=44.0±(MATCH FG) IE(6")=39.5'
11'–6" PVC @ 1.0% MIN.
SDCO RIM=47.8±(MATCH FG) IE(6")=46.0'
NOTE: ALL DISCHARGES FROM POOL AND SPA DRAIN/FILTER SYSTEMS TO BE CONNECTED TO SANITARY SEWER. ANY OTHER DISCHARGE LOCATION STRICTLY PROHIBITED
EXISTING BUILDING



DRAINAGE OUTFALL ROCK PAD

N.T.S.

SHEET INDEX

GRAPHIC SCALE

20 0 10 20

SCALE IN FEET

CALL 3 WORKING DAYS BEFORE YOU DIG
811
UTILITIES UNDERGROUND LOCATION CENTER

APPROVAL DATE
CITY OF MERCER ISLAND DEVELOPMENT SERVICES GROUP

STAMP NOT VALID UNLESS SIGNED AND DATED

DWN BY	CHKD BY	DATE	NOTES
KAL	KAL	3–14–19	SUBMITTED TO CLIENT
KAL	KAL	7–10–19	REVISED PER CITY COMMENTS
KAL	KAL	10–28–19	REVISED PER ARCHITECT

LITCHFIELD ENGINEERING
12840 81ST AVENUE NE
Kirkland, WA 98034
Tel (425) 821–5038 Fax (425) 821–5739

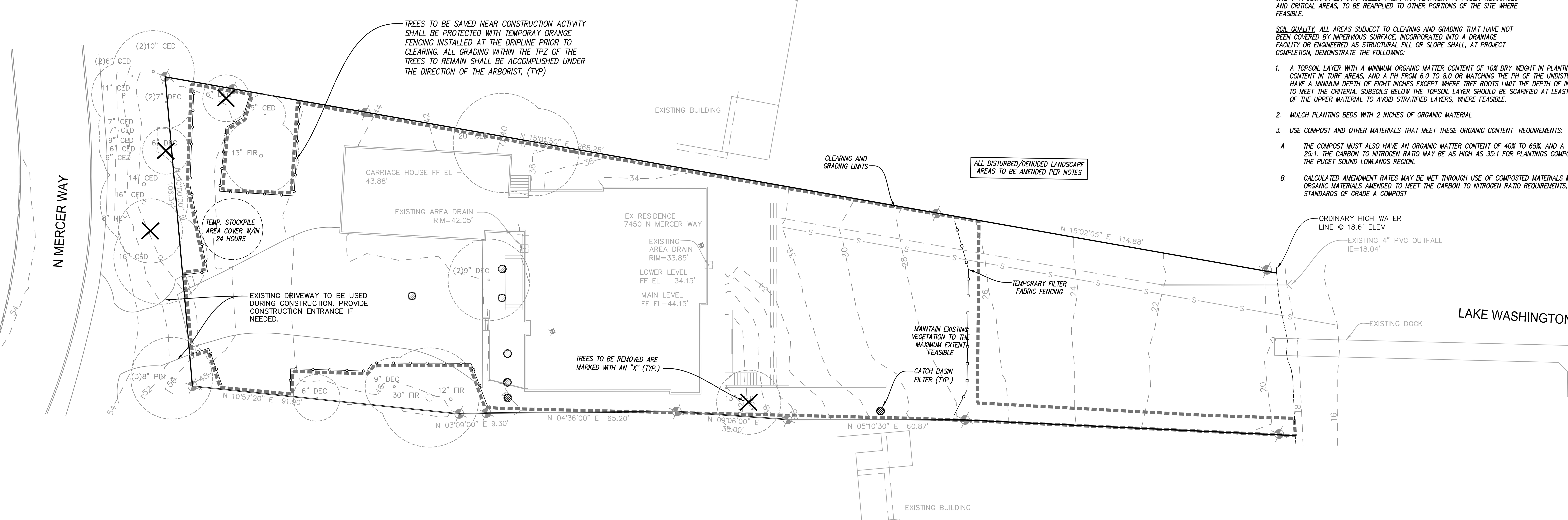
SITE IMPROVEMENT PLAN
LBH RESIDENCE
7450 NORTH MERCER WAY

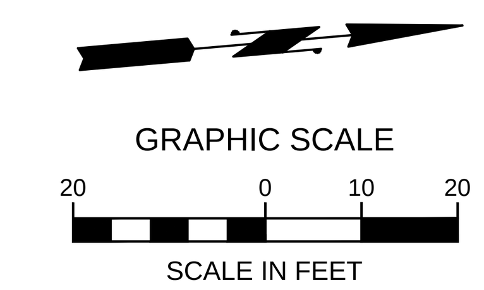
SEAN KELL
14033 SE 92ND STREET
NEWCASTLE, WA 98059

SHEET
1 of 2

JOB No.

SE 1/4 OF SW 1/4 SEC. 1, TWN. 24N, RGE. 4E, W.M.





WA DOE SOIL AMENDMENT NOTES

SOIL RETENTION. RETAIN, IN AN UNDISTURBED STATE, THE DUFF LAYER AND NATIVE TOPSOIL TO THE MAXIMUM EXTENT PRACTICABLE. IN ANY AREAS REQUIRING GRADING REMOVE AND STOCKPILE THE DUFF LAYER AND TOPSOIL ON SITE IN A DESIGNATED, CONTROLLED AREA, NOT ADJACENT TO PUBLIC RESOURCES AND CRITICAL AREAS, TO BE REAPPLIED TO OTHER PORTIONS OF THE SITE WHERE FEASIBLE.

SOIL QUALITY. ALL AREAS SUBJECT TO CLEARING AND GRADING THAT HAVE NOT BEEN COVERED BY IMPERVIOUS SURFACE, INCORPORATED INTO A DRAINAGE FACILITY OR ENGINEERED AS STRUCTURAL FILL OR SLOPE SHALL, AT PROJECT COMPLETION, DEMONSTRATE THE FOLLOWING:

1. A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.

2. MULCH PLANTING BEDS WITH 2 INCHES OF ORGANIC MATERIAL

3. USE COMPOST AND OTHER MATERIALS THAT MEET THESE ORGANIC CONTENT REQUIREMENTS:

   A. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1. THE CARBON TO NITROGEN RATIO MAY BE AS HIGH AS 35:1 FOR PLANTINGS COMPOSED ENTIRELY OF PLANTS NATIVE TO THE PUGET SOUND LOWLANDS REGION.

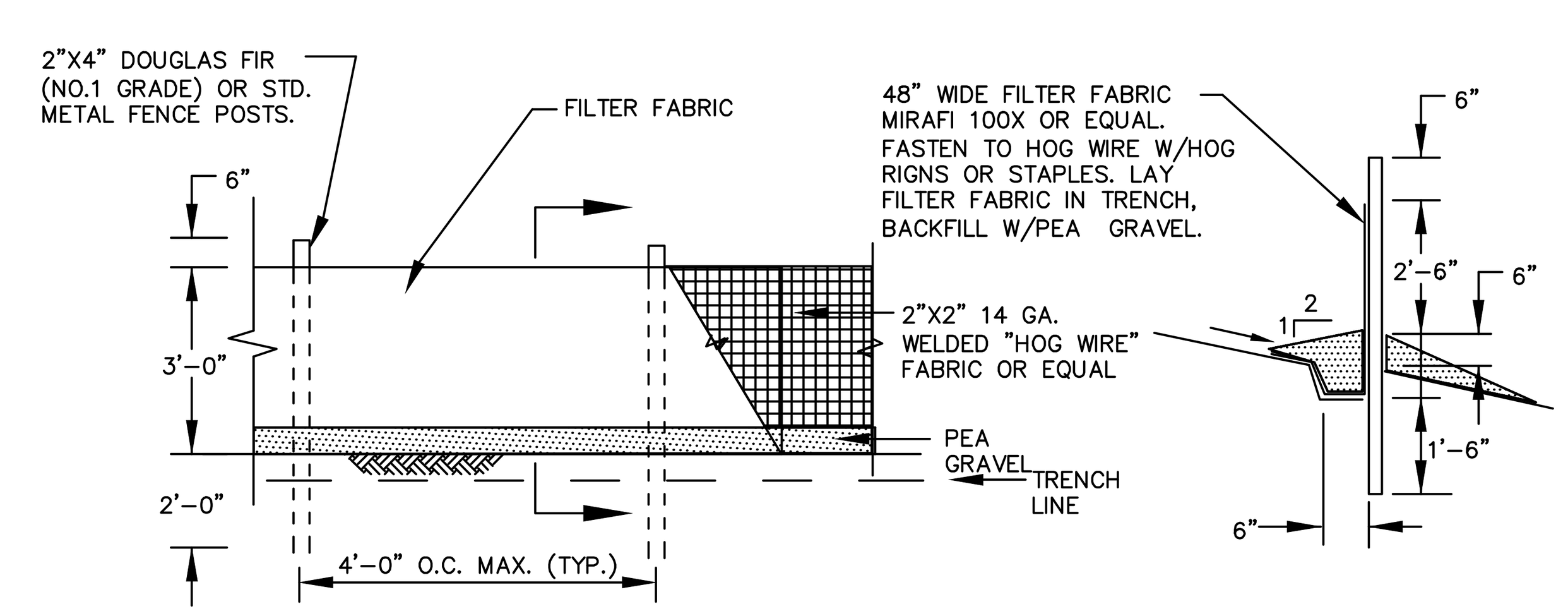
   B. CALCULATED AMENDMENT RATES MAY BE MET THROUGH USE OF COMPOSTED MATERIALS MEETING (A.) ABOVE; OR OTHER ORGANIC MATERIALS AMENDED TO MEET THE CARBON TO NITROGEN RATIO REQUIREMENTS, AND MEETING THE CONTAMINANT STANDARDS OF GRADE A COMPOST

EROSION & SEDIMENT CONTROL NOTES

1. APPROVAL OF THIS EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
2. THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE SET BY SURVEY AND CLEARLY FLAGGED IN THE FIELD BY A CLEARING CONTROL FENCE PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE OR REMOVAL OF ANY GROUND COVER BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE PERMITTEE/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
4. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT–LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.
5. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE ESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.
6. THE ESC FACILITIES SHALL BE INSPECTED BY THE PERMITTEE/CONTRACTOR DAILY DURING NON–RAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT, AND AT THE END OF EVERY RAINFALL, AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMPORARY SILTATION PONDS AND ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED. WRITTEN RECORDS SHALL BE KEPT DOCUMENTING THE REVIEWS OF THE ESC FACILITIES.
7. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.
8. ALL DENUDED SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD (E.G. SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK) WITHIN THE FOLLOWING TIMELINES:

* APRIL 1 TO OCTOBER 31 – SOILS MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
* NOVEMBER 1 TO MARCH 31 – SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.

9. AT NO TIME SHALL MORE THAN 1' OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT–LADEN WATER INTO THE DOWNSTREAM SYSTEM.
10. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
11. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM WHICH BACKS UNDER OR INTO A POND SHALL BE USED AS A TEMPORARY SETTLING BASIN.
12. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).
13. WHERE STRAW MULCH IS REQUIRED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2".
14. ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDING 6" MUST HAVE A PERIMETER FENCE WITH A MINIMUM HEIGHT OF 3'.
15. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND SPECIFICATIONS.
16. THE ESC FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE APPROVED PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY OF MERCER ISLAND INSPECTOR.
17. A COPY OF THE APPROVED EROSION CONTROL PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
18. ALL LOTS ADJOINING OR HAVING ANY NATIVE GROWTH PROTECTION EASEMENTS (NGPE) SHALL HAVE A 4' HIGH TEMPORARY CONSTRUCTION FENCE (CYCLONE OR PLASTIC MESH) SEPARATING THE LOT (OR BUILDABLE PORTIONS OF THE LOT) FROM THE AREA RESTRICTED BY THE NGPE AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR CLEARING AND REMAIN IN PLACE UNTIL A DWELLING IS CONSTRUCTED AND OWNERSHIP TRANSFERRED TO THE FIRST OWNER/OCCUPANT.
19. CLEARING LIMITS SHALL BE DELINEATED WITH A CLEARING CONTROL FENCE. THE CLEARING CONTROL FENCE SHALL CONSIST OF A 6–FT. HIGH CHAIN LINK FENCE ADJACENT THE DRIP LINE OF TREES TO BE SAVED, WETLAND OR STREAM BUFFERS, AND SENSITIVE SLOPES. CLEARING CONTROL FENCES ALONG WETLAND OR STREAM BUFFERS OR UPSLOPE OF SENSITIVE SLOPES SHALL BE ACCOMPANIED BY AN EROSION CONTROL FENCE. IF APPROVED BY THE CITY, A FOUR–FOOT HIGH ORANGE MESH CLEARING CONTROL FENCE MAY BE USED TO DELINEATE CLEARING LIMITS IN ALL OTHER AREAS.
20. OFF–SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET SYSTEM, THE STREET SHALL BE IMMEDIATELY CLEANED WITH POWER SWEEPER OR OTHER EQUIPMENT. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION ENTRANCE AND SHALL BE CLEANED OF ALL DIRT THAT WOULD BE DEPOSITED ON THE PUBLIC STREETS.
21. ANY CATCH BASINS COLLECTING RUNOFF FROM THE SITE, WHETHER THEY ARE ON OR OFF THE SITE, SHALL HAVE THEIR GRATES COVERED WITH FILTER FABRIC DURING CONSTRUCTION. CATCH BASINS DIRECTLY DOWNSTREAM OF THE CONSTRUCTION ENTRANCE OR ANY OTHER CATCH BASIN AS DETERMINED BY THE CITY INSPECTOR SHALL BE PROTECTED WITH A "FILTER FABRIC SOCK" OR EQUIVALENT.
22. THE WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCE SHALL BE REPLACED AND THE FILTER FABRIC CLEANED IF IT IS NONFUNCTIONAL BY EXCESSIVE SILT ACCUMULATION AS DETERMINED BY THE CITY OF KIRKLAND. ALSO, ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ONE–QUARTER DEPTH.
23. ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1' AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"–8" ROCK/40%–70% PASSING; 2"–4" ROCK/30%–40% PASSING; AND 1"–2" ROCK/10%–20% PASSING.
24. IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY.
25. ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.
26. DO NOT FLUSH CONCRETE BY–PRODUCTS OR TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. IF EXPOSED AGGREGATE IS FLUSHED INTO THE STORM SYSTEM, IT COULD MEAN RE–CLEANING THE ENTIRE DOWNSTREAM STORM SYSTEM, OR POSSIBLY RE–LAYING THE STORM LINE.
27. PRIOR TO OCTOBER 1 OF EACH YEAR (THE BEGINNING OF THE WET SEASON), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA SHALL BE SEEDED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR. THE INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.
28. IF A SEDIMENT POND IS NOT PROPOSED, A BAKER TANK OR OTHER TEMPORARY GROUND AND/OR SURFACE WATER STORAGE TANK MAY BE REQUIRED DURING CONSTRUCTION, DEPENDING ON WEATHER CONDITIONS.
29. ANY AREA TO BE USED FOR INFILTRATION OR PERVIOUS PAVEMENT (INCLUDING A 5–FOOT BUFFER) MUST BE SURROUNDED BY SILT FENCE PRIOR TO CONSTRUCTION AND UNTIL FINAL STABILIZATION OF THE SITE TO PREVENT SOIL COMPACTION AND SILTATION BY CONSTRUCTION ACTIVITIES.



FILTER FABRIC FENCING

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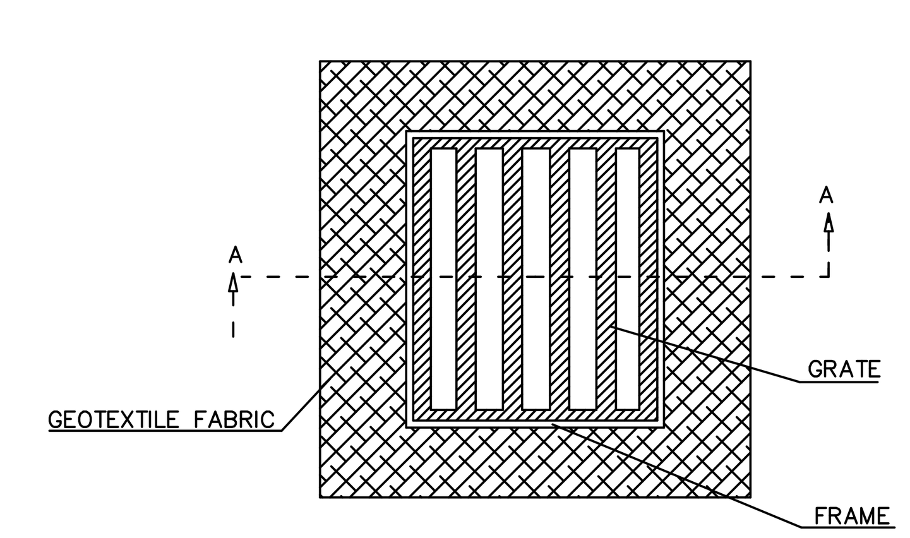
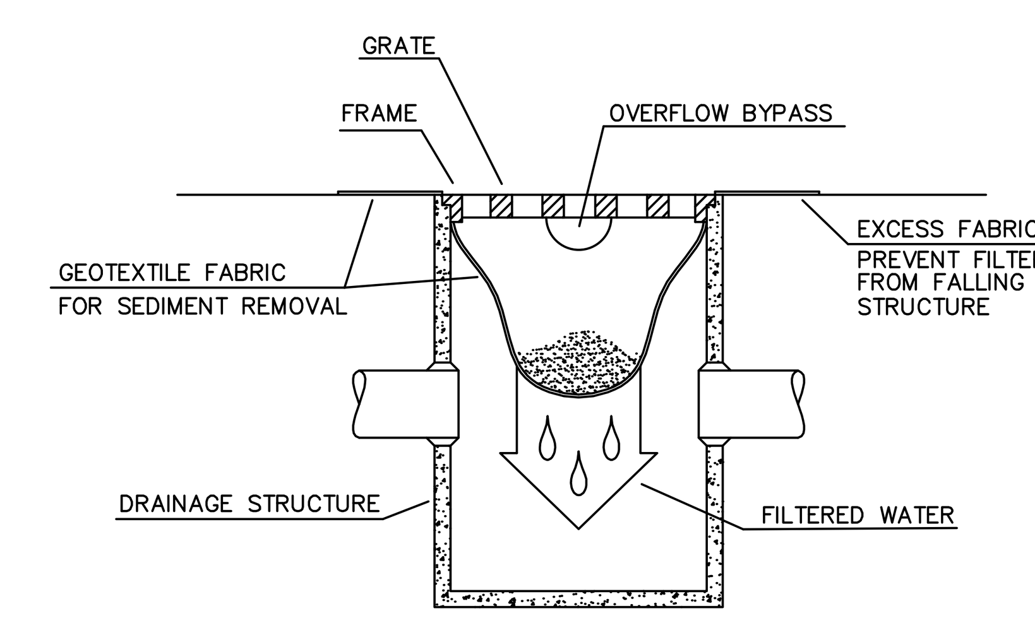
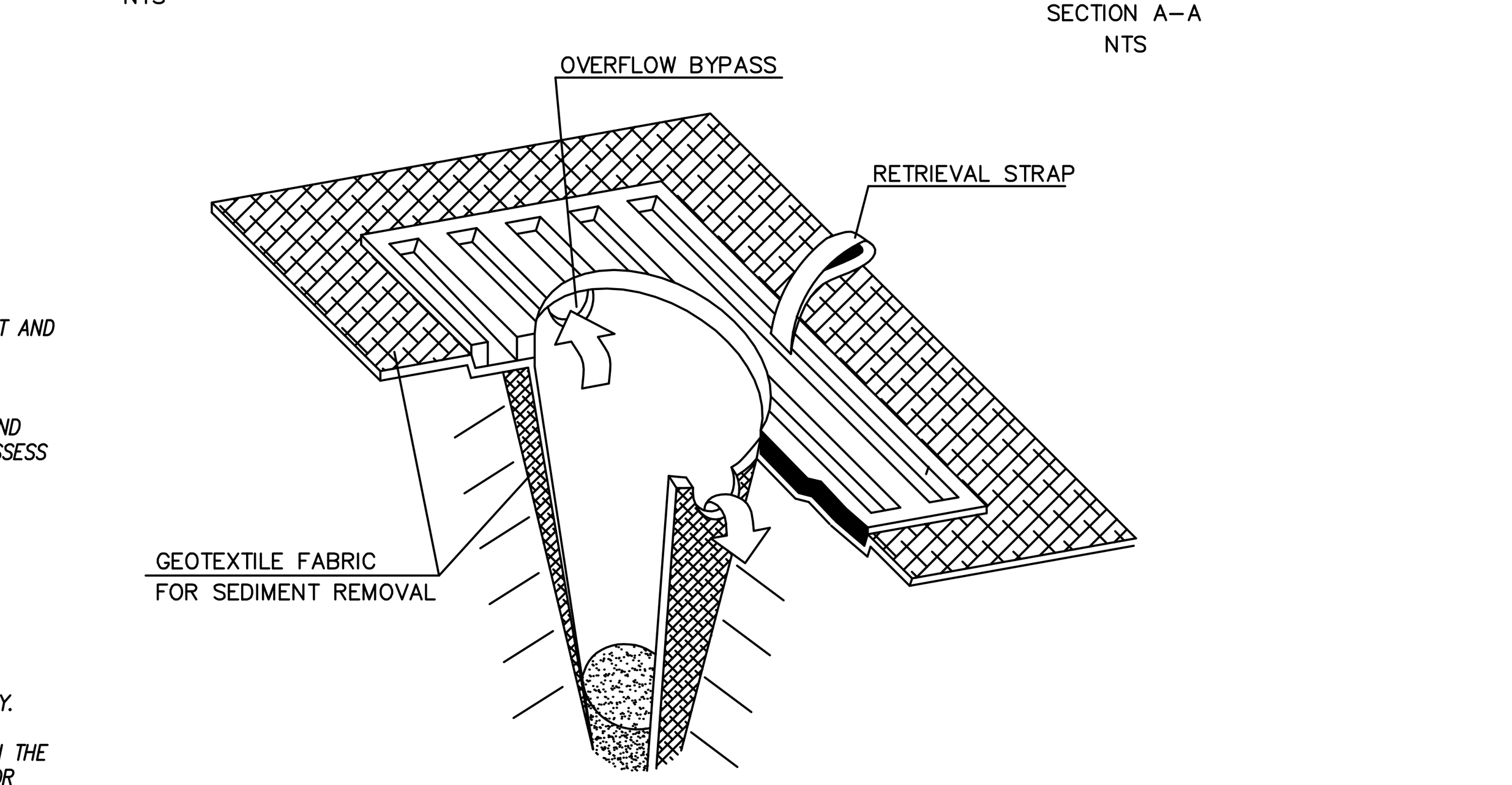


PLAN VIEW
NTS



STORM DRAIN PROTECTION INSERT
SECTION A–A
NTS



STORM DRAIN PROTECTION INSERT DETAIL

NOT TO SCALE

CONSTRUCTION SEQUENCE SCHEDULE

A. CONDUCT PRE–CONSTRUCTION MEETING.
B. FLAG OR FENCE CLEARING LIMITS.
C. POST SIGN WITH NAME AND PHONE NUMBER OF TESC SUPERVISOR.
D. INSTALL CATCH BASIN PROTECTION IF REQUIRED.
E. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
F. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
G. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
H. MAINTAIN EROSION CONTROL MEASURE IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
I. RELOCATE EROSION CONTROL MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE CITY TESC MINIMUM REQUIREMENTS.
J. COVER ALL AREAS WITHIN THE SPECIFIED TIME FRAME WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, CRUSHED ROCK OR EQUIVALENT.
K. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN 7 DAYS.
L. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
M. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BEST MANAGEMENT PRACTICES REMOVED IF APPROPRIATE.

SWPPP NOTE - MANAGEMENT OF THE PROJECT

IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND DEVELOPER TO MANAGE THIS PROJECT AND COORDINATE WITH THE COUNTY INSPECTOR AND ENGINEER.

INSPECTION AND MONITORING:
SITE INSPECTIONS SHALL BE DONE BY A PERSON WHO IS KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICES OF EROSION AND SEDIMENT CONTROL. THE PERSON MUST HAVE SKILLS TO FIRST ASSESS THE SITE CONDITIONS AND CONSTRUCTION ACTIVITIES THAT COULD IMPACT THE QUALITY OF STORMWATER, AND SECOND ASSESS THE EFFECTIVENESS OF EROSION AND SEDIMENT CONTROL MEASURES USED TO CONTROL THE QUALITY OF STORMWATER DISCHARGES.

WHENEVER INSPECTION AND/OR MONITORING REVEALS THAT THE BMPS IDENTIFIED IN THE CONSTRUCTION SWPPP ARE INADEQUATE, APPROPRIATE BMPS OR DESIGN CHANGES SHALL BE IMPLEMENTED AS SOON AS POSSIBLE.

MAINTAINING AN UPDATED CONSTRUCTION SWPPP:
THE CONSTRUCTION SWPPP SHALL BE RETAINED ON–SITE WHENEVER CONSTRUCTION IS UNDERWAY.

ALTHOUGH NOT ANTICIPATED, THE SWPPP SHALL BE MODIFIED WHENEVER THERE IS A CHANGE IN THE DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE AT THE CONSTRUCTION SITE THAT HAS, OR COULD HAVE, A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO WATERS OF THE STATE.

THE SWPPP SHALL BE MODIFIED IF, DURING INSPECTIONS OR INVESTIGATIONS CONDUCTED BY THE OWNER/OPERATOR, OR THE APPLICABLE LOCAL OR STATE REGULATORY AUTHORITY, IT IS DETERMINED THAT THE SWPPP IS INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS IN STORMWATER DISCHARGES FROM THE SITE. THE SWPPP SHALL BE MODIFIED AS NECESSARY TO INCLUDE ADDITIONAL OR MODIFIED BMPS DESIGNED TO CORRECT PROBLEMS IDENTIFIED. REVISIONS TO THE SWPPP SHALL BE COMPLETED WITHIN SEVEN DAYS FOLLOWING INSPECTION.

CALL 3 WORKING DAYS BEFORE YOU DIG
811
UTILITIES UNDERGROUND LOCATION CENTER

APPROVAL | DATE
CITY OF MERCER ISLAND DEVELOPMENT SERVICES GROUP

STAMP NOT VALID UNLESS SIGNED AND DATED

DWN BY	CHKD BY	DATE	NOTES
KAL	KAL	3–14–19	SUBMITTED TO CLIENT
KAL	KAL	7–10–19	REVISED PER CITY COMMENTS
KAL	KAL	10–28–19	REVISED PER ARCHITECT

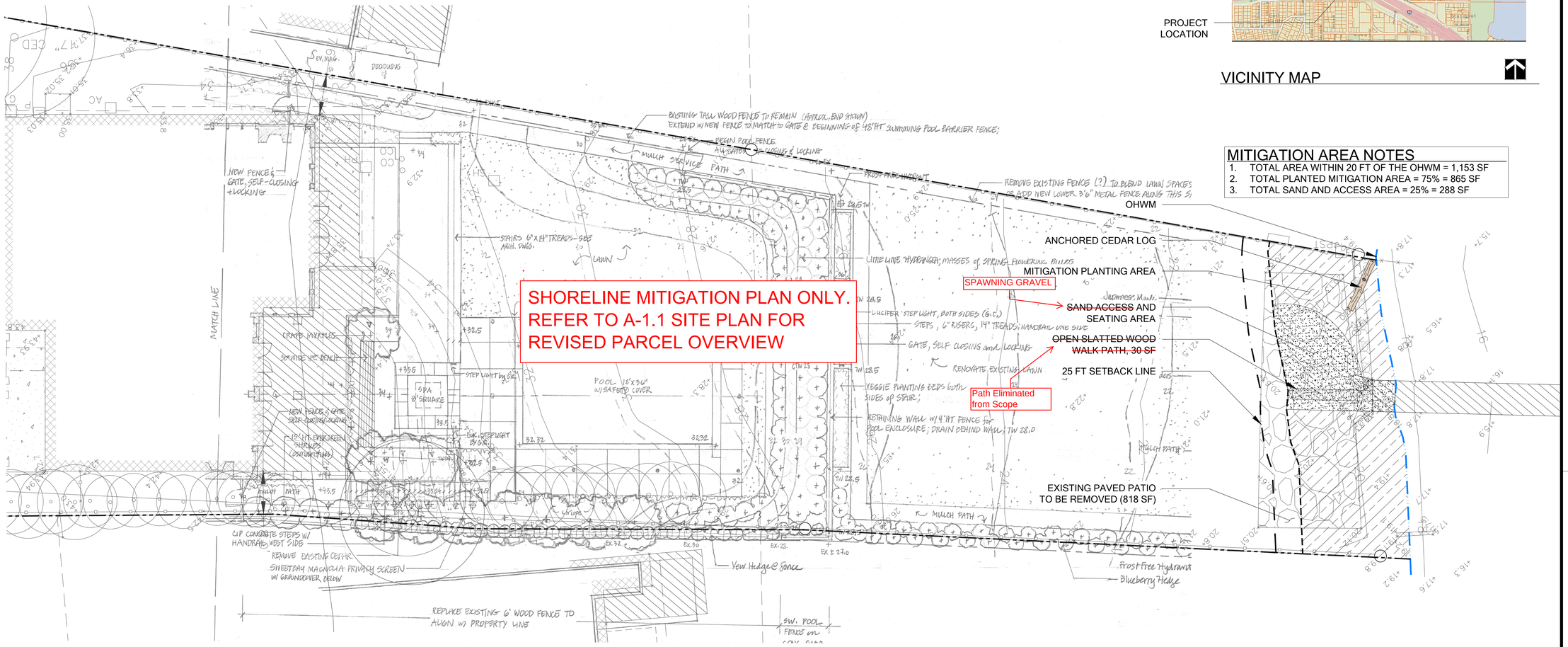
LITCHFIELD ENGINEERING
12840 81ST AVENUE NE
Kirkland, WA 98034
Tel (425) 821–5038 Fax (425) 821–5739

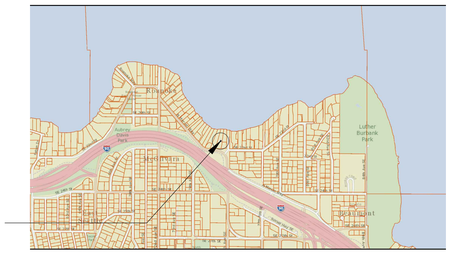
TESC & SWPP PLAN
LBH RESIDENCE
7450 NORTH MERCER WAY

SEAN KELL
14033 SE 92ND STREET
NEWCASTLE, WA 98059

JOB No.

LBH RESIDENCE





VICINITY MAP

MITIGATION AREA NOTES

1. TOTAL AREA WITHIN 20 FT OF THE OHWM = 1,153 SF
2. TOTAL PLANTED MITIGATION AREA = 75% = 865 SF
3. TOTAL SAND AND ACCESS AREA = 25% = 288 SF

LEGEND

- PARCEL BOUNDARY
- SURVEYED OHWM (SEE NOTES)
- SHORELINE VEGETATION AREA (20 FT)
- 25-FT SHORELINE SETBACK
- MITIGATION AREA (865 SF)

SHEET INDEX

NOTES

1. OHWM PROVIDED BY TERRANE; 10801 MAIN STREET, SUITE 102, BELLEVUE, WA 98004
2. SITE PLAN PROVIDED BY STILLWELL HANSON ARCHITECTURE; 46 ETRURIA STREET, SUITE 200 SEATTLE, WA 98109

MITIGATION PLAN AND PARCEL OVERVIEW

SCALE 1:10

0' 5' 10' 20' 40'

PERMIT SET

-

NOT FOR CONSTRUCTION

THE WATERSHED COMPANY

750 Sixth Street South
Kirkland WA 98033

p 425.822.5242
www.watershedco.com

Science & Design

LBH RESIDENCE
SHORELINE MITIGATION PLAN
PREPARED FOR: LBH
5315100125
7450 NORTH MERCER WAY
MERCER ISLAND, WA, 98040

SUBMITTALS & REVISIONS

NO.	DATE	DESCRIPTION	BY
1	12-03-2019	MITIGATION PLANTING PLAN	GM

SHEET SIZE:
ORIGINAL PLAN IS 22" x 34".
SCALE ACCORDINGLY.

PROJECT MANAGER: RK
DESIGNED: GM
DRAFTED: GM
CHECKED: MF
JOB NUMBER: 190311
SHEET NUMBER: W1 OF 3

FILENAME
PRINTED BY
DATE

PLANT INSTALLATION SPECIFICATIONS

GENERAL NOTES

QUALITY ASSURANCE
1. PLANTS SHALL MEET OR EXCEED THE SPECIFICATIONS OF FEDERAL, STATE, AND LOCAL LAWS REQUIRING INSPECTION FOR PLANT DISEASE AND INSECT CONTROL.
2. PLANTS SHALL BE HEALTHY, VIGOROUS, AND WELL-FORMED, WITH WELL DEVELOPED, FIBROUS ROOT SYSTEMS, FREE FROM DEAD BRANCHES OR ROOTS. PLANTS SHALL BE FREE FROM DAMAGE CAUSED BY TEMPERATURE EXTREMES, LACK OR EXCESS OF MOISTURE, INSECTS, DISEASE, AND MECHANICAL INJURY. PLANTS IN LEAF SHALL BE WELL FOLIATED AND OF GOOD COLOR. PLANTS SHALL BE HABITUATED TO THE OUTDOOR ENVIRONMENTAL CONDITIONS INTO WHICH THEY WILL BE PLANTED (HARDENED-OFF).
3. TREES WITH DAMAGED, CROOKED, MULTIPLE OR BROKEN LEADERS WILL BE REJECTED. WOODY PLANTS WITH ABRASIONS OF THE BARK OR SUN SCALD WILL BE REJECTED.
4. NOMENCLATURE: PLANT NAMES SHALL CONFORM TO FLORA OF THE PACIFIC NORTHWEST BY HITCHCOCK AND CRONQUIST, UNIVERSITY OF WASHINGTON PRESS, 1973 AND/OR TO A FIELD GUIDE TO THE COMMON WETLAND PLANTS OF WESTERN WASHINGTON & NORTHWESTERN OREGON, ED. SARAH SPEAR COOKE, SEATTLE AUDUBON SOCIETY, 1997.

DEFINITIONS
1. PLANTS/PLANT MATERIALS. PLANTS AND PLANT MATERIALS SHALL INCLUDE ANY LIVE PLANT MATERIAL USED ON THE PROJECT. THIS INCLUDES BUT IS NOT LIMITED TO CONTAINER GROWN, B&B OR BAREROOT PLANTS; LIVE STAKES AND FASCINES (WATTLES); TUBERS, CORMS, BULBS, ETC..; SPRIGS, PLUGS, AND LINERS.
2. CONTAINER GROWN. CONTAINER GROWN PLANTS ARE THOSE WHOSE ROOTBALLS ARE ENCLOSED IN A POT OR BAG IN WHICH THAT PLANT GREW.

SUBSTITUTIONS
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SPECIFIED MATERIALS IN ADVANCE IF SPECIAL GROWING, MARKETING OR OTHER ARRANGEMENTS MUST BE MADE IN ORDER TO SUPPLY SPECIFIED MATERIALS.
2. SUBSTITUTION OF PLANT MATERIALS NOT ON THE PROJECT LIST WILL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE RESTORATION CONSULTANT.
3. IF PROOF IS SUBMITTED THAT ANY PLANT MATERIAL SPECIFIED IS NOT OBTAINABLE, A PROPOSAL WILL BE CONSIDERED FOR USE OF THE NEAREST EQUIVALENT SIZE OR ALTERNATIVE SPECIES, WITH CORRESPONDING ADJUSTMENT OF CONTRACT PRICE.
4. SUCH PROOF WILL BE SUBSTANTIATED AND SUBMITTED IN WRITING TO THE CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION.

INSPECTION
1. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE RESTORATION CONSULTANT FOR CONFORMANCE TO SPECIFICATIONS, EITHER AT TIME OF DELIVERY ON-SITE OR AT THE GROWER'S NURSERY. APPROVAL OF PLANT MATERIALS AT ANY TIME SHALL NOT IMPAIR THE SUBSEQUENT RIGHT OF INSPECTION AND REJECTION DURING PROGRESS OF THE WORK.
2. PLANTS INSPECTED ON SITE AND REJECTED FOR NOT MEETING SPECIFICATIONS MUST BE REMOVED IMMEDIATELY FROM SITE OR RED-TAGGED AND REMOVED AS SOON AS POSSIBLE.
3. THE RESTORATION CONSULTANT MAY ELECT TO INSPECT PLANT MATERIALS AT THE PLACE OF GROWTH. AFTER INSPECTION AND ACCEPTANCE, THE RESTORATION CONSULTANT MAY REQUIRE THE INSPECTED PLANTS BE LABELED AND RESERVED FOR PROJECT. SUBSTITUTION OF THESE PLANTS WITH OTHER INDIVIDUALS, EVEN OF THE SAME SPECIES AND SIZE, IS UNACCEPTABLE.

MEASUREMENT OF PLANTS
1. PLANTS SHALL CONFORM TO SIZES SPECIFIED UNLESS SUBSTITUTIONS ARE MADE AS OUTLINED IN THIS CONTRACT.
2. HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO MAIN BODY OF PLANT AND NOT BRANCH OR ROOT TIP TO TIP. PLANT DIMENSIONS SHALL BE MEASURED WHEN THEIR BRANCHES OR ROOTS ARE IN THEIR NORMAL POSITION.
3. WHERE A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND AT LEAST 50% OF THE PLANTS SHALL BE AS LARGE AS THE MEDIAN OF THE SIZE RANGE. (EXAMPLE: IF THE SIZE RANGE IS 12" TO 18", AT LEAST 50% OF PLANTS MUST BE 15" TALL.).

SUBMITTALS

PROPOSED PLANT SOURCES
1. WITHIN 45 DAYS AFTER AWARD OF THE CONTRACT, SUBMIT A COMPLETE LIST OF PLANT MATERIALS PROPOSED TO BE PROVIDED DEMONSTRATING CONFORMANCE WITH THE REQUIREMENTS SPECIFIED. INCLUDE THE NAMES AND ADDRESSES OF ALL GROWERS AND NURSERIES.

PRODUCT CERTIFICATES
1. PLANT MATERIALS LIST - SUBMIT DOCUMENTATION TO CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION THAT PLANT MATERIALS HAVE BEEN ORDERED. ARRANGE PROCEDURE FOR INSPECTION OF PLANT MATERIAL WITH CONSULTANT AT TIME OF SUBMISSION.
2. HAVE COPIES OF VENDOR'S OR GROWERS' INVOICES OR PACKING SLIPS FOR ALL PLANTS ON SITE DURING INSTALLATION. INVOICE OR PACKING SLIP SHOULD LIST SPECIES BY SCIENTIFIC NAME, QUANTITY, AND DATE DELIVERED (AND GENETIC ORIGIN IF THAT INFORMATION WAS PREVIOUSLY REQUESTED).

DELIVERY, HANDLING, & STORAGE

NOTIFICATION
CONTRACTOR MUST NOTIFY CONSULTANT 48 HOURS OR MORE IN ADVANCE OF DELIVERIES SO THAT CONSULTANT MAY ARRANGE FOR INSPECTION.

PLANT MATERIALS
1. TRANSPORTATION - DURING SHIPPING, PLANTS SHALL BE PACKED TO PROVIDE PROTECTION AGAINST CLIMATE EXTREMES, BREAKAGE AND DRYING. PROPER VENTILATION AND PREVENTION OF DAMAGE TO BARK, BRANCHES, AND ROOT SYSTEMS MUST BE ENSURED.
2. SCHEDULING AND STORAGE - PLANTS SHALL BE DELIVERED AS CLOSE TO PLANTING AS POSSIBLE. PLANTS IN STORAGE MUST BE PROTECTED AGAINST ANY CONDITION THAT IS DETRIMENTAL TO THEIR CONTINUED HEALTH AND VIGOR.
3. HANDLING - PLANT MATERIALS SHALL NOT BE HANDLED BY THE TRUNK, LIMBS, OR FOLIAGE BUT ONLY BY THE CONTAINER, BALL, BOX, OR OTHER PROTECTIVE STRUCTURE, EXCEPT BAREROOT PLANTS SHALL BE KEPT IN BUNDLES UNTIL PLANTING AND THEN HANDLED CAREFULLY BY THE TRUNK OR STEM.
4. LABELS - PLANTS SHALL HAVE DURABLE, LEGIBLE LABELS STATING CORRECT SCIENTIFIC NAME AND SIZE. TEN PERCENT OF CONTAINER GROWN PLANTS IN INDIVIDUAL POTS SHALL BE LABELED. PLANTS SUPPLIED IN FLATS, RACKS, BOXES, BAGS, OR BUNDLES SHALL HAVE ONE LABEL PER GROUP.

WARRANTY

PLANT WARRANTY
PLANTS MUST BE GUARANTEED TO BE TRUE TO SCIENTIFIC NAME AND SPECIFIED SIZE, AND TO BE HEALTHY AND CAPABLE OF VIGOROUS GROWTH.

REPLACEMENT
1. PLANTS NOT FOUND MEETING ALL OF THE REQUIRED CONDITIONS AT THE CONSULTANT'S DISCRETION MUST BE REMOVED FROM SITE AND REPLACED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
2. PLANTS NOT SURVIVING AFTER ONE YEAR TO BE REPLACED AT THE CONTRACTOR'S EXPENSE.

PLANT MATERIAL

GENERAL
1. PLANTS SHALL BE NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES UNDER CLIMATIC CONDITIONS SIMILAR TO OR MORE SEVERE THAN THOSE OF THE PROJECT SITE.
2. PLANTS SHALL BE TRUE TO SPECIES AND VARIETY OR SUBSPECIES. NO CULTIVARS OR NAMED VARIETIES SHALL BE USED UNLESS SPECIFIED AS SUCH.

QUANTITIES
SEE PLANT LIST ON ACCOMPANYING PLANS AND PLANT SCHEDULES.

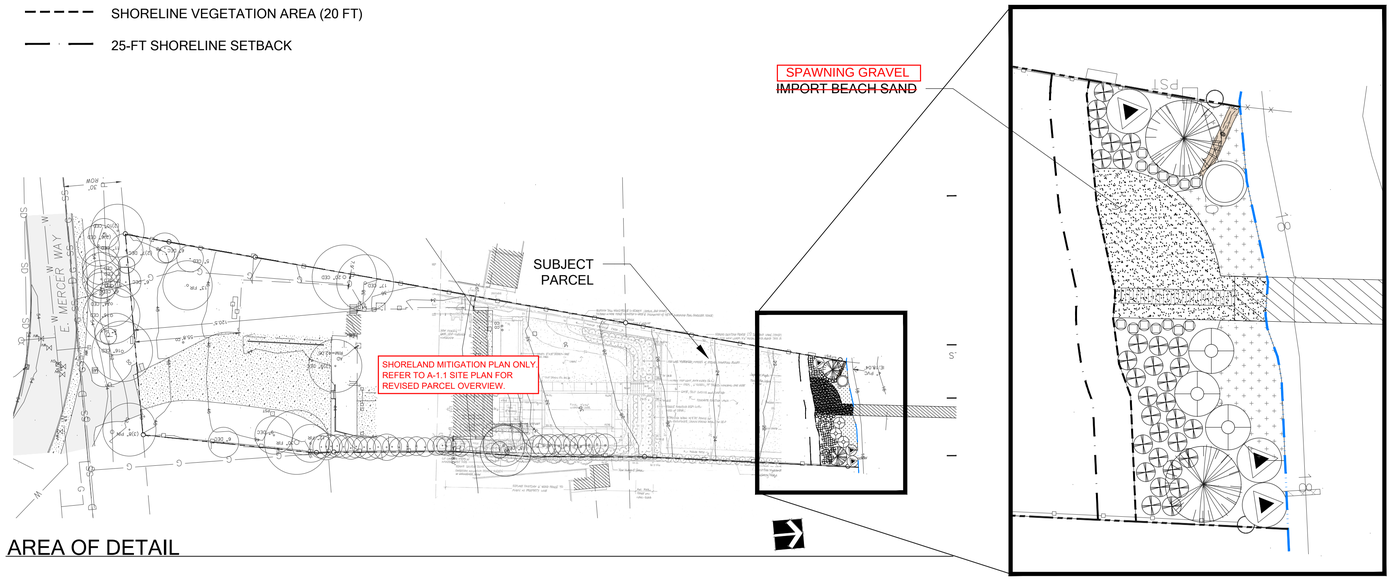
ROOT TREATMENT
1. CONTAINER GROWN PLANTS (INCLUDES PLUGS): PLANT ROOT BALLS MUST HOLD TOGETHER WHEN THE PLANT IS REMOVED FROM THE POT, EXCEPT THAT A SMALL AMOUNT OF LOOSE SOIL MAY BE ON THE TOP OF THE ROOTBALL.
2. PLANTS MUST NOT BE ROOT-BOUND; THERE MUST BE NO CIRCLING ROOTS PRESENT IN ANY PLANT INSPECTED.
3. ROOTBALLS THAT HAVE CRACKED OR BROKEN WHEN REMOVED FROM THE CONTAINER SHALL BE REJECTED.

LEGEND

- PARCEL BOUNDARY
- SURVEYED OHWM (SEE NOTES)
- SHORELINE VEGETATION AREA (20 FT)
- 25-FT SHORELINE SETBACK

NOTES

1. SEE SHEET W3 FOR SITE PREPARATION AND PLANTING DETAILS.



AREA OF DETAIL

MITIGATION AREA PLANT SCHEDULE (865 SF)

BOTANICAL NAME (COMMON NAME)	QTY.	SIZE	SPACING
TREES			
PINUS CONTORTA (SHORE PINE)	2	1 GAL.	PER PLAN.
SHRUBS			
CORNUS SERICEA (RED-OSIER DOGWOOD)	3	1 GAL.	PER PLAN (5' O.C.)
PHYSOCARPUS CAPITATUS (PACIFIC NINEBARK)	1	1 GAL.	PER PLAN (5' O.C.)
SYMPHORICARPOS ALBUS (SNOWBERRY)	3	1 GAL.	PER PLAN (3' O.C.)
GROUNDCOVERS			
CAREX PACHYSTACHYA (CHAMISSO SEDGE)	60	1 GAL.	24" O.C.
DESCHAMPSIA CESPITOSA (TUFTED HAIR GRASS)	31	1 GAL.	PER PLAN
SIDALCEA HENDERSONII (HENDERSON'S CHECKER-MALLOW)	14	1 GAL	PER PLAN
TOTAL PLANT QUANTITY:	114		

PLANTING PLAN AND SCHEDULE

SCALE 1:10

0' 5' 10' 20' 40'

PERMIT SET

-

NOT FOR CONSTRUCTION

THE WATERSHED COMPANY
750 Sixth Street South
Kirkland WA 98033
p 425.822.5242
www.watershedco.com
Science & Design

LBH RESIDENCE
SHORELINE MITIGATION PLAN
PREPARED FOR: LBH
5315100125
7450 NORTH MERCER WAY
MERCER ISLAND, WA, 98040

SUBMITTALS & REVISIONS

NO.	DATE	DESCRIPTION	BY
1	12-03-2019	MITIGATION PLANTING PLAN	GM

SHEET SIZE:
ORIGINAL PLAN IS 22" x 34".
SCALE ACCORDINGLY.

PROJECT MANAGER: RK
DESIGNED: GM
DRAFTED: GM
CHECKED: MF
JOB NUMBER: 190311
SHEET NUMBER: W2 OF 3

FILENAME
PRINTED BY
DATE

MITIGATION SPECIFICATIONS

THE PROPOSED MITIGATION PLAN SEEKS TO RESTORE AND ENHANCE PORTIONS OF THE LAKE WASHINGTON SHORELINE AND ON-SITE SHORELINE BUFFER. 818 SQUARE FEET OF EXISTING STONE PATIO AND LAWN AREA WILL BE REMOVED AND REPLACED WITH NATIVE PLANTINGS ALONG A PORTION OF THE SHORELINE. A TOTAL OF 865 SQUARE FEET OF THE SITE, LOCATED WITHIN THE SHORELINE JURISDICTION, WILL BE RESTORED WITH NATIVE VEGETATION INCLUDING ONE TREE SPECIES (SHORE PINE), THREE SHRUB SPECIES (DOG-OSIER DOGWOOD, PACIFIC NINEBARK, AND SNOWBERRY), AND THREE GROUNDCOVER SPECIES (TUFTED HAIRGRASS, CHAMISSO SEDGE, AND HENDERSON'S CHECKER-MALLOW.

MAINTENANCE AND MONITORING PLAN

THE 5-YEAR MAINTENANCE AND MONITORING PLAN IS DETAILED BELOW.

GOALS

1. ENHANCE SHORELINE BUFFERS.
   a. REDUCE THE AMOUNT OF IMPERVIOUS SURFACE AREA WITHIN THE SHORELINE SETBACK.
   b. ESTABLISH DENSE AND DIVERSE NATIVE SMALL TREE, SHRUB, AND GROUNDCOVER VEGETATION THROUGHOUT THE MITIGATION AREA.

PERFORMANCE STANDARDS

THE STANDARDS LISTED BELOW WILL BE USED TO JUDGE THE SUCCESS OF THE PLAN OVER TIME. IF THE STANDARDS ARE MET AT THE END OF THE FIVE-YEAR MONITORING PERIOD, THE CITY SHALL ISSUE RELEASE OF THE PERFORMANCE BOND.

1. SURVIVAL:
   a. 100% SURVIVAL OF ALL INSTALLED TREES AND SHRUBS AT THE END OF YEAR-1. THIS STANDARD MAY BE MET THROUGH ESTABLISHMENT OF INSTALLED PLANTS OR BY REPLANTING AS NECESSARY TO ACHIEVE THE REQUIRED NUMBERS.
   b. 80% SURVIVAL OF ALL INSTALLED TREES AND SHRUBS AT THE END OF YEARS-2 THROUGH 5. THIS STANDARD MAY BE MET THROUGH ESTABLISHMENT OF INSTALLED PLANTS OR BY REPLANTING AS NECESSARY TO ACHIEVE THE REQUIRED NUMBERS.
2. NATIVE VEGETATION COVER IN PLANTED AREAS:
   a. ACHIEVE AT LEAST 60% COVER OF NATIVE TREES, SHRUBS, AND GROUNDCOVERS IN PLANTED AREAS BY THE END OF YEAR 3. VOLUNTEER SPECIES MAY COUNT TOWARD THIS STANDARD.
   b. ACHIEVE AT LEAST 80% COVER OF NATIVE TREES, SHRUBS, AND GROUNDCOVERS IN PLANTED AREAS BY THE END OF YEAR 5. VOLUNTEER SPECIES MAY COUNT TOWARD THIS STANDARD.
3. INVASIVE SPECIES STANDARD: NO MORE THAN 10% COVER OF INVASIVE SPECIES IN THE PLANTING AREA IN ANY MONITORING YEAR. INVASIVE SPECIES ARE DEFINED AS ANY CLASS A, B, OR C NOXIOUS WEEDS AS LISTED BY THE KING COUNTY NOXIOUS WEED CONTROL BOARD.

MONITORING METHODS

THIS MONITORING PROGRAM IS DESIGNED TO TRACK THE SUCCESS OF THE MITIGATION SITE OVER TIME BY MEASURING THE DEGREE TO WHICH THE PERFORMANCE STANDARDS LISTED ABOVE ARE BEING MET. AN AS-BUILT PLAN WILL BE PREPARED WITHIN 30 DAYS OF SUBSTANTIALLY COMPLETE CONSTRUCTION OF THE MITIGATION AREAS. THE AS-BUILT PLAN WILL DOCUMENT CONFORMANCE WITH THESE PLANS AND WILL DISCLOSE ANY SUBSTITUTIONS OR OTHER NON-CRITICAL DEPARTURES. THE AS-BUILT PLAN WILL ESTABLISH BASELINE PLANT INSTALLATION QUANTITIES AND PHOTOPOINTS THAT WILL BE USED THROUGHOUT THE MONITORING PERIOD TO VISUALLY DOCUMENT SITE CHANGES OVER TIME.

MONITORING WILL OCCUR ANNUALLY FOR FIVE YEARS. THE INSPECTION WILL OCCUR IN LATE SUMMER OR FALL AND WILL RECORD THE FOLLOWING AND BE SUBMITTED IN AN ANNUAL REPORT TO THE CITY:

1. COUNTS OF SURVIVING AND DEAD/DYING PLANTS BY SPECIES IN THE PLANTING AREAS.
2. ESTIMATES OF NATIVE SPECIES COVER USING COVER CLASS METHOD.
3. ESTIMATES OF INVASIVE SPECIES COVER USING COVER CLASS METHOD.
4. PHOTOGRAPHIC DOCUMENTATION AT PERMANENT PHOTOPOINTS.
5. RECOMMENDATIONS FOR MAINTENANCE IN THE MITIGATION AREAS.
6. RECOMMENDATIONS FOR REPLACEMENT OF ALL DEAD OR DYING PLANT MATERIAL WITH SAME OR LIKE SPECIES AND NUMBER AS ON THE APPROVED PLAN.

CONSTRUCTION NOTES AND SPECIFICATIONS

THE RESTORATION SPECIALIST WILL OVERSEE THE FOLLOWING:

1. CLEARING, SOIL DECOMPACTION, AND COMPOST INCORPORATION;
2. INVASIVE WEED CLEARING; AND
3. PLANT MATERIAL INSPECTION.
   a. PLANT DELIVERY INSPECTION
   b. 100% PLANT INSTALLATION INSPECTION

GENERAL WORK SEQUENCE

1. IF LAWN, REMOVE LAWN AND UNDESIRABLE SPECIES. IF PATIO, REMOVE PATIO AND ANY GRAVEL DRAINAGE LAYER. WORK WITHIN EXISTING ROOT ZONES SHALL BE DONE BY HAND. IF LAWN, PLACE THREE (3) INCHES COMPOST. IF IN PATIO REMOVAL AREA, FIRST BRING GRADE UP TO MATCH ADJACENT GRADE USING IMPORT TOPSOIL PRIOR TO PLACING COMPOST.
2. INCORPORATE COMPOST TO AN EIGHT (8) INCH DEPTH.
3. PLACE TWO (2) INCH LAYER OF COMPOST.
4. INSTALL MULCH LAYER FOUR (4) INCHES DEEP.
5. LAYOUT VEGETATION TO BE INSTALLED PER THE PLANTING PLAN AND PLANT SCHEDULE.
5. INSTALL PER THE PLANTING DETAILS.

MATERIAL SPECIFICATIONS AND DEFINITIONS

FERTILIZER: SLOW RELEASE, GRANULAR PHOSPHOROUS-FREE FERTILIZER. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR APPLICATION. KEEP FERTILIZER IN A WEATHER-TIGHT CONTAINER WHILE ON SITE. NOTE THAT FERTILIZER IS TO BE APPLIED ONLY IN YEARS 2 THROUGH 5 AND NOT IN THE FIRST YEAR.

IRRIGATION SYSTEM: AUTOMATED SYSTEM CAPABLE OF DELIVERING AT LEAST ONE INCHES OF WATER PER WEEK FROM JUNE 1 THROUGH SEPTEMBER 30 FOR THE FIRST TWO YEARS FOLLOWING INSTALLATION.

RESTORATION PROFESSIONAL: WATERSHED COMPANY [(425) 822-5242] PERSONNEL, OR OTHER PERSONS QUALIFIED TO EVALUATE ENVIRONMENTAL RESTORATION PROJECTS.

WOOD CHIP MULCH: ARBORIST CHIPS (CHIPPED WOODY MATERIAL) APPROXIMATELY 1 TO 3 INCHES IN MAXIMUM DIMENSION (NOT SAWDUST OR COARSE HOG FUEL). THIS MATERIAL IS COMMONLY AVAILABLE IN LARGE QUANTITIES FROM ARBORISTS OR TREE-PRUNING COMPANIES. THIS MATERIAL IS SOLD AS "ANIMAL FRIENDLY HOG FUEL" AT PACIFIC TOPSOILS [(800) 884-7645]. MULCH MUST NOT CONTAIN APPRECIABLE QUANTITIES OF GARBAGE, PLASTIC, METAL, SOIL, AND DIMENSIONAL LUMBER OR CONSTRUCTION/DEMOLITION DEBRIS.

COMPOST: CEDAR GROVE COMPOST OR EQUIVALENT "COMPOSTED MATERIAL" PER WASHINGTON ADMIN. CODE 173-350-220. QUANTITY REQUIRED: 35 CUBIC YARDS

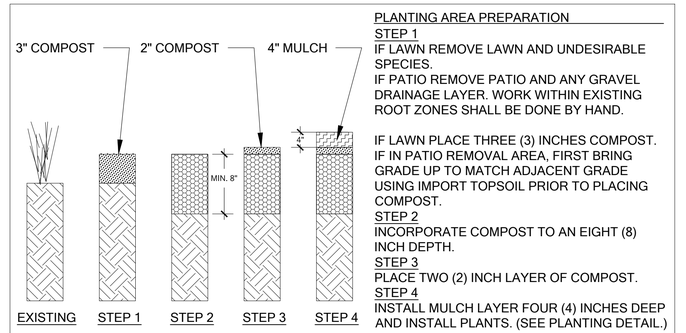
CONTINGENCIES

IF THERE IS A SIGNIFICANT PROBLEM WITH THE RESTORATION AREAS MEETING PERFORMANCE STANDARDS, A CONTINGENCY PLAN WILL BE DEVELOPED AND IMPLEMENTED. CONTINGENCY PLANS CAN INCLUDE, BUT ARE NOT LIMITED TO: SOIL AMENDMENT; ADDITIONAL PLANT INSTALLATION; AND PLANT SUBSTITUTIONS OF TYPE, SIZE, QUANTITY, AND LOCATION.

MAINTENANCE

THIS SITE WILL BE MAINTAINED FOR FIVE YEARS FOLLOWING COMPLETION OF THE PLANT INSTALLATION.

1. REPLACE EACH PLANT FOUND DEAD IN THE SUMMER MONITORING VISIT DURING THE UPCOMING FALL DORMANT SEASON (OCTOBER 15TH TO MARCH 1ST).
2. INVASIVE SPECIES MAINTENANCE PLAN: HIMALAYAN BLACKBERRY, ENGLISH IVY, ENGLISH LAUREL, AND OTHER INVASIVE WOODY VEGETATION WILL BE GRUBBED OUT BY HAND ON AN ONGOING BASIS, WITH CARE TAKEN TO GRUB OUT ROOTS EXCEPT WHERE SUCH WORK WILL JEOPARDIZE THE ROOTS OF INSTALLED OR VOLUNTEER NATIVE PLANTS.
3. AT LEAST TWICE YEARLY, REMOVE BY HAND ALL COMPETING WEEDS AND WEED ROOTS FROM BENEATH EACH INSTALLED PLANT AND ANY DESIRABLE VOLUNTEER VEGETATION TO A DISTANCE OF 12 INCHES FROM THE MAIN PLANT STEM. WEEDING SHOULD OCCUR AS NEEDED DURING THE SPRING AND SUMMER. FREQUENT WEEDING WILL RESULT IN LOWER MORTALITY AND LOWER PLANT REPLACEMENT COSTS.
4. DO NOT WEED THE AREA NEAR THE PLANT BASES WITH STRING TRIMMER (WEED WHACKER). NATIVE PLANTS ARE EASILY DAMAGED OR KILLED, AND WEEDS EASILY RECOVER AFTER TRIMMING.
5. APPLY SLOW-RELEASE, PHOSPHORUS-FREE, GRANULAR FERTILIZER TO EACH INSTALLED PLANT ANNUALLY IN THE SPRING (BY JUNE 1) OF YEARS 2 THROUGH 5.
6. MULCH THE WEEDED AREAS BENEATH EACH PLANT WITH WOOD CHIP MULCH AS NECESSARY TO MAINTAIN A MINIMUM 4-INCH-THICK, 18-INCH-DIAMETER MULCH RING.
7. THE TEMPORARY IRRIGATION SYSTEM WILL BE OPERATED TO ENSURE THAT PLANTS RECEIVE A MINIMUM OF ONE INCH OF WATER PER WEEK FROM JUNE 1ST THROUGH SEPTEMBER 30TH FOR THE FIRST TWO YEARS FOLLOWING INSTALLATION. IRRIGATION BEYOND THE SECOND YEAR MAY BE NEEDED BASED ON SITE PERFORMANCE OR SIGNIFICANT REPLANTING.



PLANTING AREA PREPARATION

STEP 1
IF LAWN REMOVE LAWN AND UNDESIRABLE SPECIES.
IF PATIO REMOVE PATIO AND ANY GRAVEL DRAINAGE LAYER. WORK WITHIN EXISTING ROOT ZONES SHALL BE DONE BY HAND.

IF LAWN PLACE THREE (3) INCHES COMPOST.
IF IN PATIO REMOVAL AREA, FIRST BRING GRADE UP TO MATCH ADJACENT GRADE USING IMPORT TOPSOIL PRIOR TO PLACING COMPOST.

STEP 2
INCORPORATE COMPOST TO AN EIGHT (8) INCH DEPTH.

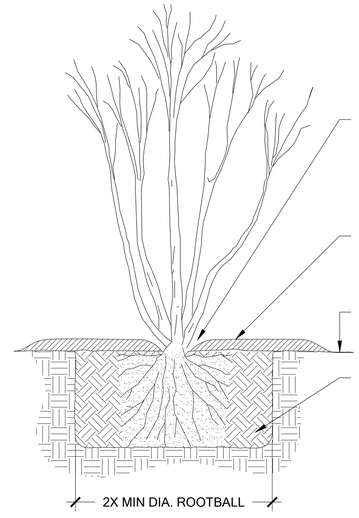
STEP 3
PLACE TWO (2) INCH LAYER OF COMPOST.

STEP 4
INSTALL MULCH LAYER FOUR (4) INCHES DEEP AND INSTALL PLANTS. (SEE PLANTING DETAIL.)

SOIL PREPARATION: AMEND EXISTING SOILS
SEQUENCE OF WORK - NOT TO SCALE

A MITIGATION AREA SITE PREPARATION

Scale: NTS



NOTES:
1. PLANTING PIT SHALL NOT BE LESS THAN (2) TIMES THE WIDTH OF THE ROOT BALL DIA.
2. LOOSEN SIDES AND BOTTOMS OF PLANTING PIT
3. SOAK PLANTING PIT AFTER PLANTING

REMOVE FROM POT OR BURLAP & ROUGH-UP ROOT BALL BEFORE INSTALLING. UNTANGLE AND STRAIGHTEN CIRCLING ROOTS - PRUNE IF NECESSARY. IF PLANT IS EXCEPTIONALLY ROOT-BOUND, DO NOT PLANT AND RETURN TO NURSERY FOR AN ACCEPTABLE ALTERNATIVE

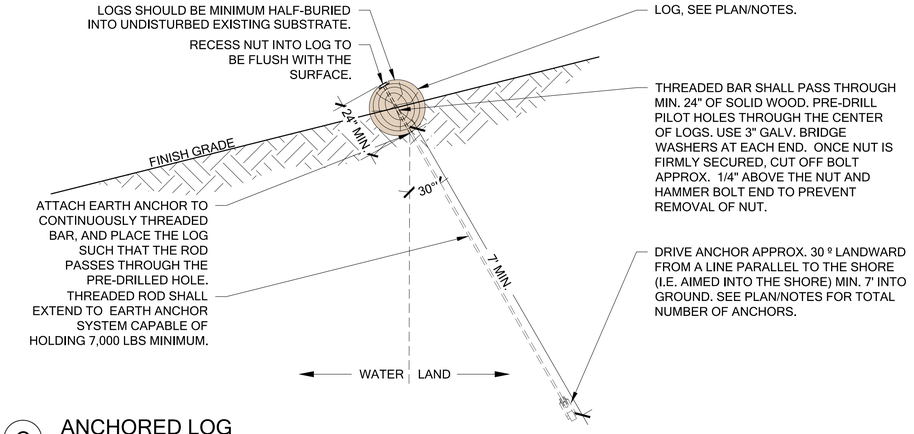
SPECIFIED MULCH LAYER. HOLD BACK MULCH FROM TRUNK/STEMS

FINISH GRADE

REMOVE DEBRIS AND LARGE ROCKS FROM PLANTING PIT AND SCARIFY SIDES AND BASE. BACKFILL WITH SPECIFIED SOIL. FIRM UP SOIL AROUND PLANT.

B CONTAINER PLANTING DETAIL

Scale: NTS



C ANCHORED LOG

Scale: NTS

MITIGATION DETAILS AND NOTES

PERMIT SET
-
NOT FOR CONSTRUCTION

THE WATERSHED COMPANY
750 Sixth Street South
Kirkland WA 98033
p 425.822.5242
www.watershedco.com
Science & Design

LBH RESIDENCE
SHORELINE MITIGATION PLAN
PREPARED FOR: LBH
5315100125
7450 NORTH MERCER WAY
MERCER ISLAND, WA, 98040

SUBMITTALS & REVISIONS

NO.	DATE	DESCRIPTION	BY
1	12-03-2019	MITIGATION PLANTING PLAN	GM

SHEET SIZE:
ORIGINAL PLAN IS 22" x 34".
SCALE ACCORDINGLY.

PROJECT MANAGER:	RK
DESIGNED:	GM
DRAFTED:	GM
CHECKED:	MF
JOB NUMBER:	190311

SHEET NUMBER: W3 OF 3

FILENAME
PRINTED BY
DATE